(FINAL CONSTRUCTION DOCUMENTS SUBMITTAL)

PROJECT MANUAL

SPECIFICATIONS AND ACCOMPANYING DOCUMENTS

FOR

STRATEGIC CAPITAL PLAN - DEFERRED MAINTENANCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY, BATON ROUGE, LA

STATE PROJECT No. 19-601-20-03, F.19002643
(FORMERLY STATE PROJECT No. 19-601-21-01, F.19002535)
STATE ID: N/A – SITE CODE: 2-17-014

STATE OF LOUISIANA
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DIVISION OF ADMINSTRATION
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JUNE 27, 2025

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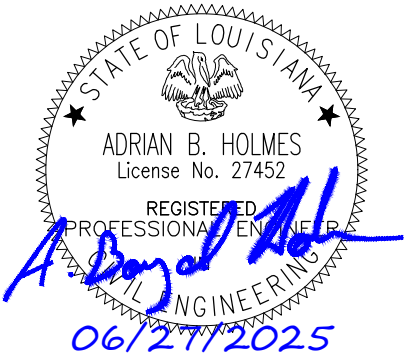

F&T JOB NO. 231326

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1 1 WORK COVERED BY CONTRACT DOCUMENTS

A W r d d E r E r d (42,403), M B d (16,118), d r r d d I dd , r r d r T r r r r r d d r rd d r d d r d r r d d Add , d r r F d Dr r S Q d Dr r 300 r r S Gr B d T r d - r , S Q d Dr , , d , , r , d r

T d d r r r r d r r r r r r r r , d r r r d d S C Dr r , F d Dr , S S d Dr , d F r r L A r r r r r , d S S d Dr F d Dr d F r r L d r r d S S S d Dr r - rr d r , r d d r r d d r d r T r , F d Dr d d r r S Q d Dr r 300 r r S Gr B d T r r C M r P r r r dr P r T r H , N L r r r , d r d , d E F d Dr B , r r (2) S 1 A A , D , d U R d/ r R r F r L r r d S 2 E F d Dr d S r r r - r d d r rr d r

B R d r r d r

1 Pr Ad r 012000

2 S Pr Pr d r 013513

3 T r r F , U , d O r 015000

1 2 CONTRACTS

A C r W r d r "L S " r U Pr C r

B A d C r , r

O r D Ad r , F P d C r

U r L S U r , P , D , & C r

1 3 EXECUTION, CORRELATION, INTENT AND INTERPRETATIONS

A E r r d r r , r d/ r r - r d r r r r d r , r r r d d d r d C r D A r r r d r d d C r D r r d C r r r r dd O r

B S d r d r d d , r d d rr d d A r dr , d d, d d r , C r r r r - r

C S d r d r r Dr , r r r dr , d r r S , r r d d r d dr r r

D S d r d r r r r G r r S r C d C r r C r d S , r r r S , r r r d d r r r

E A r r d rd (ASTM - A r S r T d M r), r d d, d d rd d r r d S , rd r r rr d T Pr W r r r d , d rd r d r S r r , r S , d r r r

1 4 SUPERVISION AND CONSTRUCTION PROCEDURES

A T D r, D r' d , d Pr R r d r r d r

r d r r I rd G r C d , C r r r r r d d , r dr d r r r d r r R r r D r r r C r r' r dd r D r

B N r d rd , r d r r d r r d r r O r, C r r d D r, r r , d r r C r D , r D r r D r r , d d r r r d d r r d r r r , r d r r r r G r C d Ar 422 d 423

C T C r r r r r d , d d r r W r r

D T C r r r r rr r r d S d d r D r r r O r

1 5 EXAMINATION OF SITE

A B C r , C r r r r

1 V d

2 M d d r d d r d

3 I r d d d r r r d r

4 N d D r , , d r r r d r d C r D , r C r D d d

B I rd G r C d Ar 531, S r r r r r r d r C r r

C F r d r r d r r C r r r S r r r r , d r r d r r d d d r d d C r D

END OF SECTION

SECTION 011010 - ENVIRONMENTAL SUMMARY OF WORK

PART 1.0 - GENERAL

The project name is the Environmental Abatement associated with the Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations and Streets, LSU Campus, Baton Rouge, Louisiana. The Project involves but is not limited to the removal and disposal of the all asbestos-containing materials within the Site Underground Utilities and throughout the Electrical Engineering, Manship and Annex, Vet Science, Poultry Science and Parasite buildings within offices, laboratories, mechanical rooms, crawl space, roofs, removal and proper disposal of remaining room contents; selected interior demolition of walls and ceilings for access to asbestos-containing material, resulting with the complete removal and disposal of all asbestos-containing and asbestos-contaminated materials. Additionally, the Contractor shall coordinate with the General Contractor and the third-party air monitoring firm to perform his Work. The Work described within these Specification Sections and shown on the Environmental (EV) Drawings shall be performed by the Environmental Contractor licensed to handle Asbestos-Containing Materials.

1.1 RELATED DOCUMENTS CONTRACT DOCUMENTS:

A. Related requirements and conditions that are indicated on the Contract Documents include but are not necessarily limited to the following.

Applicable codes and regulations.
Notices and permits.
Existing site conditions and restrictions on use of the site.
Requirements for Owner occupancy during the Contractor Work.
For Reference, please refer to the scope of Work within the Forte and Tablada Contract Documents.

1.2 SUMMARY BY REFERENCES

A. Work of the Contract can be summarized by references to this Scope of Work. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the Contract Documents.

1.3 SUMMARY OF SITE CONDITIONS

A. The Contractor shall verify site conditions, scope of work, and requirements of the Project. The Contractor is responsible for obtaining all permits prior to beginning Work.

1.4 SCOPE OF WORK AND PHASING

A. The Scope of Work includes the safe the removal and disposal of the all asbestos-containing materials form the Site underground utilities, within and throughout the Buildings offices, laboratories, mechanical rooms, crawl space, roofs, removal and proper disposal of remaining room contents; selected interior demolition of walls and ceilings for access to asbestos-containing material, resulting with the complete removal and disposal of all asbestos-containing and asbestos-contaminated materials. Additionally, the Contractor shall coordinate with the General Contractor and the third-party air monitoring firm to perform his Work. NOTE: all Work described within these Documents and shown on the Drawings shall be performed by the Environmental Contractor licensed to handle Asbestos-Containing Materials.

B. Special Scope of Work Items:

LSU **requires** the Supplier's supervisor maintain and always possess during an active asbestos project, a site/project specific manual that must include the Supplier's Standard Operating Procedure (SOP) for asbestos abatement projects, and all necessary documents needed to pass an LADEQ inspection or OSHA inspection. This includes but is not limited to copy of SDS for mastic removers and surfactants, project design, Notification of Demolition and Renovation and Asbestos Contaminated Debris Activity Form **AAC-2**, workers', supervisor(s) safety training, LDEQ asbestos accreditation certificates and the Supplier's medical/first aid emergency plans.

This asbestos abatement project will require a close out documentation Report due within 21 days of project completion. This documentation report shall include the following (in addition to the requirements of this Section):

1. Daily supervisor's log
2. Daily employee roster
3. Worker sign in sheet with hours worked
4. Personal exposure air monitoring reports for 25% of the workers (or a minimum of two, whichever is greater) in each shift - Exposure air monitoring samples must be analyzed by PCM for OSHA purposes.
5. Any supporting laboratory reports

C. The Contractor shall recycle materials when possible. Utilities are available on Site, but the Contractor is responsible for supplying necessary electrical power on GFI circuits and water to the Work Areas to safely complete the Work, including assisting the third-party air monitoring firm to do their Work.

D. The Contractor shall note the following Scope of Work Sheet Notes:

ELECTRICAL ENGINEERING BUILDING BASEMENT, CRAWL SPACE AND BUILDING UNDERGROUND UTILITY SHEET NOTES:

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE SHEET NOTES; THE DOCUMENTS, SPECIFICATIONS AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL THE WORK DESCRIBED HEREIN SHALL BE PERFORMED BY THE ENVIRONMENTAL CONTRACTOR USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND SHOULD NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING THE 480V POWER TO THE BUILDING AND WORK AREA AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS. NOTE: THE CONTRACTOR SHALL COORDINATE WITH LSU ELECTRICAL STAFF AND THE GENERAL CONTRACTOR IN ADVANCE, TO VERIFY AND MARK ELECTRICAL CONDUITS TRAVERSING THE CRAWL SPACE AND LOWER LEVELS OF THE BUILDING FEEDING OTHER LOCATIONS ON THE SITE THAT MUST REMAIN IN SERVICE.

4. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE UNDERGROUND GAS SERVICE PIPING AND COATING/INSULATION AND DISPOSE OF THE COATING/INSULATION AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE BUILDING GAS SERVICE GOES UNDERGOUND AT THE BUILDING SLAB AND RUNS UNDERGROUND TO A DISCONNECT LOCATION ALONG SOUTH CAMPUS DRIVE (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

5. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE STEAM AND CONDENSATE AND WATER PIPING AND INSULATION FROM THE UNDERGROUND STEAM AND CONDENSATE SERVICE, FROM THE BUILDING SLAB TO THE DISCONNECT LOCATION AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (NOTE: THE STEAM AND CONDENSATE LINES RUN UNDERGROUND IN CONCRETE TRENCHES AND DIRECT BURIED IN GILSULATE WEATHERPROOF INSULATION TRAVERSING THE SITE. THE CONTRACTOR SHALL REMOVE THE WATER, SILT AND ASBESTOS-CONTAINING PIPING INSULATION DEBRIS MATERIALS EXISTING WITHIN THE UTILITY TRENCHES, CLEAN CONCRETE SURFACES AND DISPOSE OF WATER, SILT AND DEBRIS AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR TO LOCATE THE DISCONNECT LOCATIONS AND ASSIST TO CAP THE PIPE. EXCAVATE AS NECESSARY FOR

ACCESS AND SAWCUT CONCRETE PAVEMENT AS NECESSARY FOR ACCESS. (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

6. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE CHILLED WATER SUPPLY AND RETURN PIPING AND INSULATION FROM THE UNDERGROUND CHILLED WATER SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. ADDITIONALLY, THE CONTRACTOR SHALL REMOVE UNDERGROUND CHILLED WATER SUPPLY AND RETURN PIPING INSULATION AT VALVES IN CONCRETE BOXES TO THE DISCONNECT LOCATIONS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR TO LOCATE THE DISCONNECT LOCATIONS AND ASSIST TO CAP THE PIPE. EXCAVATE AS NECESSARY FOR ACCESS AND SAWCUT CONCRETE PAVEMENT AS NECESSARY. THE CONTRACTOR SHALL REMOVE THE WATER, SILT AND ASBESTOS-CONTAINING PIPING INSULATION DEBRIS MATERIALS EXISTING WITHIN THE UTILITY TRENCHES, CLEAN CONCRETE SURFACES AND DISPOSE OF WATER, SILT AND DEBRIS AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

7. THE CONTRACTOR SHALL REMOVE THE BUILDING UTILITY AND DRAIN SUMPS/PIT WATERPROOFING MATERIALS, CLEAN DEBRIS FROM PIT AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

8. THE CONTRACTOR SHALL REMOVE THE REMAINING CRAWL SPACE EQUIPMENT, CONTENTS AND RECYCLE MATERIALS AND EQUIPMENT WHEREVER POSSIBLE.

9. THE CONTRACTOR SHALL REMOVE PIPING INSULATION, DEBRIS MATERIALS AND UP TO TWO (2) INCHES OF SOIL AND DEBRIS MATERIAL THROUGHOUT THE CRAWL SPACE (BENEATH THE BUILDING FOOTPRINT EXCEPT FOR THE BASEMENT ROOMS WHICH ARE SLAB ON GRADE), AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40. NOTE: THE PIPING IS SHOWN SCHEMATICALLY HOWEVER ALL INSULATION MATERIALS SHALL BE REMOVED.

10. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, (INCLUDING THE PIPES AND DUCTS PENETRATING THROUGH THE CONCRETE SLAB AND STRUCTURE) EQUIPMENT, DUCT AND FLUE LINING IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

11. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED AND SALVAGED OR DISPOSED OF. THE CONTRACTOR SHALL REMOVE THE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS; RECYCLE MATERIALS WHENEVER POSSIBLE. THE OWNER HAS THE FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS; AND THE CHILL WATER LITHIUM BROMIDE SOLUTION WITHIN THE CHILLED WATER PIPING SYSTEM SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

12. THE CONTRACTOR SHALL REMOVE THE BUILDING CONTENTS AND SUSPENDED CEILING SYSTEM; AND RECYCLE MATERIALS WHENEVER POSSIBLE. THE CONTRACTOR SHALL

NOTE: CERTAIN BUILDING CONTENTS AND CEILING MATERIALS MAY CONTAIN DEBRIS MATERIALS FROM DAMAGED ASBESTOS-CONTAINING PIPING INSULATION MATERIALS, RELATED TO THE PIPING INSULATION FROM THE HOT WATER AND CHILLED WATER SUPPLY AND RETURN PIPING. THE CONTRACTOR SHALL DISPOSE OF THESE MATERIALS AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE BASEMENT FLOOR TILE, BASE AND MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, TRASH CHUTES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS COLUMN SURROUNDS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

15. THE CONTRACTOR SHALL REMOVE THE SUSPENDED CEILINGS, INSULATION BATTS AND MATERIALS AND EQUIPMENT SUPPORTED BY THE CEILING AND GRID THROUGH OUT AND DISPOSE OF THESE MATERIALS FROM THE BUILDING FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS.

16. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

17. THE CONTRACTOR SHALL REMOVE THE COOLER, SHOWER AND LABORATORY CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING, LEAD PAN AND MASTIC LAYERS TO CONCRETE AND PLASTER SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC/WATERPROOFING AND LEAD MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

18. THE CONTRACTOR SHALL REMOVE PEGBOARD WALLS IN SHOPS AND LABS AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

19. THE CONTRACTOR SHALL REMOVE THE TRANSITE WALL SYSTEM AND CMU WALL COATING THROUGHOUT AND DEBRIS MATERIALS IN SHOPS, CLASSROOMS AND LABS

AND DISPOSED OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL REMOVE THE POTABLE, STEAM, CONDENSATE AND CONDENSATE DRAIN LINES, HOT AND CHILLED WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON PIPING AND PIPING EXPANSION JOINTS, HEAT EXCHANGES, COMPRESSOR TANK, CONDENSER PUMP, TANK AND PIPING RISER INSULATION THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: REMOVE PIPING INSULATION MATERIALS WHERE THEY EXISTS THROUGH OUT THE BUILDING AND STRUCTURE, DECK, FLOORS, WALLS AND CEILING; PIPE AND ROUTING ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY; HOWEVER, ALL WATER, STEAM AND RADIATORS, HOT AND CHILLED WATER PIPING INSULATION MATERIALS SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING. NOTE: PIPING RUNS THROUGHOUT THE BUILDING IN RISERS ENCLOSED WITHIN PLASTER CHASES.

21. THE CONTRACTOR SHALL REMOVE METALBESTOS VENT AND FLUES AND THE TRANSITE ELECTRICAL PANEL BACKING MATERIAL THROUGHOUT THE BUILDING AND DISPOSED OF AS ASBESTOS-CONTANING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40

22. THE CONTRACTOR SHALL CLEAN AND MAINTAIN THE BASEMENT SUMP PUMP SYSTEM, PIPING AND ELECTRICAL SERVICE THROUGH OUT THE ENVIRONMENTAL PHASE OF THE WORK AND REMOVE AND DISPOSE PIPING INSULATION MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

23. THE CONTRACTOR SHALL REMOVE THE METAL SINK BOTTOM SPRAY COATING MATERIALS, CAULK AND TACK BOARD GLUE DOT MASTIC AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

24. THE CONTRACTOR SHALL REMOVE THE DILUTION SINKS AND TANKS, RECTIFIER, LEAD PIPING AND LEAD-LINED WALLS AND DISPOSE OF IN ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS. THE CONTRACTOR SHALL TCLP MATERIALS IN THE PRESENCE OF THE THIRD-PARTY AIR MONITORING FIRM (IF NECESSARY) TO ENSURE PROPER DISPOSAL.

25. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE DOOR FRAME TO BRICK AND CONCRETE SURFACES AND INSULATED FIRE DOORS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

26. THE CONTRACTOR SHALL REMOVE THE WINDOW FRAME, CONCRETE SILL AND GLAZING CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

27. THE CONTRACTOR SHALL REMOVE THE LABORATORY TRANSITE CABINET TOPS, SINKS, FUME HOOD LININGS AND CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CHEMICALS WILL BE REMOVED BY LSU IN ADVANCE OF THE BEGINNING OF WORK.

28. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION

02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

29. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

30. THE CONTRACTOR SHALL REMOVE THE BUILDING EXTERIOR CMU WALL, WINDOW AND SLAB FLASHING AND WATERPROOFING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THESE MATERIALS EXIST ON THE EXTERIOR CMU WALL SURFACES BEHIND THE BRICK FAÇADE. (THE CONTRACTOR SHALL NOTE THE COATING ON THE INTERIOR SIDE OF THE CMU WALL CONTAINS ASBESTOS AND SHALL BE REMOVED AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

31. THE CONTRACTOR SHALL REMOVE THE FELT/FLASHING/CUTBACK ASPHALT AND MASTIC APPLIED TO THE STRUCTUAL CONCRETE GRADE BEAMS AND SLAB IN DIRECT CONTACT WITH THE SOIL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. NOTE: THE CONTRACTOR SHALL RETURN TO THE SITE TO REMOVE THIS FELT/FLASHING MATERIAL AFTER THE DEMOLITION OF THE SLAB IS NEARING COMPLETION AND REMOVE AND DISPOSE OF THE BELOW-THE-SLAB PIPING INSULATION MATERIALS IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40.

32. THE CONTRACTOR SHALL TEST THE TRANSFORMER OIL (TRANSFORMERS EXIST THROUGHOUT THE BUILDING - 6 EACH); FOR THE PRESENCE OF PCB'S PRIOR TO THE DISPOSAL OF THE TRANSFORMER OIL AND RINSATE IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

33. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ELEVATOR HAUDRAULIC OIL IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

ELECTRICAL ENGINEERING BUILDING FIRST FLOOR SHEET NOTES:

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING THE 480V POWER TO THE BUILDING AND THE WORK AREAS AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS. THE OWNER HAS FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS; AND THE CHILL WATER LITHIUM BROMIDE SOLUTION WITHIN THE CHILLED WATER PIPING SYSTEM SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE BUILDING CONTENTS AND SUSPENDED CEILING SYSTEM; AND RECYCLE MATERIALS WHEREVER POSSIBLE. THE CONTRACTOR SHALL NOTE: CERTAIN BUILDING CONTENTS AND CEILING MATERIALS MAY CONTAIN DEBRIS MATERIALS FROM DAMAGED ASBESTOS-CONTAINING PIPING INSULATION MATERIALS, RELATED TO THE PIPING INSULATION FROM THE HOT WATER AND CHILLED WATER SUPPLY AND RETURN PIPING. THE CONTRACTOR SHALL DISPOSE OF THESE MATERIALS AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE AND MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

7. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, TRASH CHUTES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS COLUMN SURROUNDS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

8. THE CONTRACTOR SHALL REMOVE THE SUSPENDED CEILINGS, INSULATION BATTS AND MATERIALS AND EQUIPMENT SUPPORTED BY THE CEILING AND GRID THROUGH OUT AND DISPOSE OF THESE MATERIALS FROM THE BUILDING FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS.

9. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

10. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING, LEAD PAN AND MASTIC LAYERS TO CONCRETE AND PLASTER SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC/WATERPROOFING AND LEAD MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

11. THE CONTRACTOR SHALL REMOVE PEGBOARD WALLS IN SHOPS AND LABS AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE TRANSITE WALL SYSTEM THROUGHOUT AND DEBRIS MATERIALS IN SHOPS, CLASSROOMS AND LABS AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE CMU COATING ON THE INTERIOR SIDE OF THE CMU WALL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, (INCLUDING THE PIPES AND DUCTS PENETRATING THROUGH THE CONCRETE SLAB AND STRUCTURE) EQUIPMENT, DUCT AND FLUE LINING IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE POTABLE WATER, STEAM, CONDENSATE AND CONDENSATE DRAIN LINES, HOT AND CHILLED WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON PIPING AND PIPING EXPANSION JOINTS, AND RELATED EQUIPMENT, TANKS AND PIPING RISER INSULATION THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: REMOVE PIPING INSULATION MATERIALS WHERE THEY EXISTS THROUGH OUT THE BUILDING AND STRUCTURE, DECK, FLOORS, WALLS AND CEILING; PIPE AND ROUTING ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY; HOWEVER, ALL WATER, STEAM AND RADIATORS, HOT AND CHILLED WATER PIPING INSULATION MATERIALS (AND APPROXIMATELY 28 PIPING RISERS), SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING. NOTE: PIPING RUNS THROUGHOUT THE BUILDING IN RISERS ENCLOSED WITHIN PLASTER AND CMU WALL CHASES.

16. THE CONTRACTOR SHALL REMOVE METALBESTOS VENT AND FLUES AND THE TRANSITE ELECTRICAL PANEL BACKING MATERIAL THROUGHOUT THE BUILDING AND DISPOSED OF AS ASBESTOS-CONTANING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40

17. THE CONTRACTOR SHALL REMOVE THE METAL SINK BOTTOM SPRAY COATING MATERIALS, CAULK AND TACK BOARD GLUE DOT MASTIC AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

18. THE CONTRACTOR SHALL REMOVE THE DILUTION SINKS AND TANKS, RECTIFIER AND LEAD PIPING AND LEAD-LINED WALLS AND DISPOSE OF IN ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS. THE CONTRACTOR SHALL TCLP MATERIALS IN THE

PRESENCE OF THE THIRD-PARTY AIR MONITORING FIRM (IF NECESSARY) TO ENSURE PROPER DISPOSAL.

19. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE DOOR FRAME TO BRICK AND CONCRETE COLUMN SURFACES AND INSULATED FIRE DOORS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL REMOVE THE WINDOW FRAME, CONCRETE SILL AND GLAZING CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

21. THE CONTRACTOR SHALL REMOVE THE LABORATORY TRANSITE CABINET TOPS, SINKS, FUME HOOD LININGS AND CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CHEMICALS WILL BE REMOVED BY LSU IN ADVANCE OF THE BEGINNING OF WORK.

22. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

23. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

    THE CONTRACTOR SHALL REMOVE THE BUILDING EXTERIOR CMU WALL AND WINDOW FLASHING AND WATERPROOFING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THESE MATERIALS EXIST ON THE EXTERIOR CMU WALL SURFACES BEHIND THE BRICK FAÇADE.

ELECTRICAL ENGINEERING BUILDING SECOND FLOOR AND FIRST FLOOR ROOF SHEET NOTES:

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING THE 480V POWER TO THE BUILDING AND WORK AREAS AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS. THE OWNER HAS FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS; AND THE CHILL WATER LITHIUM BROMIDE SOLUTION WITHIN THE CHILLED WATER PIPING SYSTEM SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE BUILDING CONTENTS AND SUSPENDED CEILING SYSTEM; AND RECYCLE MATERIALS WHEREVER POSSIBLE. THE CONTRACTOR SHALL NOTE: CERTAIN BUILDING CONTENTS AND CEILING MATERIALS MAY CONTAIN DEBRIS MATERIALS FROM DAMAGED ASBESTOS-CONTAINING PIPING INSULATION MATERIALS, RELATED TO THE PIPING INSULATION FROM THE HOT WATER AND CHILLED WATER SUPPLY AND RETURN PIPING. THE CONTRACTOR SHALL DISPOSE OF THESE MATERIALS AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE AND MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXIST IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

7. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, TRASH CHUTES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS COLUMN SURROUNDS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

8. THE CONTRACTOR SHALL REMOVE THE SUSPENDED CEILINGS, INSULATION BATTS AND MATERIALS AND EQUIPMENT SUPPORTED BY THE CEILING AND GRID THROUGH OUT AND DISPOSE OF THESE MATERIALS FROM THE BUILDING FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS.

9. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

10. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING, LEAD PAN AND MASTIC LAYERS TO CONCRETE AND PLASTER SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC/WATERPROOFING AND LEAD MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

11. THE CONTRACTOR SHALL REMOVE PEGBOARD WALLS IN SHOPS AND LABS AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE TRANSITE WALL SYSTEM THROUGHOUT AND DEBRIS MATERIALS IN SHOPS, CLASSROOMS AND LABS AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE CMU COATING ON THE INTERIOR SIDE OF THE CMU WALL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, (INCLUDING THE PIPES AND DUCTS PENETRATING THROUGH THE CONCRETE SLAB AND STRUCTURE) EQUIPMENT, DUCT AND FLUE LINING IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE POTABLE WATER, STEAM, CONDENSATE AND CONDENSATE DRAIN LINES, HOT AND CHILLED WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON PIPING AND PIPING EXPANSION JOINTS, AND RELATED EQUIPMENT, TANKS AND PIPING RISER INSULATION THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: REMOVE PIPING INSULATION MATERIALS WHERE THEY EXISTS THROUGH OUT THE BUILDING AND STRUCTURE, DECK, FLOORS, WALLS AND CEILING; PIPE AND ROUTING ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY; HOWEVER, ALL WATER, STEAM AND RADIATORS, HOT AND CHILLED WATER PIPING INSULATION MATERIALS (AND APPROXIMATELY 28 PIPING RISERS), SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING. NOTE: PIPING RUNS THROUGHOUT THE BUILDING IN RISERS ENCLOSED WITHIN PLASTER AND CMU WALL CHASES.

16. THE CONTRACTOR SHALL REMOVE METALBESTOS VENT AND FLUES AND THE TRANSITE ELECTRICAL PANEL BACKING MATERIAL THROUGHOUT THE BUILDING AND DISPOSED OF AS ASBESTOS-CONTANING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40

17. THE CONTRACTOR SHALL REMOVE THE METAL SINK BOTTOM SPRAY COATING MATERIALS, CAULK AND TACK BOARD GLUE DOT MASTIC AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

18. THE CONTRACTOR SHALL REMOVE THE DILUTION SINKS AND TANKS, RECTIFIER AND LEAD PIPING AND LEAD-LINED WALLS AND DISPOSE OF IN ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS. THE CONTRACTOR SHALL TCLP MATERIALS IN THE

PRESENCE OF THE THIRD-PARTY AIR MONITORING FIRM (IF NECESSARY) TO ENSURE PROPER DISPOSAL.

19. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE DOOR FRAME TO BRICK AND CONCRETE COLUMN SURFACES AND INSULATED FIRE DOORS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL REMOVE THE WINDOW FRAME, CONCRETE SILL AND GLAZING CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

21. THE CONTRACTOR SHALL REMOVE THE LABORATORY TRANSITE CABINET TOPS, SINKS, FUME HOOD LININGS AND CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CHEMICALS WILL BE REMOVED BY LSU IN ADVANCE OF THE BEGINNING OF WORK.

22. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

23. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

24. THE CONTRACTOR SHALL REMOVE THE BUILDING EXTERIOR CMU WALL AND WINDOW AND ROOF-LINED FLASHING AND WATERPROOFING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THESE MATERIALS EXIST ON THE EXTERIOR CMU WALL SURFACES BEHIND THE BRICK FAÇADE.

25. THE CONTRACTOR SHALL REMOVE THE ASBESTOS-CONTAINING CAULK FROM THE CONCRETE COLUMN AND WALL ALONG WITH COPPER FLASHING AND RELATED MASTIC AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMOVE THE WINDOW CAULKING DEBRIS EXISTING LOOSE ON THE GROUND AND LANDSCAPING (FOR A 10-FOOT PERIMETER PATH) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

26. THE CONTRACTOR SHALL REMOVE THE EXTERIOR ROOF UPPER WALL AND PARAPET CAP WATERPROOFING FLASHING MATERIALS AT ROOFING LEVEL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

27. THE CONTRACTOR SHALL REMOVE THE ROOF HVAC EQUIPMENT AND DUCTS (AS NECESSARY) FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS; REMOVE IN THEIR ENTIRETY AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 82 40. THE REMAINING HVAC EQUIPMENT MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE MATERIALS WHENEVER POSSIBLE.

28. THE CONTRACTOR SHALL REMOVE THE ROOF MOUNTED THERMAL SYSTEM INSULATION, DUCT COATING AND EXHAUST FAN COATING, CAULKING, INSULATION AND VIBRATION CLOTH AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

29. THE CONTRACTOR SHALL REMOVE THE ROOF PERIMETER PARAPET FLASHING MATERIAL AND THE FLASHING MATERIALS AT ALL HARD PENETRATIONS (EXHAUST FANS, DRAINS, SKYLIGHTS, PARAPET CAP AND OTHER HARD PENETRATIONS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (FLASHING EXISTS APPROXIMATELY THREE FOOT WIDE ALONG BUILDING PERIMETER, AT HARD PENETRATIONS, ROOF DRAINS AND BENEATH THE PARAPET CAP)

ELECTRICAL ENGINEERING BUILDING THIRD FLOOR, ATTIC AND SECOND FLOOR ROOF SHEET NOTES:

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING THE 480V POWER TO THE BUILDING AND WORK AREAS PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE THE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS RECYCLED OR REMOVED AND DISPOSED OF. THE OWNER HAS THE FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS; AND THE CHILL WATER LITHIUM BROMIDE SOLUTION WITHIN THE CHILLED WATER PIPING SYSTEM SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE BUILDING CONTENTS AND SUSPENDED CEILING SYSTEM; AND RECYCLE MATERIALS WHEREVER POSSIBLE. THE CONTRACTOR SHALL NOTE: CERTAIN BUILDING CONTENTS AND CEILING MATERIALS MAY CONTAIN DEBRIS MATERIALS FROM DAMAGED ASBESTOS-CONTAINING PIPING INSULATION MATERIALS, RELATED TO THE PIPING INSULATION FROM THE HOT WATER AND CHILLED WATER SUPPLY AND RETURN PIPING. THE CONTRACTOR SHALL DISPOSE OF THESE MATERIALS AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE AND MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

7. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, TRASH CHUTES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS COLUMN SURROUNDS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

8. THE CONTRACTOR SHALL REMOVE THE SUSPENDED CEILINGS, INSULATION BATTS AND MATERIALS AND EQUIPMENT SUPPORTED BY THE CEILING AND GRID THROUGH OUT AND DISPOSE OF THESE MATERIALS FROM THE BUILDING FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS.

9. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

10. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING, LEAD PAN AND MASTIC LAYERS TO CONCRETE AND PLASTER SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC/WATERPROOFING AND LEAD MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

11. THE CONTRACTOR SHALL REMOVE PEGBOARD WALLS IN SHOPS AND LABS AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE TRANSITE WALL SYSTEM THROUGHOUT AND DEBRIS MATERIALS IN SHOPS, CLASSROOMS AND LABS AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE CMU COATING ON THE INTERIOR SIDE OF THE CMU WALL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, (INCLUDING THE PIPES AND DUCTS PENETRATING THROUGH THE CONCRETE SLAB AND STRUCTURE) EQUIPMENT, DUCT AND FLUE LINING IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE POTABLE WATER, STEAM, CONDENSATE AND CONDENSATE DRAIN LINES, HOT AND CHILLED WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON PIPING AND PIPING EXPANSION JOINTS, AND RELATED EQUIPMENT, TANKS AND PIPING RISER INSULATION THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: REMOVE PIPING INSULATION MATERIALS WHERE THEY EXISTS THROUGH OUT THE BUILDING AND STRUCTURE, DECK, FLOORS, WALLS AND CEILING; PIPE AND ROUTING ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY; HOWEVER, ALL WATER, STEAM AND RADIATORS, HOT AND CHILLED WATER PIPING INSULATION MATERIALS (AND APPROXIMATELY 28 PIPING RISERS), SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING. NOTE: PIPING RUNS THROUGHOUT THE BUILDING IN RISERS ENCLOSED WITHIN PLASTER AND CMU WALL CHASES.

16. THE CONTRACTOR SHALL REMOVE METALBESTOS VENT AND FLUES AND TRANSITE ELECTRICAL PANEL BACKING MATERIAL THROUGHOUT THE BUILDING AND DISPOSED OF AS ASBESTOS-CONTANING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40

17. THE CONTRACTOR SHALL REMOVE THE METAL SINK BOTTOM SPRAY COATING MATERIALS, CAULK AND TACK BOARD GLUE DOT MASTIC AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

18. THE CONTRACTOR SHALL REMOVE THE DILUTION SINKS AND TANKS, RECTIFIER AND LEAD PIPING AND LEAD-LINED WALLS AND DISPOSE OF IN ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS. THE CONTRACTOR SHALL TCLP MATERIALS IN THE PRESENCE OF THE THIRD-PARTY AIR MONITORING FIRM (IF NECESSARY) TO ENSURE PROPER DISPOSAL.

19. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE DOOR FRAME TO BRICK AND CONCRETE COLUMN SURFACES AND INSULATED FIRE DOORS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL REMOVE THE WINDOW FRAME, CONCRETE SILL AND GLAZING CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

21. THE CONTRACTOR SHALL REMOVE THE LABORATORY TRANSITE CABINET TOPS, SINKS, FUME HOOD LININGS AND CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CHEMICALS WILL BE REMOVED BY LSU IN ADVANCE OF THE BEGINNING OF WORK.

22. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

23. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

24. THE CONTRACTOR SHALL REMOVE THE BUILDING EXTERIOR CMU WALL AND WINDOW AND ROOF-LINED FLASHING AND WATERPROOFING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THESE MATERIALS EXIST ON THE EXTERIOR CMU WALL SURFACES BEHIND THE BRICK FAÇADE.

25. THE CONTRACTOR SHALL REMOVE THE ASBESTOS-CONTAINING CAULK FROM THE CONCRETE COLUMN AND WALL ALONG WITH COPPER FLASHING AND RELATED MASTIC AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMOVE THE WINDOW CAULKING DEBRIS EXISTING LOOSE ON THE GROUND AND LANDSCAPING (FOR A 10-FOOT PERIMETER PATH) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

26. THE CONTRACTOR SHALL REMOVE THE ATTIC CONTENTS, AND SALVAGE MATERIALS WHEREVER POSSIBLE. THE CONTRACTOR SHALL NOTE: CERTAIN BUILDING CONTENTS AND CEILING MATERIALS MAY CONTAIN DEBRIS MATERIALS FROM DAMAGED ASBESTOS-CONTAINING PIPING INSULATION MATERIALS, RELATED TO DAMAGED PIPING INSULATION FROM THE HOT WATER AND CHILLED WATER PIPING. THE CONTRACTOR SHALL DISPOSE OF THESE MATERIALS AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

27. THE CONTRACTOR SHALL REMOVE THE ATTIC HOT, STEAM AND CHILLED WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON PIPING AND PIPING EXPANSION JOINTS, EQUIPMENT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: REMOVE PIPING INSULATION MATERIALS WHERE THEY EXISTS THROUGH OUT THE ATTIC. PIPE AND ROUTING ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY; HOWEVER, ALL PIPING INSULATION MATERIALS SHALL BE REMOVED PRIOR TO THE DEMOLITION WORK.

28. THE CONTRACTOR SHALL REMOVE THE ATTIC RUN FLEXIBLE CLOTH VIBRATION DAMPERS/CONNECTORS AND DUCT TAPE METALBESTOS AND OTHER FLUES THAT EXIST AND AS THEY PENETRATE THROUGH THE CLAY TILED ROOF.AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE REMAINING HVAC FAN EQUIPMENT MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS IN ACCORDANCE WITH 02 82 40.

29. THE CONTRACTOR SHALL REMOVE THE EXTERIOR ROOF UPPER WALL AND PARAPET CAP WATERPROOFING FLASHING MATERIALS AT ROOFING LEVEL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

30. THE CONTRACTOR SHALL REMOVE THE ROOF HVAC EQUIPMENT AND DUCTS (AS NECESSARY) FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS; REMOVE IN THEIR ENTIRETY AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 82 40. THE REMAINING HVAC EQUIPMENT MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE MATERIALS WHENEVER POSSIBLE.

31. THE CONTRACTOR SHALL REMOVE THE ROOF MOUNTED THERMAL SYSTEM INSULATION, DUCT COATING AND EXHAUST FAN COATING, CAULKING, INSULATION AND VIBRATION CLOTH AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

32. THE CONTRACTOR SHALL REMOVE THE ROOF PERIMETER PARAPET FLASHING MATERIAL AND THE FLASHING MATERIALS AT ALL HARD PENETRATIONS (EXHAUST FANS, DRAINS, SKYLIGHTS, PARAPET CAP AND OTHER HARD PENETRATIONS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (FLASHING EXISTS APPROXIMATELY THREE FOOT WIDE ALONG BUILDING PERIMETER, AT HARD PENETRATIONS, ROOF DRAINS AND BENEATH THE PARAPET CAP)

MANSHIP BUILDING AND ROOF SHEET NOTES (EV05.01):

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING POWER TO THE WORK AREA AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS. THE OWNER HAS THE FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE, MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

7. THE CONTRACTOR SHALL REMOVE THE SUSPENDED CEILINGS, INSULATION BATTS AND MATERIALS AND EQUIPMENT SUPPORTED BY THE CEILING AND GRID THROUGH OUT AND DISPOSE OF THESE MATERIALS FROM THE BUILDING FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS.

8. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

9. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING, LEAD PAN AND MASTIC LAYERS TO CONCRETE AND PLASTER SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC/WATERPROOFING AND LEAD MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

10. THE CONTRACTOR SHALL REMOVE CHAULK BOARD AND MASTIC DOTS AND THE CORK/TACK BOARDS AND BACKING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

11. THE CONTRACTOR SHALL REMOVE THE TRANSITE PANEL WINDOW WALL SYSTEM THROUGHOUT AND THE FRAME CAULKING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING-MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE WINDOW FRAMEING AND GLAZING CAULK CONTAINS ASBESTOS AND SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMOVE THE WINDOW AND MISCELLANEOUS CAULKING DEBRIS EXISTING LOOSE ON THE GROUND AND LANDSCAPING (FOR A 10 FOOT PERIMETER PATH) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE CMU COATING AND THE CONCRETE COLUMN COATING AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE COLUMN TO CMU WALL CAULKING CONTAINS ASBESTOS AND THIS CAULKING SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE AWNING WINDOW AND FRAME CAULK TO BRICK SILL CAULK WITHIN THE ARCHED ROOF SECTIONS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE STORE FRONT DOOR FRAME CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE BRICK TO FLAT BAR CAULKING AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

16. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE DOOR FRAME TO BRICK AND CONCRETE COLUMN SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

17. THE CONTRACTOR SHALL REMOVE THE EXPANSION JOINT BOARD AND CAULK USED FOR THE PRECAST CONCRETE BEAMS AND COLUMNS, THE PRECAST ARCHED CONCRETE PANELS AND COLUMN SUPPORTS TO PRECAST ROOF PANELS (LABELLED AS “FIRE CHEX” AND THE LABELLED “¼ INCH ASBESTOS BOARD”), AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

18. THE CONTRACTOR SHALL REMOVE THE CONCRETE BEAM TO COLUMN CAULKING AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

19. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, RUNNING ALONG THE EXTERIOR BUILDING PERIMETER (BELOW THE SLAB LEVEL; INCLUDING WHERE THE INSULATED PIPES PENETRATE THROUGH THE CONCRETE SLAB AND WALL) TO EACH OF THE WALL MOUNTED FAN COIL UNITS/CONVECTORS (ON THE TRANSITE WALL PANELS), AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (APPROXIMATELY 24 FAN COIL UNITS/CONVECTORS – FIELD VERIFY)

20. THE CONTRACTOR SHALL REMOVE THE INSULATED HOT WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON THE REST ROOM PIPING THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: REMOVE PIPING INSULATION MATERIALS WHERE THEY EXISTS THROUGH OUT THE BUILDING, WITHIN THE CRAWL SPACE AND THE OPEN EXTERIOR TRENCH AND STRUCTURE, DECK, FLOORS, WALLS AND CEILING; PIPE AND ROUTING ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY; HOWEVER, ALL WATER, STEAM AND CONDENSATE PIPING AND INSULATION MATERIALS SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING.

21. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

22. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

23. THE CONTRACTOR SHALL REMOVE THE ASBESTOS-CONTAINING MASTIC AND FLASHING AND WATERPROOFING MATERIALS FROM THE CONCRETE COLUMN AND WALL ALONG WITH COPPER FLASHING AND RELATED MASTIC ALONG THE SLAB AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

24. THE CONTRACTOR SHALL REMOVE ROOF FLASHING MATERIALS ALONG THE ROOF PERIMETER AND AT ALL HARD PENETRATIONS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

25. THE CONTRACTOR SHALL REMOVE THE ROOF HVAC EQUIPMENT AND DUCT COATING/ INSULATION AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 82 40. THE REMAINING HVAC EQUIPMENT MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE MATERIALS WHENEVER POSSIBLE.

26. THE CONTRACTOR SHALL REMOVE THE ROOF MOUNTED THERMAL SYSTEM INSULATION, AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. NOTE PIPING INSULATION IS COVERED WITH AN ALUMINUM JACKET.

27. THE CONTRACTOR SHALL REMOVE THE ROOF MOUNTED EXHAUST FAN VIBRATION CLOTH AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

28. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE GAS PIPING SERVICE COATING AND PIPING IN THEIR ENTIRETY FROM THE UNDERGROUND GAS SERVICE LINE APPROXIMATELY 400 LINEAR FEET TO A TIE-POINT AT THE SUPPLY LINE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

29. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE UNDERGROUND GAS SERVICE PIPING AND COATING/INSULATION AND DISPOSE OF THE COATING/INSULATION AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE STEAM AND CONDENSATE AND WATER PIPING INSULATION FROM THE UNDERGROUND STEAM AND CONDENSATE WATER PIPING SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE CHILLED WATER SUPPLY AND RETURN PIPING AND INSULATION FROM THE UNDERGROUND CHILLED WATER SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. EXCAVATE AS NECESSARY FOR ACCESS AND SAWCUT CONCRETE PAVEMENT AS NECESSARY. THE CONTRACTOR SHALL REMOVE THE WATER, SILT AND ASBESTOS-CONTAINING PIPING INSULATION DEBRIS MATERIALS EXISTING WITHIN THE UTILITY TRENCHES, CLEAN CONCRETE SURFACES AND DISPOSE OF WATER, SILT AND DEBRIS AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

MANSHIP BUILDING ANNEX AND ROOF SHEET NOTES (EV05.01):

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR

SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING POWER TO THE WORK AREA AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS. THE OWNER HAS THE FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE, MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

7. THE CONTRACTOR SHALL REMOVE THE SUSPENDED CEILINGS, INSULATION BATTS AND MATERIALS AND EQUIPMENT SUPPORTED BY THE CEILING AND GRID THROUGH OUT AND DISPOSE OF THESE MATERIALS FROM THE BUILDING FOR ACCESS TO ASBESTOS-CONTAINING MATERIALS.

8. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS

AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

9. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING, LEAD PAN AND MASTIC LAYERS TO CONCRETE AND PLASTER SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC/WATERPROOFING AND LEAD MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

10. THE CONTRACTOR SHALL REMOVE CHAULK BOARD AND MASTIC DOTS AND THE CORK/TACK BOARDS AND BACKING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

11. THE CONTRACTOR SHALL REMOVE THE CMU COATING AND THE CONCRETE COLUMN COATING AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE COLUMN TO CMU WALL CAULKING CONTAINS ASBESTOS AND THIS CAULKING SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE STORE FRONT AND ROLL-UP DOOR FRAME CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE WINDOW AND DOOR FRAMES TO BRICK AND CONCRETE COLUMN SURFACES AND THE GLAZING CAULK AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE EXPANSION JOINT BOARD AND CAULK USED FOR THE PRECAST CONCRETE BEAMS AND COLUMNS TO PRECAST ROOF PANELS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, RUNNING ALONG THE CEILING DECK TO EACH OF UNIT HEATERS, AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (APPROXIMATELY 10 UNIT HEATERS – FIELD VERIFY)

16. THE CONTRACTOR SHALL REMOVE THE INSULATED HOT WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON THE REST ROOM PIPING THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: REMOVE PIPING INSULATION AND DEBRIS MATERIALS WHERE THEY EXISTS THROUGH OUT THE BUILDING, AND STRUCTURE, DECK, FLOORS, WALLS AND CEILING; PIPE AND ROUTING ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY; HOWEVER, ALL WATER, STEAM AND CONDENSATE PIPING AND INSULATION MATERIALS SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING.

17. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

18. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

19. THE CONTRACTOR SHALL REMOVE THE ASBESTOS-CONTAINING MASTIC AND COPPER FLASHING AND WATERPROOFING MATERIALS FROM BELOW THE WINDOWS, AT SLAB LEVEL AND AT THE ROOF AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL REMOVE THE ROOF FLASHING MATERIALS ALONG THE ROOF PERIMETER, AT ALL HARD PENETRATIONS AND SKYLIGHTS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

21. THE CONTRACTOR SHALL REMOVE THE ROOF HVAC EQUIPMENT AND DUCT COATING/ INSULATION AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 82 40. THE REMAINING HVAC EQUIPMENT MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE MATERIALS WHENEVER POSSIBLE.

22. THE CONTRACTOR SHALL REMOVE THE ROOF MOUNTED THERMAL SYSTEM INSULATION, AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

23. THE CONTRACTOR SHALL REMOVE THE ROOF MOUNTED EXHAUST FAN VIBRATION CLOTH AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

24. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE UNDERGROUND GAS SERVICE PIPING AND COATING/INSULATION AND DISPOSE OF THE COATING/INSULATION AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE STEAM AND CONDENSATE AND WATER PIPING INSULATION FROM THE UNDERGROUND STEAM AND CONDENSATE AND WATER PIPING SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE CHILLED WATER SUPPLY AND RETURN PIPING AND INSULATION FROM THE UNDERGROUND CHILLED WATER SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. EXCAVATE AS NECESSARY FOR ACCESS AND SAWCUT CONCRETE PAVEMENT AS NECESSARY. THE CONTRACTOR SHALL REMOVE THE WATER, SILT AND ASBESTOS-CONTAINING PIPING INSULATION DEBRIS MATERIALS EXISTING WITHIN THE UTILITY TRENCHES, CLEAN CONCRETE SURFACES AND DISPOSE OF WATER, SILT AND DEBRIS AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

VET SCIENCE ANNEX BUILDING AND ATTIC SHEET NOTES EV02.00):

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK

SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING POWER TO THE WORK AREA AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS. THE OWNER HAS THE FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE, MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSE OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

7. THE CONTRACTOR SHALL REMOVE THE SUSPENDED TRANSITE CEILINGS AND INSULATION BATTS AND DISPOSE OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMOVE AMD DISPOSE OF MATERIALS AND EQUIPMENT SUPPORTED BY THE CEILING AND GRID THROUGH OUT AS NECESSARY FOR ACCESS TO REMOVE ASBESTOS-CONTAINING MATERIALS.

8. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

9. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING AND MASTIC LAYERS TO CONCRETE SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC WATERPROOFING MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

10. THE CONTRACTOR SHALL REMOVE TACK BOARDS AND MASTIC DOTS AND BACKING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

11. THE CONTRACTOR SHALL REMOVE THE EXTERIOR BLACK MASTIC PATCH MATERIALS ADHERED TO BRICK SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE EXTERIOR GLAZING AND FRAME CAULK FROM THE WINDOWS AND DOORS TO BRICK SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE INTERIOR GLAZING CAULK (THROUGHOUT) AND FRAME CAULK FROM THE WINDOWS AND ENTRANCE DOORS TO CERAMIC SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE INTERIOR DOOR FRAME CAULK TO CERAMIC SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, THROUGHOUT AND IN CEILINGS/ATTIC SPACE, AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

16. THE CONTRACTOR SHALL REMOVE THE INSULATED HOT WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON THE REST ROOM AND WATER PIPING THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. CONTRACTOR SHALL NOTE: ALL PIPING AND INSULATION MATERIALS SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING.

17. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

18. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

19. THE CONTRACTOR SHALL REMOVE THE ASBESTOS-CONTAINING MASTIC AND COPPER FLASHING AND WATERPROOFING COATING MATERIALS FROM AROUND THE WINDOWS, AND AT SLAB LEVEL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL REMOVE THE ATTIC EXHAUST FAN VIBRATION CLOTH AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

21. THE CONTRACTOR SHALL REMOVE SLAB FLASHING MATERIALS ALONG THE ROOF PERIMETER, AT ALL HARD PENETRATIONS AND SKYLIGHTS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

22. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE UNDERGROUND GAS SERVICE PIPING AND COATING/INSULATION AND DISPOSE OF THE COATING/INSULATION AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE STEAM AND CONDENSATE AND WATER PIPING INSULATION FROM THE UNDERGROUND STEAM AND CONDENSATE WATER PIPING SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE CHILLED WATER SUPPLY AND RETURN PIPING AND INSULATION FROM THE UNDERGROUND CHILLED WATER SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. EXCAVATE AS NECESSARY FOR ACCESS AND SAWCUT CONCRETE PAVEMENT AS NECESSARY. THE CONTRACTOR SHALL REMOVE THE WATER, SILT AND ASBESTOS-CONTAINING PIPING INSULATION DEBRIS MATERIALS EXISTING WITHIN THE UTILITY TRENCHES, CLEAN CONCRETE SURFACES AND DISPOSE OF WATER, SILT AND DEBRIS AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

23. THE CONTRACTOR SHALL REMOVE THE FELT/FLASHING/CUTBACK ASPHALT AND MASTIC APPLIED TO THE STRUCTUAL CONCRETE GRADE BEAMS AND SLAB IN DIRECT CONTACT WITH THE SOIL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. NOTE: THE CONTRACTOR SHALL RETURN TO THE SITE TO REMOVE THIS FELT/FLASHING MATERIAL AFTER THE DEMOLITION OF THE SLAB IS NEARING COMPLETION AND REMOVE AND DISPOSE OF THE BELOW THE SLAB INSULATED PIPING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

24. THE CONTRACTOR SHALL REMOVE THE TRANSITE SOFFIT MATERIALS AND CLEAN SOFFIT GRID AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

25. THE CONTRACTOR SHALL REMOVE THE TRANSITE SOFFIT DEBRIS MATERIALS ON THE GROUND AND ANY CONTAMINATED SOIL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

VET SCIENCE PARASITE BUILDING AND ATTIC SHEET NOTES (EV04.00):

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A

PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING POWER TO THE WORK AREA AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS. THE OWNER HAS THE FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE, MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

7. THE CONTRACTOR SHALL REMOVE THE SUSPENDED TRANSITE CEILINGS, INSULATION BATTS AND SUPPORTING MATERIALS AND GRID THROUGH OUT AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

8. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

9. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING AND MASTIC LAYERS TO CONCRETE SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC WATERPROOFING MATERIALS OR THE LEAD PAN MATERIAL (IF PRESENT), MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

10. THE CONTRACTOR SHALL REMOVE TACK BOARDS AND MASTIC DOTS AND BACKING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

11. THE CONTRACTOR SHALL REMOVE THE EXTERIOR GLAZING AND FRAME CAULK FROM THE WINDOWS AND DOORS TO BRICK SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE INTERIOR GLAZING CAULK (THROUGHOUT) AND FRAME CAULK FROM THE WINDOWS AND ENTRANCE DOORS TO CERAMIC SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE INTERIOR DOOR FRAME CAULK TO CERAMIC SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, THROUGHOUT AND IN CEILINGS/ATTIC SPACE, AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE INSULATED HOT WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON THE REST ROOM AND WATER PIPING THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE: ALL PIPING AND INSULATION MATERIALS SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING.

16. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

17. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

18. THE CONTRACTOR SHALL REMOVE THE ATTIC EXHAUST FAN VIBRATION CLOTH AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

19. THE CONTRACTOR SHALL REMOVE THE ASBESTOS-CONTAINING MASTIC AND COPPER FLASHING AND WATERPROOFING COATING MATERIALS FROM AROUND THE WINDOWS, AND AT SLAB LEVEL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE UNDERGROUND GAS SERVICE PIPING AND COATING/INSULATION AND DISPOSE OF THE COATING/INSULATION AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE STEAM AND CONDENSATE AND WATER PIPING INSULATION FROM THE UNDERGROUND STEAM AND CONDENSATE WATER PIPING SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE CHILLED WATER SUPPLY AND RETURN PIPING AND INSULATION FROM THE UNDERGROUND CHILLED WATER SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. EXCAVATE AS NECESSARY FOR ACCESS AND SAWCUT CONCRETE PAVEMENT AS NECESSARY. THE CONTRACTOR SHALL REMOVE THE WATER, SILT AND ASBESTOS-CONTAINING PIPING INSULATION DEBRIS MATERIALS EXISTING WITHIN THE UTILITY TRENCHES, CLEAN CONCRETE SURFACES AND DISPOSE OF WATER, SILT AND DEBRIS AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

21. THE CONTRACTOR SHALL REMOVE THE TRANSITE SOFFIT MATERIALS AND CLEAN SOFFIT GRID AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

22. THE CONTRACTOR SHALL REMOVE THE TRANSITE SOFFIT DEBRIS MATERIALS ON THE GROUND AND ANY CONTAMINATED SOIL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

23. THE CONTRACTOR SHALL REMOVE THE FELT/FLASHING/CUTBACK ASPHALT AND MASTIC APPLIED TO THE STRUCTUAL CONCRETE GRADE BEAMS AND SLAB IN DIRECT CONTACT WITH THE SOIL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. NOTE: THE CONTRACTOR SHALL RETURN TO THE SITE TO REMOVE THIS FELT/FLASHING MATERIAL AFTER THE DEMOLITION OF THE SLAB IS NEARING COMPLETION AND REMOVE AND DISPOSE OF THE BELOW THE SLAB INSULATED PIPING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

VET SCIENCE POULTRY BUILDING AND MEZZANINE SHEET NOTES (EV03.00):

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, SPECIFICATIONS, SHEET NOTES AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION.

2. THE CONTRACTOR SHALL NOTE: THESE FLOOR PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, WALL LOCATIONS AND MATERIALS AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

3. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT MAY REMAIN ENERGIZED THROUGH OUT THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO DISCONNECTING POWER TO THE WORK AREA AND PRIOR TO PERFORMING WORK AND PRIOR TO THE REMOVAL OF ANY BUILDING COMPONENT. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT/ TAGOUT ELECTRICAL TO THE WORK AREAS.

4. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR FOR BUILDING COMPONENTS AND EQUIPMENT TO BE CLEANED, PROTECTED AND SALVAGED. THE CONTRACTOR SHALL REMOVE REMAINING BUILDING EQUIPMENT AND MATERIALS AND DISPOSE OF AS CONSTRUCTION DEBRIS. THE OWNER HAS FIRST RIGHT OF REFUSAL. THE CONTRACTOR SHALL NOTE: ITEMS NOT REMOVED BY THE OWNER (AND REMAINING IN THE BUILDING), SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PREPARE A LISTING OF THESE MATERIALS RECYCLED. THE REMAINING CLEANING RELATED CHEMICALS, WAXES, MAINTENANCE RELATED SOLUTIONS, PAINTS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.

5. THE CONTRACTOR SHALL REMOVE THE FLOOR TILE, BASE, MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE; MULTIPLE FLOORING LAYERS EXISTS IN AREAS AND ALL LAYERS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

6. THE CONTRACTOR SHALL REMOVE DEMOLISH (SAW CUT AS NECESSARY), ONE FACE OF ALL WET WALLS, DOUBLE WALLS, CHASE WALLS, PIPING SHAFTS, CEILINGS, FURR DOWN AND FURR OUT WALLS AND CEILINGS IN THEIR ENTIRETY TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL; INCLUDING BUT NOT LIMITED TO THE PIPE/PLUMBING CHASES, HEATER PIPE CHASES, PLUMBING RISER CHASES, VERTICAL CHASE WALLS, CEILING PLASTER FURRDOWNS/CHASES, RESTROOM AND JANITOR ROOMS TO ACCESS AND REMOVE INSULATED PIPING AND WATERPROOFING MATERIALS AND COATINGS. CHASE OPENINGS SHALL BE MADE TO ALLOW FOR INSPECTION OF THE COMPLETE CAVITY AND PERMIT THE COMPLETE REMOVAL OF ALL INSULATED PIPING MATERIALS AND RELATED LOOSE DEBRIS MATERIALS. THE CONTRACTOR SHALL SEAL/COVER ALL OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

7. THE CONTRACTOR SHALL REMOVE THE SUSPENDED TRANSITE CEILINGS, INSULATION BATTS AND SUPPORTING MATERIALS AND GRID THROUGH OUT AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

8. THE CONTRACTOR SHALL REMOVE THE RESTROOM AND JANITOR LAVATORIES, MIRRORS, CERAMIC TILE SURFACES, PLUMBING FIXTURES, INSULATED PIPING RISERS AND SUSPENDED CEILING (IN ITS ENTIRETY), TO ACCESS AND REMOVE ASBESTOS-CONTAINING MATERIALS, AND MASTIC/GLUE DOTS. WHERE CEILINGS ARE SUSPECTED OF CONTAINING ASBESTOS DEBRIS FROM DAMAGED PIPING INSULATION DEBRIS, THESE

MATERIALS SHALL BE REMOVED AND DISPOSED OF AS ASBESTOS-CONTAMINATED MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

9. THE CONTRACTOR SHALL REMOVE THE CERAMIC TILE FLOOR, SETTING BED TO ACCESS, REMOVE AND DISPOSE OF THE WATERPROOFING AND MASTIC LAYERS TO CONCRETE SUBSTRATE. THE CONTRACTOR SHALL DISPOSE OF THE WATERPROOFING MATERIALS AND MASTIC LAYER AS ASBESTOS-CONTAINING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. REMAINING MATERIALS NOT CONTAINING THE MASTIC/WATERPROOFING AND LEAD MATERIALS MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS.

10. THE CONTRACTOR SHALL REMOVE TACK BOARDS AND MASTIC DOTS AND BACKING MATERIALS AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

11. THE CONTRACTOR SHALL REMOVE THE EXTERIOR GLAZING AND FRAME CAULK FROM THE WINDOWS AND DOORS TO BRICK SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

12. THE CONTRACTOR SHALL REMOVE THE INTERIOR GLAZING CAULK (THROUGHOUT) AND FRAME CAULK FROM THE WINDOWS AND ENTRANCE DOORS TO CERAMIC SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

13. THE CONTRACTOR SHALL REMOVE THE INTERIOR DOOR FRAME CAULK TO CERAMIC SURFACES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

14. THE CONTRACTOR SHALL REMOVE THE THERMAL SYSTEM INSULATION ON PIPING, THROUGHOUT AND IN CEILINGS/ATTIC SPACE, AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

15. THE CONTRACTOR SHALL REMOVE THE INSULATED HOT WATER THERMAL SYSTEM INSULATION AND RELATED CAULKING AND MASTIC MATERIALS ON THE REST ROOM AND WATER PIPING THROUGHOUT IN THEIR ENTIRETY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE: ALL PIPING AND INSULATION MATERIALS SHALL BE REMOVED PRIOR TO DEMOLITION OF THE BUILDING.

16. THE CONTRACTOR SHALL REMOVE THE OLDER FLUORESCENT LIGHTING FIXTURES AND DISPOSE OF THE OLDER BALLASTS AS PCB-CONTAINING IN ACCORDANCE WITH SECTION 02 83 40. THE REMAINING FIXTURE MAY BE DISPOSED OF AS CONSTRUCTION DEBRIS. RECYCLE WHENEVER POSSIBLE.

17. THE CONTRACTOR SHALL REMOVE THE OLDER MERCURY LIGHT TUBES, SWITCHES AND THERMOSTATS AND DISPOSE OF IN ACCORDANCE WITH SECTION 02 85 00.

18. THE CONTRACTOR SHALL REMOVE THE ATTIC EXHAUST FAN VIBRATION CLOTH AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

19. THE CONTRACTOR SHALL REMOVE THE ASBESTOS-CONTAINING MASTIC AND COPPER FLASHING AND WATERPROOFING COATING MATERIALS FROM AROUND THE WINDOWS,

AND AT SLAB LEVEL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

20. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE UNDERGROUND GAS SERVICE PIPING AND COATING/INSULATION AND DISPOSE OF THE COATING/INSULATION AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE STEAM AND CONDENSATE AND WATER PIPING INSULATION FROM THE UNDERGROUND STEAM AND CONDENSATE WATER PIPING SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE CHILLED WATER SUPPLY AND RETURN PIPING AND INSULATION FROM THE UNDERGROUND CHILLED WATER SERVICE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. EXCAVATE AS NECESSARY FOR ACCESS AND SAWCUT CONCRETE PAVEMENT AS NECESSARY. THE CONTRACTOR SHALL REMOVE THE WATER, SILT AND ASBESTOS-CONTAINING PIPING INSULATION DEBRIS MATERIALS EXISTING WITHIN THE UTILITY TRENCHES, CLEAN CONCRETE SURFACES AND DISPOSE OF WATER, SILT AND DEBRIS AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. (SEE SHEET EV06.00 FOR THE SCOPE OF THIS REMOVAL)

21. THE CONTRACTOR SHALL REMOVE THE TRANSITE SOFFIT MATERIALS AND CLEAN SOFFIT GRID AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

22. THE CONTRACTOR SHALL REMOVE THE TRANSITE DEBRIS MATERIALS ON THE GROUND AND ANY CONTAMINATED SOIL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

23. THE CONTRACTOR SHALL REMOVE THE FELT/FLASHING/CUTBACK ASPHALT AND MASTIC APPLIED TO THE STRUCTUAL CONCRETE GRADE BEAMS AND SLAB IN DIRECT CONTACT WITH THE SOIL AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. NOTE: THE CONTRACTOR SHALL RETURN TO THE SITE TO REMOVE THIS FELT/FLASHING MATERIAL AFTER THE DEMOLITION OF THE SLAB IS NEARING COMPLETION AND REMOVE AND DISPOSE OF THE BELOW THE SLAB INSULATED PIPING IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

ENVIRONMENTAL UNDERGROUND UTILITY REMOVAL AND DISPOSAL SHEET NOTES (EV06.01):

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE SHEET NOTES, DOCUMENTS AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THE ENVIRONMENTAL CONTRACTOR AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE: THE UNDERGROUND UTILITY LINES (BOTH ACTIVE AND PREVIOUSLY ABANDONED, BOTH RUNNING IN CONCRETE TRENCHES AND DIRECT BURIED), EXIST BELOW GRADE THROUGHOUT THE SITE AND ALL ASBESTOS CONTAINING PIPING INSULATION AND DEBRIS MATERIALS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

2. THE CONTRACTOR SHALL NOTE: THESE UTILITY SITE PLANS ARE BASED ON AVAILABLE DRAWING INFORMATION AND SITE INVESTIGATION; THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS, CONDITIONS, AND MATERIALS AND NOTIFY THE

GENERAL CONTRACTOR OF ANY DISCREPANCY. ALL DESIGNATED UNDERGROUND UTILITY INSULATION, DEBRIS AND WATERPROOFING MATERIALS SHALL BE REMOVED AND PROPERLY DISPOSED OF IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

3. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO MARK THE POINTS OF TEMMINATION/DISCONNECT POINTS AND WHERE UTILITIES ARE TO REMAIN IN SERVICE (FOR ALL UTILITIES) THE CONTRACTOR SHALL REFER TO THE SUBSURFACE UTILITY ENGINEERING (SUE) DRAWINGS; UTILITY DEMOLITION DRAWING NOS D08.04, D08.05, D08.06 AND D08.07, FOR THE KNOWN UNDERGROUND UTILITIES CONTAINING INSULATION, INSULATION DEBRIS AND WATERPROOFING MATERIALS, CONTAINING ASBESTOS.

4. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE CONDUITS EXIST BURIED THROUGHOUT THE SITE. PRIOR TO EXCAVATION FOR UNDERGROUND UTILITIES THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, TO VERIFY AND MARK ELECTRICAL CONDUITS TRAVERSING THE SITE AND FEEDING THE BUILDING LOCATIONS THAT MUST REMAIN IN SERVICE.

5. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE GAS PIPING COATING AND PIPING IN THEIR ENTIRETY FROM THE UNDERGROUND GAS SERVICE LINES AS SHOWN ON THE DEMOLITION DRAWING NOS D08.06 AND D08.07 (NOTE 20 – REMOVE EXISTING GAS LINE AND NOTE 21 – APPROX. DISCONNECT LOCATION) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL REMOVE THE VISIBLE DEBRIS MATERIAL (BENEATH AND AROUND THE PIPING FOOTPRINT AND DISPOSE OF AS ASBESTOS-CONTAINING DEBRIS MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40. NOTE: PIPING IS SCHEMATICALLY SHOWN HOWEVER ALL INSULATION/COATING MATERIALS SHALL BE REMOVED.

6. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE BELOW GRADE STEAM AND STEAM CONDENSATE PIPING AND INSULATION IN THEIR ENTIRETY FROM THE UNDERGROUND STEAM AND CONDENSATE SERVICE AS SHOWN ON THE DEMOLITION DRAWING NOS D08.04 AND D08.05 (NOTE 16 – REMOVE EXISTING STEAM AND CONDENSATE LINE AND NOTE 17 – APPROX. DISCONNECT LOCATION) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL REMOVE THE VISIBLE DEBRIS MATERIAL BENEATH AND AROUND THE PIPING FOOTPRINT AND DISPOSE OF AS ASBESTOS-CONTAINING DEBRIS MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40. NOTE: PIPING IS SCHEMATICALLY SHOWN HOWEVER ALL INSULATION MATERIALS SHALL BE REMOVED; (THE STEAM AND CONDENSATE LINES RUN UNDERGROUND IN CONCRETE TRENCHES AND DIRECT BURIED IN GILSULATE WEATHERPROOF INSULATION MATERIAL). THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO MARK THE POINTS OF DISCONNECT AND THE STEAM AND CONDENSATE LINES TO REMAIN IN SERVICE. THE CONTRACTOR SHALL REMOVE PIPING INSULATION, DEBRIS MATERIALS AND SOIL/SILT AND DEBRIS MATERIAL THROUGHOUT IN THE TRENCHES AND REMOVE THE DIRECT-BURIED PIPING AND UP TO TWO (2) INCHES OF CONTAMINATED SOIL AND GILSULATE MATERIAL BENEATH THE PIPING AND INSULATION AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40.

7. THE CONTRACTOR SHALL REMOVE THE BELOW GRADE CHILLED WATER SUPPLY AND RETURN PIPING AND INSULATION IN THEIR ENTIRETY FROM THE UNDERGROUND CHILLED WATER SERVICE AS SHOWN ON THE DEMOLITION DRAWING NOS D08.04 AND D08.05 (NOTE 14 – REMOVE EXISTING CHILLED WATER LINE AND NOTE 15 – APPROX. DISCONNECT LOCATION) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL REMOVE

THE VISIBLE DEBRIS MATERIAL BENEATH AND AROUND THE PIPING FOOTPRINT AND DISPOSE OF AS ASBESTOS-CONTAINING DEBRIS MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40. NOTE: PIPING IS SCHEMATICALLY SHOWN HOWEVER ALL INSULATION MATERIALS SHALL BE REMOVED; (THE CHILLED WATER LINES RUN UNDERGROUND IN CONCRETE TRENCHES AND DIRECT BURIED). THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO MARK THE POINTS OF DISCONNECT AND THE CHILLED WATER LINES TO REMAIN IN SERVICE. THE CONTRACTOR SHALL REMOVE PIPING INSULATION, DEBRIS MATERIALS AND SOIL/SILT AND DEBRIS MATERIAL THROUGHOUT IN THE TRENCHES AND REMOVE THE DIRECT-BURIED PIPING AND UP TO TWO (2) INCHES OF CONTAMINATED SOIL BENEATH THE PIPING AND INSULATION AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40.

8. THE CONTRACTOR SHALL REMOVE THE BELOW GRADE STEEL AND WATER PIPING AND INSULATION IN THEIR ENTIRETY FROM THE UNDERGROUND WATER SERVICE AND UNLABELLED STEEL PIPING AS SHOWN ON THE DEMOLITION DRAWING NOS D08.06 AND D08.07 (NOTE 31 – REMOVE EXISTING WATER LINE, NOTE 32 – APPROX. DISCONNECT LOCATION AND NOTE 42 – REMOVE EXISTING STEEL LINE) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL REMOVE THE VISIBLE DEBRIS MATERIAL BENEATH AND AROUND THE PIPING FOOTPRINT AND DISPOSE OF AS ASBESTOS-CONTAINING DEBRIS MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40. NOTE: PIPING IS SCHEMATICALLY SHOWN HOWEVER ALL INSULATION MATERIALS SHALL BE REMOVED; THE CONTRACTOR SHALL REMOVE PIPING INSULATION, DEBRIS MATERIALS AND SOIL/SILT AND DEBRIS MATERIAL THROUGHOUT IN TRENCHES AND REMOVE THE DIRECT-BURIED PIPING AND UP TO TWO (2) INCHES OF CONTAMINATED SOIL BENEATH THE PIPING AND INSULATION AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40.

9. THE CONTRACTOR SHALL REMOVE THE BELOW GRADE CLAY AND COMPRESSOR PIPING MASTIC/COATING IN THEIR ENTIRETY FROM THE UNDERGROUND CLAY AND COMPRESSOR PIPING AS SHOWN ON THE DEMOLITION DRAWING NOS D08.04 AND D08.05 (NOTE 46 – REMOVE EXISTING CLAY PIPE LINE, NOTE 47 – APPROX. DISCONNECT LOCATION AND NOTE 18 – REMOVE COATING FROM THE COMPRESSOR PIPING) AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL REMOVE THE VISIBLE DEBRIS MATERIAL BENEATH AND AROUND THE PIPING FOOTPRINT AND DISPOSE OF AS ASBESTOS-CONTAINING DEBRIS MATERIAL IN ACCORDANCE WITH SECTION 02 82 10 AND 02 82 40. NOTE: PIPING IS SCHEMATICALLY SHOWN HOWEVER ALL INSULATION AND COATED MATERIALS SHALL BE REMOVED.

10. THE CONTRACTOR SHALL REMOVE THE BELOW GRADE DRAINAGE BOX MASTIC COATING IN ITS ENTIRETY FROM THE UNDERGROUND DRAINAGE BOX AND MANHOLES AS SHOWN ON THE DEMOLITION DRAWING NOS D08.04, D08.05, D08.05 AND D08.07 (NOTES 10, 26, 40, 48 AND 50), AND DISPOSE OF MASTIC COATING AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. NOTE: THE UNDERGROUND BOXES AND MANHOLES ARE SCHEMATICALLY SHOWN HOWEVER ALL BOXES AND MANHOLES WITH THE COATING MATERIALS SHALL BE REMOVED.

11. THE CONTRACTOR REMOVE THE POWER TRANSFORMER OIL AS SHOWN ON THE DEMOLITION DRAWING NO. D08.07 (NOTE 11), DRAIN AND RINSE IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS. THE CONTRACTOR SHALL TEST THE TRANSFORMER OIL FOR THE PRESENCE OF PCB'S PRIOR TO REMOVAL AND DISPOSAL OF THE OIL (AND THE RINSATE) IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS. THIS WORK

SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND MAY OCCUR IN A LATER PHASE OF WORK.

12. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO REMOVE DEMOLISH EXISTING PAVEMENT (SAW CUT AS NECESSARY) AND LIFT TRENCH COVERS TO ACCESS AND REMOVE PIPING INSULATION AND DEBRIS MATERIAL. THE CONTRACTOR SHALL COVER (OR BACKFILL), TRENCHES AND OPENINGS CREATED BY THE REMOVAL WORK TO PROTECT WORKERS FROM FALL AND OTHER HAZARDS.

GENERAL ENVIRONMENTAL NOTES:

1. THE CONTRACTOR SHALL ISOLATE THE WORK AREAS, POST WARNING SIGNS, LOCKOUT AND TAG THE ELECTRICAL SYSTEM AS DESCRIBED IN SECTION 02 82 10, ESTABLISH DECONTAMINATION FACILITIES, AND PERFORM ALL PREABATEMENT ACTIVITIES AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

2. THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING EQUIPPED WITH GROUND FAULT INTERRUPTER (GFI) DEVICES TO ALL WORK AREAS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. CONNECTIONS FOR TEMPORARY POWER FROM PERMANENT SERVICES ARE TO BE PERFORMED BY A QUALIFIED ELECTRICIAN. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO PERFORMING SHUTDOWNS OR TIE-INS.

3. THE CONTRACTOR SHALL ENSURE THAT ALL EMPLOYEES UTILIZE PROPER PROCEDURES FOR RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION PROCEDURES AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

4. THE CONTRACTOR SHALL INSTALL AND ERECT SUFFICIENT SCAFFOLDING AND/OR WORK PLATFORMS TO ACCESS ALL AREAS AND COMPLETE ALL TASKS RELATED TO THE ENVIRONMENTAL ABATEMENT AND SELECTED DEMOLITION. INSTALLATION, ERECTION, AND USE OF SCAFFOLDING AND WORK PLATFORMS AND MANLIFTS SHALL BE PERFORMED IN STRICT COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS, AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40; INCLUDING BUT NOT LIMITED TO DAILY INSPECTIONS OF SCAFFOLDING AND WORK PLATFORMS AND SAFETY TRAINING MEETINGS AND 100% TIE-OFF FOR ALL WORKERS.

5. THE CONTRACTOR SHALL INSTALL RIGID BARRIER WALLS AND CAULK AND SEAL CONNECTIONS TO EXISTING WALLS, FLOOR, AND DECK AS REQUIRED AND AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. REFER TO DETAILS FOR RIGID BARRIER WALLS. THE CONTRACTOR SHALL REMOVE ALL RIGID BARRIER WALLS AFTER RECEIPT OF WRITTEN APPROVAL FROM THE ENVIRONMENTAL CONSULTANT. ALL MATERIALS USED SHALL BE FIRE RETARDANT.

6. THE CONTRACTOR SHALL PROTECT THE ELECTRICAL SYSTEM SERVICE, SERVICE CONDUITS AND PANELS, UTILITY PIPING SYSTEMS, ROOF STORM WATER, DRAINS AND PIPING SYSTEMS DURING THE ENVIRONMENTAL PHASE OF THE WORK. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL CONTRACTOR PRIOR TO REMOVAL OF ANY BUILDING SYSTEM COMPONENT.

7. THE CONTRACTOR SHALL UTILIZE PROPER ENGINEERING CONTROLS AND CONDUCT PERSONNEL MONITORING THROUGHOUT THE ENVIRONMENTAL PHASE OF THE PROJECT IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40.

8. THE CONTRACTOR SHALL INSTALL HEPA-FILTERED EXHAUST SYSTEMS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.
9. THE CONTRACTOR SHALL INSTALL AUTOMATIC AIR PRESSURE DIFFERENTIAL RECORDING INSTRUMENTS IN THE WORK AREAS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

10. THE CONTRACTOR SHALL MAINTAIN EMERGENCY EXITS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.
11. BEFORE COMMENCING WORK WITHIN THE WORK AREA, THE CONTRACTOR SHALL INSPECT THE WORK ENCLOSURE FOR BREACHES AND LEAKS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL SEAL PROPERLY ANY LEAKS BEFORE BEGINNING WORK.

12. AFTER THE WORK AREAS HAVE BEEN PREPARED, THE CONTRACTOR SHALL REQUEST A FORMAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT (THIRD-PARTY AIR MONITORING FIRM) AND ASSIST THE ENVIRONMENTAL CONSULTANT IN THEIR EFFORTS TO SMOKE TEST/INSPECT THE CONTAINMENT FOR LEAKS. THE CONTRACTOR SHALL NOT COMMENCE REMOVAL OR OTHER DISTURBANCE OF ASBESTOS-CONTAINING MATERIALS, UNTIL THE ENVIRONMENTAL CONSULTANT HAS INSPECTED AND APPROVED THE SITE PREPARATION WORK.

13. THE CONTRACTOR SHALL SCHEDULE WASTE DISPOSAL IN ADVANCE WITH THE GENERAL CONTRACTOR.

14. THE CONTRACTOR SHALL ENSURE THAT ALL BUILDING COMPONENTS AND EQUIPMENT SCHEDULED TO REMAIN FOR THE DEMOLITION CONTRACTORS' USE AND SALVAGE AND FOR THE PROTECTION OF THE BUILDING IS CLEANED OF ALL ASBESTOS MATERIALS AND PROTECTED DURING THE ENVIRONMENTAL REMOVAL PHASE.

15. THE CONTRACTOR SHALL CLEAN (AS NECESSARY), REMOVE AND DISPOSE OF THE MECHANICAL AND ELECTRICAL EQUIPMENT, WALLS, CEILINGS AND FIXED FURNITURE AND CABINETS TO OBTAIN ACCESS TO THE ASBESTOS-CONTAINING MATERIALS. IF AN ITEM CANNOT BE PROPERLY CLEANED, THE CONTRACTOR SHALL DISPOSE OF IT AS AN ASBESTOS-CONTAMINATED MATERIAL. THE MECHANICAL AND ELECTRICAL EQUIPMENT WHICH IS CLEANED BY THE CONTRACTOR SHALL BE INSPECTED VISUALLY BY THE ENVIRONMENTAL CONSULTANT BEFORE THE CONTRACTOR IS PERMITTED TO REMOVE IT FROM THE WORK AREA.

16. THE CONTRACTOR SHALL SEAL ALL OPENINGS THROUGH WALLS, SLAB/DECK AND ROOF THAT EXIST OR WILL BE CREATED BY THE REMOVAL PROCESS TO PROTECT THE SAFETY OF WORKERS AND THE INTEGRITY OF THE CONTAINMENT.

17. THE CONTRACTOR SHALL FIELD VERIFY THE QUANTITY OF ASBESTOS-CONTAINING MATERIALS TO BE REMOVED AND DISPOSED OF, THE QUANTITY OF MECHANICAL AND ELECTRICAL EQUIPMENT AND PIPING TO BE CLEANED AND DISPOSED OF AND QUANTITY OF WALLS, FLOORS, AND MOVEABLE OBJECTS TO BE REMOVED AND DISPOSED OF. SALVAGE MATERIALS WHEREVER POSSIBLE. THE CONTRACTOR SHALL ENSURE ALL ASBESTOS-CONTAINING MATERIALS ARE REMOVED PRIOR TO BUILDING DEMOLITION WITH THE EXCEPTION OF WATERPROOFING FELT LAYERS BENEATH STRUCTURAL CONCRETE GRADE BEAMS AND SLABS TO BE REMOVED AND DISPOSED OF ONCE THESE MATERIALS ARE EXPOSED.

18. THE CONTRACTOR SHALL COMPLETE ALL SELECTED DEMOLITION WORK OF WALLS, CEILINGS, CHASES AND SURROUNDS FOR ACCESS AND FOR REMOVAL OF THE ASBESTOS-

CONTAINING AND CONTAMINATED MATERIALS IN A MANNER THAT PERMITS COMPLETE REMOVAL AND THE FULL INSPECTION OF THE WORK. ALL ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO BUILDING DEMOLITION (BY OTHERS).

19. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE GENERAL NOTES AND THE SHEET NOTES ARE A PART OF THE SCOPE OF WORK FOR THIS PROJECT AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS.

20. FINAL AIR TESTING SHALL BE PERFORMED PURSUANT TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 40 CFR PART 763 (APPENDIX A) USING TRANSMISSION ELECTRON MICROSCOPY (TEM), AGGRESSIVE DISTURBANCE PROCEDURES, CONTINUOUS AIR CIRCULATION, AND HEPA-FILTERED EXHAUST.

21. THE CONTRACTOR SHALL MAINTAIN PROPER FEDERAL AND STATE LICENSING TO CONDUCT HAZARDOUS MATERIAL REMOVAL AND DISPOSAL AS DESCRIBED WITHIN THESE DOCUMENTS.

GENERAL NOTE PERTAINING TO ALL ENVIRONMENTAL DRAWING SHEETS:
THE CONTRACTOR SHALL FIELD VERIFY DRAWING DIMENSIONS, WALL ORIENTATIONS AND EXISTING BUILDING CONDITIONS AND NOTE THESE DRAWINGS WERE PREPARED BASED ON AVAILABLE DRAWING INFORMATION AND NUMEROUS RENOVATIONS AND PARTIAL REMOVALS HAVE OCCURRED OVER THE YEARS.

The Contractor is responsible for obtaining all permits necessary to perform the Work and prior to the removal and disposal of regulated asbestos-containing materials. Contractor is responsible for the necessary provisions for delivering continuous clean air to the Work Area during the activities related to the work activities associated with the actual removal and disposal of asbestos-containing materials. The Contractor shall certify that he is licensed under the provisions of LA R.S. 37:2150 through 37:2192 and state his license number on the proposal.

The Contractor shall be responsible for proper and safe disposal of all materials designated and record keeping and reporting in accordance with applicable federal, state, and local regulations.

1.5 WORK INCLUDED: Special coordination will be required by this Contractor to protect against damage to building components scheduled to be reused, adjacent property damage and disruption of operations of adjacent buildings and building occupants and uninvolved Site improvements. Additionally, the Contractor shall coordinate with the General Contractor and assist the third-party Air Monitoring Firm, (described as the Owner's Representative throughout these documents), with his duties to monitor and clear the Work Area.

This Contractor shall plan his work and the work of his subcontractors and suppliers in a manner to avoid conflict with the demolition Work and to effect timely sequencing of his work within the overall schedule.

A. RESPONSIBILITIES: Responsibilities are delineated as follows:

Utilities to perform Work – Available within the building however the Contractor shall bring utilities to the Work Areas - By this Contractor.

Asbestos Abatement and Disposal and Contents Removal and Proper Disposal; The Scope included and Described within the Environmental Drawings and Specification Sections - By this Contractor

Third Party Daily Monitoring and Clearance - Third Party Paid by the Owner (Owner's Representative)

Selective Demolition and accessing Asbestos Materials – By this Contractor. (Includes the Scope of Work included and described within these documents)

Fire Security – By this Contractor.

Security – The Contractor shall keep the Site secure for the duration of the Project. The Contractor shall coordinate with the Designer and the General Contractor.

B. FIRE SECURITY: The Contractor shall ensure that no activity that requires a flame or heat exceeding the flash point of any onsite material will be permitted. Smoking within the building will not be permitted at any time. A space outside the building envelope can be designated for smoking.

C. COORDINATION: The Contractor shall designate a key person, who shall be responsible for the coordination of the Contractor's Work with the General Mechanical Contractor, the Designer and the Third-Party Air Monitoring and Inspection Firm (Owners Representative during the Asbestos-Containing Materials Removal and Disposal) and others as required.

1.6 PLAN OF ACTION:

The Contractor shall submit a plan of the procedures proposed for use in complying with the requirements of this project. Include in the plan the location and layout of decontamination areas, the sequencing of work, methods to be used to assure the safety of Contractor Employees and visitors to the site, disposal plan including location of approved disposal site, and a detailed description of the methods to be employed to control pollution.

1.7 INSPECTION:

Prior to commencement of work, the Contractor shall inspect areas in which work will be

performed. Prepare a listing of damage to structure, surfaces, equipment or of surrounding properties which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary to document conditions. Submit to Owner's Representative prior to starting work.

1.8 PROJECT MEETINGS:

Meetings will be held prior to the commencement of the Work, weekly and upon completion of the Work.

1.9 POTENTIAL ASBESTOS HAZARDS:

The disturbance or dislocation of asbestos-containing materials may cause the release of asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workmen and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the hazard and of proper work procedures to be followed.

1.10 CODES AND REGULATIONS

General Applicability of Codes and Regulation, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copies directly into the contract documents, or as if published copies are bound herewith.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health, or other regulation on the part of himself, his employees, or his subcontractors.

1.11 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only. The latest publication shall apply.

A. Environmental Protection Agency (EPA): Regulations for Asbestos (Code of Federal Regulation, Title 40, Part 61), National Emission Standard for Hazardous Air Pollutants (NESHAP), Guidance for Controlling Friable Asbestos Containing Materials in Buildings, Asbestos Hazard Emergency Response Act (AHERA) (40 CFR, Part 763) (if required).

B. Occupational Safety and Health Administration (OSHA): Asbestos Regulations (Code of Federal Regulations Title 29, Part 1901, Sections 1915.001 and 1926.1101), 1910 Section 12000 Hazard Communication, Section 145 Signs and Tags, and Section 2 Access to Employee Exposure and Medical Records (if required).

C. National Institute for Occupational Safety and Health (NIOSH): Respiratory Protection, A Guide for the Employee.

D. American National Air Standards Institute (ANSI): Z86.1-1973, Commodity Specification for Air.

E. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification.

F. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001.

G. Environmental Protection Agency (EPA): EPA 402-K-01-001 Mold Remediation in Schools and Commercial Buildings, Including Resources and References List; and Investigating Evaluating and Remediation Moisture and Mold Problems, Table 1 and Table 2, Appendices A, B, & C, Publication # 402-K-01-001 (March 2001).

H. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Publication: Molds and Fungi.

I. Standard and Reference Guide for Professional Water Damage Restoration, (IICRC S500), Institute of inspection, Cleaning and Restoration Certification Standard.

J. National Institute for Occupational Safety and Health (NIOSH): Respiratory Protection, A Guide for the Employee.

K. ACR 2002, Assessment, Cleaning and Restoration of HVAC Systems, National Air Duct Cleaners Association.

L. State of Louisiana, ACT 880, Louisiana Mold Licensing

M. American National Standards Institute (ANSI): Z86.1-1973, Commodity Specification for Air.

1.12 NOTIFICATIONS, PERMITS, AND LABELS:

A. The Contractor shall provide the required written pre-notification to LADEQ, EPA and any other regional, state, and local authority having jurisdiction on the project.

B. The Contractor shall erect OSHA-specified warning signs around the work areas at every point of potential entry from the outside, including the entrance to the Decontamination Facility's Clean Room. The warning signs shall be a bright color so that they shall be noticed easily. The size of the sign and its lettering shall be no less than OSHA requirements.

C. The Contractor shall post warning signs around the workspace at every point of potential entry from the outside, including the entrance to the Decontamination Facility's Clean Room (if required). The signs shall comply with 29 CFR 1926.1101 and 29 CFR 1915.1001 and with State and local regulations.

D. The Contractor shall also provide OSHA, NESHAP, and DOT-required labels (as required) for all plastic bags and drums utilized to transport contaminated material from the work areas to the disposal landfill.

1.13 LICENSES:

A. For all projects over $50,000 ($1.00 or more for hazardous material removal), the Contractor shall certify that he is licensed under the provisions of LA R.S. 37:2150 through 37:2192 and state his license number on the proposal.

1.14 SUBMITTALS:

The Contractor shall furnish electronic pdf copies of the following items clearly labeled and identified as stated:

A. Submittal No. 01: Copies of written pre-notification forms filed with the Louisiana DEQ, Fire Department, USEPA Region 6, OSHA, and any other required agencies (as required).

B Submittal No. 02: Signed documentation of asbestos abatement training and education for all proposed workers, including respirator use, training certification, copies of OSHA-specified medical exams, and respirator approval certification.

C. Submittal No. 03: A copy of the Contractor's State of Louisiana, Department of Industrial Relations, Division of Occupational Safety and Health, Certificate of Registration for Asbestos Related Work, and a copy of Contractor's Certification issued by the Contractor's State Licensing Board; copies of any other permits, licenses, manifests, or patents which are required or will be used.

D. Submittal No. 04: Names and qualifications of proposed waste hauler, testing laboratory, and copies of their applicable licenses, including State of Louisiana registration number for hauling waste; proposed sites for disposal of materials and letter from the sites authorizing haulers to dispose there.

E. Submittal No. 5: Names, addresses, and telephone numbers, and accreditations of each Air Monitoring Firm and environmental laboratory which will analyze Contractor's OSHA compliance personnel air samples, dialing monitoring and Clearance Sampling.

1.15 SUBMITTALS DURING THE WORK: Submit electronic pdf copies of the following items to the Environmental Consultant:

A. Security and safety logs, showing names of any person entering the work area, date and time of entry and exit. Record any accident, emergency evacuation, and any other safety or health incident. If requested, these logs shall be provided to the Environmental Consultant daily.

B. Waste disposal certificates, (including bills of lading) and weight tickets. Copies (reproductions) shall be submitted on a weekly basis, with completed original certificates submitted upon receipt from the landfill.

C Third Party Monitoring and clearance reports, OSHA-compliance personnel air monitoring results, as conducted by the Contractor.

D. Re-notifications to required agencies if there are schedule changes.

E. The Submittals described within paragraphs 1.14 and 1.15 shall be submitted to the Owners Representative within three (3) weeks from the date of field completion of the Work and shall be available on site for review by regulatory agencies and LSU EHS during the asbestos-removal phase of the Work.

1.16 STOP WORK:

If the Designer presents a written stop work order the Contractor shall immediately stop all work. Do not re-commence work until authorized in writing by Designer.

Standby time and testing costs required to resolve violations shall be at the Contractor’s expense. Stop Work Orders may be issued for, but shall not be limited to the following:

A. Failure to apply properly and continuously specified removal work procedures.

B. Failure to maintain specified work area isolation, sealing, and protective systems.

C. Failure to apply sufficient amended water before, during, and after removal and cleanup of asbestos-containing or mold-containing materials, including the packaging of waste and demolition materials.

D. Loss of specified differential pressures and/or adequate flow of air through the Decontamination Facility (if required).

E. Failure to use proper respiratory protection equipment (as required).

F. Failure to maintain any required records or to conduct OSHA-required personal exposure monitoring tests and/or make results promptly available to the Environmental Consultant.

G. Work stoppage as a result of a lack of phasing coordination.

1.17 ASBESTOS-CONTAINING MATERIALS: Asbestos-containing materials are known to be present at the work site from previous sampling. The Contractor is responsible for the safe removal of these materials and materials included within the scope of work, sheet notes and general notes:

Electrical Engineering Building:	
Interior Transite Wall System Throughout	20% Chrysotile
Roll up Door Caulk	3% Chrysotile
Door Frame and Glazing Caulking	2% Chrysotile
Window Frame and Glazing Caulk (and Interior)	3% Chrysotile
CMU Coating	3% Chrysotile
Store Front Caulk	3% Chrysotile
Door Frame and Glazing Caulking	3% Chrysotile
Floor Tile and Related Mastic	2-6% Chrysotile
Piping Insulation	3-8% Chrysotile
Column, Glazing and Frame Caulk	3-4% Chrysotile
CMU To Concrete Column Caulk	3% Chrysotile
Sink Bottom Coating	3% Chrysotile
Sill Caulk	3% Chrysotile
Roof Parapet Flashing Parapet	5% Chrysotile
Transite Fume Hood and Cabinet Tops	15% Chrysotile

Vet Science Annex Building:	
Door Frame and Glazing Caulking	2% Chrysotile
Window Frame and Glazing Caulk	2% Chrysotile
Black Brick Wall Mastic	2% Chrysotile
Transite Wall System (Throughout)	20% Chrysotile
Floor tile and Mastic	2%-5% Chrysotile
TSI on Piping	2%-5% Chrysotile
Interior Door Frame Caulk	3% Chrysotile

Vet Science Poultry Building:	
Door Frame and Glazing Caulking	6% Chrysotile
Window Frame and Glazing Caulk	6% Chrysotile
Floor tile and Mastic	4%-6% Chrysotile
Transite Ceiling and Ext Soffits	Assumed
Interior Foor Frame Caulk	15% Chrysotile
TSI on Piping	Asbestos Management Plan
Vet Science Parasite Building:	
Door Frame and Glazing Caulking	2% Chrysotile
Window Frame and Glazing Caulk	2% Chrysotile
Floor tile and Mastic	4%-6% Chrysotile
Roll up Door Caulk	3% Chrysotile
Transite Ceiling and Ext Soffits	Assumed
Interior Door Frame Caulk	5% Chrysotile
TSI on Piping	Asbestos Management Plan
Manship Building:	
Door Frame and Glazing Caulking	3% Chrysotile
Window Frame and Glazing Caulk	3%-5% Chrysotile
Window Frame to Brick Caulk	4% Chrysotile
Sill Caulk	2% Chrysotile
Aggregate Wall Panels and Caulk	4%-15% Chrysotile
TSI on Piping	4%-5% Chrysotile
Brick Caulking	3% Chrysotile
Floor Tile and Mastic	4%-5% Chrysotile
Concrete Beam and Column Coating	2%-4% Chrysotile
Drywall to CMU Caulk	4% Chrysotile
CMU Coating	2% Chrysotile
Interior Foor Glazing Caulk	3% Chrysotile
Wall Base Coating	2% Chrysotile
Manship Building Annex:	
Window Frame and Glazing Caulk	2%-3% Chrysotile
Window Frame to Brick Caulk	2% Chrysotile
Sill Caulk	3% Chrysotile
Roll up Door Caulk	3% Chrysotile
Aggregate Wall Panels and Caulk	4%-15% Chrysotile
TSI on Piping	4%-5% Chrysotile
Brick Caulking	3% Chrysotile
Concrete Bean and Column Coating	2%-4% Chrysotile
Floor Tile and Mastic	3%-5% Chrysotile

Drywall to CMU Caulk	4% Chrysotile
CMU Coating	3% Chrysotile
Interior Foor Glazing Caulk	3% Chrysotile
Wall Base Coating	2% Chrysotile

1.18 CONTRACTORS USE OF PREMISES:

General: The Contractor shall limit his use of the premises to the work indicated, to allow for Owner occupancy and use by the public.

A. Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction. No material or vehicle shall be stored within ten (10) feet of the drip line of any Live Oak Tree.

B. Keep existing driveways and entrances serving the premises clear and available to Owner and his employees at all times. Do not use these areas for parking or storage sheds to the areas for parking or storage of materials.

C. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary, obtain and pay for such storage off site.

D. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or ignition key in place or accessible to unauthorized persons.

1.19 CONTRACTORS TEMPORARY FACILITIES:

The Contractor shall maintain temporary facilities necessary to perform the Work. And make all precautions necessary to protect the existing Site during the construction period.

A. Keep Site free from accumulation of waste, rubbish or construction debris.

B. Smoking or open fires will not be permitted within the building enclosure or on the premises.

C. Contractor shall supply temporary toilets for his personnel and Site visitors.

1.20 OWNER OCCUPANCY:

The Owner and General Contractor will occupy portions of this Site, adjacent parking

areas and drives during the entire period of construction. Cooperate fully with the General Contractor and Owner or his representative during construction operations to minimize conflicts and to facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

END OF SECTION

SECTION 01 20 00
PROJECT ADMINISTRATION

PART 1 - GENERAL

1 1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A	S r W r	010100
B	T L r r S r	014100
C	T r r F , U d O r	015000
D	C -U	017423

1 2 PRE-CONSTRUCTION MEETING

A A r C r d, Ar d O r, U r A d C r r, d Pr -C r C r d r T C r r r r S r r r d d r Ar d O r
1 S d V ,
2 S r r d r r ,
3 r d P r r 7 1 S r C d ,
4 C r S d

B A r r - r r , C r r r r C r r r r

1 F d r d d d r d r
2 B d Pr R r r r G r C r r rr r
3 L r B rd r d r S r r d G r C r r T L r B rd r d W r r C d E r L I r P I r P Pr d r r d
4 I r R C r r d

C I G r C r r r d d r r - r , r d O r r r

D D r r r d d r

1 3 PROJECT MEETINGS

A C r r d d d r Pr M r r r r d Pr T C r r

1 N O r, D r d d d

2 Pr r d

B D r d O r' r r r r r r W r d r r r r r r r d r r W r D r r r d r O r, U r, C r r, d r r d r

C R r O r d U r d

D Pr r M d r d D r, r r R r P Pr r M d Pr S d d d C r r' d d r r r r Pr , d r r S r r d r r r rr d rr W r P r Pr r M

1 R r r r r
2 R d r d
3 R - r d r d r d
4 R d d C r S d
5 R d , r , d r d r r r r r
6 P d d r d r d r r d
7 E d d rd r d r r

E I dd Pr r M d d Pr M , C r r d r r rr , rd r r r d r r

F D r r r d d r Pr M (1) r

1 4 ADMINISTRATION OF THE CONTRACT

A T D r' r r r r r 7 30 A M 5 00 P M M d r T r d d r 7 30 A M 11 30 A M Fr d

B C r d d r d A d r d - r (24) r 12 00 d

C R d d d r r r S r C d , Ar 15 1 5 3 r C r r d d r C r r d O r

D T C r r d r r r D r r r

E P d r r r r d r d r d d r d , d r r d - I r r d

F W r 75 85 Ar /E r rr O r, U r A d C r r d Pr -C C r d r T C r r r r S r r r d A r d r d d T r r - r d

1 5 CONSTRUCTION SCHEDULES - GENERAL

A Pr d r d r d r r r r r d

B Pr r d r Cr P M d , r r r r Pr r d r r d r r d d S r r r, r r r r d

C M A r r d r r d r d r (1)

D Pr d r

E Pr d d d r r r d

F U d S d r r d S r d d d d

G I d r r r d d R d

1 6 SUBMITTALS AND DISTRIBUTION OF SCHEDULES

A S d Pr - r M r N Pr d

1 D r r d d r r r d (10) d r r
2 I r r d, r (7) d r r r r d

B S , , d d d r d r r r d

1 7 PROJECT RECORD DOCUMENTS

A C r r d , d G r C d Ar 3 11 S r r rd d r r d d r r

B Pr d d r r r d

C F d rd T C S

D M d , dr , d

E D r rd d r r r

F M d r D r d O r

G Pr d , d r r r r

H L d "PROJECT RECORD" 2" r d r

I S d Add d L r S r rd

1 M r r, r d , r, d r r d d d
2 C d Add d , C Ord r d F d Ord r
3 I r r Add d Dr r C r Dr

J Dr M (1) r C r Dr D r r r r rd r L r r rd r

1 F d d d d
2 C d Add d , F d Ord r d C Ord r
3 D r C r Dr

K Pr r Pr , C r r r r r rd dr d r r rd , dd d d dr D r r r r r r rd dr T C r r r d r r r rd dr r r d D r

1 8 PROJECT INSPECTIONS

A W r r d, d D r' r r r d r r r r , r r r rd r d r r d d

1 W D r
2 G - r (24) r

B W r d r d Pr , r d, 30 d r, r d r r

C W r r r - r d r r - r (24) r

1 9 CONTRACT ADMINISTRATION FORMS

A A d r r

1 C Ord r (CO-1)
2 P r O (BO-1)
3 R d A (RA-1)

B T r , r r , d d r C r

END OF SECTION

SECTION 01 35 13
SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1 1 GENERAL

T r r d r r d r d
C r r d r r r T r r r r r
r C r r r r r r r

1 2 PROCEDURES

A E r r d r r
r d C r r r O r rd r
r rr r A d d
d d r r r d D r

B C r r' D

1 Pr d

2 P r r r d r r d r r
rr r d r r d d , rr

3 R r r r , , r , d d r
d r r r

4 Ad O r d d r r rr
d r r

5 K r , d r r d r
T C r r r r
S r r

C C r , r , r , d d r r r Tr r
r d r rr r r d d d dr r

D U rr r r d r d

E H d r r d r d r r

F C r r , d r r r , r
d d r , d r

D r I r C r r r , d r r d r r r d r r d d r r d (24 r) A r r d D r

I r d d d r r r r , C r r r r r d d r r d r d d r r r r r d r r r d r r r r d T C r r r r d d r r r d d d r r r d/ r r r d d r r

T O r r D r r r C r r d d r r d r d r P T C r r , d r d d D r, r r r r r r r

G R r d r d d r d r C r C r r r r r d dd r r d d r r r r

H E C d d r r d r r

I A r r r r r r r rd d r D r d A 48 r r r d

1 3 WORK SCHEDULE

A Pr r r r , C r r Pr r S d rd G r C d 3 10 d S 01300, d d d r d d r d r r Pr r S d r d d r d r r r r d

B C r r d r r r r

C W r r r r d d (r r C r r' , d r r , r d O r' r r) rr d r d d d d O r' r N d dd d r dd d r r r

1 4 SECURITY DURING CONSTRUCTION

A C r U r A r r r r d

B T C r r r r r r r , r r , d r r

C T C r r r d r r d , r , r r d d r r r d

1 5 EMERGENCY CONTACT

T r r r d, C r r , 24 r d d 7 d , r r r r d r N d r r r

END OF SECTION

SECTION 01 40 00
REGULATORY RE UIREMENTS

PART 1 GENERAL

1 01 SUMMARY

A T r R r R r r r d d r r r r (S U r C r C d) (LAC 55 VI 301)

B R r r r r r
1 28 CFR 35 - D r J r r S d r rr d
2 28 CFR 36 - D r J r r d rr d
3 49 CFR 27, 37, d 38 - Tr r r I d d D F R D r Tr r rr d
4 ATBCB ADAAG - A r D A A G d 2002

D ICC (IFC) - ICC I r F r C d , 2009
1 NFPA 101 - L S C d , 2009

E ICC (IBC) - ICC I r B d C d , 2009

F P C d LA S P C d

G ICC (IMC) - ICC I r M C d , 2009

H ICC (IFGC) - ICC I r F G C d , 2009

I Pr S D C d P r XIV L S S r C d

J NFPA 70 - N E r C d , 2008

K E r C d S L

L Er d S d C r R C W r A , d d (33 U S C 1251), d L E r Q A , d d (L R S 302001)

1 03 PERMITS

A T r r r r d r rd G r C d d r r r

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 41 00
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1 1 SELECTION AND PAYMENT

T O r d r r d d r r r r d r d r d d G r C d r , C r r r r - T d d d S S

1 2 COOPERATION OF CONTRACTOR

A T C r r r r r

B M , , r d rd d rd

C F r r d r d r r Pr S

D Ad r r d r r d r r r r d r d r d d r r

E N r r d r r d r (48 r)

F N r r d r r d r T C r r r r r r r r d r r r r r d

1 3 REJECTION OF MATERIALS

T r r C r r r r r S T D r r d

1 4 TEST METHODS

T d d d rd r r S , r r r d r d, rd d rd ASTM r r r d r r d

1 5 TEST REPORTS

T r r r r r d d
D r, C r r, O r d r r D r r O r

1 6 EXTENT OF LABORATORY TESTS AND INSPECTIONS

A T D r r d O r d r
r r d Pr T C r r d d r d
r r d T L r r , d r d
r S S

B T L r r S r r r d r

- E , F d Gr d
- W r M
- A r S r C r
- S r S r
- S r S r F r M
- C -I -P C r
- AC & PCC P
- B d S - C r

C T C r r r r r r r r
r d r d

D C r d r r r d r d D r d d r
O r

1 7 ADDITIONAL TESTS

T O r r r r r r dd d d r
r r r r d r S d
dd d d r r d r r
r , dd r C r r

1 8 CONTRACTOR S RESPONSIBILITY

E , r r , T L r r O r r
C r r r C r r r r r d
d r r r C r r d d T
L r r r r O r' r d r r d
C r r r r r d r r d rr
r

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES, UTILITIES, AND OPERATIONS

1 1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A S r W r 010100

B S Pr Pr d r 013513

C E r D 26

1 2 LOCATIONS

L r r d d d r d r r r A r r r d r r r

1 3 ACCESS AND STAGING AREA

A I rd S 01100, d S 01150, d r d r r dd C r r r d , d d d r r

B S Ar T C r r d S r r , r r d , r d r , d r r r d r r r d d r C r

1 4 SHEDS AND STORAGE

A F r r r r , r d d d r d r r r d r , r r d d r r r r

B Pr d r r r r r d d d r

C A d d r r d r r r d

D Arr r r d d d r d r r r , d r - d d d r r r

1 5 SIGNS AND TEMPORARY GRAPHICS

A S , r r d r r r r r d

B S , r d, r d
r

1 6 FENCING, BARRICADING AND SAFETY EQUIPMENT

A C r r r d , r d d
d, , rr d d r r r d r r
r r Pr , d r r d r r d
r

B Pr d r r r d r

C Pr r r , , d , , d r d
d r d r d

D T C r r r r d r
r r

1 8 TOILETS

A Pr d d r r r r r ,
d r d r r d L S r C d R r

B M d r d Pr d
d r Pr d r r r d r

C R r r r d d d

1 9 ELECTRICITY

A I r C r r d r r r r
r d r r r , d rr , d ,
r d , , r , d r d
d r r d r d r r M
r r

B T C r r r r d r r r r
r d r rr d d r r

1 10 WATER AND GAS

A I r C r r d r r r d
r d r r r d rr , d ,

r d , , , d r d r r d d r r r d

B T C r r r r d r r r r d r r d d d r r

C Pr d d r d r r dr Pr r r

1 11 PUMPING AND DRAINING

A K r d r r r r r d d r d r r r r r r

B S r d dr r r r d r r

C P r dr d d d r d D r D r d r r r R r d d r

1 12 TRUCKING

A L d r r r r r r d d r r r r dr r , r r d r r , r d d

B M r d r r r r , d r d r d r r ,r d d

C C r r r rd d

1 13 SHEET PILING

A I dd r d, r d , d d r

B T , , r , r d r d r rd C r r' r d d r d d d , d , r , r d d r r d r

1 14 FIRE PROTECTION

A Pr d r r r r r d r r r d

B H d r r r r d , , d r rd r r d r

1 15 CLEAN-UP

A R r r r d r d

B C r d r r r R d r , r d r r d

END OF SECTION

SECTION 01 62 10
MOBILI ATION

PART 1 - GENERAL

1 1 DESCRIPTION

T r r r r r d r , d r r r , , d d r , d d r r r r d d r r d r d r r r r r r r , d r r

PART 2 - EXECUTION

2 1 CONSTRUCTION REQUIREMENTS

P d r r , r

P r r d rd d 10 r r r , d , d r d r d r r

Per ent o Total Contra t A ount Earned	**Allo able Per ent o t e Lu p Su Pri e or t e Ite**
1 P r E	25
25	50
50	75
75	100

N r r d r r d r r r d d r

END OF SECTION

SECTION 01 65 10
MATERIAL AND E UIPMENT

1 1 GENERAL

A R d R r S d O r S

1 S r W r 010100

2 S Pr Pr d r 013513

3 T L r r S r 014100

B M r d r r d W r

1 C r d d rd

2 C , , d d, r
r d r D r

3 M r d d F r d Pr d

D , r d rd r
d r d d rd d r

C r r

T r r d d ,
r r

d Pr d r r d
d

Pr d , d d r
d r r r d r

4 D r r r r r r
d d r d

1 2 MANUFACTURER S INSTRUCTIONS

A I r M r r' r d r
r r r d O d d r
r r d , d (2)
D r r r

1 M (1) r d r d

B H d , , , , d d d r d r rd r d r d r r

1 S d d r d r r M r r' r , D r r r r r

2 D r d r r r

C D r r r r r d r d d r d C r D

1 3 TRANSPORTATION AND HANDLING

A Arr d r Pr d rd r d C rd d r d r d d

1 D r Pr d d d d , M r r' r r r , d d

2 I d d r , r r r C r D d r d , d Pr d r r r r d d d d

B Pr d d r d Pr d d r d d Pr d , , d r

1 4 STORAGE AND PROTECTION

A S r Pr d rd r r' r , d d

1 S r r d d r r

2 M r r d d r r r d r r' r

3 Pr d

B E r r S r

1 S r r d r d r d, r d C r r d r d r r r r , d d d

2 S r r r r -dr d r d r r r r r

C Arr r r r d r M r d r d Pr d r Pr d r d d r d , d r r d r d r r r

D S r Pr d r r d - r

E Pr A r I Pr d r r r d Pr d r d r r d r r R r d d

1 5 SUBSTITUTIONS AND PRODUCT OPTIONS

A Pr d L

1 A r - r r , r r d r d d, M r r d S r r

B C r r' O

1 F r Pr d d d r r r r d rd, r d S

2 F r Pr d d r r d r r r , r d r r r d,

C S Pr r r - d r r d r I r B dd r , Ar 3 3

1 6 REPLACEMENT AND REPAIR

A Pr r d d, d d - r r d d r r d

B S D r' r , d d d d r d r r d d d M r d r r r d r d d r d

C R d r r d r r r r
r d d, dd
O r

END OF SECTION

SECTION 01 71 23
FIELD ENGINEERING

1 1 GENERAL REQUIREMENTS

A C r r r d r R r d L d S r r r d r r d r d , d d

B T S r r r d r r r r r , d r

1 2 SITE WORK

A P r r r r d

1 V r r d

2 F d r d r , r r (2) r F I , r r d r d d d Dr d r r d

B P r r r r d d r d d d Dr

1 3 RECORDS

A S r r rd r r d D r r F I

B I d d d

C T S r r r O r d r C r D

D A r rd (d) r d C r r D r r r S C (C r r d r rd r)

1 S E

2 S r C d M

3 A I r P L

4 L S L

5 I r S rM ,P dL S

6 F r M &U d r r dP

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1 01 WASTE MANAGEMENT REQUIREMENTS

A O rr r r r d

B E r r r d rr r, r , r , d , , r r r

C M r / d d r , , r r

D C r r r d W D R r d d , r , r , , d r r r d r rd r r r r r

E M d r / d r r
1 B r r
2 B r r
3 D r r r r r , r r
4 O r d r r

F R r R r C r r r r d r r r r , d d F d r , d r r , r d r d d r

G F r Pr S r r d r , d r r r d

H P C r C d - d d r rd d -

I D d (r r , r r) r r r r d

J U r r d d r r r d

K U r r r d d r r r

1 02 RELATED REQUIREMENTS

A S 015000 - T r r F d C r Add r r r d r / d r d r

1 03 DEFINITIONS

A C U r d d d d , , , r

B C r d D W S d d r , , r , d r , d r r r r , r d , r r d d r

C H rd E r r rd , , , rr , r r

D N rd E r r rd , , , rr , , r r

E N N r d r r r d r

F R T r d r r r r d d d r r d r d r r

G R T r r r r r r r r d r r

H R T r r , , r d r d d r d r d r d r R d d r , r , r r d r

I R r T r r d r d d r r r d

J R T r r r r r

K S T r r r r r r r r r r r

L S d S d r d r r d d d r r d r r r d r - r

M S r S r T d r r r r r

N T P r d r r r d r

O Tr A r d r r r d, r r d, r d, r d

P W E r r r r r d d d d W d , r r , r , d r r

1 04 SUBMITTALS

A S S 012000 Pr Ad r , r r d r

PART 2 PRODUCTS

2 01 PRODUCT SUBSTITUTIONS

A S S 016510 M r d E r r d r

B F r r d r d , r dd r r d S 016510

1 R r d d, r d d r d

2 C d , r d d r d , d d d r C r Pr

3 Pr d d d r r d

4 M r rr d r d

PART 3 EXECUTION

3 01 WASTE MANAGEMENT PROCEDURES

A S S 015000 r dd r r r d r / d r d r

3 02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A M r D - r r r r r r r d r d d r W M P

B C D r W M P r , r r, O r, d E r

C I r Pr d - r r r r , d , d r , , r , d r r d d r r r r

D M D r / d r
1 Pr - d
2 Pr - r
3 R r -

E F Pr d r r d r r r r , , r , r r , d r d , r r r d r

1 Pr d r r r d
2 Pr d d r - d d r d r r
3 K r d r / r d d r r d rd r d r

F H rd W S r , r , d d rd rd r

G R S r , r , r , d d d d r r d rd r r r d r d d r Arr r r rd r r rd r r r r

H R M r O -S S d , r , d r r d r d r r r r

I S S d , r , d r r d d r r -

J E r d Pr r r d d d r r r d r r r d r d Pr r r

K S r d d r r

L A r r d r r r , d d r , r , d d r

M Pr d r r , r d d r

N D r , r , d r d r d , r rd

O R r , r , d d r r d d r r d r r Pr

P Br d r r r r r d

Q M Pr r r r d O r

END OF SECTION

SECTION 01 74 23
CLEAN-UP

PART 1 - GENERAL

1 1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

C - r r d r r d S r r

1 2 REQUIREMENTS

A F r Pr S r r d r , d r r r d

B P C r C d - d d r rd d -

C D d (r r , r r) r r r r d

PART 2 - PRODUCTS

2 1 CLEANING MATERIALS

A U r r d d r r r d

B U r r r d d r r r

PART 3 - EXECUTION

3 1 DURING CONSTRUCTION

A E r d Pr r r d d d r r r d r r d r d Pr r r

B S r d d r r

C A r r d r r r , d d r , r d d r

D Pr d r r , r d d r

E D r , r , d r d r d , r rd

F R r , r , d d r r d d r r d r r Pr

3 2 FINAL CLEANING

A Br d r r r r r d

B M Pr r r r d O r

END OF SECTION

SECTION 02 22 10
PRE-CONSTRUCTION VIDEO

PART 1 GENERAL

1 01 SCOPE OF WORK

A T C r r r, r d r r d- d r rd r r d r d S 017123 F d E r C r r r O r r d (1) r d d - d DVD r rd r

B T O r r r r r d - d DVD r , d r r d r A d r d O r r - d d dd O r T r r (1) DVD O r r r d r r r r r

C Pr r r , r r , C r r r r d - d r r r d r d r d C r r r S r r d , r d

1 A r r d r , d r r r r

2 P d d d r r d r

3 O r r d W r , d r r d d , d r d O r

1 02 QUALITY

A T d r rd r r d d d - d r r d d d r r d r d d r d r

B T d r r rd r d r , r , r r r r d r r d r , r , r , r r r r r T d r r rd r r d r d r r r r r r , r d r d r d r

C T r rd r r rd d d (1080) r

D T C r r r r r r d - d r , , d T C r r r r r r r d r d r r r r d, d d r r d r r

1 03 QUALIFICATIONS

A P r r Q C r r d r r r r r d r r r

PART 2 PRODUCTS

2.01 DELIVERABLES

A S d DVD r d d r d O r (5) d r r S d DVD r d d r r d r r r , r r r - r d r r r r , dd O r

B T C r r r d (2) d DVD d r r

1 F DVD & C C r

PRECONSTRUCTION AUDIO-VIDEO SURVEY

C r N Pr T
C r r DVD N
D T d (MM/YY) D S d

2 I d C C r

W r Ar	S r , Addr /L	S r V d C r N

N T C r r r rd r d DVD

C A d rr r d r rr d DVD d O r T d d d , r rr d r d , d r r, d , r r , r d r , d d Wr d d r r r r d

2.02 USAGE RIGHTS

A T r d r r d , DVD d d r d

1 D d r rd d r , d d r r r , d d , r d

2 T r rr d r
d , r d r d O r

B D r r r d
r r d r r rd

PART 3 EXECUTION

3.01 VIDEO RECORDINGS - GENERAL

A A r d r rd , d r r d
r rd d - d r T
d r d

1 DVD r

2 C r r d

3 C r r

4 D d

5 G r d

6 W r

7 D r r d d r

B T r rd d r r d r r d
r d W r T r r rd d d ,
d , r d , dr , d , r , r , d , r
, d , - r d , , r , , d , r ,
r , r r d T r r d 50 r
r d r d d r d r r
r

C V d r rd rd r d d r r rd r
r d d r O r

D V d r rd r d d d r
d r r d r d r d r d
r r d d r A d d r d
d r rd

E B d d d d r r d r
r r d r (, r r d) d r r

F T r (, r r d
r rd) r

G T r r r d r rd d r d r, d
r d r r r r r
r d r, d d r A r r
d 44 r F r rd r d
r r r d r r d d

H T r r d d r r r
r d

I W r rd , r d d H r d r d r , rd r r r r r T d r r r d 12 I r d , d r d d r r d d r r r C r r r r r d r rd A C r r d r r d r r r

J A d r rd r r d d r r r r , r r d O r

K N d r rd r r d r , r , , r d d d r r d d r r r r

END OF SECTION

SECTION 02 23 10 - TREE PROTECTION AND TRIMMING

PART 1 - GENERAL

1 1 RELATED DOCUMENTS

A Dr d r r C r , d G r d S r C d d r D 01 S S , S

1 2 SUMMARY

A S d r r d r r d r W r , r r r r r r
B R d S
1 S 01500 "T r r F d C r " r r r
2 S 02230 "S C r " r r r d r

1 3 DEFINITIONS

A C r D r r r d d r r r d r d r 6 r d r r , d d , 4- d 12 r d r r r r 4-

B P -Pr Z Ar rr d d d r , r r , r , r r r r dd r r , d d d Dr
C Tr -Pr Z Ar rr d d d r r r r r dd r r , d d d Dr
D V Tr , r , r d r , r , d r

1 4 SUBMITTALS

A Tr Pr S d Wr d d d r r r r r r r d r
1 S d r
2 L I d d r r
3 R r r
4 D r r r r d
5 D r r
B Q D F r d r r d r r r
C C r Fr r r , r r d d r r dd r r rd r d d rd d r r r d r r r d dr r d d d
D M R d Fr r r , r r d r r

d r d r d r W r
E E C d D r d d d
r , r r d r d
d d r
1 U d d r r d
2 I d d d d d d
d r r r d d r

1 5 QUALITY ASSURANCE

A Ar r Q C r d Ar r -M S r d ISA
B Tr S r F r Q A r d r r r
d r r r d r r r
r r d r Pr d r d, d r r
Pr d r W r
C Pr C r C d r Pr
1 R d d r d r r d r r r d
r d , d ,
C r d V r r , r ,
d d d r r d d d
E r r r r r
Ar r ' r
d F d r

1 6 PROJECT CONDITIONS

A T r r r d r
1 S r r r , d r , r d r
2 P r r
3 F r
4 Er d r r r
5 I d r
6 E r r d r d d
7 A r r r r d r r
r d d
B D d r r rd r
C Pr r , , r , d r r
r d r
D Pr d r r r r r
E T N r r d r r r r d
r r d d, , d r r , r , d
r d r r d r , r , r r d d r r
r , , r , d r r 1 d r
d r d , r , d d r -
1 O r -dr d r 4 d r

r d r r r

F T S d r r r d ASTM D 5268

G Or M Fr r d r r d dr r r d r ,
1 T P r C r N r
2 T H rd d M (d d r) C r N r

H Pr -Z F F d d r r
1 C L F P F M r r d r H 4 6 r rr d
2 G S r d r , r r d 36

PART 2 - NOT USED

PART 3 - EXECUTION

3 1 EXAMINATION

A Er d S d C r E r r r r - d d - r r r V r r r d r d r r r r r d r d r r r

B F r r rd, r r r r r, d r d r r , d d r r d r

3 2 PREPARATION

A L d r d r , r , d r r T 1- - r d r r 54 r d

B Pr r r r d d r r r , , r r r r Pr r r d , r d , r d d r r

C Tr -Pr Z M r d r - r d r r d d

1 A 3- r r D 6 r r

3 3 TREE- AND PLANT-PROTECTION ZONES

A Pr -Z F I r - d r r r r r r d r r r r d r r r C r r r r r d d d r r r r , dr , r r r r

1 P S r dr r d - rd r W r d r r r , r d r r r L d Ar

2 A G I r r r r r d r , , d , r d , r , d , d r , , , d r , r , r r r r C r d r d r r r d

B Pr -Z S I r - r r r d L d Ar I d r r 35 r - , r r d r d r

C M r r d d r

D R r r r r , r , d r d d r r r d r d d r r , r r d L d Ar

E M r - d d d L d Ar d r r r r r d r d r

1 D r r - , r r , d r r r r

2 T r r r d r r r r r r d d r d r r M r r r d

3 4 EXCAVATION

A G r E d r d r r d d r rd r r S 312000 "E r M "

B Tr r Tr W r r r r d r , d d r r r d r r r d r r dr , r r , r D r r r r r r r C r r r d r r r

C R d r r r r I r r , r r , r d r r d d d r d r r I r d d d r d r d r r , r r 3 r r d r r d r r r

D D d r dr r r Pr d r r r r r d r r W r d d T r r r d r r r d r r r r d d r d

3 5 ROOT PRUNING

A Pr r r d r r d r r Pr r

1 C r d r d d r r r r d r , r, , r D r r r r , r , r r

2 C E d C d r r 1-1/2 d r d r r r d r d d d r r

3 T r r r d r r r d r r d r d d r d

4 C r d r r d r r r

5 B rd r r S 312000 "E r M "

B R Pr Ed Pr Z Pr r d r , r d r r d

C R Pr Pr Z C r d d d r r d d r U rr - d r , r , d r

3 6 CROWN PRUNING

A Pr r r d r r d r r Pr r

1 Pr r r r r d d r r Pr d d r C r r d r d d r r
2 Pr S d rd Pr r rd ANSI A300 (P r 1) d T Pr C T R R d
3 C r r r r d r r
4 D r d, r d rd r r

B C r d r dd -

3 7 REGRADING

A L r Gr d W r r d d d r d r d r , r d d r M r d r

B R Gr d W r r d d d r d r d r , r d d r M r d r

3 8 FIELD QUALITY CONTROL

A I E d r r dr - r r r , r , d r d d r d r r r r

3 9 REPAIR AND REPLACEMENT

A G r R r r r r , r , d r d d r r r d r d d r r , r r d L d Ar
1 S d r dr d r d r r r
2 H r r r r r , r r , dd r r r d r
3 Tr d d r , , d r rd r r ' r r
4 P r r r r 24 r
5 R r r d dr r d - r , d r d L d Ar

B Tr R dr r d d r r r 25 r d d r d r d rr r d r r d d d r r r L d Ar d r r r r r r r r r

1 Pr d r d r d r r r 6 r r r

2 Pr d r r ( ) 6- r r r r d r r 6 r S S d L d Ar

3 P d r d S 329300 "P " C S A r W r d r d L d Ar , r r d d r r A r 10 d dr d r 36 r r Dr 2- - d r 12 d 24 B r d d d

3 10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A D R d r , d d r , r d d r , d d O r' r r

END OF SECTION

SECTION 028210 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1.0 - GENERAL

1.1 DESCRIPTION OF WORK:

A. The work specified within this section includes the removal of asbestos-containing materials described herein. The Contractor shall utilize only trained and qualified workers in the removal, handling, and disposal of these materials. The contractor's work practices and methods shall comply will all applicable Federal, State, and local regulations.

B. The Contractor shall furnish all labor, materials, equipment, medical records, testing, insurance, patents, and incidentals, which are necessary or required to complete the work safely.

C. The Scope of Work includes the safe removal and disposal of the asbestos-containing and record keeping in accordance with Federal and State regulations.

D. The Contractor shall coordinate with the Third-Party Air Monitoring and Inspection Firm (Owner's Representative), for the duration of the Work.

1.2 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only. The latest publication shall apply.

A. Environmental Protection Agency (EPA):

Regulations for Asbestos (Code of Federal Regulations, Title 40, Part 61), National Emission Standard for Hazardous Air Pollutants (NESHAP), Guidance for Controlling Friable Asbestos Containing Materials in Buildings, Asbestos Hazard Emergency Response Act (AHERA) (40 CFR, Part 763).

B. Occupational Safety and Health Administration (OSHA): Asbestos Regulations (Code of Federal Regulations Title 29, Part 1901, Sections 1915.1001 and 1926.1101), 1910 Section 1200 Hazard Communication, Section 145 Signs and Tags, and Section 2 Access to Employee Exposure and Medical Records.

C. National Institute for Occupational Safety and Health (NIOSH): Respiratory Protection, A Guide for the Employee.

D. American National Standards Institute (ANSI): Z86.1-1973, Commodity Specification for Air.

E. Louisiana Administrative Codes (LAC), Title 33, Part III, Chapters 27 and 51, and Louisiana Department of Environmental Quality (LADEQ).

1.3 DEFINITIONS:

A. Refer to Section 02 82 10 for terms and definitions used in these Contract Documents.

1.4 SUBMITTALS:

A. Refer to Section 01 10 10 and 02 82 10 for Contractor submittal requirements.

1.5 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION:

A. Refer to this Section for Contractor respiratory and personnel protection and decontamination requirements.

1.6 WASTE DISPOSAL:

A. Refer to Section 02 82 40 for Contractor waste disposal requirements.

PART 2.0 – PRODUCTS

The Contractor shall note that where no manufacturer or model number are given, any product meeting performance or design criteria, or referenced trade association standard may be used, and Pre-Bid Approval is not required.

2.1 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with the operations of the building occupants.

C. The unloading and temporary storage sites, and transfer routes, must be approved in advance by the Designer.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved landfill.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner, including fees regarding the use of these patents.

2.2 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply at a minimum with these specifications, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and Decontamination Facilities, all lumber and plywood shall be fire-retardant. Flame-resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire-retardant, and shall bear manufacturer's stamp of Underwriters Laboratory (UL) Classification.

Any equipment used that prevents the analysis of air samples by Phase Contrast Microscopy will be unacceptable and will not be allowed to be used.

1. HEPA-Filtered Exhausts - Air inside each work area shall be exhausted to the atmosphere (building exterior) through a High Efficiency Particulate Air (HEPA) filter. HEPA-filtered portable exhaust units shall be provided for each work area, of sufficient total capacity to provide at least six (6) complete air changes per hour, an inward velocity through all openings to the work area of at least 200ppm, and a static pressure of at least 0.025 inches water column.

   The HEPA filter shall be preceded by replaceable pre-filters, and the unit must be designed such that it cannot be operated unless the HEPA filters are in place. The units must also be designed with lights or alarms, which indicate that the filters are properly installed and functional, and which determines when the filters must be changed.

   Flexible hoses (ducts) of sufficient length must be provided to allow the units to discharge outside of the buildings. Exhaust with other types of particulate cleaning systems (such as electrostatic precipitators) shall not be allowed.

2. Plastic Sheeting and Bags - These shall be polyethylene or equivalent. Both transparent and opaque plastic shall be required, as specified within the contract documents. Flame-resistant polyethylene shall be used.

3. Encapsulates - Encapsulating or lock-down agents shall be penetrating sealants. Due to subsequent renovation plans, the Contractor shall lock down all surfaces with a water-based and water-soluble encapsulate pre-approved by the Designer. The water-based, water-soluble encapsulate shall be able to do the following:

   a. Withstand most impact or abrasion and protect the encapsulated surface.

   b. Be one of those demonstrating effective performance under the tests conducted by an independent testing laboratory, pre-approved by the Owner’s Representative.

   c. Shall have high flame-retardant characteristics less than 25 when tested in accordance with ASTM E-84 procedures, and a low toxic fume and smoke emission rating.

d. Shall not be noxious or toxic to application workers, or subsequent users of the building.

e. Shall have some permeability to water vapor to prevent condensation accumulation and shall resist solution by common cleaning agents.

f. Shall have acceptable weathering and aging characteristics.

It is the Contractor's responsibility to ensure that encapsulates will be compatible with all replacement materials (if required). The Contractor shall coordinate this requirement with the Designer.

4. Wetting Agent or Surfactant – This item shall be 50% polyoxyethylene ether and 50% polyoxyethylene ester, or equivalent, mixed in the proportion of one ounce surfactant per five gallons of water. The material must be odorless, non-flammable, non-toxic, non-irritating, and non-carcinogenic. It should be applied using a low-pressure sprayer recommended by the surfactant manufacturer.

5. Tape and Glue - These items shall be capable of sealing plastic joints and attaching plastic to finished surfaces without damage when they are removed. The bonding strength and resulting seal integrity must not be affected by mist of water, encapsulating agent, or any other materials to be used in the Work Area.

6. Warning Signs and Labels - These items shall comply with 29 CFR 1926.1101 (K)(8)(i) through (vi), and with all other federal, state, or local codes and regulations. (example" DANGER, ASBESTOS, CANCER AND LUNG DISEASE HAZARD, AUTHORIZED PERSONNEL ONLY; RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA.

7. Windows – Transparent windows (of sufficient size, accessible from the outside of containment and when feasible) shall be placed conveniently located and visible to inspectors outside the Work Area.

8. Waste Containers and Transportation - These items shall be bags as noted in Subparagraph 2 above, drums or other closed containers, suitable for loading, temporary storage, transit, and unloading of contaminated waste without rupture or otherwise causing spillage or exposure to people or emissions to the atmosphere. Transportation methods shall comply with the provisions of EPA Title 40, Part 61, Subparts A and B, Part 262, and with any hazardous or special waste regulations for temporary storage, transport, and disposal if such codes are enforced in states or cities where the waste will be generated, stored, transported, or disposed of. All containers shall be labeled in accordance with 29 CFR 1926.58K(2) and 49 CFR, Parts 171 and 172, Hazardous Substances: Final Rule.

9. Respiratory Protection Devices - These items shall be NIOSH-approved and shall comply with all provisions of 29 CFR 1926.1101. Fit testing procedures must comply with 29 CFR 1926.1101, Appendix C. Provide documentation of fit-testing procedure.

10. Electrical Equipment – All electrical items shall be Underwriters Laboratory listed and approved, and shall have ground fault circuit interruption protection, which has been installed by a qualified electrician.

11. Ladders or Scaffolds - These items shall be approved and be of sufficient dimensions and quantities so that all work surfaces can be easily and safely accessed by the Owner's Representative, workers, and other inspectors. Scaffold joints and ends shall be sealed with tape to prevent incursion of asbestos fibers or particulate. The use of aluminum ladders inside the work area is prohibited.

12. Hand Power Tools - These items shall be equipped with HEPA-filtered local exhaust ventilation if used to drill out, into, or otherwise disturb ACM.

13. Brushes - All brushes shall have nylon bristles. Wire brushes are excluded from use due to their potential to shred asbestos fibers into small fibers. Wire brushes may be used on pipe joint applications upon prior written approval by the Designer.

2.3 USE OF EXISTING EQUIPMENT

The Contractor is responsible for the maintenance and repair of all existing equipment, which he, or anything associated with his work, damages, impacts, or otherwise disturbs. All existing equipment must be returned to the Owner in its original state. Any repair of equipment to return it to its original state is the sole responsibility of the Contractor. All costs associated with testing, inspection, maintenance, and repair must be borne by the Contractor.

A. Electricity: The Contractor is responsible for providing electricity to the Work Area via GFI circuits for his use and for the use of the Third-Party air monitoring firm. Power is available at the Site and within the building. All costs associated with testing, inspection, coordination, provision, and total usage of electricity are the responsibility of the Contractor. Contractors shall clean and protect the existing power panels used to obtain power for this project.

B. Water: The Contractor is responsible for providing water to the Work Areas. Water is available within the building and all costs associated with testing, inspection, and coordination of water is the sole responsibility of the Contractor.

PART 3.0 - EXECUTION

3.1 GENERAL:

A. The requirements and sequences described herein are parameters for the execution of the abatement work and do not necessarily include all abatement requirements. The Contractor shall be responsible for all items that may be necessary to complete the abatement work in accordance with the approved Work Plan, Scope of Work, and all applicable regulations. All deviations from the Work Plan must be pre-approved in writing by the Designer.

B. All building interior removal work shall be performed using full containment, protection with HEPA-filtered exhaust ventilation, and decontamination facilities.

3.2 PREABATEMENT PREPARATIONS: The Contractor shall prepare the work areas using plans pre-approved by the Owner's Representative and Designer. Following is a general sequence of performance steps and procedures to ensure that proper containment and protection systems are installed prior to any work, which could generate airborne asbestos fibers or particulate.

A. Post access restriction signs; seal all openings into each work area; clean, decontaminate, protect, and cover all fixed items; and erect or install containment barriers, scaffolding, and decontamination facilities and HEPA-exhaust systems as described herein.

B. The Contractor shall be responsible for providing his own water and electricity to each the work area. Utility connections are available in the building for the Contractor's use. The Contractor is responsible for coordinating the provision of utilities to the Work Areas. Provision of utilities to the Work Areas and Air Monitoring Firms' use shall be borne by the Contractor.

C. Provide temporary power and lighting equipped with ground fault interrupter (GFI) devices are required for each work area and affected non-work areas.

D. Obtain Owner's Representative's approval, in writing, of all completed preparation work.

3.3 ISOLATION OF ELECTRICAL SYSTEMS AND INSTALLATION OF TEMPORARY POWER AND LIGHTING:

A. The scope of the required electrical isolation and protection work includes isolation and protection of electrical equipment, which is in the area from which asbestos must be removed, and which could possibly become a hazard through contact or water spray short-circuiting. Care must be taken when working near electrical panels. The Contractor shall provide labor to monitor, inspect, and service temporary power circuits, lighting, and equipment as required by local codes and regulations. Contractors must provide "Lock Out" systems for all electrical panels or equipment, which will be shut off during the removal process. If electrical panels, transformers, or control centers cannot be deactivated/de-energized, the Contractor shall ensure that these electrical panels, transformers, control centers, or fire protection panels are isolated utilizing rigid critical barriers, fire retardant 6-mil polyethylene sheeting, and ventilation as required.

B. The electrical isolation work includes the installation of temporary lighting and power protected by ground fault interrupter (GFI) devices in accordance with applicable codes.

C. Temporary light shall be provided by the Contractor in each Work Areas where abatement is performed. A qualified electrician shall initially inspect the (removal work areas) for the condition of electrical conduit and junction boxes. All temporary electrical work shall comply with NFPA 70 National Electric Code. The purpose of this inspection

is to assist the Contractor in the preparation and performance of his work, and to provide for the safety of work crews.

D. The Contractor shall be required to furnish, without additional expense, all transportation, labor, and materials necessary to maintain the electrical systems for safe operation, and to maintain service in areas abutting work area in compliance with local codes.

E. All materials and workmanship shall conform with the latest editions of the following codes, standards, and specifications issued by the following authorities:

1. National Electrical Code (NEC) - most recent edition.

2. National Bureau of Standards, Handbook H30, National Electrical Safety Code.

3. State and Local Codes, and all other authorities having jurisdiction.

4. Underwriter Laboratories (UL).

5. National Board of Fire Underwriters.

6. Occupational Safety and Health Administration (OSHA).

F. Temporary lighting and power systems shall comply with all Federal, State, and local regulations. Temporary lighting levels shall meet these requirements.

G. When switching circuits at panels, the Contractor's licensed electrician shall review the existing conditions. The Contractor shall not shutdown any circuits without the advanced notification and approval.

H. Contractor costs associated with the isolation of electrical systems and installation of temporary power and lighting shall be borne by the Contractor.

I. Extension cords shall be the 3-wire type; shall be protected from damage; and shall not be fastened with staples, hung from nails, or suspended from wires. Splices shall have soldered wire connection with insulation equal to the cable. Worn or frayed cords shall not be used.

J. Safe lighting equipment shall be provided with a preference for floodlights rather than indiscriminate use of unprotected lamps strung on temporary wiring. Exposed bulbs shall be guarded to prevent accidental contact. Temporary wiring shall be properly insulated and substantially supported. Circuits should be properly designed and fused. All temporary lighting inside the work area shall be weather proofed.

K. Receptacles for attachment plugs shall be an approved, concealed contact type. Where different voltages, frequencies, or types of current are supplied, receptacles shall be of such design that attachment plugs are not interchangeable.

3.4 INSTALLATION OF SCAFFOLDING AND/OR WORK PLATFORMS:

A. The Contractor shall install and erect sufficient scaffolding and/or work platforms to access all areas and complete all tasks involved in the abatement activities, using 100 percent tie-off for all Workers on Scaffolding or work Platforms

B. Installation and erection of scaffolding and/or work platforms must be done in strict compliance with all applicable Federal, State, and local laws and regulations.

C. The Contractor is responsible for removing any loose or hanging materials and installing adequate shoring so as to provide and maintain a safe work environment.

D. The Contractor must maintain public access to city sidewalks, as required by law, throughout the entire abatement project. The Contractor is responsible for obtaining necessary permits involved in erecting scaffolding and/or fencing on public property. The Contractor will be responsible for repairing all damage caused by scaffolding or fencing during abatement.

3.5 ISOLATION OF WORK AREAS AND INSTALLATION OF DECONTAMINATION FACILITIES:

A. The Contractor shall isolate the Work Area for the duration of the work by completely closing and sealing all openings and penetrations into the Work Area using a minimum two (2) layers of 6-mil polyethylene sheeting, with joints staggered, and taped securely in place. The work area shall be sealed airtight and watertight to the maximum extent possible and shall be subject to the written approval of the Owner’s Representative.

B. Isolation Partitions and Barriers

1. The Contractor shall install scaffolding and/or work platforms and necessary shoring to provide worker access and install approved safety railings, the plates, etc.

2. The Contractor shall install critical barrier walls using a 2”x 4" stud or metal framing 24" on center, adequately supported and anchored, covered with 5/8" (fire rated) sheet packs, all seams caulked airtight. All temporary enclosures and walls shall have a flame spread of 0-200 and a smoke developed of 0-450.

C. The Contractor shall install decontamination facilities for all work areas as defined herein, Using plans pre-approved by the Owner’s Representative.

D. The Contractor shall cover critical barriers, scaffold planks, and work platforms with a minimum of two (2) layers of 6-mil polyethylene sheeting with joints staggered and taped securely in place.

E. The Contractor shall line both sides of walls, ceilings, and floors of decontamination facilities using a minimum of two (2) layers of 6-mil polyethylene sheeting with joints staggered and taped securely in place.

F. The Contractor shall provide GFI-protected temporary power and lighting to work areas and ensure safe installation of temporary power sources and equipment.

G. The Contractor shall install HEPA-filtered exhaust systems and automatic air pressure differential recording instruments in work areas as previously specified using plans pre-approved by the Designer.

H. The Contractor shall install wastewater collection, filtration, storage, and discharge systems, and install waste holding facilities.

I. The Contractor shall post warning signs meeting the requirements of 29 CFR 1926.1101 and post hazard warning signs at the doorway to the decontamination facility which shall be the only non-emergency entrance into the work areas. Post warning signs at all other potential access locations as indicated by the Owner's Representative.

J. The Contractor shall cover and protect electric panels and fixed equipment and objects.

K. The Contractor shall clean and decontaminate all surfaces inside the Work Area. Seal all openings and penetrations into work area.

L. Before commencing work within the Work Area, the Contractor shall inspect the work enclosure for breaches and smoke test for leaks, and any leaks shall be sealed properly.

M. The Contractor shall maintain emergency exits as required by regulating agencies for all work areas and mark with reflective tape or paint.

3.6 APPROVAL OF PREPARATION WORK:

After the work areas has been prepared according to plans pre-approved by the Owner's Representative, the Contractor shall request a formal site inspection by the Owner's Representative. No removal or other disturbance of asbestos-containing materials, dust, or debris shall occur until the Owner's Representative has inspected and approved the site preparation work in writing.

3.7 CLEANING OF CONTAMINATED SURFACES:

A. This section pertains to the cleaning of surfaces, which are potentially contaminated with asbestos-containing dust and debris or discovered in the performance of the specified work. Such cleaning shall be required to prevent this dust from becoming airborne and posing an exposure risk to building occupants or interfering in air monitoring activities.

Cleaning actions should be performed as preliminary exposure control procedures prior to performing other actions which are required.

Cleaning shall consist of HEPA-vacuuming followed by wet mopping of surfaces in a manner which prevents dust generation, but effectively rids the surface of all visible debris, dust, film, and grime.

B. Each HEPA vacuum cleaner shall be separately equipped with an airtight, securely attached hose, of proper length, and a collection wand, brush, and other special attachments appropriate to the required cleaning tasks. The equipment shall be properly operated at all times and shall contain no air leaks. The Owner's Representative shall inspect all vacuuming equipment prior to its use and may request verification of the efficiency of the equipment's filtration.

3.8 REMOVAL PROCEDURES:

This section applies to the removal of any and all materials containing contaminated or potentially contaminated with asbestos, as stated herein or as otherwise indicated by the Owner's Representative. All removal work shall be done using wet methods in such a way as to minimize the release of fibers, dust, or particulate into the air. All removal methods must be in accord with all Federal, State and local regulations and these specifications.

The Contractor is responsible for thoroughly cleaning one or more representative area(s) inside each contained area to the satisfaction of the Owner's Representative to be used by the Owner's Representative to establish a standard of cleanliness. Completion of removal stages must be approved by the Owner's Representative in writing.

The Contractor is responsible for protecting all previously cleaned and cleared areas throughout all abatement processes. The Contractor will clean and decontaminate all previously cleaned and cleared areas, which become contaminated during subsequent removal activities.

A. Removal of Floor Tile Base and Mastic Materials:

1. The Contractor is responsible for the removal and disposal of designated Floor Tile, Base and Mastic Materials throughout. Remove to bare substrate. These areas are within the existing Custodial closets at Stubbs Hall and the Stairway Hall areas at Audubon.

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all material in accordance with Section 02 82 40.

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

B. Removal of Designated Crawlspace Piping Insulation, Debris materials and up to three (3) inches of Contaminated Soil:

1. The Contractor is responsible for the removal and disposal of Designated Crawlspace Piping Insulation, Debris materials and up to three (3) inches of Contaminated Soil.

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment until all visible materials are removed or until they reach undisturbed soil.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all material in accordance with Section 02 82 40.

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

C. Removal and Disposal of Piping Insulation Materials:

1. The Contractor is responsible for the removal and disposal of all Piping Insulation Materials within the Building and Annex and five (5) feet within utility trenches from the Building Perimeter. Remove Soil and debris materials within the trench to a cleaned concrete surface five (5) feet from the Building Perimeter.

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all material in accordance with Section 02 82 40.

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

D. Removal of Caulking Materials:

1. The Contractor is responsible for the designated caulking Materials. Remove to bare substrate and Clean all Room and Equipment Surfaces.

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all material in accordance with Section 02 82 40.

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

E. Removal of Transite Lab Tops and Fume Hood Materials:

1. The Contractor is responsible for the Transite Materials. Remove to bare substrate and Clean all Room and Equipment Surfaces.

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all material in accordance with Section 02 82 40.

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

F. Removal of Asbestos-containing Roof Flashing Materials:

1. The Contractor is responsible for the Removal of the Asbestos-containing Roof Flashing Materials. Remove to bare substrate. Note: Styrofoam covers the older roofing materials

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all asbestos flashing material in accordance with Section 02 82 40.

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

8. The Contractor shall recycle/dispose of the Styrofoam materials in accordance with State Requirements.

G. Removal of Asbestos-containing Underground Utility Piping and Debris Materials within the Concrete Trenches and where Direct Buried:

1. The Contractor is responsible for the Removal of the Asbestos-containing Underground Utility Piping and Debris Materials within the Concrete Trenches and where Direct Buried

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all asbestos material in accordance with Section 02 82 40.

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

3.9 MATERIALS WHICH OWNER'S REPRESENTATIVE CLASSIFIES AS INACCESSIBLE FOR REMOVAL (DOES NOT APPLY - NO MATERIALS SHALL REMAIN):

A. The Contractor shall remove all specific materials unless he identifies to the Owner's Representative potentially inaccessible areas, and the Owner's Representative then so concurs and thereby classifies them as inaccessible. The Owner's Representative, however, may determine that materials can be made accessible by temporarily disconnecting and moving obstructing ductwork, cables, studding, plaster, pipes, conduits, or other mounted equipment and structures, in which case the Contractor shall remove and replace them at no additional cost.

B. All areas that the Owner's Representative classifies as inaccessible shall be sealed and enclosed by the Contractor at no additional cost as follows:

1. Seal all visible asbestos-containing materials with two (2) coats of approved penetrating spray encapsulates.

2. Create an airtight enclosure around the area by installing sheet metal or wire lath secured with clamps or screws, and seal airtight with caulking.

3. Mark all such sealed inaccessible asbestos-containing materials on a set of Drawings and transmit them to the Owner's Representative.

4. Piping exiting the Work Areas – The remaining insulated piping open ends shall be sealed and wrapped with a permanent wrap.

3.10 OWNER'S REPRESENTATIVE'S APPROVAL OF REMOVAL WORK:

A. Upon completion of removal work, but prior to commencing encapsulation or other final cleaning of the work area, the Contractor shall request the Owner's Representative to conduct an inspection and obtain written approval of the removal work.

B. All materials shall be removed, gross debris cleaned up, wastewater collected and filtered, and waste bags removed from the Work Areas prior to the inspection.

C. Any encapsulation or lock-down performed prior to the Owner's Representative's approval will require the Contractor to re-clean the entire work area to the satisfaction of the Owner's Representative.

3.11 CLEANING AND FINAL DECONTAMINATION:

This section applies to cleaning work areas where asbestos removal work has been performed. After all asbestos-containing or contaminated materials have been removed the Contractor shall remove all wastes and perform a thorough multi-stage final cleanup and decontamination of each work area per the methods indicated below. Completion of this stage of work must be approved by the Owner's Representative.

A. Final clearance procedures of the work areas shall be performed only after all waste is packaged and removed, but prior to reinstalling any equipment or dismantling any

barrier, decontamination facility, or protective coverings. Cleaning shall be subject to the Owner's Representative's approval based on visual inspections, surface dust-wipe tests, and air testing performed according to the AHERA standard. HEPA-exhaust systems shall operate continuously throughout the cleaning and air testing processes until the Owner's Representative authorizes their shutdown and removal from the site. The Contractor shall notify the Owner's Representative in writing at least 24 hours in advance of the expected completion time of final site clearance in order to allow the scheduling of clearance testing.

B. Cleaning methods and approvals shall consist of the following steps performed in the listed order:

1. Remove all visible debris and particulate from protective coverings, scaffolding, floors, walls equipment, and all other surfaces. HEPA-vacuum all surfaces to pick up excess water and debris.

2. Thoroughly clean all protective coverings, scaffolding, floors, walls, and equipment.

3. The air in each work area shall then be lightly mist with amended water, and all protective coverings and other items in the work area shall be wiped thoroughly clean.

4. After the Contractor has completed steps 1-3, he shall make a formal request to the Owner's Representative for a work area inspection. To facilitate scheduling of this inspection, the Contractor shall notify the Owner's Representative of the anticipated completion time of the above initial cleaning work 24 hours in advance.

5. If the Owner's Representative observes any waste or debris in the work area during the inspection, the Contractor shall perform additional cleaning and decontamination as directed by the Owner's Representative.

6. If the Owner's Representative approves this first cleaning, the Contractor shall remove slowly one layer of protective polyethylene covering surfaces inside the work area (except as indicated below) and shall package them in 6-mil waste bags. The waste bags shall be removed from the work area. Both layers of protective polyethylene in the decontamination facilities shall remain in place and in use.

7. After these protective coverings are removed, the Work Area shall be completely wet wiped and HEPA-vacuumed.

8. Once the work area is completely dry, the Owner's Representative will perform an inspection of the Work Area.

9. Upon obtaining the Owner's Representative's written approval, the Contractor shall lock down all surfaces within the Work Area. The Contractor may only lock down surfaces using encapsulates pre-approved by the Owner's Representative.

The drying time shall be as specified by the manufacturer before clearance sampling is conducted.

10. If any of the post-cleaning clearance air or wipe sample results are above the pre-established clearance criteria, the Owner's Representative will require additional cleaning and decontamination of the work area, and the above inspection and clearance tests shall be repeated by the Owner's Representative.

11. After successful completion of the final air clearance testing, the Contractor shall carefully remove the protective coverings, decontamination facilities, and any temporary barrier walls or tunnels. The HEPA-exhaust systems shall be removed only after all other items are removed. A HEPA vacuum shall be kept on-site during this final disassembly work to clean up any dust or debris.

12. Workers shall wear approved respiratory and personal protective equipment throughout all cleanup and waste disposal activities.

3.12 MONITORING AND TESTING: The performance and execution of this work is found in this Section, Air Monitoring - Test Laboratory Services.

3.13 AIR MONITORING BY CONTRACTOR:

A. The Contractor shall be responsible for personnel air monitoring to document compliance of workers with the OSHA regulations using the methods as described in this Section, Air Monitoring - Test Laboratory Services.

3.14 FINAL INSPECTION AND TESTING:

A. Following successful completion of the final visual inspection, the Contractor will be given written approval by the Owner's Representative to lock down each Work Area. When this is complete and after all visible dirt, dust, and grime has been removed from all surfaces in each Work Area, the Contractor shall notify the Owner's Representative that the workspace is ready for inspection and final air clearance testing. The Owner's Representative, with the assistance of the Contractor, shall visually inspect the workspace for the detection of any visible dust or contamination. If the visual inspection does not reveal any dust or other signs of contamination, final air testing shall commence. Approval of each Work Area for final air testing shall be obtained from Owner's Representative in writing. The Contractor shall supply adequate lighting, scaffolding, ladders, and other necessary assistance during final visual inspection.

B. Final air testing of the building interior will be conducted at the completion of each phase of work. The Contractor shall install engineering controls and barriers so as to isolate each area for final air clearance testing. Isolation barriers and access routes must be pre-approved in the Work Plan by the Owner's Representative.

C. Final air testing (i.e., clean air certification) shall be performed pursuant to 40 CFR, Part 763, Appendix A, using Transmission Electron Microscopy (TEM), aggressive disturbance procedures, and continuous air circulation and HEPA-filtered exhaust. This

shall be obtained by use of 1-horsepower leaf blowers (provided by Contractor) and the existing work area exhaust system, supplemented with 20-inch circulating fans (provided by Contractor and positioned where the Owner's Representative determines with smoke tubes that poor air circulation patterns exist). Work areas with less than 160 square feet or 260 Linear feet of asbestos-removal shall be considered complete following the passage of the visual inspection and final air testing via Phase Contrast Microscopy (PCM).

D. The Contractor shall assist, as necessary, the Owner's Representative to accomplish safely and efficiently the aggressive disturbance and air circulation tasks. The Contractor also shall provide and install sufficient 15-amp, 120 v. (60-cyl) power lines for the Owner's Representative's air pumps evenly distributed in the work area, plus air pumps evenly distributed outside the work area. The Owner's Representative then shall collect all air clearance samples.

E. The Contractor shall allow 24 hours for performance of aggressive disturbance procedures and collection of clearance air samples, and an additional 24 hours for laboratory TEM analyses of samples. Provisions will be made to perform PCM analysis on-site. The Contractor shall coordinate with the Owner's Representative to properly schedule clearance sampling and laboratory analysis.

F. The aggressive disturbance procedures shall not commence until the Work Area is clean, all floor and wall polyethylene sheeting is removed, with all of the critical barriers in place, the lock down agent is completely dry, and the Work Area has been inspected and approved by the Owner's Representative.

G. The final air testing shall take place under active agitation of the air in the workspace with the HEPA-filtered exhaust units operating. The Contractor shall also supply and operate additional circulating fans and leaf blowers as required and directed by the Owner's Representative during this final testing to ensure effective air circulation. The final test shall consist of collecting a minimum of thirteen (13) air samples for each testing to establish that contamination levels do not exceed 0.01 fibers per cubic centimeter (f/cc) and 70 structures per millimeter squared (s/mm2) of asbestos as determined by air sampling with analysis by Transmission Electron Microscopy.

H. If all clearance criteria are not met, the Contractor shall perform a thorough wet cleaning and/or HEPA-vacuuming as necessary and directed by the Owner's Representative to re-clean the work areas. The above clearance testing shall then be repeated by the Owner's Representative until clearance criteria are met. The Owner's Representative's charges to the Owner for this additional cleaning, inspection and air testing services shall be borne by the Contractor.

I. After achieving the level of cleanliness and decontamination as specified herein and as confirmed by the final testing and checking, the Owner's Representative shall thoroughly inspect the space jointly with the Contractor to determine whether any damage has been done to the finishes, equipment, or any other part of the workspace.

A final inspection report shall be prepared jointly by the Owner's Representative and the Contractor detailing the list of items (punch list) to be fixed by the Contractor. Approval of final

testing, checking, and ultimate completion shall be obtained from the Owner's Representative in writing.

3.15 RESPONSIBILITY FOR DAMAGES:

Any damage to the Site, items designated to remain, or adjacent property damage and disruption of operations of adjacent buildings and building occupants and uninvolved Site improvements, parking and drainage, that have been the result of actions by the Contractor's personnel or equipment, or subcontractors shall be repaired to safe working condition without any cost to the Owner

END OF SECTION

SECTION 028240 - DISPOSAL OF ASBESTOS-CONTAINING MATERIALS

PART 1.0 - GENERAL

1.1 ASBESTOS WASTE DISPOSAL PROCEDURES:

A. It is the responsibility of the Contractor to determine current waste handling, transportation, and disposal regulations for the work site and for each waste disposal landfill. The Contractor must comply fully with these regulations and all Department of Transportation and EPA requirements, and State and local regulations.

B. The Contractor shall document actual disposal of the asbestos waste at the designated landfill certified by the State of Louisiana Department of Environmental Quality to accept asbestos waste. The Contractor shall document disposal by completing a written Disposal Form (Asbestos Disposal Verification Form - ADVF, Waste Shipment Record) which then shall be signed by the landfill operator upon receipt of materials. The original completed documentation shall be forwarded to the Owner's Representative. Approval of Contractor payment requests may be denied until receipt of such Disposal Certificates.

C. Definition: Asbestos wastes are defined as all asbestos-containing or potentially asbestos-contaminated materials or other items which have not been cleaned completely to the satisfaction of the Owner's Representative while inside the Work Area, and which must be removed from the job site. Asbestos wastes may include building materials, insulation, disposable clothing and protective equipment, plastic sheeting and tape, contractor equipment, or other materials designated by State or local authorities or the Owner's Representative. All materials, clothing, equipment, supplies, exhaust system or vacuum filters, plastic sheeting and tape, and other materials designated by State or local authorities which potentially may be contaminated with asbestos, asbestos dust, or asbestos particulate must be disposed of as asbestos-containing or asbestos-contaminated wastes.

D. Asbestos Waste Container Removal and Disposal Procedures:

1. The costs for waste packaging, transportation, and approved landfill disposal (plus all related record keeping) shall be borne by the Contractor.

2. The Contractor shall package, label, and remove all asbestos waste as specified in the above Sections. Packaging shall be accomplished in a manner that minimizes waste volume but ensures waste containers shall not tear or break.

3. The Owner's Representative must observe the removal of all waste containers to verify their condition and certify the total volume of waste material (to the nearest cubic yard). He then shall insert the quantity on the Disposal Form/Waste Shipment Record and give the original of these forms to the Contractor for transport to the landfill operator for signature.

1.2 WASTE REMOVAL SCHEDULING:

A. All waste containers shall be decontaminated and removed from the site before final cleanup is started and isolation barriers are removed. The Contractor must pre-schedule and obtain the approval of Owner's Representative for all time periods during which he desires to remove waste bags from the facility. Once a truckload of waste containers has accumulated, the Contractor shall arrange for transportation to the disposal site. Waste shall not be stored in the worker decontamination facility.

B. Asbestos Waste Transportation and Disposal Regulations: It is the responsibility of the Contractor to determine and ensure that he is complying with: 1) the current waste handling regulations applicable to each work site; and 2) the current regulations for transporting and disposing waste at each ultimate disposal landfill. He must comply fully with these regulations, and with all U.S. Department of Transportation, State, and EPA requirements.

1. The Contractor (or his subcontractor) at no additional cost shall maintain a valid solid waste transportation registration issued by the Louisiana State Department of Transportation; and obtain, complete, and fully comply with any other local hazardous waste manifesting requirements. A copy of any manifest forms shall be sent to the Owner's Representative after disposal is completed and all required data and signatures have been inserted.

2. The Contractor shall provide a weight ticket to the Owner's Representative for each truckload of waste removed from the site.

3. Waste hauling transportation methods shall comply with the provisions of EPA Title 40, Part 61, Subpart M, Louisiana Administrative Code, and Department of Transportation and with any hazardous waste regulations for temporary storage, transport, and disposal if such codes are enforced in states where the waste shall be stored, transported, or disposed of.

PART 2.0 - PRODUCTS (NOT APPLICABLE)

PART 3.0 - EXECUTION

3.1 ASBESTOS WASTE DISPOSAL:

A. Asbestos Waste Packaging: All asbestos waste material shall be promptly placed in 6-mil clear polyethylene bags or other suitable containers lined with 6-mil polyethylene sheeting as it is generated. Enough waste bags shall be located in the immediate work area, and in the Equipment Room of the Worker Decontamination Facility, The Contractor shall count or measure the volume of each filled container leaving the work area and maintain a written record of such.

B. Asbestos Waste Labeling: Warning labels shall have waterproof print and permanent

adhesive, in compliance with OSHA, EPA, DOT Chapter 51 Subchapter M Asbestos, latest requirements, and shall be affixed to or printed on the sides of all waste bags or transfer containers. Warning labels shall be conspicuous and legible, and contain the following words:

CAUTION: ASBESTOS. HAZARDOUS.
DO NOT DISTURB WITHOUT PROPER TRAINING
AND EQUIPMENT
AND
RQ HAZARDOUS
SUBSTANCE
SOLID, NOS
ORM-E, NA 9188
(ASBESTOS)

In addition, the Contractor shall prepare and affix to each waste container the following label in accordance with the NESHAP regulation:

HAZARDOUS WASTE
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERATOR INFORMATION:

Generator's Name:	State of Louisiana Louisiana State University Electrical Engineering Building. Manship and Annex Buildings. The Vet Science Annex, Poultry and Parasite Buildings
Generator's Address:	LSU Baton Rouge Campus Baton Rouge, Louisiana 70803

C. Wetting of Asbestos Waste: A fine water spray shall be used to keep the top layers of waste in containers thoroughly wet at all times. When a waste container is full, it shall be securely sealed with tape or another secure fastener.

D. Asbestos Waste Container Decontamination and Removal Procedures: The following procedures shall be followed whenever containers or equipment are removed from the Work Area:

1. The Clean Room should be considered a holding area only during the period of active waste transfer for the purpose of the loading of carts or drums. Storage of waste and carts (or drums) in the Clean Room is prohibited.

2. Waste removal shall not occur during worker shift changes or when workers are showering or changing. Care shall be taken to prevent short circuiting and cycling of air outward through the Shower Room and Clean Room when used for waste removal.

3. Workers are to be stationed in each room/area of the Decontamination Facility to transfer the containers and equipment to or from adjacent sections. These workers shall not cross the airlock into the adjacent areas/rooms until the waste or equipment transfer is finished for that period and the workers have gone through decontamination as required by these specifications. The workers in the Clean Room or holding area shall enter from uncontaminated areas with appropriate personal protective equipment; or, prior to the start of waste transfer, these workers shall exit the Work Area, fully decontaminated, and subsequently don clean personal protective equipment.

4. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the Decontamination Facility airlock. Workers shall not enter the airlock during this procedure.

5. The containers of waste and the equipment shall be removed from the airlock by workers stationed in the Washroom during waste removal operations.

6. Once in the Washroom, external surfaces of contaminated containers and equipment shall be cleaned a second time by wet cleaning.

7. The cleaned containers of waste and equipment shall be placed in uncontaminated leak-tight plastic bags, lined fiber drums or other lined containers (or 6-mil polyethylene sheeting if physical characteristics are necessary and permit). Air volumes shall be minimized, and the containers shall be sealed. Items that may puncture or tear plastic bags shall be placed in a hard-wall container, such as a drum, and then sealed.

8. The clean re-containerized items shall be moved into the air lock for subsequent transfer to the holding area. The Washroom workers shall not enter this airlock or the work area until waste removal is finished for the period.

9. Re-containerized items and clean equipment shall be removed from the airlock to the holding area by workers who have entered from uncontaminated areas with appropriate personal protective equipment.

10. The re-containerized items of waste and clean equipment shall be placed in open top, watertight plastic carts or drums. These carts or drums shall be held in the holding area pending removal. The carts or drums shall be HEPA-vacuumed or wet cleaned following the removal of the containers of waste from them.

11. The exit from the Decontamination Facility shall be monitored and always secured to prevent unauthorized entry.

12. The carts/drums may be temporarily stored in a holding area at the work site outside the work area until a transport vehicle arrives, but such storage areas must be pre-approved by the Owner and the Owner's Representative.

E. Asbestos Waste Container Storage: Sealed labeled containers may be temporarily stored in the Work Area, or in a pre-designated and approved outside area, until a truckload quantity is obtained. The temporary storage area must be completely enclosed with wood or metal walls, floors and ceilings lined with 6-mil polyethylene sheeting and must remain locked at all times except during active loading or unloading. The temporary storage area shall be identified prominently and posted with warning signs.

F. Asbestos Warning Signs: Warning signs shall be displayed at all entrances, and along perimeter if the section of the Site where asbestos containing waste materials are deposited at intervals of no less than 165 LF and shall be of sufficient size and style and contrast so as to be readily visible and legible.

3.2 WASTEWATER DISPOSAL PROCEDURES

A. All wastewater generated during the abatement work, including gross removal activities, final cleaning, and worker and equipment decontamination procedures must be completely collected by the Contractor and processed in accordance with all applicable Federal, State and local regulations, as well as with these specifications.

B. Wastewater shall be collected continuously during abatement activities. The storage container shall be connected to a filtering system consisting of no fewer than two (2) filters in a series leading to a 5.0-micron final filter and an adequately sized pump, prior to disposal in a sanitary sewer. In the absence of a sanitary sewer system, the wastewater shall be drummed and transported to an approved landfill in accordance with the requirements for disposal. The Contractor shall not allow storage on the existing floor system unless verified by a Structural Engineer.

C. Used water filters and other equipment, and supplies used in the maintenance of the filtering system must be disposed of as asbestos-containing waste.

D. The costs for wastewater filtration, storage, discharge, packaging, labeling, transport, and approved disposal (plus all related record keeping) shall be borne by the Contractor.

END OF SECTION

SECTION 028430 - REMOVAL AND DISPOSAL OF POLYCHLORINATED BI PHENYLS (PCB-CONTAINING) BALLASTS

PART 1.0 - GENERAL

1.01 DESCRIPTION OF WORK:

A. The Contractor shall remove, package, transport, and dispose of all older PCB-containing oil from ballasts from fluorescent light fixtures in accordance with all Federal, State, and local rules and regulations. The Contractor is responsible for all the costs associated with the removal, packaging, transporting, and disposal of these ballasts.

B. The work, in general, includes, but is not limited to, the following:

1. Dismantling lighting fixtures and separation of ballasts to permit removal. Dispose of the remaining fixture as construction debris.

2. Cleaning of any PCB contamination on fixtures surfaces.

3. Providing and implementing spill prevention control and countermeasure plans.

4. Placement of all PCB contaminated items generated as a result of work activities into approved containers/drums.

5. Transportation of PCB's and PCB-contaminated items and containers to the disposal site.

6. Providing properly completed Waste Manifest/Waste Shipment Record Form.

7. Provide name and location of disposal site.

C. All PCB-related work activities to be accomplished under this section shall be coordinated closely with asbestos abatement work to minimize potential toxic exposure.

D. Prior to commencing this work, the Contractor shall inspect thoroughly the work area and prepare a construction schedule which lists anticipated time frames and sequence of operations for the various work activities. The construction schedule shall include activities such as contamination clean up and removal of all PCB-containing articles, items and containers from the work area. The construction schedule also shall include routing for all PCB-containing items to be removed from the work area and transported to disposal areas. Work activities, sequence of work, and routing scheme shall be transmitted to the Designer prior to the commencement of any work under this section.

1.02 APPLICABLE PUBLICATIONS:

A. The applicable sections, latest editions, and addenda of the following governmental regulations, codes, industry standards, and recommended practices form a part of these

specifications. Nothing in these specifications is to be construed as permitting work not conforming to these requirements:

1. USEPA - United States Environmental Protection Agency
2. NEC - National Electrical Code
3. NEMA - National Electrical Manufacturers Association
4. RCRA - Resource Conservation and Recovery Act
5. TSCA - Toxic Substances and Control Act
6. DOT - Department of Transportation
7. Louisiana Department of Environmental Quality
8. OSHA - Occupational Safety and Health Administration
9. NFPA - National Fire Protection Association
10. All other applicable Federal, State, Parish and city codes, standards and regulations.

B. The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations under these Contract Documents and to comply therewith.

1.3 DEFINITIONS: Refer to Section 011010 for terms and definitions used in these Contract Documents.

1.4 SUBMITTALS: Refer to Section 011010 for Contractor Submittal requirements.

1.5 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION: Refer to Paragraph 3.7 of the Section for Contractor respiratory and personnel protection and decontamination requirements. Respirators with particulate/organic filtration, non-absorbent suits, gloves, and boots shall be worn while removing and handling ballasts.

1.6 WASTE DISPOSAL: Disposal by the Contractor. Refer to Paragraph 3.6 of this Section for Contractor waste disposal requirements.

PART 2.0 - PRODUCTS

2.01 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with the operations of the building occupants.

C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the Designer.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved landfill.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner, including fees regarding the use of these patents.

2.02 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply, at a minimum, with this specification, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and decontamination facilities, all lumber and plywood shall be fire retardant. Flame-resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire-retardant, and shall bear manufacturer's stamp of Underwriters Laboratory Classification.

PART 3.0 - EXECUTION

3.01 GENERAL:

The requirements and sequences described herein are parameters for execution of the abatement work and do not include necessarily all abatement requirements. The Contractor will be responsible for all items that may be necessary to complete the abatement work in accordance with the Contract Documents Work Plan, and all applicable regulations.

3.02 PCB-BALLAST REMOVAL:

A. The Contractor shall remove the ballasts from the fluorescent fixtures in a well-ventilated Work Area. The ballasts shall be removed from the fixtures and placed in layers. A layer of absorbent material in excess of the contained liquid shall be placed between each layer of ballasts.

B. Once all of the ballasts have been placed in the approved drums, the drums shall be decontaminated as necessary and placed in a lockable storage container.

C. The Contractor shall arrange for transportation to the disposal site in accordance with all Federal, State, and local rules and regulations.

3.03 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING:

A. Equipment and Tools: After the last ballast has been separated from the electrical fixture, all tools and equipment used in the work shall be decontaminated and properly stored. Where work surfaces have contacted PCB fluids, they shall be scraped clean, flushed with solvent, wiped clean, and all debris placed in approved drums and disposed of in an EPA-approved incinerator. All tools that may have come in contact with PCBs at any concentration shall be thoroughly cleaned.

B. PCB Articles (Electrical Equipment): All exterior surfaces of electrical equipment to be removed that may have come in contact with PCB's or contaminated oils or fluids, either during the course of work activities or due to past leaks, shall be cleaned thoroughly and wiped clean.

C. Slabs, Floors, and Walls: All concrete (or other surfaces) which have come in contact with PCB's or PCB mixtures in the course of the work as a result of past leaks shall be cleaned thoroughly using a combination of sorbents, solvents, and cleaners.

3.04 CONTAINERIZATION AND MARKING:

A. All liquids generated as a result of work activities and clean-up operations shall be placed in closed top drums and sealed with a steel ring band with bolt compression device. All solids, such as sorbents, rags, disposable protective clothing, and other incidentals, shall be placed in closed top drums and sealed with a steel ring band with bolt compression device.

B. All drums and PCB article containers (where used) shall be permanently marked as to specific contents and dated in accordance with Federal, State and local rules and regulations. In addition, each drum (and container) shall be sealed with a steel ring band with bolt compression device.

3.05 PCB RELEASE LIMITS:

If a PCB spill occurs, the Contractor shall implement the emergency plan procedures.

A. The Contractor shall limit the airborne PCB concentration to below one (1) microgram per cubic meter of air ($1ug/c^3$) or the background level before the start of the project, whichever is lower.

B. The Contractor shall limit the PCB concentration of building surfaces to below 10 micrograms per 100 square centimeters, ($10ug/100cm^2$).

C. If required, air monitoring data shall include the sorbent type, sampling rate, sampling volume, analytical method, mass of PCB's detected, and limit of detection, as per NIOSH

analytical methods. Surface monitoring shall include the filter type, sorbent type, sampling, location area sampled, analytical method, mass of PCB's detected and the limit of detection, as per NIOSH analytical Method 5503. Analytical results for PCB analysis shall be provided to the Owner's Representative within 24 hours of the end of work on any weekend or within 24 hours of the removal of the ballasts.

3.06 HANDLING AND TRANSPORTATION TO OFF-SITE DISPOSAL FACILITIES:

A. Handling of Drums: All closed top drums must be sealed and marked prior to loading on the transport vehicle. Filled drums shall be loaded on the transport vehicle by any of the following methods:

1. By a hoist or lift truck utilizing a two-point drum lift.

2. By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Drums shall not be lifted by any rope, chain or cloth slings tied about the drum, placement of drums on bare-lift truck forks, forcing drums between forks of a lift truck, or any commercial drum lift exerting force on the sides of a drum.

C. All drums or PCB article containers shall be secured to the transport vehicle to prevent movement in transit.

D. The Contractor shall utilize a Waste Hauler Contractor licensed for the transportation and hauling of PCB hazardous waste. The firm shall provide a routing plan which clearly identifies the routes he proposes to follow while transporting PCB items from the various work areas (points of generation) to the disposal site. A minimum of two operators shall attend all times when PCB items are being loaded and unloaded.

E. Vehicles used for transporting PCB items must be marked plainly and visibly in accordance with Federal, State and local rules and regulations.

F. Unloading, Records, and Placement in Storage: Transport vehicles shall be unloaded utilizing the same equipment and methods for loading. Immediately following unloading of the PCB transport vehicle, the cargo area shall be inspected to check for any fluid leaks. If any fluid leaks are found, the source of the leaking drum or item shall be identified and sealed. The contaminated cargo area shall be thoroughly cleaned. Cleaning solvents and solids shall be placed in proper drums.

G. Upon completion of all PCB work-related activities, the Contractor shall provide a complete record of such activities and incinerator data to the Owner's Representative. The record shall include but not be limited to:

1. Name of the Contractor performing the work outlined in this Section and the technician-in-charge.

2. Ballasts and Electrical Equipment removed:

a. Manufacturer, serial number, and date of Manufacture.

b. Date removed from service and location.

c. Date of incineration.

d. Weight in pounds.

3. Drums and PCB article containers (where applicable):

a. Drum size (30 or 55 gallons).

b. Identification of contents, i.e., ballasts, cleaning solvents, etc., for solids, rages, sorbents, etc.

c. Weight in kilograms of contents of each drum (or container).

d. Date items were destroyed and location and company.

4. Hazardous Waste Manifests/Waste Shipment Record Form and Chain-of-Custody Forms shall be provided for all hazardous waste materials, and hazardous waste manifests shall be presented to the Owner's Representative.

3.07 SAFETY PROCEDURES AND WORKER PROTECTION:

A. All required precautions and measures shall be taken to protect employees, related trade employees, inspection personnel, and the public from exposure to PCB solids, liquids, and vapors.

B. All electrical equipment upon which PCB-related activities are to be performed shall be disconnected permanently from any power source prior to commencing of any work.

C. Work Area Protection and Marking: Prior to commencing any PCB-related work activities, barricades and warning signs shall be provided to identify clearly and guard effectively against unauthorized entry into the work area.

D. All equipment shall be confined to the work area until the work is complete, and containers are sealed, and equipment properly and safely stored for transport.

1. Barricades: If approved asbestos-related temporary enclosures are in use, no additional PCB-related temporary enclosures need to be constructed, except as needed in case of PCB-related emergency,

2. Signs: During the PCB work phase, the Contractor shall place warning signs at intervals of approximately ten feet. The warning signs for work areas shall be approximately one foot six inches square with a yellow background and one-inch

black letters. Signs shall read: "DANGER - KEEP OUT - TOXIC CHEMICAL WORK AREA."

E. Protective measures shall be provided in connection with the transport of PCB materials within the building over for the entire pathway to the exterior elevators to the transporting vehicle.

F. Protective Clothing and Equipment: always when PCB materials in any volume are not sealed in drums, containers, or electrical equipment, workers shall wear:
1. Disposable, nonporous gloves.
2. Disposable whole-body clothing impermeable to PCB's.
3. Respiratory protection (NIOSH/MSHA-approved) against organic vapors and particulates (at least the level of particulate protection required at that stage of work for asbestos protection).
4. Eye protection.
5. Hard hats.

G. The Contractor shall provide protective clothing, eye protection, and respiratory protection as required for inspection personnel monitoring work activities within the work area.

H. Personnel Protection and Procedures: The PCB work area shall at no time be left unattended after procedures have begun and until all ballasts and incidentals have been sealed in approved, properly labeled containers. If immediate transportation to the PCB incineration facility is not feasible, the Work Area must be secured in a manner in accordance with Federal, State, and local rules and regulations. During procedures and at all times when PCB ballasts or mixtures in any volume are not sealed in drums, containers, or electrical equipment, all personnel entering the work area must don protective clothing and equipment as listed herein. Upon exiting the work area, all disposable protective clothing shall be placed in approved drums, sealed, and disposed of as specified herein.

I. Workers with cuts or scratches shall protect these wounds before entering the work area. Similarly, workers who accidentally incur minor cuts or scratches in the course of work activities shall leave the work area, cleanse the wound with medical grade soap, and seal the wound before returning to the work area.

J. The Contractor shall develop a sequenced plan for the completion of all PCB related work and submit this plan, in advance of such Work, to the following Owner’s Representative. The plan shall address the following items:
1. Lists of vehicles, equipment, and personnel to be used in accomplishing the work.

2. The emergency spill plan, which shall encompass all steps the Contractor will take in the event of a spill or other emergency.

3. Safety procedures, which shall cover all phases of operations, including but not limited to, handling, loading, transporting, securing PCB loads, and first aid procedures.

END OF SECTION

SECTION 02 85 00 - REMOVAL OF MERCURY CONTAINING FLUORESCENT LIGHT TUBES AND SWITCHES

PART 1.0 - GENERAL

1.01 DESCRIPTION OF WORK:

A. The Contractor shall remove, package, transport, and dispose of the mercury vapor-containing fluorescent light tubes (lamps) from fluorescent light fixtures and mercury containing switches throughout the Work Area, in accordance with all Federal, State, and local rules and regulations. The Contractor is responsible for all the costs associated with the removal, packaging, and transportation and disposal.

B. The work, in general, includes, but is not limited to, the following:

1. Partial dismantling of light fixtures and separation of lamps to permit removal.

2. Cleaning of any PCB or asbestos contamination on fixtures surfaces.

3. Providing and implementing spill prevention control and countermeasure plans.

4. Placement of the light tubes generated because of work activities, into approved containers/drums.

5. Transportation of the light tubes to the off-site recycling facility.

6. Provide properly completed Waste Manifest Form/Waste Shipment Record.

7. Provide name and location of recycling facility (or disposal facility) licensed to accept this waste.

C. All work activities to be accomplished under this section shall be closely coordinated with asbestos abatement work to minimize potential toxic exposure.

D. Prior to commencing this work, thoroughly inspect the Work Area and prepare a construction schedule, which lists anticipated time frames and sequence of operations for the various work activities. The construction schedule shall include activities such as contamination clean up, and removal of fluorescent lamps from the work area. The construction schedule shall also include routes for items to be removed from the Work Area and transported to the Disposal Site. Work activities, sequence of work, and routing scheme shall be transmitted to the Designer prior to the commencement of any work under this section.

1.02 APPLICABLE PUBLICATIONS:

A. The applicable sections, latest editions and addenda of the following government

regulations, codes, industry standards and recommended practices, form a part of these specifications. Nothing in these specifications is to be construed as permitting work not conforming to these requirements:

1. USEPA - United States Environmental Protection Agency
2. NEC - National Electrical Code
3. NEMA - National Electrical Manufacturers Association
4. RCRA - Resource Conservation and Recovery Act
5. TSCA - Toxic Substances and Control Act
6. DOT - Department of Transportation
7. Louisiana Department of Environmental Quality
8. OSHA - Occupational Safety and Health Administration
9. NFPA - National Fire Protection Association
10. All other applicable Federal, State, Country and City codes, standards and regulations.

The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations under these Contract Documents and to comply therewith.

1.03 DEFINITIONS:

A. Refer to Section 011010 for terms and definitions used in these Contract Documents.

1.04 SUBMITTALS:

A. Refer to Section 011010 for Contractor Submittal requirements.

1.05 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION:

A. Refer to paragraph 3.6 of this Section for Contractor respiratory and personnel protection and decontamination requirements.

1.06 WASTE DISPOSAL:

A. Refer to Paragraph 3.5 of this Section for Contractor waste disposal requirements.

PART 2.0 - PRODUCTS

2.01 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer, and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with the operations of the building occupants.

C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the Designer.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner including fees regarding the use of these patents.

2.02 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply at a minimum with this specification, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and Decontamination Facilities, all lumber and plywood shall be fire retardant. Flame resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire retardant, and shall bear manufacturer's stamp of UL Classification.

PART 3.0 - EXECUTION

3.01 GENERAL:

A. The requirements and sequences described herein are execution parameters for the removal work and do not include necessarily all removal requirements. The Contractor will be responsible for all items that may be necessary to complete the removal work in accordance with the Work Plan, Scope of Work, and all applicable regulations.

3.02 SPENT FLUORESCENT LAMP REMOVAL:

A. The Contractor shall remove the lamps from the fluorescent fixtures in a well-ventilated Work Area. The lamps shall be removed from the fixtures and placed in approved

containers or barrels. Containers shall be constructed in a manner that will permit the transportation of the lamps without breakage.

B. Once all the lamps have been placed in the approved containers, the containers shall be decontaminated as necessary and placed in a lockable storage container.

C. The Contractor shall arrange for transportation to the disposal site.

3.03 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING:

A. Clean up of Work Area:

1. Equipment and Tools: After the last lamp has been separated from the electrical fixture, all tools and equipment used in the work shall be decontaminated and properly stored.

3.04 CONTAINERIZATION AND MARKING:

A. All lamps generated because of work activities and clean-up operations should be placed in the approved containers and placed in a lockable storage container to be transported to the pre-approved disposal facility.

B. All containers shall be permanently marked as to specific contents and dated in accordance with Federal, State and local rules and regulations.

3.05 HANDLING AND TRANSPORTATION TO OWNER'S OFF-SITE/TEMPORARY STORAGE AREA:

A. Handling of Containers: All containers shall be sealed and marked prior to loading on the transport vehicle. Containers shall be loaded on the transport vehicle by any of the following methods:

1. By a hoist or lift truck utilizing a two-point drum lift.

2. By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Containers shall not be lifted by: Any rope, chain or cloth slings tied about the container, placement of containers on bare-lift truck forks, forcing container between forks of a lift truck, or any commercial container lift exerting force on the sides of a container.

C. All containers shall be secured to the transport vehicle to prevent movement in transit.

D. All lamps shall be transported to the pre-approved disposal facility.

E. The Contractor shall utilize a waste hauler licensed for the transportation and hauling of

hazardous wastes. The Contractor shall provide a routing plan, which clearly identifies the routes proposed to follow from the Work Area (points of generation) to the Owner's off-site temporary storage area. A minimum of two operators shall attend all times when items are being loaded and unloaded.

F. Vehicles used for transporting lamps must be plainly and visibly marked in accordance with Federal, State and local rules and regulations.

G. Unloading, Records, and Placement in Storage: Transport vehicles shall be unloaded utilizing the same equipment and methods as for loading.

H. Upon completion of all work-related activities, the Contractor shall provide a complete record of such activities to the Owner's Representative. The record shall include but not be limited to:

1. Name of the Contractor performing the work outlined in this Section and technician in charge.

2. Lamps removed:

   a. Date removed from service and location
   b. Number of lamps

3. Containers:

   a. Container size and type.

   b. Identification of contents.

   c. Weigh in kilograms of contents of the container and number of containers.

   d. Date items were transported to the pre-approved disposal facility.

4. Completed Waste Manifest Form/Waste Shipment Records and Chain-of-Custody Forms shall be presented to the Owner's Representative within three days from the time the lamps are transported to the disposal site and included within the close out report

3.06 SAFETY PROCEDURES AND WORKER PROTECTION:

A. Take all precautions and measures required to protect employees, related trade employees, inspection personnel, and the public from exposure to mercury vapor and glass.

B. All electrical equipment upon which related activities are to be performed shall be

permanently disconnected from any power source prior to commencing any work.

C. Work Area Protection and Marking: Prior to commencing any work activities, provide barricades and warning signs to clearly identify and effectively guard against unauthorized entry into the Work Area.

D. All equipment shall be confined to the Work Area until the work is complete and containers are sealed, and equipment properly and safely stored for transport.

1. Barricades: If approved asbestos-related temporary enclosures are in use, no additional enclosures need to be constructed.

2. Signs: During this work phase, the Contractor shall place warning signs at intervals of approximately ten feet, warning signs. The warning signs for Work Areas shall be approximately one foot six inches square with a yellow background and one-inch black letters. Signs shall read: “DANGER - KEEP OUT - TOXIC CHEMICAL WORK AREA. "If approved asbestos-related temporary enclosures are in use, no additional signs are needed.

E. Protective measures shall be provided for the transporting of materials within the building for the entire pathway from the elevators to transport vehicle.

F. Protective Clothing and Equipment: When handling fixtures and lamps:

1. Disposable, nonporous gloves

2. Disposable whole-body clothing impermeable to PCB's.

3. Respiratory protection (NIOSH/MSHA approved) against organic vapors and particulates (at least the level of particulate protection required at that stage of work for asbestos protection).

4. Eye protection

5. Hard Hats

G. The Contractor shall provide protective clothing, eye protection, and respiratory protection as required for Inspection Personnel monitoring work activities within the work area.

H. Personnel Protection and Procedures: The Work Area shall at no time be left unattended after procedures have begun and until all lamps and incidentals have been placed in the properly labeled containers. If immediate transportation to the Owner's temporary storage area is not feasible, the Work Area must be secured in a manner in accordance with Federal, State, and local rules and regulations. All personnel entering the Work Area must don protective clothing and equipment listed herein. Upon exiting the Work

Area, all disposable protective clothing shall be placed in approved drums, sealed, and disposed of as specified herein.

I. Workers with cuts or scratches shall protect these wounds before entering the work area. Similarly, workers who accidentally incur minor cuts or scratches in the course of work activities shall leave the Work Area, cleanse the wound with medical grade soap and seal the wound before returning to the Work Area.

J. The Contractor shall develop a sequenced plan for the completion of this work and submit this plan of such work to the Owner's Representative. The plan shall address the following items:

1. Lists of vehicles, equipment, and personnel to be used in accomplishing the work.

2. Handling procedures and type of containers to be used.

3. Safety procedures shall cover all phases of operations including, but not limited to, handling, loading, transporting, disposal, securing loads and first aid procedures.

END OF SECTION

SECTION 26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Contractual Conditions apply to this section.

1.2 WORK INCLUDED

A. This section includes Basic Electrical Requirements specifically applicable to Division 26 and 27 Sections.

B. Furnish, perform, or provide all materials and labor including the planning, purchasing, transporting, storing, installing, testing, cutting, patching, trenching, excavating, backfilling, coordination, field verification, and miscellaneous materials necessary for the installation of complete electrical systems as described or implied by these specifications and the applicable drawings.

C. All electrical equipment and materials used on this project shall be new and not used or reconditioned, unless otherwise noted. Electrical equipment and machinery shall be of the most current designs and models.

D. All systems, equipment, materials and accessories that are assembled or installed for the project shall comply with the:

1. Louisiana State Uniform Construction Code (LSUCC), Current Editions in effect.

2. Louisiana Office of the State Fire Marshal (OSFM) Fire, Life Safety, and Accessibility Codes.

3. Louisiana State University (LSU) Design Standards.

4. LSU Information Technology Services (ITS) Construction Requirements.

E. Only trained and licensed personnel shall perform work. No Work shall be performed which violates applicable Codes, even if called for in the Contract Documents.

F. Coordinate all Work with the Owner prior to performing any work on this project.

G. Make connections to all items in the Work which require electric power. Connections will include conduit, boxes, and accessories. Securing of roughing-

in plans and connection information for equipment involved is included under this division. See other divisions for specifications on electrically operated equipment.

H. Secure and pay for all permits, fees, licenses, and inspections required to perform Division 26 and 27 work.

I. Provide temporary electrical service, power, and lighting for construction.

1.3 DEFINITIONS

A. Provide: Furnish, install, and electrically connect to the power distribution system as applicable.

B. Review of shop drawings: A service by the Engineer to reduce the possibility of materials being ordered which do not comply with Contract Documents. The Engineer's review shall not relieve the Contractor of responsibility for dimensions or compliance with the contract documents. When an error is not detected, this does not grant the Contractor permission to proceed in error.

C. Wiring: Wire and cable, installed in raceway with boxes, fittings, connectors, supports, accessories, overcurrent protection, and disconnects per applicable codes.

D. Work: Labor and materials required to complete a project.

E. Connect: Provide the labor and wiring to electrically connect equipment for a properly operating system.

1.4 WORK SEQUENCE

A. Coordinate with the General Contractor for phasing. Demolition of electrical and telecommunications services to take place after new Work has been installed.

1.5 DESCRIPTION

A. Install raceways and equipment in locations shown or described in the Contract Documents.

B. Install all equipment such that all Code and Manufacturer recommended working clearances are maintained. Properly arrange and install all equipment within designated spaces. If a departure from the Contract Documents is necessary, submit to the Engineer for approval, detailed drawings of the proposed changes with written reasons for the changes. No change shall be implemented without approval as permitted by the General Conditions.

C. Verify finish dimensions at the project site in preference to using dimensions noted on Contract Documents.

D. All electrical enclosures, wire troughs, and pullboxes containing energized electrical conductors shall be equipped with access covers that are secured by screws, bolts, and or locks. Hinged door electrical enclosures shall be closed and pad locked when the equipment is energized. The padlocks shall be keyed with keys that match existing locks in the same building or maintenance master key.

1.6 INVESTIGATION OF SITE

A. Examine the contract documents and the site of the proposed work carefully before submitting a proposal for the work. Investigate the conditions, the quality, and the quantities of the work and materials that will need be performed to meet the requirements of the contract documents.

B. During the course of a site visit, the electrical bidder shall become familiar with all aspects of the proposed work and existing field conditions of the work. No compensation or reimbursement for additional expenses for failure investigate the existing facilities will be authorized. This shall include rerouting around existing obstructions. Submission of a proposal will be construed as evidence that such examination has been made and later claims for labor, equipment, or materials required because of difficulties encountered will not be recognized.

C. Existing sizes, conditions and utilities indicated are taken from record documents, existing construction documents, and field surveys. Unforeseen conditions probably exist and the existing conditions shown on drawings may differ from the actual existing installation.

D. Become familiar with all existing conditions prior to bidding, and include in the bid the removal of all electrical equipment, wire, conduit, devices, fixtures, etc. that will be demolished.

E. Occupied buildings must remain in operation while the new work is being performed. Schedule work for a minimum outage to the Owner. Reroute existing conduit and wiring in areas under construction such that the necessary site systems remain active and useable for the surrounding building occupants. Notify the Owner in writing at least (2) weeks before any shut-down of existing systems.

1.7 CONTRACT DOCUMENTS

A. The drawings are diagrammatic and are not intended to include every detail of construction, materials, methods, and equipment. They indicate the result to be achieved by an assemblage of various systems. Coordinate equipment locations with the Civil and Mechanical trades.

B. Should conflicts exist between the Drawings and Specifications, take responsibility to ask for clarification prior to performing the work.

C. Wiring arrangements for equipment shown on the drawings are intended to be diagrammatic and do not show all required conductors and functional connections. Provide all items to form a complete and operating system.

D. Submit specific shop drawings which indicate the fabrication, assembly, installation, and erection of particular systems' components. Drawings that are part of the Contract Documents shall not be considered a substitute for required shop drawings, field installation drawings, code requirements, or applicable standards.

E. Locations indicated for equipment are approximate and shall be coordinated with the Contract Documents and other trades. Where instructions or notes are insufficient to locate the item, ask for clarification from the Engineer.

1.8 MATERIALS AND EQUIPMENT

A. Unless otherwise noted, all material shall be new and U.L. listed or labeled. In lieu of UL listing or labeling, a statement or data demonstrating compliance with contract documents from a National Recognized Testing Laboratory (NRTL) approved by the United States Department of Labor, Occupational Safety and Health Administration (OSHA) under the requirements of 29CFR1910.7 shall be submitted for approval.

B. Where Contract Documents list design selection or manufacturer, type, this model shall set the standard of quality and performance required. Where no brand name is specified, the source and quality shall be subject to the Engineer's review and approval.

C. When a product is specified to be in accordance with a trade association or government standard, and at the request of the Engineer, furnish a certificate from the manufacturer that shows the product complies with the referenced standard. Supporting test data may also be requested by the Engineer to substantiate compliance.

D. Where multiple items of the same equipment or materials are required, they shall be the product of the same Manufacturer.

E. Prior to placing equipment orders, verify that the physical dimensions of the equipment will allow for proper installation in the space allotted on the drawings and with NEC working clearances.

F. Electrical equipment shall be protected from the weather during shipment, storage, and construction per the manufacturer's recommendations. Should any equipment be subjected to damage by water, it shall be replaced without additional cost to the Owner.

G. Inspect all electrical equipment and materials prior to installation. Damaged equipment and materials shall not be installed or placed in service. Replace or repair the damaged equipment (in compliance with industry standards) at no additional cost to the Owner. Any equipment and/or testing required for the repairs shall be provided by the Contractor.

H. Material and equipment shall be provided complete and shall function up to the specified capacity or function. Should any material or equipment, as a part or as a whole, fail to meet the performance requirements, the material or equipment shall be replaced or repaired to bring the performance up to the specified requirements. Damages to the finish or the paint by such replacements, alterations, or repairs shall be restored to prior conditions, at no additional cost to the Owner.

I. Where tamperproof screws are specified or required, Phillips head or Allen head screws are not acceptable as tamperproof. For each size or type used, provide the Owner with three tools. If existing tamper proof equipment exists on the site, the screw heads shall match the existing.

1.9 SUPERVISION OF THE WORK

A. Reference the General Conditions for additional requirements.

B. A qualified and experienced electrical superintendent shall be in charge of the work in progress at all times. If, in the judgment of the Owner's representative, the electrical superintendent is not performing duties satisfactorily, the General Contractor shall immediately replace him upon receipt of a letter of request from the Owner. Once a satisfactory electrical superintendent has been assigned to the work, he shall not be withdrawn by the Electrical Contractor without the written consent from the Owner.

C. Provide field superintendent(s) who have a minimum of four years of previous successful experience on projects of comparable sizes and complexity. Superintendent shall be present at all times that work under this Division is being installed or affected.

1.10 COORDINATION

A. Provide all required coordination and supervision where work connects to or is affected by the work of others. Work required under other divisions will be performed at no additional cost to the Owner including but not limited to electrical work required for:

1. Mechanical Division of the specifications.

2. Civil Division of the specifications.

B. Installation studies shall be performed by the contractor to coordinate the electrical work with other trades. Work shall be preplanned. Unresolved conflicts shall be referred to the General Contractor prior to installation of the equipment.

C. Coordination drawings shall be prepared prior to the start of work. Plans shall show the actual physical dimension required for the installation to assure proper integration of equipment with NEC required clearances. Coordination drawings shall be provided for all areas.

D. Detailed site conduit drawings at a scale of 1" = 20' shall be prepared by the Electrical Contractor and submitted with the engineering shop drawings for review and approval by the engineer of record prior to the start of work. Provide a detailed drawing showing how all site conduits will be routed from origin to termination point.

E. Damage from interference caused by inadequate coordination shall be corrected at no additional cost to the Owner. Coordinate the exact location of stub-ups, exterior building penetrations, etc. with the General Contractor (and receive their approval) prior to rough-in.

1.11 PROVISION FOR OPENINGS

A. Locate openings required for work. Provide sleeves, guards, or other approved methods to allow passage of items installed.

B. Where work pierces any waterproofing, it shall maintain the integrity of the waterproofing. Coordinate the work which pierces the waterproof barrier with the General Contractor.

1.12 CUTTING AND PATCHING

A. Provide cutting and patching necessary for the installation of Division 26 and 27 work.

B. Cutting of work in place shall be cut, drilled, patched, and refinished to match specified finish or existing condition.

C. Backfill new grades to match adjacent undisturbed surface.

D. Schedule work to place Division 26 and 27 work to avoid as much cutting and patching as practical.

1.13 TRENCHING AND BACKFILLING

A. All trenching, backfilling, and compaction requirements shall be in accordance with other sections of these specifications.

B. Trench excavation in excess of 5 feet deep shall comply with OSHA Standard 29 C.F.R.s. 1926. 650 Subpart P.

1.14 DELIVERY, HANDLING, PROTECTION OF MATERIALS, AND STORAGE

A. Ship, deliver, and store materials in the manufacturer's protective packing to prevent damaging.

B. Handle materials carefully to prevent damage to components, breakage, and denting or scoring of surfaces and finishes.

C. Store all equipment and materials in clean, dry spaces. Protect all equipment and materials from dirt, fumes, water, chemicals, construction debris, and physical damage.

D. Replace damaged materials and equipment. Repair and repaint marred and damaged finishes to original factory finish as directed by manufacturer and as herein specified.

E. Keep all conduits and other openings protected against entry of foreign matter.

1.15 INSTALLATION

A. Listed or Labeled Equipment shall be installed and used in accordance with any instructions included in the listing or labeling.

B. Erect equipment to minimize interference and delays with the execution of the Work.

C. Take care in erection and installation of equipment and materials to avoid marring finishes or surfaces. Any damage shall be repaired or replaced as determined by the Owner at no additional cost to the Owner.

D. Supports shall be secured and supported from structural members unless written approval is granted by the Engineer.

E. Inserts, pipe sleeves, supports, and anchorage of electrical equipment shall be provided by the electrical contractor.

F. Contractor shall paint any surface mounted conduits to match wall surface or color determined by Owner.

1.16 AS-BUILT DOCUMENTS

A. As-Built Documents: As-built Documents include Drawings, Specifications, Addenda, Change Orders, and other modifications permitted by the General Conditions.

B. The contract plans and specifications will be updated with any changes or adjustments made in the field during construction. The As-Built plans will be submitted in AutoCAD and pdf format to the Owner within 90 days of substantial completion of the project.

C. Verify aspects of as-builts for accuracy. As-Built Documents shall show all components including but not limited to:

1. Raceways 1-1/4" and above.

2. All site underground raceways and duct banks indicating burial depths and global tracking coordinates.

3. Pull boxes and manholes including elevations.

4. All junction boxes 6”X6” and larger shall be shown in exact location.

5. All cables, cable sizes, raceway sizes, quantities of cables, etc.

6. All existing conditions.

7. Exact location of all driven grounding electrodes

8. Show the location of all grounding and lightning protection ground loops.

9. Update the plan notes to agree with items actually furnished, actual installation methods, etc. respectfully.

1.17 WARRANTY

A. Reference the General Conditions.

B. The Warranty will cover the materials and workmanship provided by the Contractor to complete the project. The Warranty shall be provided by the Contractor to the Owner and shall include Labor and Materials for a period of one year from the date of the Substantial Completion.

1. Explain the provisions of warranty to the Owner at the "Demonstration of Completed System" meeting to be scheduled with the Owner upon project completion.

C. Where extended Warranties or Guarantees are called for herein, furnish three copies to be inserted in the Operation and Maintenance Manuals.

D. Where items of equipment or materials carry a manufacturer's warranty for any period in excess of (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material.

E. All preventative maintenance and normal service will be performed by the Owner's maintenance personnel after final acceptance. This shall not alter the Contractor's 1-year warranty or the manufacturer's warranty of the installed equipment.

1.18 WASTE MATERIALS DISPOSAL

A. Include in base bid the transport and disposal or recycling of all waste materials generated by this project in accordance with all rules, regulations, and guidelines applicable.

1.19 PROHIBITION OF ASBESTOS AND PCB

A. Prior to the Final Review field visit certify in writing that the equipment and materials installed in this Project under this Division 26 and 27 contain no asbestos or PCB. Additionally, all manufacturers shall provide a statement with their shop drawings that indicates that their product contains no asbestos or PCB. This statement shall be signed by a duly authorized agent of the manufacturer.

END OF SECTION

SECTION 26 0529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Hangers and supports for electrical equipment and systems.

1.2 DEFINITIONS

A. RMC: Rigid metal conduit.

1.3 SUBMITTALS

A. Product Data: For the following:

1. Steel slotted support systems.

2. Hangers, straps, anchors, and accessories.

1.4 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code – Steel".

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

1. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.

2. Channel Dimensions: Selected for applicable load criteria.

B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.

C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.

E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.

2. Toggle Bolts: All-steel springhead type.

3. All hangers and mounting hardware clamps shall be made of durable material suitable for the application involved. Excessive corrosive conditions, exterior, and wet locations conditions are encountered, hanger assemblies, supporting hardware and materials shall be made of malleable iron, hot dipped galvanizing steel, or stainless steel.

4. All hangers, clips, and accessories for supporting shall be UL listed.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.

B. Maximum Support Spacing for Raceway: Space supports for RMC as required by NFPA 70.

C. Spring-steel clamps and clips are not acceptable.

D. Do not use powder-actuated anchors.

E. Do not use metal banding straps.

F. Do not use tie-wire.

G. Obtain permission from Owner/Engineer before drilling or cutting structural members.

H. Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.

I. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.

J. Concrete/insert anchors or similar fasteners installed on side or bottom of pre-stressed beams are not acceptable.

K. All items shall be supported directly from structural portion of the building. All above ceiling or ceiling mounted items shall be supported directly from building superstructure. Adjust supplemental supports accordingly.

L. Wire shall not be used as a support. Boxes and conduit shall not be supported or fastened to ceiling suspension wires or to ceiling channels. Support independent of ceiling per NEC Article 300.11 (latest edition).

3.2 SUPPORT INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.

B. Raceway Support Methods: In addition to methods described in NECA 1, RMC may be supported by openings through structure members, as permitted in NFPA 70.

C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.

D. Mounting and Anchorage of Surface-Mounted Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To Masonry: Approved toggle-type bolts or self-drilling anchors on hollow masonry units and expansion anchor fasteners or self-drilling anchors on solid masonry units.

2. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts, Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.

3. To Light Steel: Sheet metal screws.

4. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount pull and junction boxes, and other devices on slotted-channel racks attached to substrate.

E. Drill holes for expansion anchors and self-drilling anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

A. Touchup: Paint exposed areas immediately after erecting hangers and supports. Match existing surface paint. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils.

B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION

SECTION 26 05 33 – RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Rigid metal conduit (RMC)

B. PVC coated or Bituminous coated rigid metal conduit

C. High Density Polyethylene (HDPE)

D. Rigid nonmetallic conduit (PVC)

E. Fittings and conduit bodies

F. Pull and junction boxes

G. Handholes and boxes for exterior underground cabling.

1.2 RELATED SECTIONS

A. Section 26 05 00 – Common Work Results for Electrical

B. Section 26 05 29 – Hangers and Supports for Electrical Systems

C. Section 26 05 53 – Identification for Electrical Systems

1.3 REFERENCES

A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated

B. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies

C. ANSI/NFPA 70 - National Electrical Code

D. NECA "Standard of Installation"

E. NEMA RN 1 - Polyvinyl Chloride Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit

F. NEMA TC 2 - Electrical Plastic and Conduit EPC-40 and EPC-80 (PVC)

G. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing

H. NEMA 250 – Enclosures for Electrical Equipment (1000 volts maximum)

I. Underwriters Laboratories (UL) requirements throughout document include UL or other National Recognized Testing Laboratory (NRTL) approved by the United States Department of Labor, Occupational Safety and Health Administration (OSHA) under the requirements of 29CFR1910.7.

1.4 DESIGN REQUIREMENTS

A. Conduit Size: ANSI/NFPA 70, unless otherwise noted or specified. Conduit size shall be increased above the minimum requirements of ANSI/NFPA 70 where indicated in this or other sections of these specifications or on the drawings.

1.5 SUBMITTALS

A. Submit under provisions of Section 26 05 00.

B. Product Data: Provide shop drawing and catalog data sheets for each type of conduit, fitting, conduit body, raceway seal, and boxes used on the project.

1.6 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 26 05 00.

B. Record actual locations and mounting heights of pull and junction boxes on project record documents.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle Products to site under provisions of Section 26 05 00.

B. Accept conduit on site. Inspect for damage.

C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

D. Protect PVC conduit from sunlight.

1.8 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Verify routing and termination locations of conduit and boxes prior to rough-in.

C. Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.

PART 2 - ACCEPTABLE PRODUCTS

2.1 RIGID METAL CONDUIT

A. Rigid metal conduit (RMC)/Galvanized Rigid Steel (GRS) Conduit

1. Rigid Conduits shall be UL 6 compliant and manufactured using hot dipped galvanized steel in accordance with ANSI C80.1. All factory threads shall be galvanized after cutting.

2. Locknuts, Straps, Fittings, and Conduit Bodies: Hot dipped galvanized malleable iron or mechanically galvanized steel meeting the requirements of ASTM A153. All fittings shall be threaded and conduit bodies shall have threaded hubs and gasketed covers.

2.2 PVC COATED OR BITUMINOUS COATED RIGID METAL CONDUIT

A. Rigid Metal Conduit: ANSI C80.1, NEMA RN 1; Hot dipped galvanized steel conduit with a 40mil thick external PVC coating and a 2mil internal urethane coating. All factory threads shall be galvanized and urethane coated after cutting.

B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; Hot dipped galvanized malleable iron or steel with a 40mil thick external PVC coating and a 2mil internal urethane coating. All fittings shall be threaded and conduit bodies shall have threaded hubs.

C. Rigid Metal Conduit: ANSI C80.1, NEMA RN 1; Hot dipped galvanized steel conduit with a 40mil thick external bituminous coating applied in the field. Fittings and threads shall be bituminous coated after installation.

2.3 HIGH DENSITY POLYETHYLENE (HDPE)

A. HDPE smooth wall conduit shall be manufactured to the following standards: UL 651A and 651B, ASTM F 2160, and NEMA TC-7. The HDPE conduit shall be ‘toneable” and include a copper conductor within the wall of the duct that will allow locating the buried conduit.

B. Fittings: Lengths of smoothwall HDPE conduit shall be joined by the Butt Fusion process or by using universal aluminum couplings. Joining PVC conduit to HDPE conduit shall be performed by using PVC to HDPE threaded transition couplings.

C. Conduit for directional bores shall be continuous Schedule 80 HDPE coiled in reels for direct burial service. There shall be no splices in directionally bored conduit.

2.4 RIGID NONMETALLIC CONDUIT (PVC)

A. Conduit: NEMA TC 2 and UL 651; High impact polyvinyl chloride Schedule 40 and 80.

B. Fittings and Conduit Bodies: NEMA TC 3.

2.5 EXPANSION AND DEFLECTION FITTINGS

A. Fittings: ANSI/NEMA FB 1

1. Metal Conduit Applications: Hot dipped galvanized malleable iron or steel with a 4" expansion chamber, internal tinned copper braided bonding jumper and factory installed packing.

2. Non-Metallic Conduit Applications: Polyvinyl chloride with a 4" expansion chamber and factory installed packing. Fitting wall thickness shall match conduit system application (i.e. schedule 40 or 80).

2.6 PULL AND JUNCTION BOXES

A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

B. Sheet Metal Boxes: Comply with NEMA OS 1.

C. Nonmetallic Boxes: Comply with NEMA OS 2.

2.7 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND CABLING

A. General Requirements for Handholes and Boxes:

1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.

2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.

1. Standard: Comply with SCTE 77.

2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.

3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.

4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

5. Cover Legend: Molded lettering, “COMMUNICATIONS” or "ELECTRIC".

6. Conduit Entrance Provisions: When connecting to existing closed bottom handholes, manholes, or pull boxes, conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.

C. Fiberglass Handholes and Boxes: Molded of fiberglass-reinforced polyester resin, with frame and covers of polymer concrete.

1. Standard: Comply with SCTE 77.

2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.

3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.

4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

5. Cover Legend: Molded lettering, “COMMUNICATIONS” or "ELECTRIC".

6. Conduit Entrance Provisions: When connecting to existing closed bottom handholes, manholes, or pull boxes, conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.

PART 3 - EXECUTION

3.1 CONDUITS

A. Site Electrical Conduit: Minimum 1” unless otherwise specified or noted.

3.2 GENERAL

A. Conduits which contain communication, signal, data, control wiring and other wiring sensitive to EMF and RF interference shall be routed at least 12 inches from power conduits and other EMF/RF generating equipment.

B. Support raceways as specified in Division 26 Section "Hangers and Supports for Electrical Systems."

C. Arrange stub-ups so curved portions of bends are not visible above the finished grade.

D. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coats of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.

E. Use conduit hubs or sealing washers & locknuts to fasten conduit to sheet metal boxes in damp and wet locations.

F. Install no more than the equivalent of four 90-degree bends (360 degrees) in the conduits between pullboxes or junction boxes that serve the electrical power distribution system.

G. Conduit bends, hand holes, and junction boxes for use with fiber optic cables shall be sized such that the bending radius of the fiber optic cable within the raceway will not be smaller than 14 times the diameter of the fiber optic cable.

H. Avoid moisture traps where possible; where unavoidable, provide junction box with drain fitting at low points in conduit system.

I. Provide suitable fittings to accommodate expansion and deflection where conduit crosses seismic, control, deflection, and expansion joints.

J. Provide suitable pull rope in each empty conduit except sleeves and nipples.

K. Seal conduits that extend from the interior to the exterior of the building with insulating electrical putty to prevent infiltration of outside air.

L. Use a Thruwall waterproof seal on each conduit that penetrates a wall at or below grade level.

M. Seal conduits entering the building from below grade and all conduits entering hot unconditioned spaces from cool air conditioned spaces with insulating electrical putty to prevent moisture from entering. Slope these conduits away from the building.

N. Seal metal conduits entering air conditioned spaces from unconditioned air spaces with insulating electrical putty to prevent moisture from condensing inside the conduit at the point where the conduit enters the cold air conditioned room.

O. Where conduit crosses an expansion joint, an approved expansion fitting for this type of installation shall be installed.

P. Use suitable unglued caps to protect installed conduit against entrance of dirt and moisture during construction. Caps shall remain on conduits which remain empty after construction is complete.

Q. Arrange stub-ups so curved portions of bends are not visible above finished slab.

3.3 SUPPORTS

A. Arrange supports to prevent misalignment during wiring installation.

B. Fasten conduit supports to building structure and surfaces under provisions of Section 26 05 29.

C. Conduit shall not be supported with wire, cable ties, or perforated pipe straps. Remove wire used for temporary supports.

3.4 APPLICATION

A. Underground Installations:

1. Conduits entering or leaving the ground shall be rigid steel conduit coated with PVC or a bituminous coating.

2. Where rigid metallic conduit is installed underground as noted above it shall be coated with waterproofing bituminous coating before installation, and all joints shall be re-coated after installation before backfilling. The coating shall extend 6 inches above grade or 6 inches above the concrete slab.

B. Outdoor Locations:

1. Above Grade:

a. In general, all exposed exterior conduit shall be galvanized rigid steel conduit with threaded connections.

b. The exterior surface of rigid metal conduit that extends from above grade to below grade shall be completely coated with bitumen or PVC coating. The coating shall extend to 6 inches above grade.

C. Interior Dry Locations:

1. Concealed above ceiling: Use rigid galvanized steel and/or electrical metallic tubing, unless drawings indicate otherwise.

3.5 INSTALLATION OF UNDERGROUND CONDUIT

A. Routing of conduits shall be coordinated with the existing utilities, hardscape, and landscape and new civil construction documents.

B. The minimum cover for any underground conduit shall be 36 inches including where installed under concrete pavement or asphalt pavement.

C. Conduit must maintain a minimum of 1ft. clearance with parallel utilities and at utility crossings.

D. Conduit must maintain a minimum of 1ft. clearance with footers, foundations, and tree root balls.

E. Conduit shall be routed around tree save areas and retention ponds.

F. Conduits crossing under drainage ditches or swales shall be provided with a 4" thick concrete cap (minimum 12" wide). The concrete cap shall extend 5ft. beyond the width of the ditch.

G. All trenching for the installation of conduit and boxes on site shall be hand dug. Excavate trench bottom to provide firm and uniform support for conduit.

H. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction.

I. Boring Under Existing Roadways: An outer casing or duct will be installed as a casing (sleeve) when installing a conduit larger than 3 inches in diameter or when installing multiple products in the same bore hole. Extend the protective casing a minimum of 15 feet past the edge of the pavement.

J. Underground Warning Tape: Comply with requirements in Division 26 Section "Identification for Electrical Systems."

3.6 FIRESTOPPING

A. All penetrations through fire resistance rated partitions and other assemblies, including empty openings and openings containing cables, conduits, and other penetrating items, shall be fire-stopped to preserve the fire resistance rating of the assembly. Firestopping shall comply with the following:

1. Compatibility: Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items if any, penetrating the firestopping under conditions of service and application, as demonstrated by firestopping manufacturer based on testing and field experience.

2. Firestopping shall be listed in the UL fire resistance directory and installation shall be identical to that shown in the directory.

3. Firestopping details shall be submitted and approved by the owner, Engineer, and authority having jurisdiction prior to installation.

B. System Performance Requirements

1. General: Provide firestopping systems that are produced and installed to resist the spread of fire, according to requirements indicated, and the passage of smoke and other gases.

2. F-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with F ratings equaling or exceeding the fire resistance rating of the constructions penetrated, as determined per ASTM E 814.

3.7 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

A. Electrical boxes are shown on Drawings in approximate locations unless dimensioned. Adjust box location up to 10 feet if required to accommodate intended purpose.

B. Install handholes and boxes level and plumb, and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.

C. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

D. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.

E. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables but short enough to preserve adequate working clearances in enclosure.

F. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.8 CLEANING

A. Clean the interiors of all boxes to remove dust, debris, and other material.

B. Clean exposed surfaces and restore any damaged finishes.

END OF SECTION

SECTION 26 05 53 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Nameplates and labels

B. Wire and cable markers

C. Conduit markers

1.2 REFERENCES

A. NFPA 70 - National Electrical Code

1.3 SUBMITTALS

A. Submit under provisions of Section 26 05 00.

B. Product Data: Provide catalog data for nameplates, labels, and markers.

C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

1.4 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc., and acceptable to authority having jurisdiction as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.1 NAMEPLATES

A. Nameplates for Normal Power shall be laminated phenolic plastic, chamfer edges, black front white core, with lettering etched through the outer covering. White engraved letters on black background.

B. Letter Size:

1. Use 1/4 inch high letters for identifying individual equipment and loads.

2. Use 1/2 inch high letters for identifying grouped equipment and loads.

C. Nameplates shall adequately describe the function of the particular equipment involved. Where nameplates are detailed on the drawings, inscription and size of letters shall be as shown and shop drawing submitted for approval.

D. The following items shall be equipped with nameplates: All high voltage boxes and large electrical systems junction and pull boxes (larger than 4 11/16”). Nameplates shall also describe the associated panel and circuit number (if applicable).

2.2 WIRE MARKERS

A. Description: Cloth, tape, split sleeve, or tubing type wire markers.

B. Locations: Each conductor/cable at pull boxes, manholes/handhole, junction boxes, and each load connection.

C. Legend:

1. Control Circuits: Control wire number indicated on schematic and interconnection diagrams on shop drawings.

2. Communications Cables: Refer to Specification 27 13 00 for labeling requirements.

2.3 CONDUIT/JUNCTION BOX COLOR CODE

A. Junction boxes and conduit located in public areas (i.e. areas that can be seen by the public) shall be painted to match surface attached to. Provide written request to Engineer of Record for interpretation of those public areas which may be in question.

2.4 UNDERGROUND WARNING TAPE

A. Description: 4-inch-wide plastic tape, detectable type, colored red with suitable warning legend describing buried electrical lines or colored orange with suitable warning legend describing buried fiber optic lines.

PART 3 – EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive nameplates.

3.2 APPLICATION

A. Install nameplate parallel to equipment lines.

B. Secure nameplate to equipment front using stainless steel pop rivets.

C. Identify underground conduits using underground warning tape. Install one tape per trench at 3 inches below finished grade.

D. Identify junction boxes and pull boxes.

E. Install wire markers at all connections and terminations.

END OF SECTION

SECTION 270528 - PATHWAYS FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. BICSI Telecommunications Distribution Methods Manual (TDMM), Thirteenth Edition.

B. EIA/TIA-568-C: Communications Industry Testing standards.

C. Section 271300: "Communications Backbone Cabling"

1.2 DEFINITIONS AND ACRONYMS

A. BICSI: A professional association supporting the information technology systems (ITS) industry. www.BICSI.org

B. RCDD: Registered Communications Distribution Designer.

C. GRC: Galvanized rigid steel conduit.

1.3 ACTION SUBMITTALS

A. Product Data: For raceways and fittings, pull and junction boxes, and handholes.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Subject to compliance with requirements.

B. General Requirements for Metal Conduits and Fittings:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2. Comply with TIA-569-B.

C. GRC: Comply with ANSI C80.1 and UL 6.

D. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.

1. Expansion Fittings: PVC or steel to match conduit type, complying with UL-467, rated for environmental conditions were installed, and including flexible external bonding jumper.

E. Joint Compound for GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Subject to compliance with requirements.

B. General Requirements for Nonmetallic Conduits and Fittings:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2. Comply with TIA-569-B.

C. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.

D. Rigid HDPE: Comply with UL 651A.

E. Continuous HDPE: Comply with UL 651B.

F. RTRC: Comply with UL 1684A and NEMA TC 14.

G. Fittings for RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.

H. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

I. Solvent cements and adhesive primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.3 BOXES AND ENCLOSURES

A. Small Sheet Metal Pull Boxes: NEMA OS 1.

B. Nonmetallic Device Boxes: Comply with NEMA OS 2 and UL 514C.

2.4 HANDHOLES FOR EXTERIOR UNDERGROUND CABLING

A. General Requirements for Handhole:

1. Handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.

2. Comply with TIA-569-B.

B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.

1. Standard: Comply with SCTE 77.

2. Configuration: Designed for flush burial with open, closed, or integral closed bottom unless otherwise indicated.

3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with handhole location.

4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

5. Cover Legend: Molded lettering, "COMMUNICATIONS".

6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.

C. Fiberglass Handholes and Boxes: Molded of fiberglass-reinforced polyester resin, with frame and covers of polymer concrete, reinforced concrete cast iron, hot-dip galvanized-steel diamond plate, and fiberglass.

1. Standard: Comply with SCTE 77.

2. Color of Frame and Cover: Gray

3. Configuration: Designed for flush burial with open, closed, or integral closed bottom unless otherwise indicated.

4. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.

5. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

6. Cover Legend: Molded lettering, "COMMUNICATIONS".

7. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.

PART 3 - EXECUTION

3.1 PATHWAY APPLICATION

A. Outdoors: Apply pathway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC.

2. Concealed Conduit, Aboveground: GRC.

3. Underground Conduit: RNC, Type EPC-40-PVC, Type EPC-80-PVC, direct buried and concrete encased.

a. Comply with manufacturer's written instructions for solvent welding PVC conduit and fittings.

4. Boxes and Enclosures, Aboveground: NEMA 250, Type 3 and Type 4.

a. Type 3 for general outdoor use.

b. Type 4 for areas that will be subjected to high pressure water situations (ie. Tiger Stadium).

B. Indoors: Apply pathway products as specified below unless otherwise indicated:

1. Boxes and Enclosures: NEMA 250 Type 1 and Type 4

a. Type 1 for general indoor use.

C. Pathway Fittings: Compatible with pathways and suitable for use and location.

1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.

D. Surface pathways are discouraged, but if necessary, only install where indicated on Drawings.

E. Complete pathway installation before starting cable installation.

3.2 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR COMMUNICATIONS PENETRATIONS

A. Install sleeves and sleeve seals for all telecommunication penetrations of all wall assemblies.

3.3 FIRESTOPPING

A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 260533 "Raceways and Boxes for Electrical Systems".

3.4 INSTALLATION OF OUTSIDE / UNDERGROUND PATHWAYS

A. UNDERGROUND CONDUIT:

1. Install no more than the equivalent of two 90˚bends in any pathway run. If more than 180˚ bends are necessary in a pathway, then a pull point will be necessary.

    a. Separate lengths with access points using underground vaults where necessary to comply with these requirements.

2. Excavate trench bottom to provide firm and uniform support for conduit.

3. After installing conduit, backfill, and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction.

4. Install manufactured duct elbows for stub-ups at equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.

    a. Install manufactured rigid steel conduit elbows for stub-ups. Couple steel conduits to PVC ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.

    b. Arrange stub-ups curved portions of bends are not visible above grade.

7. Cap underground pathways designated as spare above grade alongside pathways in use. No underground pathway designed as spare will be left capped under grade.

B. INSTALLATION OF UNDERGROUND HANDHOLES AND PULL BOXES

1. Install handholes and pull boxes level and plumb. Orientation and depth must be coordinated with connecting conduits to minimize bends and deflections required for proper entrances.

2. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch to No. 4 and compacted to same density as adjacent undisturbed earth.

3. Elevation: In paved areas, set so cover surface will be flush with finished grade. In grassy areas, set cover flush with grade or slightly higher than grade. No cover is to be buried below grade.

4. Install removable hardware, including pulling eyes, cable stanchions, and insulators, as required for installation and support of cables and conductors.

5. If not factory built with conduit windows, field cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

END OF SECTION

SECTION 271300 - COMMUNICATIONS BACKBONE CABLING

PART 1 – GENERAL

1.1 BACKBONE CABLING DESCRIPTION

A. The backbone cabling system shall provide IT services to the campus buildings and facilities. This system consists of servicing cables, main and intermediate cross-connects, and mechanical terminations.

1.2 RELATED DOCUMENTS

A. BICSI Telecommunications Distribution Methods Manual (TDMM), Thirteenth Edition.

B. EIA/TIA-568-C: Communications Industry Testing standards.

C. Section 270528: "Pathways for Communication Systems."

1.3 DEFINITIONS AND ACRONYMS

A. BICSI: A professional association supporting the information technology systems (ITS) industry. www.BICSI.org

B. Cross-Connect: A facility enabling the termination of cable elements and their interconnection or cross-connection.

C. EMI: Electromagnetic interference.

D. IDC: Insulation displacement connector.

E. RCDD: Registered Communications Distribution Designer.

F. ITS: Information Technology Services UNI:

G. University Network and Infrastructure

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination of Work:

1. Coordinate layout and installation of communications backbone cabling with LSU's Information Technology Service (ITS)/University Networking and Infrastructure (UNI) personnel prior to installation.

2. All splices into service cables shall be coordinated with LSU's ITS/UNI personnel. The project is responsible for the cost of these splices, but it

may be determined that LSU will have its own in-house contractor perform the work.

B. Quality Assurance:

1. All communications work shall be performed by qualified communications personnel regularly employed in this field. The communications subcontractor shall have a BICSI certified Registered Communications Distribution Designed (RCDD) on staff and available on site to discuss any issues as they arise. All qualifications shall be made available for verification by LSU and/or the Architect.

C. Submittals:

1. All test results for installed cables shall be provided to LSU's ITS department as proof that all cables pass test qualifications. These test results can be delivered as a hard copy or electronic copy before acceptance of the system can be given. If electronic copies of the results are given, the results shall be delivered as a .pdf file.

PART 2 – PRODUCTS

2.1 CABLES

A. Singlemode Fiber Optical Backbone Cable

1. Cable Strand Specifications

a. Nonconductive, tight buffer.

b. Maximum Attenuation: 0.5 dB/km at 1350 nm.

c. Minimum Modal Bandwidth: 160 MHz-km at 850 nm; 500 MHz-km at 1300 nm.

d. Fiber Type: Single mode, glass core, glass cladding.

e. Core Diameter: 8.0 to 9.0 microns.

f. Core/Clad Concentricity Error: < or = 0.8 micron.

g. Cladding Diameter: 125 microns +/- 1 micron.

h. Cladding Non-circularity: < or = 1%.

i. Strand Color Code: Per industry practice.

2. Outside Singlemode Fiber Optical Backbone Cable

a. Cable shall have an overall PVC jacket/sheath. The jacket/sheath shall be abrasion resistant, impervious to light or water.

b. The cable may contain but it is not required to have a metal shield. If the cable has a metal shield, it shall encase the cable and the shield shall be continuous throughout the length of the cable.

c. The cable shall contain a petroleum gel or dry water blocking material that is used to fill all voids and indices to prevent the intrusion of moisture.

d. Jacket Color: Black

e. Cable shall be imprinted with fiber count, fiber type, and aggregate length at regular intervals.

f. Fiber count shall be determined by LSU's ITS/UNI personnel.

g. Jacket shall be rated for the environment in which it is installed.

h. Use the following products or approved equal:

i. Corning

2.2 CONNECTING HARDWARE

A. Splicing Hardware

1. Fiber Optic Cabling

a. Splice Cases

i. All splice cases shall be specified for the particular environment in which they will be placed and shall be sized to accommodate the entire strand count of the largest cable entering the splice. All splice cases shall be re-enterable and shall contain all necessary equipment to be installed properly and fully splice the largest cable entering the splice case.

b. Fiber Splice Unit

i. All fiber splices shall be preformed using fusion splice technology. Cable should be spliced in Fiber Splice Case only.

ii. Use the following products or approved equal:

1) Preform (Model will be determined by LSU ITS/UNI personnel based on strand count)

2.3 IDENTIFICATION PRODUCTS

A. Shall comply with TIA/EIA-606-A and UL 969 for a system of labeling materials, including label stocks, laminating adhesives, and inks used by label printers. NO hand written labels will be accepted.

PART 3 - EXECUTION

3.1 ENTRANCE BACKBONE CABLING

A. General:

1. All cables installed underground shall be NEC rated for wet locations. Use water blocked type cable construction in conduit for the entire length of the run.

2. Do not install bruised, kinked, scored, deformed, or abraded cable. Remove and discard cable if damaged during installation and replace it with new cable.

3. When pulling cable always comply with the manufactures recommended methods of pulling and cable tension.

4. If the outside rated fiber cable is a gel type cable then the cable must be terminated with a gel block to prevent the gel from exiting the terminated end of the cable.

3.2 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. End-to-end cabling will be considered defective if it does not pass tests and inspections.

C. Where cabling is considered defective, that cabling is to be repaired or removed and replaced.

D. Visual Inspection:

1. Visually inspect the optical fiber jacket materials for NRTL certification markings to make sure that the cables are rated for the environment in which they are installed.

2. Visually inspect cable placement, cable termination, and labeling of all components.

E. Testing

1. Optical Fiber Cable Tests:

a. All single mode fiber cables shall be tested at both 1310 nm and 1550 nm after installation. Printed test results for each fiber strand are required. All tests are to be performed in accordance with ANSI/TIA/EIA-526-7, Method A.1, Two Reference Jumpers required. Fibers will be considered acceptable if the OTDR trace for that fiber shows an end-to-end loss of less than the following equation:

xxdB + yy(0.2)dB + zz(0.5)dB

(Where xx is the maximum advertised attenuation by the manufacturer of the cable for the length of the fiber installed, yy is the number of splices, and zz is the number of connector pairs).

b. In addition, no splice may show a loss of greater than 0.2 dB and no connector pairs may show a loss of greater than 0.5 dB.

c. The contractor shall test each fiber strand utilizing an OTDR and preform a bi-directional test at the wavelengths specified above.

d. Overall, the OTDR test results shall be made up of the wavelength of the conducted test, the link length, attenuation, cable identification, and the locations of the near end, the far end and each splice point or points of discontinuity. Electronic copies (.pdf) or hard-copy results for each fiber strand shall be submitted as part of "As- Built" documentation.

END OF SECTION

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1 1 RELATED ITEMS SPECIFIED ELSEWHERE

A F d E r 010500

B N U d

C E r r 312010

1 2 PROTECTING

Pr r r r d d d r r d r r O r, r r r , d r r d r

1 3 CLEARING

A r d r r , r , d d r r r d C r r d d d r r

1 4 REMOVAL

A d r Dr d r r , r d d , r r d r (d r d D r) r , , d r r r

1 5 REFERENCE POINTS

A D r d r r r d d S 010500

B Pr d r r r d r d R r r r, d , r r d d, d r d r d d

1 6 UTILITIES

A V r d r r d d r d , , d r r r Pr d r r d r r

B M d d r r d r d d r r r

C R r r r r S 312010

1 7 SETTING-OUT

A F d r d S 010500

B A r d ( ), r d r , d r rd r D S r d r , r r d

C N D r -

1 8 CLEANING

A R d r d r r r r r r C r d r d r r C r r' r r d d d O r' r r

B B r r r r d r

C E r r r r r O r, d d d d C r r O r' r r d Pr r , d r d D r

END OF SECTION

SECTION 31 20 10 - EARTHWOR

PART 1 - GENERAL

1 1 RELATED ITEMS SPECIFIED ELSEWHERE

A N U d

B S C r 311000

C N U d

D N U d

1 2 EXTENT OF WORK

P r r d Pr d d r r r d

1 Pr r r d r r d d

2 S , d d r d d d d

3 R d r d

4 E

5 B

1 3 UTILITIES

L - d r r d r r d d Pr r d d r r r d r r

1 4 PROTECTION OF PERSONS AND PROPERTY

A B rr d d r r r O r r d r r r d d d

B Pr r r , , d , , d r d d , r d d d

1 5 SAMPLING AND TESTING

A O r r d d r r r d r r r r r r d

1 M d d r d r r r d , d r M d d Pr r T , ASTM D 1557

2 F r - d d r d

S d-C M d - ASTM D 1556
N r Pr M d - ASTM D 2922
R r-B (V r) M d - ASTM D 2167

B I - d d r d r r d r d d , r 2500 r r

C I , D r, d r r r d - , r d d d , r d dd d dd

PART 2 - PRODUCTS

2 1 STRUCTURAL FILL MATERIAL

A R r r r 3 2 r r r r r d r r d

B S r r d r d r d r L D r Tr r d D D TR 423, C A-2-4, A-2-6, A-4 r A-6, C r r, d d (LL) r - (35) d d (PI) (15) (20) A r r r r d, r , d r d r r d r r d

C S r r r " rr r " d C r r r r O r' r r , r r r d r r d - d r r O - r d r r T L r r r d - r N - r d r r r r r T C r r r r d , r r d r r r r r r r

D S r r r d rr d d d d T L r r r r r N D r d T L r r , r , 15 d d rr r d d d r rr r T C r r r d rr r d d r d r r d

E S d r Pr d, r r r r r d, d d r d , d , d d

2 2 ORDINARY FILL MATERIAL

A F d r - r r r rd r r d r r r d r r d - d r r r r r r d r r 3 01 , Add rd r r r r d - d r d C r r r r r O r' r r T C r r r r d , r r d r r rd r r r

B Ord r r r L D r Tr r d D D TR 423, C A-2, A-4, A-5, A-6 r A-7, C r r, d r r , d r d r d r r

2 3 OTHER MATERIALS

T

1 A r d r r r , d, r , r r 2 d , d r r d r

2 R r DOTD S d rd S r r r r r r r S d , r , d d DOTD S d rd S

3 W d r , r , r , r , r d r r T r r d C r r r r r O r' r r

4 E r d r d r r 2 2 A, r r d r r d - , r rr r d r r 2 1 r

PART 3 - EXECUTION

3 1 PREPARATION OF GROUND SURFACE TO RECEIVE FILL

A R 6" d d r d

B F r d r , r , r r r d r r r

C U r r r d r r d r d r r 3 4

D I r r , r d d , d r , r d d r r r r d r r r P , r , r r d r r 1 r 4 r r d r

3 2 FILL AND BACKFILL

A S r r r ___ d r d d r d d d

B I d d r r 3 2 A, d r rd r r d r r r d r r d - B rr r d d r r r

C F d r , 8" , r r d r r r d r r d d d U d r d r r 3 1 r

D B d r 8"

E B r r r ,

1 W r r r

2 U d r r d , d

3 R r r r

4 R r d d r

F P d C

1 P d r r r 8" d B r , r r r r r d r C r r d d r r 3 4

2 D r r r r dd , r r r r D r r d r

G P d r d r r , r r d C rr r r r d r r r , r d r r

3 3 EXCAVATION

A E d r r r d r r d U d r d r r 3 1 r R d d , d r d r d r r r d r d r rd r

B C rr r d d d d d d r d d d

1 E U d r R F F r d d r

2 U d r F r F d B F r d d d d r , r r r d 3000 r d r r r , D r

3 E r B d r d d r , r dr d D r

C W r C r P r r r r r r r r d r r r d r r d Pr d rr d r

1 D r R r d r d r d/ r Pr d d , , d d r , d r d r r r r r

2 C r r d r d r r r r - r Pr d d r r dr d d r d r d r r r D r r dr d

D M r S r S r r r d r r P , r d d r r r dr

E E r E F d

1 C r d d r r r- d 0 10', d d d r d d r d r r r , r , r r r r d, d r

2 I r d d , r d r E d r d r r d Tr r r d d r d d r r

F C d E B r r rr r r , d r r , d r dr , d d d r r d r , d d E r d r r r r r

G Dr B W r d r r , r d dr 6" r r 4" r r d r d 1 3 5 Dr E r' r

H L , Br d Pr

1 T r d r d d r r d r r d r d r r d d

2 C r r r r r r - d , r , r d r r r r

3 4 COMPACTION - GENERAL

A P r r r r d T r rd M d d Pr r T , ASTM D1557

B Br r r d r r r d d r r d

C C r d r r r r d d r Pr d r d r d r , r d r r - -

1 U d r Tr P , E d B r C r d r 95 d

2 L d U d Ar C r r d, S Er Pr

D M r C r W r r d r r r r d d r , r r r r d r r, r r r r r d r , r , r

1 R r r , r r d r dr , r r dd

2 A r r d r d r r d d r d dr A dr d , rr r r r r d d r d r d r -d r W d T L r r , r d r

3 5 GRADING

A U r r d r r d d r r S r d r C r r r r , r d r d

B S d r r d , d r d , d , d r d A r d r r , r r r d

C Gr d O d E Gr d r d dr r r r d r d F r r r rr r r , d

1 Gr d Ar F r r r 0 10' r r r d , r r r d F r r r d

2 F L Gr d r 10 d r d r r C d r r r r 6 r 100 S (d r) 4 1 r

3 6 TOPSOIL

F r , d r d 4- r r r d r d r d r r , d d r , r d , , r r d r r

3 7 MAINTENANCE

A Pr Gr d d Ar Pr r d d r r r d r , d r r d d r

B R r d r - r d d, r d d, d r d r d r

C R d C d Ar W r d d r r d r d r r r d r r, r r , r , d r r d d r r r r r

3 8 DISPOSAL OF EXCESS AND WASTE MATERIALS

A R r Pr d d d r d r rd r , rr r , r d r

B E r r O r' r r d r d d d d d d C r r O r' r r d Pr r , d r d D r T r d d d r d d r r d r r d r dr

END OF SECTION

PART 1 - INSTRUCTIONS FOR PROCUREMENT

1 1 STANDARDS

A L S d rd S r R d d Br d (2016 Ed) r r r r d T S r r

B T Ord r Pr d r r r
1 S r d P r 2
2 S S d P r 3
3 S d r
4 LA DOTD S d rd S r R d d Br d 2016 Ed (LA DOTD S)
A

// d d / d L DOTD/D /E r /S d rd S /

r

C L S d rd S r R d d Br d (2016 Ed) d r 20 00 r ddr

L D r Tr r & D
G r F U
P O B 94245
B R , L 70804-9245

C R L S d rd S r R d d Br d C r Pr
1 S N
T rd "E r, r d r d ," d r r r r (d r r d r) d "L D r Tr r d D r "
2 R C r D
I r d L S d rd S r R d d Br d d r r d d dr , L S d rd S r R d d Br d d r d r r
3 O r
O r r r d E r r d d r r O r d d r O r T r r d

r r r , d , d L S d rd S r R d d Br d , 2016 Ed I C r r' r E r r r r r r d r - r (24) r d r

1 2 MATERIALS AND CONSTRUCTION

A M r r r r d LA DOTD S d rd S r R d d Br d (M d M r d B P) d P , S S d S Pr

1	C r d Gr	S	201
2	R S r r d O r	S	202
3	E d E	S	203
4	T r r H B	S	204
5	A (W r , B C r)	S	501
6	A C r	S	502
7	A C r P P	S	510
8	P r d C C r	S	601
9	C r d S r Dr	S	701
10	M , J B , C B , d E d Tr	S	702
11	C r Dr	S	706
12	G F r	S	711
13	S dd	S	714
14	S d	S	717
15	F r r	S	718
16	B dd M r	S	726
17	M	S	727

B A r r d r r r r d LA DOTD S d rd S r R d d Br d

PART 2 - SPECIAL PROVISIONS

2 1 DESCRIPTION

A C r r , rd C r

B Pr d r r r rr d r C r r d d d r , d B d A r C r T

C B d A d C r T d d C Ord r r S A r

D W r d r , r , d r r r r H S A r r , d , , r r d r r W r

E S Pr d S d V r r d d r I d d r r C r Pr O E r r S d V r r r

2 2 METHOD OF MEASUREMENT

A T r r d r d r , r r d d r r d r

2 3 BASIS OF PAYMENT

A P r d r d d r d S d V d A r P

PART 3 - SUPPLEMENTAL TECHNICAL SPECIFICATIONS

3 1 GENERAL

A A C r M r PG70-22 d r r S 502 LA DOTD S d rd S r R d d Br d , 2016 Ed

B N d d r d d r , d

C C r r r r r r d d r

SECTION 322010 - REMOVABLE BOLLARDS

PART 1 - GENERAL

1 1 RELATED ITEMS SPECIFIED ELSEWHERE

A Dr d r r C r , d G r d S r C d d D 01 S S , S

1 2 SUMMARY OF WORK

A S I d

1 R B rd

1 3 SUBMITTALS

A Pr d D S r r r d d , r d d r r d r d , d d r , , r d r

B S Dr S r r dr , d d , d r d

C W rr M r r d rd rr

1 4 QUALITY ASSURANCE

A M r r Q M r r r r d r r r 15 r

B Pr d S r Pr d r r d r dr d d

C Pr d Ord r r d 60-d d

D F O r r W d r d r r r r d

1 5 DELIVERY, STORAGE, AND HANDLING

A D r D r r r r r , d r d , r d r d d r r

B S r S r r , dr r rd r r r K r r r r , d r d

C H d Pr r d d r d d r d

1 6 WARRANTY

A Pr d r r d r d/ r r r r d r r r d

B T rr d d r r d , r , , r , , r

C P r r d r r r d r r d S r , , d d r d r d r r d r, d r r r r

PART 2 - PRODUCTS

2 1 QUALITY

A U r r d

2 2 SUBSTITUTIONS

A S d r d d d r , , r r, d d rd r d d r d B dd r r r r d d r d, , r r r

B U d r d , r r - r d A r r d r d E r r r dd C d d d d r r C r r r

2 3 MANUFACTURERS

A R B rd

R F dr
U 207, 6450-148 S r
S rr , BC V3S 7G7, C d
1-877-789-3245
r - dr

B A r d E d C r r d r d E r

2 4 BOLLARDS

A R-8464 B rd
1 M r r R F dr
2 S 4-1/2 D
3 M R
4 F S S r F
5 C r S dd rd C r (r T B D)

PART 3 - EXECUTION

3 1 EXAMINATION

A E r r r rd

B N E r d d d r r

C D d r rr d

3 2 INSTALLATION

A I r rd rd r r r
d d Dr

B I d

C A r rd r

3 3 ADJUSTING

A F D R d r d d r r d d r d E r

B C D R d r d d r r d d r d E r

3 4 CLEANING

A C r rd r r rd r r r

B D r r r d d d

3 5 ADJUSTING

A Pr rd d r , r r r , rd d r d r r S C

END OF SECTION

SECTION 330500 - COMMON WORK RESULTS FOR UTILITIES

PART 1 - GENERAL

1.1 SUMMARY

A. Piping joining materials.

B. Dielectric fittings.

C. Sleeves.

D. Identification devices.

E. Grout.

F. Piping system common requirements.

1.2 DEFINITIONS

A. Exposed Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions.

B. Concealed Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:

1. Dielectric fittings.

2. Identification devices.

1.4 INFORMATIONAL SUBMITTALS

A. Welding certificates.

1.5 QUALITY ASSURANCE

A. Steel Support Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Steel Piping Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

C. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."

D. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

E. Comply with ASME A13.1 for lettering size, length of color field, colors, and viewing angles of identification devices.

PART 2 - PRODUCTS

2.1 PIPING JOINING MATERIALS

A. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.

1. ASME B16.21, nonmetallic, flat, asbestos free, 1/8-inch maximum thickness, unless otherwise indicated.

   a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.

   b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.

2. AWWA C110, rubber, flat face, 1/8 inch thick, unless otherwise indicated; and full-face or ring type, unless otherwise indicated.

B. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.

C. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

E. Brazing Filler Metals: AWS A5.8, BCuP Series, copper-phosphorus alloys for general-duty brazing, unless otherwise indicated; and AWS A5.8, BAg1, silver alloy for refrigerant piping, unless otherwise indicated.

F. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded

G. Solvent Cements for Joining Plastic Piping
1. ABS Piping: ASTM D 2235.

2. CPVC Piping: ASTM F 493.

3. PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.

4. PVC to ABS Piping Transition: ASTM D 3138.

H. Fiberglass Pipe Adhesive: As furnished or recommended by pipe manufacturer.

2.2 DIELECTRIC FITTINGS

A. Dielectric Fittings, General: Assembly of copper alloy and ferrous materials or ferrous material body with separating nonconductive insulating material suitable for system fluid, pressure, and temperature.

B. Dielectric Unions:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Capitol Manufacturing Co.
b. Central Plastics Company.
c. Epco Sales, Inc.
d. Hart Industries, International, Inc.
e. Watts Water Technologies, Inc.
f. Zurn Plumbing Products Group; Wilkins Div.

3. Description: Factory fabricated, union, NPS 2 and smaller.
a. Pressure Rating: 250 psig at 180 deg F.
b. End Connections: Solder-joint copper alloy and threaded ferrous; threaded ferrous.

C. Dielectric Flanges:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Capitol Manufacturing Co.
    b. Central Plastics Company.
    c. Epco Sales, Inc.
    d. Watts Water Technologies, Inc.

3. Description: Factory-fabricated, bolted, companion-flange assembly, NPS 2-1/2 to NPS 4 and larger.
    a. Pressure Rating: 175 psig minimum.
    b. End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

D. Dielectric Couplings:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. Calpico, Inc.
    b. Lochinvar Corporation.

3. Description: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining, NPS 3 and smaller.
    a. Pressure Rating: 300 psig at 225 deg F.
    b. End Connections: Threaded.

E. Dielectric Nipples:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. Perfection Corporation.
    b. Precision Plumbing Products, Inc.
    c. Victaulic Company.

3. Description: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining.
    a. Pressure Rating: 300 psig at 225 deg F.

b. End Connections: Threaded or grooved.

2.3 SLEEVES

A. Galvanized-Steel Sheet Sleeves: 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint.

B. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized, plain ends.

C. Cast-Iron Sleeves: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

D. Molded PVC Sleeves: Permanent, with nailing flange for attaching to wooden forms.

E. PVC Pipe Sleeves: ASTM D 1785, Schedule 40.

F. Molded PE Sleeves: Reusable, PE, tapered-cup shaped, and smooth outer surface with nailing flange for attaching to wooden forms.

2.4 IDENTIFICATION DEVICES

A. Equipment Nameplates: Metal permanently fastened to equipment with data engraved or stamped.

1. Data: Manufacturer, product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances, and essential data.

2. Location: Accessible and visible.

B. Snap-on Plastic Pipe Markers: Manufacturer's standard preprinted, semirigid, snap-on type. Include color-coding according to ASME A13.1, unless otherwise indicated.

C. Pipes with OD, Including Insulation, Less Than 6 Inches: Full-band pipe markers, extending 360 degrees around pipe at each location.

D. Pipes with OD, Including Insulation, 6 Inches and Larger: Either full-band or strip-type pipe markers, at least three times letter height and of length required for label.

E. Lettering: Use piping system terms indicated and abbreviate only as necessary for each application length.

1. Arrows: Either integrally with piping system service lettering to accommodate both directions of flow, or as separate unit on each pipe marker to indicate direction of flow.

F. Plastic Tape: Manufacturer's standard color-coded, pressure-sensitive, self-adhesive vinyl tape, at least 3 mils thick.

1. Width: 1-1/2 inches on pipes with OD, including insulation, less than 6 inches; 2-1/2 inches for larger pipes.
2. Color: Comply with ASME A13.1, unless otherwise indicated.

G. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch sequenced numbers. Include 5/32-inch hole for fastener.

1. Material: 0.0375-inch- thick stainless steel.
2. Size: 1-1/2 inches in diameter, unless otherwise indicated.

I. Valve Tag Fasteners: Brass, wire-link or beaded chain; or brass S-hooks.

K. Engraved Plastic-Laminate Signs: ASTM D 709, Type I, cellulose, paper-base, phenolic-resin-laminate engraving stock; Grade ES-2, black surface, black phenolic core, with white melamine subcore, unless otherwise indicated. Fabricate in sizes required for message. Provide holes for mechanical fastening.

1. Engraving: Engraver's standard letter style, of sizes and with terms to match equipment identification.
2. Thickness: 1/8 inch, unless otherwise indicated.
3. Fasteners: Self-tapping, stainless-steel screws or contact-type permanent adhesive.

2.5 GROUT

A. Description: ASTM C 1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.

1. Characteristics: Post hardening, volume adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
2. Design Mix: 5000-psi, 28-day compressive strength.
3. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1 DIELECTRIC FITTING APPLICATIONS

A. Dry Piping Systems: Connect piping of dissimilar metals with the following:

1. NPS 2 and Smaller: Dielectric unions.
2. NPS 2-1/2 and Larger: Dielectric flanges.

B. Wet Piping Systems: Connect piping of dissimilar metals with the following:

1. NPS 2 and Smaller: Dielectric couplings or dielectric nipples.
2. NPS 2-1/2 and Larger: Dielectric nipples.

3.2 PIPING INSTALLATION

A. Install piping according to the following requirements and Division 33 Sections specifying piping systems.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on the Coordination Drawings.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

D. Install piping to permit valve servicing.

E. Install piping at indicated slopes.

F. Install piping free of sags and bends.

G. Install fittings for changes in direction and branch connections.

H. Select system components with pressure rating equal to or greater than system operating pressure.

I. Install sleeves for pipes passing through concrete and masonry walls and concrete floor and roof slabs.

3.3 PIPING JOINT CONSTRUCTION

A. Join pipe and fittings according to the following requirements and Division 33 Sections specifying piping systems.

B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

D. Threaded Joints: Thread pipe with tapered pipe threads according to

ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

E. Welded Joints: Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.

F. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

G. Grooved Joints: Assemble joints with grooved-end pipe coupling with coupling housing, gasket, lubricant, and bolts according to coupling and fitting manufacturer's written instructions.

H. Soldered Joints: Apply ASTM B 813 water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy (0.20 percent maximum lead content) complying with ASTM B 32.

I. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8.

J. Pressure-Sealed Joints: Assemble joints for plain-end copper tube and mechanical pressure seal fitting with proprietary crimping tool to according to fitting manufacturer's written instructions.

K. Plastic Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
2. ABS Piping: Join according to ASTM D 2235 and ASTM D 2661 appendixes.
3. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.
4. PVC Pressure Piping: Join schedule number ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.
5. PVC Nonpressure Piping: Join according to ASTM D 2855.

6. PVC to ABS Nonpressure Transition Fittings: Join according to ASTM D 3138 Appendix.

L. Plastic Pressure Piping Gasketed Joints: Join according to ASTM D 3139.

M. Plastic Nonpressure Piping Gasketed Joints: Join according to ASTM D 3212.

N. Plastic Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.

1. Plain-End PE Pipe and Fittings: Use butt fusion.
2. Plain-End PE Pipe and Socket Fittings: Use socket fusion.
3. Bonded Joints: Prepare pipe ends and fittings, apply adhesive, and join according to pipe manufacturer's written instructions.

3.4 PIPING CONNECTIONS

A. Make connections according to the following, unless otherwise indicated:

1. Install dielectric fittings at connections of dissimilar metal pipes.

3.5 IDENTIFICATION

A. Piping Systems: Install pipe markers on each system. Include arrows showing normal direction of flow.

1. Plastic markers, with application systems.

2. Locate pipe markers on exposed piping according to the following:
   a. Near each valve and control device.
   b. Near each branch, excluding short takeoffs for equipment and terminal units. Mark each pipe at branch if flow pattern is not obvious.
   c. Near locations where pipes pass through walls or floors or enter inaccessible enclosures.
   d. At manholes and similar access points that permit view of concealed piping.

B. Adjusting: Relocate identifying devices that become visually blocked by work of this or other Divisions.

3.6 GROUTING

A. Mix and install grout for equipment base bearing surfaces, pump and other equipment base plates, and anchors.

B. Clean surfaces that will come into contact with grout.

C. Provide forms as required for placement of grout.

D. Avoid air entrapment during placement of grout.

E. Place grout, completely filling equipment bases.

F. Place grout on concrete bases and provide smooth bearing surface for equipment.

G. Place grout around anchors.

H. Cure placed grout.

END OF SECTION

SECTION 330513 - MANHOLES AND STRUCTURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Concrete manholes and concrete vaults.

B. Frames and covers.

1.2 REFERENCE STANDARDS

A. General: Refer to most recent edition or edition adopted by authorities having jurisdiction, including all applicable amendments and supplements.

B. ASTM A48/A48M - Standard Specification for Gray Iron Castings.

C. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.

D. ASTM C478/C478M - Standard Specification for Circular Precast Reinforced Concrete Manhole Sections.

E. ASTM C923/C923M - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.

F. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.

G. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.Perform the following within established Project limits as indicated or required:

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Installation of concrete manholes with piping and other structures.

B. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.4 SUBMITTALS

A. Product Data: Provide manhole covers, component construction, features, piping penetrations and pipe seals, configuration, access ladder, and dimensions.

B. Shop Drawings: Indicate manhole locations, number and size of component

sections, elevations, piping penetration seals, and sizes and elevations of penetrations.

C. Field Quality Control Submittals: Document results of field quality control testing.

D. Project Record Documents:

1. Record invert elevations of concrete manholes.

2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

PART 2 - PRODUCTS

2.1 CONCRETE MANHOLES

A. Precast Concrete Manholes: Precast manhole base sections, barrel sections, eccentric or concentric cone sections, and grade rings shall comply with ASTM C478/C478M, reinforced.

1. Acceptable manufacturers:

a. Hanson, Inc., Sacramento, CA

b. Oldcastle Precast Group, Stockton, CA

c. Southwest Concrete Products, Ontario, CA

2. Concrete for manhole sections shall be Class A concrete with a compressive strength of 4,000 psi at 28 days conforming to ASTM C94/C94M, using ASTM C150/C150M Type II Portland cement.

3. Cure manhole sections by an approved method for a minimum of 4 days prior to painting and do not ship for a minimum of 3 days after having been painted. Manhole sections shall not be shipped for a minimum of 7 days after removal from forms.

4. Clearly mark or impress date of manufacture of manhole sections and name or trademark of manufacturer on exterior of each precast section when form is removed, and on interior after section has been painted.

5. Shallow or flat top manholes, where depth of cover is less than 4 feet shall have vertical walls with a flat precast top slab. Precast top slab shall be capable of supporting the overburden plus a live load equivalent to H 20

loading in accordance with AASHTO HB.

6. Do not use brick manholes.

7. Wall Thickness: Conforming to ASTM C478/C478M.

8. Base Thickness: Not less than 8 inches thick and reinforced with No. 5 steel reinforcing bars spaced at 9 inches on center each way, with No. 4 steel reinforcing steel bars around each opening.

9. Reinforcement: Formed steel wire, galvanized finish, wire diameter as indicated on drawings.

10. Precast concrete shall be wet cast. Do not use dry casting or low slump concrete.

11. All precast concrete manhole bases shall have a minimum of three proper lifting loops in the base slabs.

12. Do not use penetrating lifting holes in any structure. Where non-penetrating lifting holes are approved, their use will not be permitted within 8 inches of joint or pipe penetration.

13. Joint Sealant: Comply with ASTM C990. Seal precast manhole tongue and groove joints with preformed plastic sealant.

    a. Product: Ram-Nek by Henry;www.henry.com - Preformed flexible plastic sealant meeting or exceeding ; VOC content below 5 g/L; suitable for vertical and horizontal applications; use with manufacturer recommended primer for wet conditions. Rubber ring manhole joint seals are not acceptable.

14. Resilient Connectors: Where pipes enter or exit manholes, use a neoprene rubber connector to provide a resilient watertight connection for the penetration into manhole. Watertight resilient manhole connectors must conform to ASTM C923/C923M.

    a. Products:
        1) Kor-N-Seal molded neoprene boot by Trelleborg; www.trelleborg.com.

        2) A-Lok resilient pipe connector by A-Lok Products, Inc.; www.a-lok.com.

        3) Owner-approved equivalent.

b. Resilient pipe connectors shall be supplied and installed by manufacturer of precast products.

15. Precast concrete grade rings for manhole adjustment shall conform to ASTM C478. Grade rings shall be a minimum of 2 inches thick, a maximum of 5 inches thick, and be reinforced with No. 6 gauge or thicker reinforcing wire. Do not use brick for manhole adjustment.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify items provided by other sections of work are properly sized and located.

B. Verify that built-in items are in proper location, and ready for roughing into Work.

C. Verify excavation for manholes is correct.

3.2 PREPARATION

A. Coordinate placement of inlet and outlet pipe or duct sleeves required by other sections.

3.3 INSTALLATION

A. Establish elevations and pipe inverts for inlets and outlets as indicated in drawings.

B. Precast Concrete Manholes:

1. Carefully place precast manhole base section on prepared foundation so as to be fully and uniformly supported in true alignment, ensuring that penetrating pipes can be installed at proper line and grade.

a. Handle precast manhole units by lifting rings only.

b. Carefully place precast manhole base section on prepared foundation so as to be fully and uniformly supported in true alignment, ensuring that penetrating pipes can be installed at proper line and grade.

c. Place and align precast manholes to provide horizontal location and vertical elevations as indicated on Drawings. Installed manhole shall be rigid, true to dimensions and alignment, and watertight.

2. Fully bed manhole frame and cover in mortar, with precast concrete grade rings placed between manhole cone and manhole frame.

    a. Precast concrete grade rings shall conform to ASTM C478/C478M.

    b. Precast concrete grade rings shall not be used for more than 19 inches of vertical adjustment.

    c. Do not use brick for manhole adjustment.

C. Frames and Covers:

1. Place frame plumb and level.

2. Place grate in frame securely.

3.4 FIELD QUALITY CONTROL

A. Alignment: Inspect manholes to determine if displacement has occurred during installation of backfill and compaction.

B. Leakage: Conduct initial leakage tests. Failure to pass leakage test requirements shall require repair of leaking joints as directed by Owner and subsequent leakage retests. Continued failure to pass leakage retests shall require removal and reinstallation of suspect joint seals with new.

1. Required Tests and Inspections:

    a. After alignment tests have been completed, and before flows are allowed in the line, conduct leakage tests.

    b. Test entire system for exfiltration in presence of engineer. Limit leakage to 100 gallons per inch of pipe diameter per mile of length per 24 hours.

    c. Limit leakage to stated maximum limit, except that an allowance of an additional 10 percent of gallonage will be allowed for each additional 2 feet of head over a basic 2 feet minimum above all pipe soffits.

    d. Pay for all leakage tests and required repairs and reconstruction.

C. If inspections indicate work does not meet specified requirements, adjust work and reinspect at no cost to Owner.

END OF SECTION

SECTION 330526 - UNDERGROUND UTILITIES MARKING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Underground warning tape for:
   1. Electrical power duct banks.
   2. Common user duct banks.
   3. Combined domestic and fire protection water (potable water).
   4. Chilled water supply.
   5. Chilled water return.
   6. Natural gas.
   7. Compressed air.
   8. Steam.
   9. Condensate.

B. Valve tags.

1.2 REFERENCE STANDARDS

A. General: Refer to most recent edition or edition adopted by authorities having jurisdiction, including all applicable amendments and supplements.

B. APWA National Color Code.

C. ASTM D882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting.

D. ASTM D2103 - Standard Specification for Polyethylene Film and Sheeting.

E. ASTM D2578 - Standard Test Method for Wetting Tension of Polyethylene and Polypropylene Films.

1.3 SUBMITTALS

A. Product Data:
   1. Manufacturer's detailed technical materials data, including technical bulletins, drawings, guides, and manuals, as applicable to the work of this Project.
   2. For color coding of specific utilities not indicated on Drawings or not specified herein, submit samples of color coding tape markings for selection by Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Empire Level Manufacturing Corporation, Mukwonago, WI , Tel: 800-872-8467
B. Harris Industries, Inc., Huntington Beach, CA , Tel: 800-222-6866.
C. Mutual Industries North, Inc., Philadelphia, PA, Tel: 800-523-0888.
D. Stranco Inc., Michigan City, IN, Tel: 800-348-3217.
E. T. Christy Enterprises, Inc., Anaheim, CA, Tel: 800-258-4583.
F. Reef Industries, Inc., Houston, TX, Tel: 800-231-6074.

2.2 MATERIALS

A. Marking Tape: Reinforced or unreinforced type, 6 inches wide, inert, virgin resin, plastic film formulated for extended use underground, imprinted with an appropriate legend to define type of utility line it identifies.

1. Non-detectable: Minimum 4 mils overall thickness.
   a. DuraTec or ShieldTec by Empire Level Manufacturing Corporation.
   b. Underground Tape (UT series) by Harris Industries, Inc.
   c. Non-Detectable Underground Marking Tape (No. 17783) by Mutual Industries North, Inc.
   d. Underground Warning Tape (PUWT-XXX series) by Stranco, Inc.
   e. Non-detectable underground marking tape (TA-ND-XX-XXX series) by T. Christy Enterprises.

2. Detectable: Double-lamination/sandwich with continuous aluminum core, minimum 5 mils overall thickness. Provide manufacturer's splice clips or other accessory materials to maintain conductivity throughout entire length of tape installation.

   a. ThorTec or MagnaTec by Empire Level Manufacturing Corporation.
   b. Underground Tape (DU series) by Harris Industries, Inc.
   c. Underground Detectable Tape (No. 17774) by Mutual Industries North, Inc.
   d. Detect-A-Line Detectable Underground Warning Tape (PUWT-XXXD series) by Stranco, Inc.
   e. Detectable underground marking tape (TA-DT-XX-XXX series) by T. Christy Enterprises.
   f. Terra Tape Sentry Line 1350 by Reef Industries, Inc.

3. Color code: Black lettering on color backgrounds in accordance with APWA/ULCC Uniform Color Code, except as follows:

a. Red: Electric power ductbanks other than high voltage (e.g., 12 kV) electric power ductbanks.
b. Yellow: Natural gas distribution and transmission.
c. Orange: Common user ductbanks.
d. Black or white lettering on blue background: Potable water systems.
e. Black lettering on light blue background: Compressed air systems.
f. Black lettering on green background with brown band striping: Chilled water systems.

B. Valve Tags: Custom engraved bronze or stainless steel discs, in approximately 3 inch diameter unless otherwise shown, with theft-proof anchor for embedding in concrete near the utility; provide products from one of the following manufacturers:

1. Kaman Industrial Technologies: www.ec.kamandirect.com.
2. Wager Co. of Florida: www.wagerco.com.
3. Berntsen: www.berntsen.com.

PART 3 - EXECUTION

A. Marking Tape.

1. Nondetectable tape: Install over metallic utility lines.

2. Detectable tape: Install over nonmetallic utility lines.

3. For trenches which contain only one utility line, install one marking tape directly on top of each utility line (at the 12 o'clock position), install one additional tape 12 in. above the centerline of the utility line, and install one additional marking tape 18 in. to each side of centerline of utility line, a total of four utility marking tapes for a single common utility line in a single trench.

4. For trenches in common which contain more than one utility line, install one marking tape directly on top of each utility line (at the 12 o'clock position), install one additional tape for the proper utility 12 in. above the center of the utility line, and one additional marking tape for each utility in the common trench, installed 18 in. to each side of the edge of each of the outboard utility lines, a total of 8 utility marking tapes for 2 utility lines in a single common trench; a total of 12 utility marking tapes for 3 utility lines in a single common trench; a total of 16 utility marking tapes for 4 utility lines in a single common trench, etc.

END OF SECTION

SECTION 331113 - WATER DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:
   1. Water-distribution piping and related components outside the building for water service and backflow preventers inside of buildings.

   2. Requirements for furnishing all labor, materials, equipment, and incidentals required to install High Density Polyethylene (HDPE) pressure pipe, fittings, and appurtenances for combined domestic and fire protection water piping.
      a. Underground Piping System.
      b. Pipe and fitting materials, joining methods, special-duty valves, and specialties.
      c. Horizontal Directional Drilling (HDD) and open trench installation

1.2 PERFORMANCE REQUIREMENTS

A. Provide components and installation capable of producing hydronic piping systems with the following minimum working-pressure ratings:

   1. Combined domestic and fire protection water piping:
      a. Test pressure: 150 psig at 73 deg F.
      b. Operating Pressure: 150 psig at 73 deg F.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:
   1. Polyethylene pipe and fittings.
      a. Submit details of piping system components including carrier pipe and fittings.
      b. Submit manufacturer's installation instructions including details for expansion compensation and anchoring.
      c. Submit piping transportation and storage requirements including protection of piping from damage and dirt infiltration.
   2. Valves.
      a. Include details of wrench nut, extensions, sleeves, and curb boxes.
      b. Include gear boxes

   3. Pipe system cleaning and flushing.
      a. Description of equipment proposed for flushing operations.
      b. Requirements for water and power.

B. Shop Drawings: For underground hydronic piping. Signed and sealed by a professional engineer.

1. Calculate requirements for expansion compensation for underground piping.

2. Show expansion compensators, offsets, and loops with appropriate materials to allow piping movement in the required locations. Show anchors and guides that restrain piping movement with calculated loads, and show concrete thrust block dimensions. Coordinate the location and orientation of any underground expansion loops with underground utility contractor to maintain required utility offsets between disciplines throughout the site.

3. Show pipe sizes, locations, and elevations. Show piping in trench, conduit, and cased pipe with details showing clearances between piping, and show insulation thickness.

C. Field quality-control reports.

D. Design

1. Contractor shall be responsible for the complete design of the site underground expansion compensation and shall be responsible for providing all expansion compensation and coordinating with site utilities for installation.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control test reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.

2. Comply with standards of authorities having jurisdiction for potable-water-service piping, including materials, installation, testing, and disinfection.

3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.

B. Piping materials shall bear label, stamp, or other markings of specified testing agency.

C. Comply with ASTM F 645 for selection, design, and installation of thermoplastic water piping.

D. NFPA Compliance: Comply with NFPA 24 for materials, installations, tests, flushing, and valve and hydrant supervision for fire-service-main piping for fire suppression.

E. NSF Compliance:

1. Comply with NSF 14 for plastic potable-water-service piping. Include marking "NSF-pw" on piping.

2. Comply with NSF 61 for materials for water-service piping and specialties for domestic water.

F. The Contractor may request changes to the proposed vertical and horizontal alignment of the installation and the location of the entry and exit points. Proposed changes shall be submitted in writing to the Engineer and receive approval of the Engineer prior to construction.

G. The supplier of the piping system shall be responsible for the design of the piping system, including:

1. Anchors
2. Thrust block design
3. Expansion loops or expansion elbows

H. The pipe and resin manufacturers shall have at least seven years of experience producing a similar size pipe and similar resin types.

I. Directional drilling and pipe installation shall be done only by an experienced Contractor specializing in directional drilling and whose key personnel have at least five (5) years' experience in this work. Furthermore, the Contractor shall have installed directionally drilled pipe at least as large as 20 inches in diameter, have performed crossings at least 1,000 feet in length, and successfully installed at least 100,000 feet in length.

J. Laborer(s) who are installing, and/or fusing HDPE pipe shall have a minimum of five years' experience performing this type of work. Only qualified/certified personnel are allowed to perform the joining process. The fusion training organization, upon completion of the assessment, shall issue evidence of qualification that states:

1. Fusion technician's name
2. Fusion joining technique or techniques for which the operator is qualified

3. Type of fusion equipment and the pipe size limitations applicable to that fusion equipment
4. Fusion technician's specific training

K. The qualified heat fusion joining procedure shall be verified by the installer prior to beginning the pipeline construction project by the completion and testing of a test joint. The verification tests shall be done using the project fusion equipment, project fusion operators, and project pipe.

1.7 PROJECT CONDITIONS

A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated on drawings.

PART 2 - PRODUCTS

2.1 COMBINED FIRE PROTECTION AND DOMESTIC WATER CARRIER PIPE AND FITTINGS

A. Polyethylene pressure pipe:

1. Manufactured from PE4710 high density polyethylene meeting or exceeding AWWA C906 and ASTM F714 standards, DR11, iron pipe size (IPS), Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter or ASTM D3035, Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
2. Polyethylene compound used in the manufacturer of all pipe provided shall meet the requirements of ASTM 3350, Cell Classification 445474C.

B. Pipe shall be legibly marked, at intervals of no more than 5 feet, in accordance with the requirements of ASTM F714 and AWWA C906.

C. Where HDPE pipe is joined to HDPE pipe, it shall be by thermal butt fusion.

1. Thermal butt fusion, per ASTM F2620, shall be accomplished in accordance with the pipe manufacture and fusion equipment supplier specifications.
2. Workers installing HDPE pipe shall have the necessary experience as stated in qualifications above and have submitted necessary information as defined in submittals above.

D. Where HDPE pipe is joined to other materials, it shall be by means of either mechanical joint or flanged connections (adapters, transition fittings, and back-up rings) designed for joining polyethylene pipe to another material.

    1. Mechanical joint connections shall be utilized for all direct-bury applications.

    2. Flanged connections shall occur within accessible spaces within manholes or vaults or above grade whenever possible. For direct-buried valves, flanged connections shall include bolts & nuts that are Stainless Steel Type 316.

E. Electrofusion couplings are permitted on a limited basis at critical locations. Joints that are proposed to be electrofusion joined shall be submitted to the A/E for approval.

F. Pipe Manufacturers:

    1. Pipe manufacturers that are qualified and approved are listed below:

        i. Performance Pipe, Division of Chevron Phillips Chemical Company, LP, Driscoplex 4100 Pipe, DR 11
        ii. PolyPipe, Polypipe GB50 PE4710 Pipe, DR 11
        iii. JM Eagle, JMM HDPE PE4710 Pipe, DR 11
        iv. WLPlastics PE4710 (C1, C2, D3, E2, E3), DR 11
        v. Georg Fischer Piping Systems, HDPE PE4710 Pipe, DR 11

    2. Fitting manufacturers that are qualified and approved are listed below.

        i. Industrial Pipe Fittings, LLC (IPF)
        ii. Integrity Fusion Products, Inc.
        iii. Independent Pipe Products
        iv. ISCO Industries, LLC

G. Materials:

    1. Polyethylene pipe and fittings shall be produced from PE4710 high density polyethylene; listed in PPI (Plastics Pipe Institute) TR-4, Recommended Hydrostatic Strengths and Design Stresses for Thermoplastic Pipe and Fittings Compounds, with a standard grade rating of 1600 psi at 73°F and 1000 psi at 140°F.
    2. Certify that the materials used to manufacture pipe and fittings meet these requirements.

H. Polyethylene Fittings and Custom Fabrications:

    1. The Contractor shall provide polyethylene fittings and custom fabrications that have been molded from polyethylene resin that maintains the same or higher cell classification as the pipe to which it is being fusion joined or fabricated from pipe that is of the same or higher cell classification as the pipe to which it is being fusion joined.

2. Butt fusion outlets shall be made to the same outside diameter and tolerances as the mating pipe. All fittings and custom fabrications shall be fully rated for the same internal pressure as the mating pipe.

I. Fabricated Fittings:

1. Fabricated fittings shall be made by heat fusion joining specially machined shapes cut from pipe in accordance with ASTM F2206.
2. Fabricated fittings shall be rated for internal pressure service equivalent to the full-service pressure rating of the mating pipe.
3. Directional fittings 16-inch IPS and larger such as elbows, tees, etc. shall have a plain end inlet for butt fusion and plain end directional outlets.
4. Part drawings shall be submitted for the approval.
5. Pipe and fittings shall be of the same resin.

J. Polyethylene Flange Adapters:

1. Flange adapters shall be made with sufficient through-bore length to be clamped in a butt fusion joining machine without the use of a stub-end holder.
2. The sealing surface of the flange adapter shall be machined with a series of small v-shaped grooves to provide gasketless sealing, or to restrain the gasket against blow-out.

K. Back-up Rings and Flange Bolts:

1. Flange adapters shall be fitted with lap joint flanges pressure rated equal to or greater than the mating pipe.
2. The lap joint flange bore shall be chamfered or radiused to provide clearance to the flange adapter radius.
3. Flange bolts and nuts shall be Grade 2 or higher.
4. Bolt pattern for flange shall be per ANSI B16.5.
5. Back up rings shall be carbon steel.
6. Washers shall be Belville washers.

L. Stiffeners:

1. For all valves include stainless steel pipe stiffener per pipe manufacturer's recommendations.
2. Provide Mechanical Joint Adaptor for thrust restraint.

2.2 DOMESTIC ONLY WATER PIPE AND FITTINGS

A. PVC, AWWA Pipe: AWWA C900, Class 200, with bell end with gasket, and with spigot end.

1. Comply with UL 1285 for fire-service mains if indicated.

2. PVC Fabricated Fittings: AWWA C900, Class 200, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.

3. PVC Molded Fittings: AWWA C907, Class 200, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.

4. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

    a. Gaskets: AWWA C111, rubber.

5. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

    a. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

2.3 JOINING MATERIALS

A. Plastic Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

2.4 PIPING SPECIALTIES

A. Transition Fittings: Manufactured fitting or coupling same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.

2.5 GATE VALVES

A. Resilient Wedge Gate Valves

1. Sixes 3” to 12”
2. Working temperature: 33°F minimum to 170°F maximum
3. Working pressure: 350psi for AWWA, UL and FM
4. Non-rising stem
5. O-ring stem seals
6. Standard open left
7. 2" square wrench nut complying with AWWA C515
8. Flanged Ends with flange drilling complying to ASME B16.1 Class 125.
9. Materials:

    a. Cap screw – Stainless Steel Type 316.

b. Wrench nut – Ductile Iron, ASTM A-536.
c. Stuffing box – Ductile Iron, ASTM A-536.
d. Stem O-rings – Nitrile, ASTM D2000.
e. Anti-friction washers – Acetal.
f. Stem – Manganese Bronze, CDA Alloy C67600.
g. Bonnet – Ductile Iron, ASTM A-536.
h. Bonnet seal – O-ring, Nitrile, ASTM D2000.
i. Stuffing box bolts & nuts – Stainless Steel Type 316.
j. Bonnet bolts & nuts – Stainless Steel Type 316.
k. Disc nut – Bronze, ASTM B-584 Alloy C89833.
l. Guide cap bearings – Acetal.
m. Disc – 3" Cast Iron, ASTM A-126, Class B
n. 4"-12" Ductile Iron, ASTM A-536.
o. Disc encapsulated – SBR ASTM D2000.
p. Body – Ductile Iron, ASTM A-536.

B. Coating – inside and outside of valve fully coated Fusion Bonded Epoxy - ANSI/AWWA C550 certified to ANSI/NSF Standard 61 & 372.

2.6 CORPORATION VALVES AND CURB VALVES

A. Manufacturers:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Amcast Industrial Corporation; Lee Brass Co.
b. Ford Meter Box Company, Inc. (The); Pipe Products Div.
c. Jones, James Company.
d. Master Meter, Inc.
e. McDonald, A. Y. Mfg. Co.
f. Mueller Co.; Water Products Div.
g. Red Hed Manufacturing & Supply.

B. Service-Saddle Assemblies: Comply with AWWA C800. Include saddle and valve compatible with tapping machine.

1. Service Saddle: Copper alloy with seal and AWWA C800, threaded outlet for corporation valve.

2. Corporation Valve: Bronze body and ground-key plug, with AWWA C800, threaded inlet and outlet matching service piping material.

C. Curb Valves: Comply with AWWA C800. Include bronze body, ground-key plug or ball, and wide tee head, with inlet and outlet matching service piping material.

D. Service Boxes for Curb Valves: Similar to AWWA M44 requirements for cast-iron valve boxes. Include cast-iron telescoping top section of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over curb valve and with a barrel approximately 3 inches in diameter.

1. Shutoff Rods: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and slotted end matching curb valve.

2.7 BACKFLOW PREVENTERS

A. Double-Check, Backflow-Prevention Assemblies:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Ames Fire & Waterworks; a division of Watts Regulator Co.
b. Conbraco Industries, Inc.
c. FEBCO; SPX Valves & Controls.
d. Flomatic Corporation.
e. Watts Water Technologies, Inc.
f. Wilkins; a Zurn company.

2. Standard: AWWA C510.
3. Operation: Continuous-pressure applications, unless otherwise indicated.
4. Pressure Loss: **5 psig** maximum, through middle 1/3 of flow range.
5. Body: Bronze for NPS 2 and smaller.
6. End Connections: Threaded for NPS 2 and smaller.
7. Configuration: Designed for horizontal flow.
8. Accessories: Ball valves with threaded ends on inlet and outlet of NPS 2 and smaller.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Refer to Division 31 Section "Earth Moving" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.

B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.

C. Do not use flanges or unions for underground piping.

D. Install in accordance with manufacturer's written installation instructions, including but not limited to unloading and storing of product, field application of factory end seal material for all field cut pipe, trenching with proper attention to required cover height, concrete anchor block construction, laying, fusion welding, field joint insulation procedure, and fitting insulation procedure.

E. Prior to insulating and sealing of joints and fittings the piping system shall be visually and hydrostatically tested

F. Install all high-density polyethylene pressure pipe and fittings in accordance with Manufacturer's recommendations, and these Specifications.

G. The Contractor shall provide adequate tie-downs or otherwise stage the backfill process to ensure the pipe does not float and create high points.

3.3 PIPING INSTALLATION

A. Water-Main Connection: Arrange with utility company for tap of size and in location indicated in water main.

B. Water-Main Connection: Tap water main according to requirements of water utility company and of size and in location indicated.

C. Make connections NPS 2 and smaller with drilling machine according to the following:

1. Install service-saddle assemblies and corporation valves in size, quantity, and arrangement required by utility company standards.
2. Install service-saddle assemblies on water-service pipe to be tapped. Position outlets for corporation valves.
3. Use drilling machine compatible with service-saddle assemblies and corporation valves. Drill hole in main. Remove drilling machine and connect water-service piping.
4. Install corporation valves into service-saddle assemblies.
5. Install manifold for multiple taps in water main.
6. Install curb valve in water-service piping with head pointing up and with service box.

D. Install PVC, AWWA pipe according to ASTM F 645 and AWWA M23.

E. Bury piping with depth of cover over top at least 36 inches.

F. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

B. Install piping to permit valve servicing.

C. Install piping free of sags and bends.

D. Install fittings for changes in direction and branch connections.

E. Select system components with pressure rating equal to or greater than system operating pressure.

F. Install groups of pipes parallel to each other, spaced to permit applying insulation and servicing of valves.

G. Install piping at a uniform grade of 0.2 percent upward in direction of flow.

H. Reduce pipe sizes using eccentric reducer fitting installed with level side up.

3.4 Horizontal Directional Drilling (HDD)

A. The Contractor shall install the pipelines by means of horizontal directional drilling. The Contractor shall assemble, support, and pretest the pipeline prior to installation in the directional drill tunnel.

B. Horizontal directional drilling shall consist of the drilling of a small diameter pilot hole from one end of the alignment to the other, followed by enlarging the hole diameter for the pipeline insertion. The exact method and techniques for completing the directionally drilled installation will be determined by the Contractor, subject to the requirements of these Specifications.

C. The Contractor shall prepare and submit a plan to the Engineer for approval for insertion of the HDPE pipe into the opened bore hole. This plan shall include pullback procedure, ballasting, use of rollers, side booms and side rollers, coating protection, internal cleaning, internal gauging, hydrostatic tests, dewatering, and purging.

D. The required piping shall be assembled in a manner that does not obstruct adjacent roadways or public activities. The Contractor shall erect temporary fencing around the entry and exit pipe staging areas.

E. Reaming: Reaming operations shall be conducted to enlarge the pilot after acceptance of the pilot bore. The number and size of such reaming operations shall be conducted at the discretion of the Contractor.

F. The maximum allowable pull exerted on the HDPE pipelines shall be measured continuously and limited to the maximum allowed by the pipe manufacturer so that the pipe or joints are not over stressed.

G. A swivel shall be used to connect the pipeline to the drill pipe to prevent torsional stresses from occurring in the pipe.

H. The lead end of the pipe shall be closed during the pullback operation.

I. The pipelines shall be adequately supported by rollers and side booms and monitored during installation to prevent over stressing or buckling during the pullback operation. Such support/rollers shall be spaced at a maximum of 60 feet on centers, and the rollers to be comprised of a non-abrasive material arranged in a manner to provide support to the bottom and bottom quarter points of the pipeline allowing for free movement of the pipeline during pullback. Surface damage shall be repaired by the Contractor before pulling operations resume.

J. The contractor shall always handle the HDPE pipe in a manner that does not over stress the pipe. Vertical and horizontal curves shall be limited so that wall stresses do not exceed 50% of yield stress for flexural bending of the HDPE pipe. If the pipe is buckled or otherwise damaged, the damaged section shall be removed and replaced by the Contractor at his expense. The Contractor shall take appropriate steps during pullback to ensure that the HDPE pipe will be installed without damage.

K. The Horizontal Directional Drilling operation is to be operated in a manner to eliminate the discharge of water, drilling mud and cuttings to the surface waterways or land areas involved during the construction process. The Contractor shall provide equipment and procedures to maximize the recirculation or reuse of drilling mud to minimize waste. All excavated pits used in the drilling operation shall be lined by Contractor with heavy duty plastic sheeting with sealed joints to prevent the migration of drilling fluids and/or ground water.

3.5 JOINT CONSTRUCTION

A. Make pipe joints according to the following:

1. Ductile-Iron Piping, Gasketed Joints for Water-Service Piping: AWWA C600 and AWWA M41.

2. Ductile-Iron Piping, Gasketed Joints for Fire-Service-Main Piping: UL 194.
3. Ductile-Iron Piping, Grooved Joints: Cut-groove pipe. Assemble joints with grooved-end, ductile-iron-piping couplings, gaskets, lubricant, and bolts according to coupling manufacturer's written instructions.
4. PE Piping Insert-Fitting Joints: Use plastic insert fittings and fasteners according to fitting manufacturer's written instructions.
5. PVC Piping Gasketed Joints: Use joining materials according to AWWA C900. Construct joints with elastomeric seals and lubricant according to ASTM D 2774 or ASTM D 3139 and pipe manufacturer's written instructions.
6. Dissimilar Materials Piping Joints: Use adapters compatible with both piping materials, with OD, and with system working pressure.

B. HDD butt fusion joining
1. Make joints between plain end pipes and fittings by butt fusion using only procedures that are recommended by the pipe and fitting Manufacturer, PPI PE Handbook, and most recent edition of ASTM F2620.
2. Ensure that persons making butt fusion joints are certified according to the standards and have proven experience to make fusion welds following Manufacturer's recommended procedures.
3. Maintain records of trained personnel and certify that training was received not more than 12 months before commencing construction.
4. External and internal beads resulting from butt fusion joining shall not be removed.
5. Use caution to protect the exposed butt ends of pipes from exposure to oils, greases, or hydrocarbons. Any pipe exposed to hydrocarbons of any type shall be cut-out and removed prior to butt fusion.

C. Electrofusion Joining:

1. Electrofusion joining shall be permitted only as specified above.
2. Couplings shall be produced from PE4710 or greater quality materials, be manufactured per ASTM F1055, and shall be suitable for fusion with PE4710 pipe.
3. Fusion must be performed in dry conditions with a balance of temperature between pipe and fittings.
4. The entire fusion operation (preparation, installation, fusion, etc.) must be carried out by a certified and trained installer, following the recommended procedure, established by the electro-fusion fitting manufacturer, the electro-fusion control box or processor manufacturer, and ASTM F1290 and PPI TN 34.
5. All materials and equipment shall be as required by the coupling manufacturer.

D. Flange Joint Connection Joining

1. Contractor shall install flange connections in accordance with the Manufacturer's recommended procedure and Plastic Pipe Institute (PPI) TN- 38 "Bolt Torque for Polyethylene Flanged Joints".
2. Center and align flange faces to each other before assembling and tightening bolts. Do not use the flange bolts to draw the flanges into alignment.
3. Lubricate bolt threads, and fit Belville washers under the flange nuts.
4. Tighten bolts evenly according to the tightening pattern and torque step recommendations of the Manufacturer and PPI TN-38.

5. At least one hour after initial assembly, re-tighten flange connections following the tightening pattern and torque step recommendations of the Manufacturer and PPI TN-38.

E. Mechanical Joint Connection Joining

1. Contractor shall install mechanical joint connections in accordance with the Manufacturer's recommended procedure and Plastic Pipe Institute (PPI).
2. Butt fuse HDPE MJ (mechanical joint) adapter to HDPE pipe end to connect to a Ductile Iron Mechanical Joint bell using the bolt and gland kit supplied by the HDPE MJ manufacturer.
3. For HDPE piping 6" and larger, a stainless-steel split ring stiffener shall be added to the inside diameter of the HDPE pipe to ensure proper connection and seal.

F. Gaskets: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

3.6 EXCAVATION

A. Excavate trenches in conformance to the plans and drawings and as specified below. Trenchless technologies may be considered with prior approval.

B. Excavate subsoil and whatever material encountered including muck.

C. Cut trenches sufficiently wide to enable installation of utility and allow inspection and as shown on details provided on the Drawings.

D. Excavations shall not interfere with normal 45 degree bearing splay of foundations.

E. Correct unauthorized excavation at no cost.

F. Stockpile excavated material in area designated on site and remove excess material not being used, from site.

G. During the excavation process, the Contractor shall use caution to detect and shall immediately notify the A/E if it is believed that the in-place soils have been exposed to or are contaminated with liquid hydrocarbons. At no time shall the proposed HDPE pipe be exposed to liquid hydrocarbons of any fashion.

H. Dewatering:

1. All excavation, construction and backfill of pipes shall be constructed under dry conditions.
2. The Contractor shall constantly maintain all excavations in a dewatered, workable condition, and shall be responsible for installing, operating, maintaining and removing such dewatering systems as are required.
3. The evaluation of the sufficiency of the condition shall be made by the A/E and his/her decision shall be binding upon the Contractor. If the A/E determines that dewatering is inadequate, the Contractor shall modify his/her methods until such time as the A/E then agrees with the adequacy of the operating condition.

I. Stability of temporary excavations:

1. All excavations shall be in accordance with OSHA requirements.
2. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.
3. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

J. Shoring:

1. Except as specified elsewhere, provide all shoring required for earthwork or required as a result of earthwork for safety of workers, existing structures, public or adjacent properties.
2. Provide materials for shoring and bracing in good serviceable condition.
3. Establish requirements for shoring and bracing to comply with local codes and authorities having jurisdiction.
4. Maintain shoring and bracing in excavations regardless of time period excavations will be open.

3.7 FOUNDATION AND BEDDING

K. Lay pipe on grade and on a stable foundation. Remove unstable or mucky trench bottom soils if present.

L. Install a 6-inch bedding of sand or round #8 or #57 stone to pipe bottom grade.

M. Compaction rates should be as specified in ASTM D2321.

N. Remove excess groundwater from the trench before laying the foundation or bedding and the pipe. Pipe shall be laid when the conditions of trench are dry.

3.8 LARGE DIAMETER FABRICATED FITTINGS

A. Butt fuse fabricated directional fittings 6-inch IPS and larger to the end of pipe.

B. The Contractor is encouraged to factory fabricate as many joints as possible. At a minimum, all bends, adapters, and anchors shall have pups (shorter straight sections of pipe) with a minimum length of 5 feet.

3.9 PIPE HANDLING

A. When lifting with slings, use only wide fabric choker slings to lift, move, or lower pipe and fittings. Do not use wire rope or chain. Slings shall be of sufficient capacity for the load and shall be inspected before use. Do not use worn or defective equipment.

B. At all times through delivery, storage, on-site staging and installation, the Contractor shall protect and ensure that the HDPE pipe is not exposed to liquid hydrocarbons. If any portions of

the pipe are exposed to hydrocarbons, that section of pipe shall be cut-out and removed from use.

C. The Contractor shall exercise care in pipe handling. Gouges exceeding 10% of pipe wall thickness, or kinked sections, shall be cause for rejection of the pipe.

D. The handling of the joined pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Ropes, fabric, or rubber- protected slings and straps shall be used when handling pipes. Chains, cables, or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe. Pipe or fittings shall not be dropped onto rocky or unprepared ground. Slings for handling the pipeline shall not be positioned at butt-fused joints.

E. The open ends of all sections of joined and/or installed pipe (not in service) shall be plugged at night to prevent animals or foreign material from entering the pipeline or pipe section.

F. Waterproof nightcaps of approved design may be used but they shall also be so constructed that they will prevent the entrance of any type of natural precipitation into the pipe and will be fastened to the pipe in such a manner that the wind cannot blow them loose.

G. The practice of stuffing cloth or paper in the open ends of the pipe will be considered unacceptable.

H. Where possible, the pipe shall be raised and supported at a suitable distance back from the open end such that the open end will be below the level of the pipe at the point of support.

3.10 VALVE INSTALLATION

A. Install manual shutoff valve in main lines as indicated on the drawings and at each service tap into lands.

B. Provide stainless steel flange bolts, nuts, and washers. Provide bitumastic coating on all hardware after joining and testing and before backfilling.

C. Provide stiffeners for each valve.

D. Provide mechanical joint restraints on both sides of the valve.

E. Touch up all factory finish where damaged.

F. Submit all gasket materials for approval prior to installation.

G. Chilled water valves shall be insulated with a minimum of two inches (2”) of cellular glass insulation and wrapped with flexible exterior waterproof jacket and vapor barrier.

H. Trace wires shall connect to the metallic valves and extend up within the valve box.

3.11 TRACER WIRE AND NOTIFICATION TAPE

A. Tracer wire shall be placed with all HDPE chilled water mains and shall be insulated, #10 solid copper cores rated for open trenching underground service. The tracer wire shall be connected to all valves and underground structures. The buried sections of tracer wire shall be continuous.

B. Tracer wire for horizontal directional drilling (HDD) applications shall be Polymer Fiber Reinforced, #10 solid copper cores rated for underground service. The tracer wire shall be pulled with the piping and connected to all valves and underground structures. The buried sections of tracer wire shall be continuous.

C. The tracer wire shall be extended within the valve boxes and terminate in an accessible location within the valve box cover.

D. All splices or connections shall be made at accessible locations inside handholes. All spliced or repaired wire connections in the tracer wire system shall be made using a Wing Nut Wire Connector (for two to four #10 wires), and made waterproof using an approved buried service wire closure.

E. The tracer wire shall be tested upon completion of the installation to ensure conductivity for locating. If any areas appear to be disconnected or conductivity appears incomplete, the tracer wire shall be excavated, inspected, and replaced.

F. Tracer shall be placed at a distance of no less than 6 inches and no more than 12 inches above the crown of the pipe.

G. Notification tape of at least 3 inches in width shall be placed in the trench at a distance no greater than 12 inches above the elevation of the tracer wire. The notification tape shall be printed with the following or similar verbiage, "Caution: Water pipeline located in close proximity".

3.12 HDD TESTING

A. Butt Fusion Testing:

1. On the first day butt fusions are to be made for each pipe size, the first fusion shall be a trial fusion or qualification fusion.
2. After the trial fusion is allowed to cool completely, cut out fusion test straps and test per ASTM F2620. The test strap shall be 12 inches (minimum) or 30 times the wall thickness in length with the fusion in the center, and 1 inch (minimum) or 1.5 times the wall thickness in width. Bend the test strap until the ends of the strap touch. If the fusion fails at the joint, make a new trial fusion, cool completely, and re-test. Do not commence butt fusion of pipe to be installed until a trial fusion has passed the bent strap test.

B. Hydrostatic Pressure Testing:

1. Pressure test HDPE pipes in accordance with ASTM F2164, "Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure".

2. Hydrostatic Testing of each section or sequence of pipe shall be performed prior to backfilling with all joints exposed. Partial backfill is permitted provided joints are exposed.
3. After pipe has been completely installed and backfilled, the entire system shall be hydrostatically tested again. All piping provided shall be pressure tested. All tools, instruments and equipment required for performing tests shall be furnished, and required temporary connection be made.
4. Defects that develop under tests shall be repaired promptly and the tests shall be repeated.

3.13 HDD PIPE CLEANING

A. Before placing the site chilled water piping system in operation, the piping system shall be thoroughly filled and flushed with clean water. The Contractor shall submit a detailed plan for review. Plan shall detail how the flushing will achieve a clean piping system.

B. It is imperative that the piping is sealed and capped during installation to keep debris out.

C. Systems must be flushed after each stage of the installation.

D. The following procedures are for flushing and pre-cleaning:

1. All piping shall be capped to prevent sand and dirt from entering the piping before they are connected.
2. Bypass all equipment.
3. Install bypass on the end of each loop to allow full flow. Connect flushing rig to one end of the system to permit flushing.
4. Cleaning and flush rates must be at a minimum of 6 ft/sec through the piping or maximum flow rate of the system.
5. Operation shall remain in place until all sand and debris has been removed from the system.
6. Flushing water shall be discharged to the storm sewer. Discharge to storm sewer shall be done when it is not raining.
7. Fill system with fresh water and add liquid alkaline compound with emulsifying agents and detergents to remove grease and petroleum products from piping. Circulate solution for a minimum of 24 hours, drain, and refill with fresh water.

3.14 HDD PRESSURE TESTING

A. Prepare hydronic piping according to ASME B31.9 and as follows:

1. Leave joints uninsulated and exposed for examination during test.
2. Provide temporary restraints for expansion joints that cannot sustain reactions due to test pressure. If temporary restraints are impractical, isolate expansion joints from testing.
3. Flush hydronic piping systems with clean water; then remove and clean or replace strainer screens.
4. Isolate equipment from piping. If a valve is used to isolate equipment, its closure shall be capable of sealing against test pressure without damage to valve. Install blinds in flanged joints to isolate equipment.

5. Install safety valve, set at a pressure no more than one-third higher than test pressure, to protect against damage by expanding liquid or another source of overpressure during test.

B. Perform the following tests on hydronic piping:

1. Use ambient temperature water as a testing medium.
2. While filling system, use vents installed at high points of system to release air. Use drains installed at low points for complete draining of test liquid.
3. Subject piping system to hydrostatic test pressure that is not less than 1.5 times the system's working pressure. Test pressure shall not exceed maximum pressure for any component in system under test. Verify that stress due to pressure at bottom of vertical runs does not exceed 90 percent of specified minimum yield strength or 1.7 times "SE" value in Appendix A in ASME B31.9, "Building Services Piping."
4. After hydrostatic test pressure has been applied for at least 10 minutes, examine piping, joints, and connections for leakage. Eliminate leaks by tightening, repairing, or replacing components, and repeat hydrostatic test until there are no leaks.
5. Prepare written report of testing.

B. Perform the following before operating the system:

1. Open manual valves fully.
2. Inspect pumps for proper rotation.
3. Set makeup pressure-reducing valves for required system pressure.
4. Inspect air vents at high points of system and determine if all are installed and operating freely (automatic type), or bleed air completely (manual type).
5. Set temperature controls so all coils are calling for full flow.
6. Inspect and set operating temperatures of hydronic equipment to specified values.
7. Verify lubrication of motors and bearings.

3.15 ANCHORAGE INSTALLATION

A. Anchorage, General: Install water-distribution piping with restrained joints. Anchorages and restrained-joint types that may be used include the following:

1. Concrete thrust blocks.
2. Locking mechanical joints.
3. Set-screw mechanical retainer glands.
4. Bolted flanged joints.
5. Heat-fused joints.
6. Pipe clamps and tie rods.

B. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:

1. Gasketed-Joint, Ductile-Iron, Water-Service Piping: According to AWWA C600.
2. Gasketed-Joint, PVC Water-Service Piping: According to AWWA M23.

C. Apply full coat of asphalt or other acceptable corrosion-resistant material to surfaces of installed ferrous anchorage devices.

3.16 VALVE INSTALLATION

A. Corporation Valves and Curb Valves: Install each underground curb valve with head pointed up and with service box.

3.17 BACKFLOW PREVENTER INSTALLATION

A. Install backflow preventers of type, size, and capacity indicated. Include valves and test cocks. Install according to requirements of plumbing and health department and authorities having jurisdiction.

B. Do not install backflow preventers that have relief drain in vault or in other spaces subject to flooding.

C. Do not install bypass piping around backflow preventers.

3.18 CONNECTIONS

A. Connect water-distribution piping to existing water main. Use tapping sleeve and tapping valve or service clamp and corporation valve.

B. Connect water-distribution piping to interior domestic water piping.

3.19 FIELD QUALITY CONTROL

A. Piping Tests: Conduct piping tests before joints are covered and after concrete thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.

B. Hydrostatic Tests: Test at not less than one-and-one-half times working pressure for two hours.

1. Increase pressure in 50-psig increments and inspect each joint between increments. Hold at test pressure for 1 hour; decrease to 0 psig. Slowly increase again to test pressure and hold for 1 more hour. Maximum allowable leakage is 2 quarts per hour per 100 joints. Remake leaking joints with new materials and repeat test until leakage is within allowed limits.

C. Prepare reports of testing activities.

3.20 IDENTIFICATION

A. Install continuous underground detectable warning tape during backfilling of trench for underground water-distribution piping. Locate below finished grade, directly over piping.

3.21 CLEANING

A. Clean and disinfect water-distribution piping as follows:

1. Purge new water-distribution piping systems and parts of existing systems that have been altered, extended, or repaired before use.
2. Use purging and disinfecting procedure prescribed by authorities having jurisdiction or, if method is not prescribed by authorities having jurisdiction, use procedure described in AWWA C651 or do as follows:

    a. Fill system or part of system with water/chlorine solution containing at least 50 ppm of chlorine; isolate and allow to stand for 24 hours.
    b. After standing time, flush system with clean, potable water until no chlorine remains in water coming from system.
    c. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedure if biological examination shows evidence of contamination.

B. Prepare reports of purging and disinfecting activities.

END OF SECTION

SECTION 335216 – SITE GAS DISTRIBUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Medium Density (Yellow) Polyethylene Pipe and Fittings
2. Valves and valve boxes
3. Pressure regulators
4. Markers

1.2 REFERENCES

A. Current versions of the following:

1. NFPA 54 - National Fuel Gas Code
2. ANSI B31.8 - Gas Transmission and Distribution Piping Systems
3. American Gas Association, AGA
4. Code of Federal Regulation (CFR) Title 49 Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards
5. ASTM D2513 – Polyethylene (PE) Gas Pressure Pipe, Tubing and Fittings
6. ASTM F2620 – Standard Practice for Heat Fusion Joining of PE Pipe and Fittings
7. ASTM D3350 – Standard Specification for PE Plastics Pipe and Fittings Materials
8. All other applicable Federal, State of Ohio, ANSI, ASTM, ASME standards

1.3 QUALIFICATIONS

A. Experience: The Contractor shall provide examples and demonstrate previous relevant experience for gas pipeline construction work included in the contract documents.

1.4 PERFORMANCE REQUIREMENTS

A. Minimum Operating-Pressure Ratings:

1. Piping and Valves: 100 psig (690 kPa) minimum unless otherwise indicated.
2. Service Regulators: 65 psig (450 kPa) minimum unless otherwise indicated.
3. Minimum Operating Pressure of Service Meter: 5 psig (34.5 kPa).

1.5 ACTION SUBMITTALS

A. Product Data: For each type of the following:

1. Pipe and fittings including:

a. Name(s) of supplier(s)
b. Pipe dimension ration computation
c. Bend radius
d. Installation method
e. Specialized equipment to be used, including but not limited to manufacturer's recommended fusing procedures for the products

2. The Contractor shall submit fusion map showing placement of all proposed joints. Joints shall be numbered individually.

3. Valves.

a. Pressure rating
b. Capacity
c. Include details of wrench nut, extensions, sleeves and curb boxes.

4. Pipe system cleaning and purging

a. Description of equipment proposed for purging operations.
b. All detergents, emulsifying agents and treatment chemicals including MSDS
c. Requirements for water, power and purge gas

5. Pressure regulators. Indicate pressure ratings and capacities.
6. Service meters. Indicate pressure ratings and capacities.

B. Submit details of joint construction, expansion loop sizing, anchor and thrust block construction, and field insulation procedures for joints and fittings.

C. The Contractor shall submit a list of materials to be furnished, the names of the suppliers, and the appropriate shop drawings for all pipe and fittings. Data log records for all factory fusion welding of pipe and fittings shall be submitted to for review and approval prior to on site installation of pipe material.

D. The Contractor shall submit installation method and specialized equipment to be used, including but not limited to manufacturer's recommended fusing procedures for the products and data loggers.

E. The Contractor shall submit qualifications and resumes for all laborers performing installation, fusing, and supervising of HDPE pipe. This includes, but is not limited to written, verifiable proof that the Contractor is qualified by the fusion systems

manufacturer(s) or the Pipe Supplier as a fully trained user and must comply with qualifications as stated above.

F. The Contractor shall submit an as-built fusion map showing placement of all proposed electrofusion and butt fusion joints referencing Data-Logger files. Joints shall be numbered individually and accurately reference the data-logger file joint number.

G. Quality assurance:

1. Submit pipe installation field service inspection reports
2. Submit field quality-control test reports
3. Submit evidence of laborer(s) qualifications
4. Submit inspection and test plan

H. Shop Drawings: For underground natural-gas piping layout. Include plans, piping layout and elevations, and details for fabrication of pipe anchors, and expansion loops. Detail location of anchors, alignment guides, and expansion joints and loops.

1. Detail mounting, supports, and valve arrangements for service meter assembly and pressure regulator assembly.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For pressure regulators and service meters to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

A. Each length of pipe and each other component must be visually inspected at the site of installation to ensure that it has not sustained any visually determinable damage that could impairs its serviceability.

B. Natural gas system contractors must adhere to all Federal and State laws and regulations, policies and procedures.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. The pipe and resin manufacturers shall have at least seven years of experience producing a similar size pipe and similar resin types.

E. Laborer(s) who are installing, and/or fusing POLYETHYLENE pipe shall have a minimum of five years' experience performing this type of work. The Pipe Distributor supplying the POLYETHYLENE pipe must offer fusion training. Only qualified/certified personnel are allowed to perform the joining process. The fusion

training organization, upon completion of the assessment, shall issue evidence of qualification that states:

1. Fusion technician's name
2. Fusion joining technique or techniques for which the operator is qualified
3. Type of fusion equipment and the pipe size limitations applicable to that fusion equipment
4. Fusion technician's specific training

F. The above evidence shall provide a unique identification number for the fusion operator for traceability. The pipeline installer shall maintain documented evidence of the competency of the fusion technicians within the installer's organization. Quality control of heat fusion joints shall be performed in accordance with an inspection and test plan, which shall include the number and location of test specimens to be inspected and the methods for doing so. The butt fusion equipment, in addition to a Data Logger supplied with and compatible with the fusion machine, used in the joining procedure shall be capable of meeting all the following:

1. The equipment and tooling required
2. The joining surfaces preparation requirements
3. The heating tool temperature required for fusion
4. The heating soaking times for each size and wall thickness of pipe
5. The alignment procedures and acceptable limits
6. The joining interfacial pressure and hold time requirements
7. The clamped cooling time requirements
8. The cooling handling time requirements
9. The elapsed time required before the joint can be subjected to high stress
10. Procedural modifications and precautions for cold-weather joining methods
11. Precautions for inclement weather such as wind or rain
12. Documentation and traceability of fusions and fusion joiner's unique identification marking procedure
13. Visual assessment acceptance criteria
14. The production fusion joint destructive test method

G. The qualified heat fusion joining procedure shall be verified by the installer prior to beginning the pipeline construction project by the completion and testing of a test joint. The verification tests shall be done using the project fusion equipment, project fusion operators, and project pipe.

H. Manufacturer shall provide a qualified technician who will be present during critical periods of the installation and testing of the system. Technician must be in the direct employ of the system Manufacturer. Technician to provide written field service reports to the Owner’s representative for all jobsite meetings. This Certified Technician service shall be priced as part of the overall project scope and shall not be an extra cost to the project owner.

I. After installation and prior to backfill, the manufacturer's representative of the piping system shall field inspect the piping system and certify in writing to the Owner's representative that the piping system has been assembled and installed within the guidelines of the manufacturer's written installation instructions. This certification shall include, but not be limited to, trench preparation, anchor and thrust block construction and location, backfill material, expansion loop and field joint construction.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver pipes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

B. Store and handle pipes and tubes having factory-applied protective coatings to avoid damage and protect from direct sunlight.

C. Protect stored PE pipes and valves from direct sunlight.

1.9 PROJECT CONDITIONS

A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.

B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide purging and startup of natural-gas supply according to requirements indicated:

1. Notify Owner no fewer than two days in advance of proposed interruption of natural-gas service.
2. Do not proceed with interruption of natural-gas service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. PE Pipe: ASTM D 2513

1. Sizes 1" through 4": SDR 11.
2. Provide polyethylene pressure pipe and fittings manufactured from PE2406/PE2706 medium density polyethylene meeting ASTM D2513 standards. Resin shall meet the requirements of ASTM D 3350.

3. Pipe shall be legibly marked, at intervals of no more than 5 feet. 40' long sections shall be used.
4. Where medium density PE pipe is joined to medium density PE pipe, it shall be by thermal butt fusion. Fusion shall be accomplished in accordance with the pipe manufacturer and fusion equipment supplier specifications.
5. Fittings and Custom Fabrications:

    a. Shall comply with ASTM D2513 or ASTM D2683.
    b. Fittings and custom fabrications shall be provided of the same resin as the adjacent pipe.
    c. Butt fusion outlets shall be made to the same outside diameter, wall thickness, and tolerances as the mating pipe.

6. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

2.2 PIPING SPECIALTIES

1. Service-Line Risers:

    a. Manufactured PE pipe fitting with PE pipe inlet for thermal butt-fusion connection to underground PE pipe
    b. PE pipe riser section with protective-coated, anode less, steel casing and threaded connection to above ground steel piping.
    c. Anodeless Service-Line Risers: Factory fabricated, and leak tested.

        1) Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.
        2) Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering.
        3) Aboveground Portion: PE transition fitting.
        4) Outlet shall be threaded or flanged.
        5) Tracer wire connection.
        6) Ultraviolet shield.
        7) Stake supports with factory finish to match steel pipe casing or carrier pipe.

    d. Transition Service-Line Risers: Factory fabricated, and leak tested.

        1) Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet connected to steel pipe complying with ASTM A 53/A 53M, Schedule 40, Type E or S, Grade B, with corrosion-protective coating for aboveground outlet.
        2) Outlet shall be threaded or flanged.

3) Bridging sleeve over mechanical coupling.
4) Factory-connected anode.
5) Tracer wire connection.
6) Ultraviolet shield.
7) Stake supports with factory finish to match steel pipe casing or carrier pipe.

2. Plastic Mechanical Couplings, NPS 2 (DN 50) and Larger: Capable of joining steel pipe to PE pipe.

a. Fiber-reinforced plastic body.
b. PE body tube.
c. Buna-nitrile seals.
d. Acetal collets.
e. Stainless-steel bolts, nuts, and washers.

3. Stiffeners:

a. For all valves include stainless steel pipe stiffener per pipe manufacturer's recommendations.
b. Provide Mechanical Joint Adaptor for thrust restraint.

4. Steel Mechanical Couplings: Capable of joining steel pipe to PE pipe.

a. Stainless-steel flanges and tube with epoxy finish.
b. Buna-nitrile seals.
c. Stainless-steel bolts, washers, and nuts.
d. Factory-installed anode for steel-body couplings installed underground.

2.3 JOINING MATERIALS

A. Joint Compound and Tape: Suitable for natural gas.

2.4 MANUAL GAS SHUTOFF VALVES

A. Each valve shall meet the minimum requirements of API 6D. A valve may not be specified under operating conditions that exceed the applicable pressure- temperature ratings contained in those requirements.

B. Each valve shall comply with the following:

1. The valve must have a maximum service pressure rating for temperatures that equal or exceed the maximum service temperature.
2. The valve shell must be tested in the fully open position with no leakage.
3. The valve seat shall be pressure tested.
4. Each valve shall be able to meet the anticipated operating conditions.

C. PE Ball Valves: Comply with ASME B16.40.

1. Body: PE.
2. Ball: PE.
3. Stem: Acetal.
4. Seats and Seals: Nitrile.
5. Ends: Plain or fusible to match piping.
6. CWP Rating: 80 psig (552 kPa).
7. Operating Temperature: Minus 20 to plus 140 deg F (Minus 29 to plus 60 deg C)
8. Operator: Nut or flat head for key operation.
9. Include plastic valve extension.
10. Include tamperproof locking feature for all valves.

D. Valve Boxes:

1. Cast-iron lid and top rim, two-section box.
2. Top section with cover with "GAS" lettering.
3. Bottom section with base to fit over valve and barrel a minimum of 5 inches (125 mm) in diameter.
4. Adjustable cast-iron extensions of length required for depth of bury.
5. Include removable debris screen within valve box cover.
6. Include tee-handle, steel operating wrench with socket end fitting valve nut or flat head, and with stem of length required to operate valve.

2.5 LINE STOPPER FITTINGS

A. Basis of Design:

1. Mueller H-17260 Bottom Out Line Stopper Fitting
2. Substitutions: Must be approved by the EOR.

B. General Requirements:

1. Body: Forged Steel (ASTM A1050)
2. Configuration: Bottom out
3. O-Ring: Sealed cast iron (ASTM A126 CL.B) completion plug with equalizing valve.
4. Completion Cap: Cast iron (ASTM A126 CL.B)
5. Pressure Class: 150 (ANSI B16.5)
6. Maximum Pressure: 275 psig at 100 deg F
7. Connections: Welded

2.6 PRESSURE REGULATORS

A. General Requirements:

1. Single stage and suitable for natural gas.
2. Steel jacket and corrosion-resistant components.
3. Elevation compensator.
4. End Connections: Threaded for regulators NPS 2 (DN 50) and smaller; flanged for regulators NPS 2-1/2 (DN 65) and larger.

B. Service Pressure Regulators: Comply with ANSI Z21.80.

1. Body and Diaphragm Case: Cast iron or die-cast aluminum.
2. Springs: Zinc-plated steel; interchangeable.
3. Diaphragm Plate: Zinc-plated steel.
4. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
5. Orifice: Aluminum; interchangeable.
6. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
7. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
8. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
9. Overpressure Protection Device: Factory mounted on pressure regulator.
10. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
11. Maximum Inlet Pressure: 100 psig (690 kPa).

2.7 SERVICE METERS

A. Diaphragm-Type Service Meters: Comply with ANSI B109.1 or ANSI B109.2 dependent on demand.

1. Case: Die-cast aluminum.
2. Connections: Steel threads.
3. Diaphragm: Synthetic fabric.
4. Diaphragm Support Bearings: Self-lubricating.
5. Compensation: Continuous temperature and pressure.
6. Meter Index: Cubic feet.
7. Meter Case and Index: Tamper resistant.
8. Remote meter reader compatible.
9. Maximum Inlet Pressure: 100 psig (690 kPa).
10. Pressure Loss: Maximum 2.0-inch wg (498 Pa)
11. Accuracy: Maximum plus or minus 1.0 percent.

B. Rotary-Type Service Meters: Comply with ANSI B109.3.

1. Case: Extruded aluminum.
2. Connection: Flange.
3. Impellers: Polished aluminum.

4. Rotor Bearings: Self-lubricating.
5. Compensation: Continuous temperature and pressure.
6. Meter Index: Cubic feet.
7. Tamper resistant.
8. Remote meter reader compatible.
9. Maximum Inlet Pressure: 100 psig (690 kPa).
10. Accuracy: Maximum plus or minus 2.0 percent.

C. Turbine Meters: Comply with ASME MFC-4M.

1. Housing: Cast iron or welded steel.
2. Connection Threads or Flanges: Steel.
3. Turbine: Aluminum or plastic.
4. Turbine Bearings: Self-lubricating.
5. Compensation: Continuous temperature and pressure.
6. Meter Index: Cubic feet.
7. Tamper resistant.
8. Remote meter reader compatible.
9. Maximum Inlet Pressure: 100 psig (690 kPa).
10. Accuracy: Maximum plus or minus 2.0 percent.

D. Service-Meter Bars:

1. Malleable- or cast-iron frame for supporting service meter.
2. Include offset swivel pipes, meter nuts with o-ring seal, and factory- or field-installed dielectric unions.
3. Omit meter offset swivel pipes if service-meter bar dimensions match service-meter connections.

E. Service-Meter Bypass Fittings:

1. Ferrous, tee, pipe fitting with capped side inlet for temporary natural-gas supply.
2. Integral ball-check bypass valve.

2.8 LABELING AND IDENTIFYING

A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored yellow.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Close equipment shutoff valves before turning off natural gas to premises or piping section.

B. Inspect natural-gas piping according to NFPA 54 to determine that natural-gas utilization devices are turned off in piping section affected.

C. Comply with NFPA 54 requirements for prevention of accidental ignition.

D. High static electric charges can develop on plastic piping products; observe all safety procedures for controlling and discharging static electricity and all requirements for personal protection.

E. At all times through delivery, storage, on-site staging and installation, the Contractor shall protect and ensure that the POLYETHYLENE pipe is not exposed to liquid hydrocarbons. If any portions of the pipe are exposed to hydrocarbons, that section of pipe shall be cut-out and removed from use.

F. The Contractor shall exercise care in pipe handling. Gouges exceeding 10% of pipe wall thickness shall be cause for rejection of the pipe.

G. Line Stopper Fittings:

1. Thoroughly clean pipe and fitting prior to installation.
2. Inspect existing pipe for compatible wall thickness based on the fitting manufacturer's recommendations.

3.3 OUTDOOR PIPING INSTALLATION

A. Comply with NFPA 54 for installation and purging of natural-gas piping.

B. Install underground, natural-gas piping buried at least 36 inches (900 mm) below finished grade.

1. If natural-gas piping is installed less than 36 inches (900 mm) below finished grade, install it in containment conduit.

2. Piping shall not be run under buildings or basement floors.

C. Install underground, PE, natural-gas piping according to ASTM D 2774.

D. Install fittings for changes in direction and branch connections.

E. Install pressure gauge upstream and downstream from each service regulator.

F. Each main pipe line shall be installed with at least 12 inches of clearance from any other underground structure not associated with the main line. If this clearance cannot be attained, the main line shall be protected from damage.

G. Where an underground structure prevents the installation of a main line or a service line with the minimum cover, the main line or service line in question may be installed with less cover it if is provided with additional protection to withstand anticipated external loads.

H. Wrap valve and valve box with polyethylene tape and heat shrink.

I. Each valve installed in plastic pipe must be designed to protect the plastic material against excessive torsional or shearing loads when the valve or shutoff is operated, and from any other secondary stresses that might be exerted through the valve or its enclosure.

J. Center and plumb valve box over valve. Set box cover flush with finished ground surface. Prevent shock or stress from being transmitted through valve box to valve.

K. Natural gas meter and regulator settings (with or without regulator vents) shall be located a minimum 10’-0” radius away from electrical equipment; 3’- 0” away from any window or opening; 2’-0” away from any communications box or water spigot; and 12” away from the corner of a building. The bottom of the gas meter shall have a 6” minimum clearance above finish grade and the bottom of the gas line shut-off shall have an 8” minimum clearance from finish grade.

L. Lay pipe on grade and on a stable foundation. Remove unstable or mucky trench bottom soils and install a 6-inch bedding of sand to pipe bottom grade. Deposit sand to a depth of 3 inches above the piping. Compaction rates should be as specified in ASTM D2321. Remove excess groundwater from the trench before laying the foundation or bedding and the pipe. Pipe shall be laid when the conditions of trench are dry.

3.4 LINE STOPPER FITTINGS

A. Weld fittings to steel piping as recommended by the manufacturer.

B. Clean fitting ends when welding has been completed.

C. Apply air pressure and test for leaks using soap solution. Welds shall be airtight with no leakage. Repair any leaks prior to cutting the pipe.

D. Provide transition fitting to allow for the connection of polyethylene piping to the fitting.

3.5 FUSION JOINING

A. Butt Fusion Joining – Contractor shall make joints between plain end pipes and fittings by butt fusion using only procedures that are recommended by the pipe and fitting Manufacturer and ASTM F2620.

B. Ensure that persons making butt fusion joints are certified according to the standards and have proven experience to make fusion welds following Manufacturer's recommended procedures.

C. External and internal beads resulting from butt fusion joining shall not be removed.

D. Use caution to protect the exposed butt ends of pipes from exposure to oils, greases, or hydrocarbons. Any pipe exposed to hydrocarbons of any type shall be cut-out and removed prior to butt fusion.

3.6 SERVICE-METER ASSEMBLY INSTALLATION

A. Install service-meter assemblies aboveground, on concrete bases.

B. Install metal shutoff valves upstream from service regulators. Shutoff valves are not required at second regulators if two regulators are installed in series.

C. Install strainer on inlet of service-pressure regulator and meter set.

D. Install service regulators mounted outside with vent outlet horizontal or facing down. Install screen in vent outlet if not integral with service regulator.

E. Install metal shutoff valves upstream from service meters. Install dielectric fittings downstream from service meters.

F. Install service meters downstream from pressure regulators.

G. Install metal bollards to protect meter assemblies.

3.7 VALVE INSTALLATION

A. Install manual gas shutoff valve in main lines as indicated on the drawings and at each service tap into lands.

B. Install underground valves with valve boxes.

C. Provide stiffeners for each gas valve.

D. Provide mechanical joint restraints on both sides of the valve.

3.8 PIPING JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.

D. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.

1. Plain-End Pipe and Fittings: Use butt fusion.

3.9 CONNECTIONS

A. Connect to utility's gas main according to utility's procedures and requirements.

B. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to service regulators.

3.10 LABELING AND IDENTIFYING

A. Install detectable warning tape directly above gas piping, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.

B. Detectable 6-inch wide polyethylene marking tape that is yellow in color with black lettering “Buried Gas Line”

3.11 TRACER WIRE

A. Tracer wire shall be placed with all plastic pipe and shall be insulated, #12 AWG Reinforced Tracer Wire. Direct burial #12 AWG solid, 21% conductivity annealed copper-clad high carbon steel high strength tracer wire, 380# average tensile break load, 30 mil high molecular weight, high density yellow polyethylene jacket complying with ASTM D-1248, 30-volt rating. The tracer wire shall be connected to valve boxes terminating in an accessible location within valve box cover. The buried sections of tracer wire shall be continuous.

B. All splices or connections shall be made at accessible locations inside vaults. All spliced or repaired wire connections in the tracer wire system shall be made using a Wing Nut Wire Connector (for two to four number ten wires), and made waterproof using an approved buried service wire closure.

C. The tracer wire shall be tested upon completion of the installation to ensure conductivity for locating. If any areas appear to be disconnected or conductivity appears incomplete, the tracer wire shall be excavated, inspected and replaced.

D. Tracer wire may not be wrapped around the pipe and contact with the pipe must be minimized but is not prohibited.

3.12 PAINTING

A. Paint exposed, exterior metal piping, valves, service regulators, service meters and meter bars, and piping specialties, except components, with factory-applied paint or protective coating.

1. Alkyd System: MPI EXT 5.1D.

    a. Prime Coat: Alkyd anticorrosive metal primer.
    b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
    c. Topcoat: Exterior alkyd enamel semigloss.
    d. Color: Yellow.

B. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.13 CONCRETE BASES

A. Concrete Bases: Anchor equipment to concrete base.

1. Construct concrete bases of dimensions indicated, but not less than 4 inches (100 mm) larger in both directions than supported unit.
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around the full perimeter of the base.
3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to supported equipment.
6. Use 3000-psig (20.7-MPa) 28-day, compressive-strength concrete and reinforcement.

3.14 TESTING, PURGING AND INSPECTION

A. Pressure testing shall be at 90 psig or 150 percent of the maximum operating pressure, whichever is greater, and hold for a minimum of 6 hours to be considered an acceptable pressure test.

B. Nitrogen shall be used to pressure test the pipe.

C. Pressure tests shall be by a recording line chart over 24 consecutive hours. The original recording line chart shall be turned over to the Owner for record keeping.

D. Temporary natural gas piping used for buildings under construction shall be metered, undergo and pass a pressure test, and be witnessed by the Owner prior to gas service being energized for the application.

E. The Owner shall witness and approve natural gas pressure testing.

F. If tests indicate work does not meet specified requirements, remove piping, replace piping and retest.

G. Purging of Pipelines:

1. Comply with NFPA 54 for purging of gas lines.
2. The Contractor shall submit a detailed Purging Plan along with a written request to purge the pipeline to the A/E for review, comment, and acceptance 6 weeks prior to the planned purge date.
3. Purging shall be performed by the Contractor in conformance with recommendations of and under supervision of the Owner and the A/E.
4. Venting during purging operations shall be to the outside of buildings at a safe location.

H. The contractor shall prepare all test and inspection reports and submit to the A/E for review and acceptance.

3.15 OUTDOOR PIPING SCHEDULE

A. Underground natural-gas piping shall be PE pipe and fittings joined by heat fusion, or mechanical couplings; service-line risers with tracer wire terminated in an accessible location.

B. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

3.16 UNDERGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Connections to Existing Gas Piping: Use valve and fitting assemblies made for tapping utility's gas mains and listed by an NRTL.

B. Underground:

1. PE valves.

END OF SECTION

SECTION 33 61 11 - UNDERGROUND CHILLED WATER DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This section covers the requirements for furnishing all labor, materials, equipment, and incidentals required to install High Density Polyethylene (HDPE) pressure pipe, fittings, and appurtenances.

1. Underground Piping System.

2. Pipe and fitting materials, joining methods, special-duty valves, and specialties.

1.3 PERFORMANCE REQUIREMENTS

A. Provide components and installation capable of producing hydronic piping systems with the following minimum working-pressure ratings:

1. Chilled-Water Piping:

a. Test pressure: 150 psig at 73 deg F.

b. Operating Pressure: 150 psig at 73 deg F.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Polyethylene pipe and fittings.
   a. Submit details of piping system components including carrier pipe and fittings.

   b. Submit manufacturer's installation instructions including details for expansion compensation and anchoring.

   c. Submit piping transportation and storage requirements including protection of piping from damage and dirt infiltration.

2. Valves.
   a. Include details of wrench nut, extensions, sleeves, and curb boxes.

b. Include gear boxes

3. Pipe system cleaning and flushing.

a. Description of equipment proposed for flushing operations.

b. Requirements for water and power.

B. Shop Drawings: For underground hydronic piping. Signed and sealed by a professional engineer.

1. Calculate requirements for expansion compensation for underground piping.

2. Show expansion compensators, offsets, and loops with appropriate materials to allow piping movement in the required locations. Show anchors and guides that restrain piping movement with calculated loads, and show concrete thrust block dimensions. Coordinate the location and orientation of any underground expansion loops with underground utility contractor to maintain required utility offsets between disciplines throughout the site.

3. Show pipe sizes, locations, and elevations. Show piping in trench, conduit, and cased pipe with details showing clearances between piping, and show insulation thickness.

C. Field quality-control reports.

D. Design

1. Contractor shall be responsible for the complete design of the site underground expansion compensation and shall be responsible for providing all expansion compensation and coordinating with site utilities for installation.

1.5 QUALITY ASSURANCE

A. The Contractor may request changes to the proposed vertical and horizontal alignment of the installation and the location of the entry and exit points. Proposed changes shall be submitted in writing to the Engineer and receive approval of the Engineer prior to construction.

B. The supplier of the piping system shall be responsible for the design of the piping system, including:

1. Anchors

2. Thrust block design

3. Expansion loops or expansion elbows

C. The pipe and resin manufacturers shall have at least seven years of experience producing a similar size pipe and similar resin types.

D. Laborer(s) who are installing, and/or fusing HDPE pipe shall have a minimum of five years' experience performing this type of work. Only qualified/certified personnel are allowed to perform the joining process. The fusion training organization, upon completion of the assessment, shall issue evidence of qualification that states:

1. Fusion technician's name

2. Fusion joining technique or techniques for which the operator is qualified

3. Type of fusion equipment and the pipe size limitations applicable to that fusion equipment

4. Fusion technician's specific training

E. The qualified heat fusion joining procedure shall be verified by the installer prior to beginning the pipeline construction project by the completion and testing of a test joint. The verification tests shall be done using the project fusion equipment, project fusion operators, and project pipe.

F. Owner requires ultrasonic examinations of 100% of all heat fusion joints per ASTM E3044 at Contractor's expense. Defective joints shall be repaired in accordance with governing authority. Corrections and/or reexaminations shall be paid by Contractor. Prepare and submit examinations for owner review.

PART 2 - PRODUCTS

2.1 CARRIER PIPE

A. Polyethylene pressure pipe:

1. Manufactured from PE4710 high density polyethylene meeting or exceeding AWWA C906 and ASTM F714 standards, DR-11, iron pipe size (IPS), Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter or ASTM D3035, Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.

2. Polyethylene compound used in the manufacturer of all pipe provided shall meet the requirements of ASTM 3350, Cell Classification 445474C.

B. Pipe shall be legibly marked, at intervals of no more than 5 feet, in accordance with the requirements of ASTM F714 and AWWA C906.

C. Where HDPE pipe is joined to HDPE pipe, it shall be by thermal butt fusion.

1. Thermal butt fusion, per ASTM F2620, shall be accomplished in accordance with the pipe manufacture and fusion equipment supplier specifications.

2. Workers installing HDPE pipe shall have the necessary experience as stated in qualifications above and have submitted necessary information as defined in submittals above.

D. Where HDPE pipe is joined to other materials, it shall be by means of either mechanical joint or flanged connections (adapters, transition fittings, and back-up rings) designed for joining polyethylene pipe to another material.

1. Mechanical joint connections shall be utilized for all direct-bury applications.

2. Flanged connections shall occur within accessible spaces within manholes or vaults or above grade whenever possible. For direct-buried valves, flanged connections shall include bolts & nuts that are prepared with Fluorokote #1 fluoropolymer coating process.

E. Electrofusion couplings are permitted on a limited basis at critical locations. Joints that are proposed to be electrofusion joined shall be submitted to the A/E for approval.

F. Pipe Manufacturers:

1. Pipe manufacturers that are qualified and approved are listed below:

i. Performance Pipe, Division of Chevron Phillips Chemical Company, LP, Driscoplex 4100 Pipe, DR 11
ii. PolyPipe, Polypipe GB50 PE4710 Pipe, DR 11
iii. JM Eagle, JMM HDPE PE4710 Pipe, DR 11
iv. WLPlastics PE4710 (C1, C2, D3, E2, E3), DR 11
v. Georg Fischer Piping Systems, HDPE PE4710 Pipe, DR 11

2. Fitting manufacturers that are qualified and approved are listed below.

i. Industrial Pipe Fittings, LLC (IPF)
ii. Integrity Fusion Products, Inc.
iii. Independent Pipe Products
iv. ISCO Industries, LLC

G. Materials:

1. Polyethylene pipe and fittings shall be produced from PE4710 high density polyethylene; listed in PPI (Plastics Pipe Institute) TR-4, Recommended Hydrostatic Strengths and Design Stresses for Thermoplastic Pipe and Fittings Compounds, with a standard grade rating of 1600 psi at 73°F and 1000 psi at 140°F.
2. Certify that the materials used to manufacture pipe and fittings meet these requirements.

H. Polyethylene Fittings and Custom Fabrications:

1. The Contractor shall provide polyethylene fittings and custom fabrications that have been molded from polyethylene resin that maintains the same or higher cell classification as the pipe to which it is being fusion joined or fabricated from pipe that is of the same or higher cell classification as the pipe to which it is being fusion joined.

2. Butt fusion outlets shall be made to the same outside diameter and tolerances as the mating pipe. All fittings and custom fabrications shall be fully rated for the same internal pressure as the mating pipe.

I. Fabricated Fittings:

1. Fabricated fittings shall be made by heat fusion joining specially machined shapes cut from pipe in accordance with ASTM F2206.

2. Fabricated fittings shall be rated for internal pressure service equivalent to the full-service pressure rating of the mating pipe.

3. Directional fittings 16-inch IPS and larger such as elbows, tees, etc. shall have a plain end inlet for butt fusion and plain end directional outlets.

4. Part drawings shall be submitted for the approval.

5. Pipe and fittings shall be of the same resin.

J. Polyethylene Flange Adapters:

1. Flange adapters shall be made with sufficient through-bore length to be clamped in a butt fusion joining machine without the use of a stub-end holder.

2. The sealing surface of the flange adapter shall be machined with a series of small v-shaped grooves to provide gasketless sealing, or to restrain the gasket against blow-out.

K. Back-up Rings and Flange Bolts:

1. Flange adapters shall be fitted with lap joint flanges pressure rated equal to or greater than the mating pipe.

2. The lap joint flange bore shall be chamfered or radiused to provide clearance to the flange adapter radius.

3. Flange bolts and nuts shall be Grade 2 or higher.

4. Bolt pattern for flange shall be per ANSI B16.5.

5. Back up rings shall be carbon steel.

6. Washers shall be Belville washers.

L. Saddle Connections for Air Release Valve:

1. Air release valves shall be installed at all high points in the piping system unless otherwise approved by the A/E.

2. Service connections, including air releases, shall be electrofusion saddles with a stainless steel threaded outlet. The size of the threaded outlet shall be 1- inch IPS.

3. Piping beyond the threaded outlet shall be 1-inch Type K copper tubing. Electrofusion saddles shall be made from materials required above.

M. Stiffeners:

1. For all valves include stainless steel pipe stiffener per pipe manufacturer's recommendations.

2. Provide Mechanical Joint Adaptor for thrust restraint.

2.2 VALVES

A. AWWA Butterfly Valves

1. Sizes 6” to 30”
2. AWWA C504. Valves shall be UL Listed, FM approved and certified to ANSI/NSF 61 & 372.
3. Working temperature: 33°F minimum to 170°F maximum
4. Pressure Class: 150B per AWWA C504
5. Flanged Ends with flange drilling complying to ASME B16.1 Class 125.
6. Materials:

   a. Body – Cast Iron, ASTM A-126.
   b. Disc:
      1) 20” and smaller: Cast Iron, ASTM A-126.
      2) 24” and larger: Ductile Iron, ASTM A-536.
   c. Disc Seating Edge – 316 Stainless Steel to mate with rubber seat on body
   d. Valve Seat – Buna-N Rubber
   e. Valve Shaft – 304 stainless steel conforming to ASTM A-276
   f. Valve Bearings – sleeve type, corrosion resistant, self-lubricating
   g. Coating – inside and outside of valve fully coated Fusion Bonded Epoxy - ANSI/AWWA C550.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS

A. Install in accordance with manufacturer's written installation instructions, including but not limited to unloading and storing of product, field application of factory end seal material for all field cut pipe, trenching with proper attention to required cover height, concrete anchor block construction, laying, fusion welding, field joint insulation procedure, and fitting insulation procedure.

B. Prior to insulating and sealing of joints and fittings the piping system shall be visually and hydrostatically tested

C. Install all high-density polyethylene pressure pipe and fittings in accordance with Manufacturer's recommendations, and these Specifications.

D. The Contractor shall provide adequate tie-downs or otherwise stage the backfill process to ensure the pipe does not float and create high points.

A. Air-Vent Piping:

1. Inlet: Same as service where installed with metal-to-plastic transition fittings for plastic piping systems according to the piping manufacturer's written instructions.
2. Outlet: Type K, annealed-temper copper tubing with soldered or flared joints.

3.2 PIPING INSTALLATIONS

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

B. Install piping to permit valve servicing.

C. Install piping free of sags and bends.

D. Install fittings for changes in direction and branch connections.

E. Select system components with pressure rating equal to or greater than system operating pressure.

F. Install groups of pipes parallel to each other, spaced to permit applying insulation and servicing of valves.

G. Install piping at a uniform grade of 0.2 percent upward in direction of flow.

H. Reduce pipe sizes using eccentric reducer fitting installed with level side up.

3.3 PIPE JOINT CONSTRUCTION

A. Butt Fusion Joining:

1. Make joints between plain end pipes and fittings by butt fusion using only procedures that are recommended by the pipe and fitting Manufacturer, PPI PE Handbook, and most recent edition of ASTM F2620.

2. Ensure that persons making butt fusion joints are certified according to the standards and have proven experience to make fusion welds following Manufacturer's recommended procedures.

3. Maintain records of trained personnel and certify that training was received not more than 12 months before commencing construction.

4. External and internal beads resulting from butt fusion joining shall not be removed.

5. Use caution to protect the exposed butt ends of pipes from exposure to oils, greases, or hydrocarbons. Any pipe exposed to hydrocarbons of any type shall be cut-out and removed prior to butt fusion.

B. Electrofusion Joining:

1. Electrofusion joining shall be permitted only as specified above.

2. Couplings shall be produced from PE4710 or greater quality materials, be manufactured per ASTM F1055, and shall be suitable for fusion with PE4710 pipe.
3. Fusion must be performed in dry conditions with a balance of temperature between pipe and fittings.

4. The entire fusion operation (preparation, installation, fusion, etc.) must be carried out by a certified and trained installer, following the recommended procedure, established by the electro-fusion fitting manufacturer, the electro-fusion control box or processor manufacturer, and ASTM F1290 and PPI TN 34.

5. All materials and equipment shall be as required by the coupling manufacturer.

C. Flange Joint Connection Joining

1. Contractor shall install flange connections in accordance with the Manufacturer's recommended procedure and Plastic Pipe Institute (PPI) TN- 38 "Bolt Torque for Polyethylene Flanged Joints".

2. Center and align flange faces to each other before assembling and tightening bolts. Do not use the flange bolts to draw the flanges into alignment.

3. Lubricate bolt threads, and fit Belville washers under the flange nuts.

4. Tighten bolts evenly according to the tightening pattern and torque step recommendations of the Manufacturer and PPI TN-38.

5. At least one hour after initial assembly, re-tighten flange connections following the tightening pattern and torque step recommendations of the Manufacturer and PPI TN-38.

D. Mechanical Joint Connection Joining

1. Contractor shall install mechanical joint connections in accordance with the Manufacturer's recommended procedure and Plastic Pipe Institute (PPI).

2. Butt fuse HDPE MJ (mechanical joint) adapter to HDPE pipe end to connect to a Ductile Iron Mechanical Joint bell using the bolt and gland kit supplied by the HDPE MJ manufacturer.

3. For HDPE piping 10" and larger, a stainless-steel split ring stiffener shall be added to the inside diameter of the HDPE pipe to ensure proper connection and seal.

E. Gaskets: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

3.4 HYDRONIC SPECIALTIES INSTALLATION

A. Install manual air vents at high points in piping and elsewhere as required for system air venting.

3.5 EXCAVATION

A. Excavate trenches in conformance to the plans and drawings and as specified below. Trenchless technologies may be considered with prior approval.

B. Excavate subsoil and whatever material encountered including muck.

C. Cut trenches sufficiently wide to enable installation of utility and allow inspection and as shown on details provided on the Drawings.

D. Excavations shall not interfere with normal 45 degree bearing splay of foundations.

E. Correct unauthorized excavation at no cost.

F. Stockpile excavated material in area designated on site and remove excess material not being used, from site.

G. During the excavation process, the Contractor shall use caution to detect and shall immediately notify the A/E if it is believed that the in-place soils have been exposed to or

are contaminated with liquid hydrocarbons. At no time shall the proposed HDPE pipe be exposed to liquid hydrocarbons of any fashion.

H. Dewatering:

1. All excavation, construction and backfill of pipes shall be constructed under dry conditions.

2. The Contractor shall constantly maintain all excavations in a dewatered, workable condition, and shall be responsible for installing, operating, maintaining and removing such dewatering systems as are required.

3. The evaluation of the sufficiency of the condition shall be made by the A/E and his/her decision shall be binding upon the Contractor. If the A/E determines that dewatering is inadequate, the Contractor shall modify his/her methods until such time as the A/E then agrees with the adequacy of the operating condition.

I. Stability of temporary excavations:

1. All excavations shall be in accordance with OSHA requirements.

2. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.

3. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

J. Shoring:

1. Except as specified elsewhere, provide all shoring required for earthwork or required as a result of earthwork for safety of workers, existing structures, public or adjacent properties.

2. Provide materials for shoring and bracing in good serviceable condition.

3. Establish requirements for shoring and bracing to comply with local codes and authorities having jurisdiction.

4. Maintain shoring and bracing in excavations regardless of time period excavations will be open.

3.6 FOUNDATION AND BEDDING

A. Lay pipe on grade and on a stable foundation. Remove unstable or mucky trench bottom soils if present.

B. Install a 6-inch bedding of sand or round #8 or #57 stone to pipe bottom grade.

C. Compaction rates should be as specified in ASTM D2321.

D. Remove excess groundwater from the trench before laying the foundation or bedding and the pipe. Pipe shall be laid when the conditions of trench are dry.

3.7 LARGE DIAMETER FABRICATED FITTINGS

A. Butt fuse fabricated directional fittings 10-inch IPS and larger to the end of pipe.

B. The Contractor is encouraged to factory fabricate as many joints as possible. At a minimum, all bends, adapters, and anchors shall have pups (shorter straight sections of pipe) with a minimum length of 5 feet.

3.8 PIPE HANDLING

A. When lifting with slings, use only wide fabric choker slings to lift, move, or lower pipe and fittings. Do not use wire rope or chain. Slings shall be of sufficient capacity for the load and shall be inspected before use. Do not use worn or defective equipment.

B. At all times through delivery, storage, on-site staging and installation, the Contractor shall protect and ensure that the HDPE pipe is not exposed to liquid hydrocarbons. If any portions of the pipe are exposed to hydrocarbons, that section of pipe shall be cut-out and removed from use.

C. The Contractor shall exercise care in pipe handling. Gouges exceeding 10% of pipe wall thickness, or kinked sections, shall be cause for rejection of the pipe.

D. The handling of the joined pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Ropes, fabric, or rubber- protected slings and straps shall be used when handling pipes. Chains, cables, or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe. Pipe or fittings shall not be dropped onto rocky or unprepared ground. Slings for handling the pipeline shall not be positioned at butt-fused joints.

E. The open ends of all sections of joined and/or installed pipe (not in service) shall be plugged at night to prevent animals or foreign material from entering the pipeline or pipe section.

F. Waterproof nightcaps of approved design may be used but they shall also be so constructed that they will prevent the entrance of any type of natural precipitation into the pipe and will be fastened to the pipe in such a manner that the wind cannot blow them loose.

G. The practice of stuffing cloth or paper in the open ends of the pipe will be considered unacceptable.

H. Where possible, the pipe shall be raised and supported at a suitable distance back from the open end such that the open end will be below the level of the pipe at the point of support.

3.9 VALVE INSTALLATION

A. Install manual shutoff valve in main lines as indicated on the drawings and at each service tap into lands.

B. Provide bitumastic coating on all hardware after joining and testing and before backfilling.

C. Provide stiffeners for each valve.

D. Provide mechanical joint restraints on both sides of the valve.

E. Touch up all factory finish where damaged.

F. Submit all gasket materials for approval prior to installation.

G. Trace wires shall connect to the metallic valves and extend up within the valve box.

3.10 TRACER WIRE AND NOTIFICATION TAPE

A. Tracer wire shall be placed with all HDPE chilled water mains and shall be insulated, #10 solid copper cores rated for open trenching underground service. The tracer wire shall be connected to all valves and underground structures. The buried sections of tracer wire shall be continuous.

B. The tracer wire shall be extended within the valve boxes and terminate in an accessible location within the valve box cover.

C. All splices or connections shall be made at accessible locations inside handholes. All spliced or repaired wire connections in the tracer wire system shall be made using a Wing Nut Wire Connector (for two to four #10 wires), and made waterproof using an approved buried service wire closure.

D. The tracer wire shall be tested upon completion of the installation to ensure conductivity for locating. If any areas appear to be disconnected or conductivity appears incomplete, the tracer wire shall be excavated, inspected, and replaced.

E. Tracer shall be placed at a distance of no less than 6 inches and no more than 12 inches above the crown of the pipe.

F. Notification tape of at least 3 inches in width shall be placed in the trench at a distance no greater than 12 inches above the elevation of the tracer wire. The notification tape shall

be printed with the following or similar verbiage, "Caution: Water pipeline located in close proximity".

3.11 TESTING

A. Butt Fusion Testing:

1. On the first day butt fusions are to be made for each pipe size, the first fusion shall be a trial fusion or qualification fusion.

2. After the trial fusion is allowed to cool completely, cut out fusion test straps and test per ASTM F2620. The test strap shall be 12 inches (minimum) or 30 times the wall thickness in length with the fusion in the center, and 1 inch (minimum) or 1.5 times the wall thickness in width. Bend the test strap until the ends of the strap touch. If the fusion fails at the joint, make a new trial fusion, cool completely, and re-test. Do not commence butt fusion of pipe to be installed until a trial fusion has passed the bent strap test.

B. Hydrostatic Pressure Testing:

1. Pressure test HDPE pipes in accordance with ASTM F2164, "Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure".

2. Hydrostatic Testing of each section or sequence of pipe shall be performed prior to backfilling with all joints exposed. Partial backfill is permitted provided joints are exposed.

3. After pipe has been completely installed and backfilled, the entire system shall be hydrostatically tested again. All piping provided shall be pressure tested. All tools, instruments and equipment required for performing tests shall be furnished, and required temporary connection be made.

4. Defects that develop under tests shall be repaired promptly and the tests shall be repeated.

3.13 PIPE CLEANING

A. Before placing the site chilled water piping system in operation, the piping system shall be thoroughly filled and flushed with clean water. The Contractor shall submit a detailed plan for review. Plan shall detail how the flushing will achieve a clean piping system.

B. It is imperative that the piping is sealed and capped during installation to keep debris out.

C. Systems must be flushed after each stage of the installation.

D. The following procedures are for flushing and pre-cleaning:

1. All piping shall be capped to prevent sand and dirt from entering the piping before they are connected.

2. Bypass all equipment.

3. Install bypass on the end of each loop to allow full flow. Connect flushing rig to one end of the system to permit flushing.

4. Cleaning and flush rates must be at a minimum of 6 ft/sec through the piping or maximum flow rate of the system.

5. Operation shall remain in place until all sand and debris has been removed from the system.

6. Flushing water shall be discharged to the storm sewer. Discharge to storm sewer shall be done when it is not raining.

7. Fill system with fresh water and add liquid alkaline compound with emulsifying agents and detergents to remove grease and petroleum products from piping. Circulate solution for a minimum of 24 hours, drain, and refill with fresh water.

3.14 PRESSURE TESTING

A. Prepare hydronic piping according to ASME B31.9 and as follows:

1. Leave joints uninsulated and exposed for examination during test.

2. Provide temporary restraints for expansion joints that cannot sustain reactions due to test pressure. If temporary restraints are impractical, isolate expansion joints from testing.

3. Flush hydronic piping systems with clean water; then remove and clean or replace strainer screens.

4. Isolate equipment from piping. If a valve is used to isolate equipment, its closure shall be capable of sealing against test pressure without damage to valve. Install blinds in flanged joints to isolate equipment.

5. Install safety valve, set at a pressure no more than one-third higher than test pressure, to protect against damage by expanding liquid or another source of overpressure during test.

B. Perform the following tests on hydronic piping:

1. Use ambient temperature water as a testing medium.

2. While filling system, use vents installed at high points of system to release air. Use drains installed at low points for complete draining of test liquid.

3. Subject piping system to hydrostatic test pressure that is not less than 1.5 times the system's working pressure. Test pressure shall not exceed maximum pressure for any component in system under test. Verify that stress due to pressure at bottom of vertical runs does not exceed 90 percent of specified minimum yield strength or 1.7 times "SE" value in Appendix A in ASME B31.9, "Building Services Piping."

4. After hydrostatic test pressure has been applied for at least 10 minutes, examine piping, joints, and connections for leakage. Eliminate leaks by tightening, repairing, or replacing components, and repeat hydrostatic test until there are no leaks.

5. Prepare written report of testing.

B. Perform the following before operating the system:

1. Open manual valves fully.

2. Inspect air vents at high points of system and determine if all are installed and operating freely (automatic type), or bleed air completely (manual type).

END OF SECTION

SECTION 336313 - UNDERGROUND STEAM AND CONDENSATE DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes underground pre-insulated pipe systems outside the building for distribution of steam and condensate.

1.2 PERFORMANCE REQUIREMENTS

A. Provide components and installation capable of producing steam piping systems with the following minimum working-pressure ratings:

1. Steam Piping: 150 psig at 366 deg F.

2. Condensate Piping: 100 psig at 250 deg F.

1.3 ACTION SUBMITTALS

A. Product Data: underground pre-insulated pipe systems, fittings, and connections.

B. Shop Drawings: For underground steam and condensate distribution piping. Signed and sealed by a qualified professional engineer.

1. Calculate requirements for expansion compensation for underground piping.

2. Show expansion compensators, offsets, and loops with appropriate materials to allow piping movement in the required locations. Show anchors and guides that restrain piping movement with calculated loads, and show concrete thrust block dimensions.

3. Show pipe sizes, locations, and elevations. Show piping in trench with details showing clearances between piping, and show insulation thickness.

1.4 INFORMATIONAL SUBMITTALS

A. Material Test Reports: underground pre-insulated pipe systems, fittings, and connections.

B. Source quality-control reports.

C. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. ASME Compliance: Safety valves and pressure vessels shall bear appropriate ASME labels.

B. ASME Compliance: Comply with ASME B31.1, "Power Piping," for materials, products, and installation.

PART 2 - PRODUCTS

2.1 STEEL PIPES AND FITTINGS (NON-PREINSULATED SYSTEMS)

A. Steel Carrier Pipe: ASTM A 53/A 53M, Seamless Type S, Grade A, wall thickness as indicated in "Piping Application" Article; black with plain ends.

B. Wrought Cast- and Forged-Steel Flanges and Flanged Fittings: ASME B16.5, including bolts, nuts, and gaskets of the following material group, end connections, and facings:

1. Material Group: 1.1.

2. End Connections: Butt welding.

3. Facings: Raised face.

C. Steel Welding Fittings: ASME B16.9 and ASTM A 234/A 234M, seamless.

1. Welding Filler Metals: Comply with AWS D10.12M/D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

D. Nipples: ASTM A 733, Standard Weight, seamless, carbon-steel pipe complying with ASTM A 53/A 53M.

E. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.

1. ASME B16.21, nonmetallic, flat, asbestos free, 1/8-inch maximum thickness unless thickness or specific material is indicated.

a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.

b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.

F. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.

G. Carrier Pipe Insulation:

1. Calcium Silicate Pipe Insulation: Flat-, curved-, and grooved-block sections of noncombustible, inorganic, hydrous calcium silicate with a non-asbestos fibrous reinforcement. Comply with ASTM C 533, Type I.

a. Bands: ASTM A 666, Type 304, stainless steel, 3/4 inch wide, 0.020 inch thick.

H. Conduit: smooth wall, welded, 10-gauge A139 steel conduit.

I. Conduit Insulation: 1" thick maximum void-free, fully bonded polyurethane foam.

J. Jacketing: 125-mil thick HDPE, field applied.

K. Fittings: field-fabricated and -insulated elbows and tees. Elbows may be bent pipe equal to carrier pipe. Tees shall be field fabricated and insulated, and shall be compatible with the carrier pipe.

2.2 PRE-INSULATED PIPING SYSTEM

A. Pre-insulated Piping System: Factory-fabricated and -assembled, airtight and watertight, drainable, pressure-tested piping with conduit, inner pipe supports, and insulated carrier piping.

1. Manufacturer and Product: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Perma-Pipe, Multi-Therm

B. Carrier Pipe: Steel pipe and fittings, wall thickness as indicated in "Piping Application" Article; black with plain ends.

C. Carrier Pipe Insulation:

1. Aerogel Blanket Insulation: factory installed, hydrophobic, flexible, high performance, aerogel blanket designed for use in industrial applications. Comply with ASTM C1728, Type III. Basis-of-design: Pyrogel HPS insulation.

D. Conduit: smooth wall, welded, 10-gauge A139 steel conduit.

E. Conduit Insulation: 1" thick maximum void-free, fully bonded polyurethane foam.

F. Jacketing: 125-mil thick HDPE, factory applied.

1. Fittings: Factory-fabricated and -insulated elbows and tees. Elbows may be bent pipe equal to carrier pipe. Tees shall be factory fabricated and insulated, and shall be compatible with the carrier pipe.

2. Expansion Offsets and Loops: Size casing to contain piping expansion.

3. Accessories include the following:

a. Guides and Anchors: Steel plate welded to carrier pipes and to casing, complete with vent and drainage openings inside casing.

b. End Seals: Steel plate welded to carrier pipes and to casing, complete with drain and vent openings on vertical centerline.

c. Gland Seals: Packed stuffing box and gland follower mounted on steel plate, welded to end of casing, permitting axial movement of carrier piping, with drain and vent connections on vertical centerline.

d. Joint Kit: Half-shell, pourable or split insulation and shrink-wrap sleeve.

G. Source Quality Control: Factory test the conduit to 10 psig for a minimum of two minutes with no change in pressure. All factory welds will have the carrier pipe to 150 percent of the operating pressure of system. All Factory welds made by piping manufacture require 100% X-ray with films provided at shipment. Furnish test certificates.

PART 3 - EXECUTION

3.1 PIPING APPLICATION

A. Steam Piping:

1. NPS 2 through NPS 8: Schedule 40, Type E, Grade B, carbon steel pipe; Class 150 wrought-steel fittings, flanges, and flange fittings; and welded and flanged joints.

B. Condensate Piping:
   1. NPS 1-1/2 and Larger: Schedule 80, Type E, Grade B, carbon steel pipe; Class 150 wrought-steel fittings, flanges, and flange fittings; and welded and flanged joints.

3.2 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicate piping locations and arrangements if such were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

B. Remove standing water in the bottom of trench.

C. Bed the pipe on a minimum 6-inch layer of granular fill material with a minimum 6-inch clearance between the pipes.

D. Do not insulate piping or backfill piping trench until field quality-control testing has been completed and results approved.

E. Install steam piping at uniform grade of 0.2 percent downward in direction of flow or as indicated.

F. Install condensate piping at uniform grade of 0.2 percent downward in direction of flow.

G. Install drain valves at low points and manual air vents at high points.

H. Install components with pressure rating equal to or greater than system operating pressure.

I. Install piping free of sags and bends.

J. Install fittings for changes in direction and branch connections.

K. Secure anchors with concrete thrust blocks.

3.3 JOINT CONSTRUCTION

A. Join pipe and fittings according to the following requirements and Division 23 Sections specifying piping systems.

B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

D. Welded Joints: Construct joints according to AWS D10.12M/D10.12.

E. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

F. Pre-insulated Piping Joints: Assemble sections and finish joints with pourable or split insulation, exterior jacket sleeve, and apply shrink-wrap seals.

3.4 IDENTIFICATION

A. Install continuous plastic underground warning tapes during back filling of trenches for underground steam and condensate distribution piping.

3.5 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Prepare steam and condensate piping for testing according to ASME B31.1 and as follows:

    a. Leave joints, including welds, uninsulated and exposed for examination during test.
    b. Isolate equipment. Do not subject equipment to test pressure.
    c. Install relief valve set at pressure no more than one-third higher than test pressure.
    d. Fill system with temperature water. Where there is risk of freezing, air or a safe, compatible liquid may be used.
    e. Use vents installed at high points to release trapped air while filling system. Use drip legs installed at low points for complete removal of liquid.

2. Test steam and condensate piping as follows:

    a. Subject steam and condensate piping to hydrostatic test pressure that is not less than 1.5 times the design pressure.
    b. After hydrostatic test pressure has been applied for 10 minutes, examine joints for leakage. Remake leaking joints using new materials and repeat hydrostatic test until no leaks exist.

3. Test pre-insulated piping systems as follows:

    a. Seal vents and drains and subject conduit to 15 psig for four hours with no loss of pressure. Repair leaks and retest as required.

B. Welding inspection:

1. X-ray of welds: Owner requires radiographic examinations of 100% of all welds at Contractor's expense. Such inspection shall be performed after normal working hours.

2. Defective welds shall be repaired in accordance with governing authority. Repaired and/or replaced welds shall be checked by radiographic examination to ensure corrections have been made. Corrections and/or reexaminations shall be paid by Contractor.

C. Prepare test and inspection reports.

END OF SECTION 336313

SECTION 336314 - STEAM AND CONDENSATE HEATING SPECIALTIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Steam traps.

B. Steam air vents.

C. Check valves.

D. Strainers.

E. Ball valves.

F. Steam and Condensate Isolation Valves.

1.2 RELATED REQUIREMENTS

A. Section 33 63 13 - UNDERGROUND STEAM AND CONDENSATE DISTRIBUTION PIPING.

1.3 REFERENCE STANDARDS

A. General: Refer to most recent edition or edition adopted by authorities having jurisdiction, including all applicable amendments and supplements.

B. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.

C. ASTM A395/A395M - Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.

1.4 SUBMITTALS

A. Product Data:
   1. Provide for manufactured products and assemblies required for this project.

   2. Include product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes.

   3. Submit schedule indicating manufacturer, model number, size, location,

rated capacity, load served, and features for each specialty.

4. Include electrical characteristics and connection requirements.

B. Manufacturer's Installation Instructions: Indicate application, selection, and hookup configuration. Include pipe and accessory elevations.

C. Operation and Maintenance Data: Include installation instructions, servicing requirements, and recommended spare parts lists.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with the jurisdiction in which the Project is located standard for installation of boilers and pressure vessels.

B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum seven years of documented experience.

C. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect material and equipment during transit, storage, and handling to prevent damage and deterioration.

B. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

E. Comply with manufacturer's installation instructions for rigging, unloading, and transporting.

F. Protect motors stored on site from weather and moisture by maintaining factory covers and suitable weather-proof covering. For extended outdoor storage, remove motors from equipment and store separately.

PART 2 – PRODUCTS

2.01 STEAM TRAPS

A. Manufacturers:

1. Armstrong International, Inc
2. Marshall Engineered Products Company
3. Spirax-Sarco
4. Or Equal

B. Steam Trap Applications:

1. Use Float and Thermostatic Traps for:
   a. Main headers.
   b. Branch lines.

D. Steam Trap Performance:

1. Select to handle minimum of two times maximum condensate load of apparatus served.
2. Pressure Differentials:
   a. High Pressure Steam (200 psi maximum): 90 psi, as approved by the Owner's Facilities Representative.

E. Float and Thermostatic Steam Traps:

1. Metal body with bolted cover, stainless steel or bronze bellows type thermostatic air vent, stainless steel or copper float, stainless steel lever valve assembly, bottom drain plug, and accessible to internal parts without disturbing piping.

E. Pressure Balanced Thermostatic Traps: ASTM A395/A395M cast iron body and bolted or screwed cover, and integral ball joint union for 125 psi WSP; phosphor bronze bellows, stainless steel valve and seat, integral stainless steel strainer.

2.02 STEAM AIR VENTS

A. Manufacturers:

1. Armstrong International, Inc
2. ITT Hoffman Specialty
3. Spirax-Sarco
4. Or Equal

2.03 CHECK VALVES

A. Manufacturers:

1. Armstrong International, Inc
2. Marshall Engineered Products Company
3. Spirax-Sarco
4. Or Equal

2.04 STRAINERS

A. Manufacturers:

1. Armstrong International, Inc
2. Marshall Engineered Products Company
3. Spirax-Sarco
4. Or Equal

2.05 BALL VALVES

A. Manufacturers:

1. Armstrong International, Inc
2. Marshall Engineered Products Company
3. Spirax-Sarco
4. Or Equal

2.06 ISOLATION VALVES

A. Manufacturers:

1. Armstrong International, Inc
2. Marshall Engineered Products Company
3. Spirax-Sarco
4. Powell Valves
5. Or Equal

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install steam and steam condensate piping and specialties in accordance with ASME B31.1.

B. Install specialties in accordance with manufacturer's instructions.

B. Steam Traps:

1. Provide minimum 1 inch size on steam mains and branches.
2. Install with union or flanged connections at both ends.
3. Provide gate valve and strainer at inlet, and gate valve and check valve at discharge.
4. Provide minimum 12 inch long, line size dirt pocket between apparatus and trap, unless detailed otherwise.

D. Remove thermostatic elements from steam traps during temporary and trial usage, and until system has been operated and dirt pockets cleaned of sediment and scale.

E. In high pressure and medium pressure mains, provide 3/4 inch nipple in bottom of main, extending 3/4 inch into and above bottom of pipe. Provide dirt pocket with 3/4 inch high pressure thermostatic trap.

3.2 ADJUSTING AND CLEANING

A. General: At completion of work, leave entire installation in a neat, clean, and usable condition acceptable to Owner.

B. Flush out all water and steam lines with potable water. For heating and cooling piping systems, introduce a cleaning solution such as trisodium phosphate during flushing to degrease the system. Dispose of effluent in a manner acceptable to codes. Continue to flush until neutral pH is attained.

C. After cleaning of system and equipment, carefully adjust all parts of all systems for normal operation.

3.3 PAINTING

A. Provide all apparatus and equipment with a shop coat at factory.

3.4 TRAINING

A. Train the Owner's maintenance personnel on trouble-shooting procedures, and servicing and preventative maintenance schedules and procedures.

B. Provide the services of a factory-authorized service representative to provide start-up service and to demonstrate and train the Owner's maintenance personnel for items listed herein.

C. Schedule training with Owner with at least 14 days prior notice.

END OF SECTION

ADVERTISEMENT FOR BIDS

S d d r d r S L D Ad r d d r d O F P d C r , 1201 N r T rd S r , C r O B d , S 7-160, B R , L , 70802 r P O B 94095, B R , L , 70804-9095 T d d r r d 2 00 PM , 20 , d d d r d d C r O B d , C r R 1-145

FOR **STRATEGIC CAPITAL PLAN - DEFERRED MAINTENANCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY, BATON ROUGE, LA**

PROJECT NUMBER **STATE PROJECT No. 19-601-20-03, F.19002643**

USE ONE OF THE FOLLOWING PARAGRAPHS

C B d D r r r r T d r d d r // r Pr d r r D r, rr d r r r r P d r r r r r d Q r d r d r d D r
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(225) 927-9321
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A PRE-BID CONFERENCE WILL BE HELD
at *time* on *day , date* at *location*

B d d r C r r d d r LA R S 37 2150-2192 r B dd r r d r r d r LA R S 38 2212(B)(5) N d dr r r d r - (45) d r r d , d r r LA R S 38 2214

T O r r r r d d r I rd L R S 38 2212(B)(1), r d r r S d d dd d d

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F P d C r r S E r r r (SE) Pr r (H d I) d V r - O d d S r -C d D d V r -O d (L V) S E r r r Pr r B dd r r r d d r r I r r O F P d C r r // d /d / /

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STATE OF LOUISIANA
DIVISION OF ADMINISTRATION
FACILITY PLANNING AND CONTROL
ROGER E HUSSER, JR , DIRECTOR

OCTOBER 2024

INSTRUCTIONS TO BIDDERS

COMPLETION TIME:

T B dd r r r 36 d r d r d d r r r .3 r d d r d d d r r r r d d r N r d r O r.

LIQUIDATED DAMAGES:

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ARTICLE 2

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ARTICLE 3

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ARTICLE 5

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.1.1 B d d r r B d F r r d d r r r .

.1.2 T B dd r r d r r d r d .

.1.3 B d r d rd d r d d r r rd r .

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.1. B dd r r d r d r r d B d F r . F r r r r d r d r d r .

.1.6 B dd r r d r d r r d B d F r . r r r r r d d d r . r r r r d d r d r F r r r .

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.2.1 N d d r d r d d d d d r r . d d r . T d r r r d r r dr r d F d r r r r r B d B d r r d d d r r . T B d B d r d d r . T B d B d d dd r r d r O F d r d d r r r r . T B d B d d dd r r d r r d d F d r B d B d F r . F r dd r r r r d d r r d. B d r r d r r r r rd d r rd r r r r d r r d B d r r d B d 1 d r r r r d r . d B dd r r r r r r d d r . r r r d d r r d O r d d d .

.2.2 T O r r r d r B dd r r r d d d r d r d d d dr r d r d.

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.3.1 T B d d . T d d d d r d ddr d r B dd r. T d r d r d d d d r r B d . r B dd r d r d d F d r r d d r r d d r d . d r d r r d

delivery by United States Mail, or express delivery, shall disqualify the bid.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof. Such bids shall be sent by Registered or Certified Mail, Return Receipt Requested, addressed to:

Facility Planning and Control,
P. 0. Box 94095
Baton Rouge, Louisiana, 70804-9095.

Bids sent by express delivery shall be delivered to:

Facility Planning and Control
Suite 7-160
Claiborne Office Building
1201 North Third Street
Baton Rouge, Louisiana 70802

5.3.2 Bids shall be deposited at the designated location prior to the time on the date for receipt of bids indicated in the Advertisement for Bids, or any extension thereof made by addendum. Bids received after the time and date for receipt of bids will be returned unopened.

5.3.3 Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

5.3.4 Oral, telephonic or telegraphic bids are invalid and shall not receive consideration. Owner shall not consider notations written on outside of bid envelope which have the effect of amending the bid. Written modifications enclosed in the bid envelope, and signed or initialed by the Contractor or his representative, shall be accepted.

5.4 Modification or Withdrawal of Bid

5.4.1 A bid may not be modified, withdrawn or canceled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with R.S. 38:2214 which states, in part, "Bids containing patently obvious, unintentional, and substantial mechanical, clerical, or mathematical errors, or errors of unintentional omission of a substantial quantity of work, labor, material, or services made directly in the compilation of the bid, may be withdrawn by the contractor if clear and convincing sworn, written evidence of such errors is furnished to the public entity within forty-eight hours of the bid opening excluding Saturdays, Sundays, and legal holidays".

5.4.2 Prior to the time and date designated for receipt of bids, bids submitted early may be modified or withdrawn only by notice to the party receiving bids at the place and prior to the time designated for receipt of bids.

5.4.3 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these Instructions to Bidders.

5.4.4 Bid Security shall be in an amount sufficient for the bid as modified or resubmitted.

5.5 Prohibition of Discriminatory Boycotts of Israel

By submitting a bid, the bidder certifies and agrees that the following information is correct:

In preparing its bid, the bidder has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israel-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The bidder has also not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. The state reserves the right to reject any bid if this certification is subsequently determined to be false and to terminate any contract awarded based on such a false response.

ARTICLE 6

CONSIDERATION OF BIDS

6.1 Opening of Bids

6.1.1 The properly identified Bids received on time will be opened publicly and will be read aloud, and a tabulation abstract of the amounts of the base bids and alternates, if any, will be made available to Bidders.

6.2 B d

6.2.1 T O r r r r d d r r r d d r r d r r d B d r d r rr r.

6.3 B d

6.3.1 O r r rd r r d B d F r . r B dd r d d r d. r O r r r r r rd r d d r B dd r.

ARTICLE 7

O T B NFO M T ON

.1

.1.1 r r r r r r .

.1.1.1 d r r r d r r r r . .

.1.1.2 r d r r d d F r d . N d r r r d.

.1.1.3 T r r r d r r r r d r d r r .

.1.1. d d r r r r r r r r r d r r r r d d r d r r r r . r r O r r r r r r r r r r d r.

.1.2 T r r r r r r r r d r r . T r r r r r rr d d r r r M r r r r r . F r r r d d r r r d r r r d r r r d rd. d r r O r r r r rr r r r r r d .

.1.3 T r d r dd r r d O r d r d r r r r r r r r r r r F d r d d r d r r r r r d r . T r r r d r r r r d r .

rd . . . 3 222 r r . . 3 2212 3 r r d . . 3 2212 B 3 . . . 3 2212.1 d . . . 23 1 26 B r dd r r d d r B dd r r d r rd d r r r r d d F d r 1 d r d .

ARTICLE 8

FO M N N M NT BON

.1 B d r d

.1.1 T r r r d r r r d B d r d d d r r r 1 r . r d rr

the U. S. Department of Treasury Financial Management Service List (Treasury List) as approved for an amount equal to or greater than the contract amount, or must be an insurance company domiciled in Louisiana or owned by Louisiana residents. If surety is qualified other than by listing on the Treasury list, the contract amount may not exceed fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance and may not exceed the amount of $500,000. However, a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A. M. Best's Key Rating Guide shall not be subject to the $500,000 limitation, provided that the contract amount does not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide nor fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance. The Bond shall be signed by the surety's agent or attorney-in-fact. The Bond shall be in favor of the State of Louisiana, Office of Facility Planning and Control.

8.2 Time of Delivery and Form of Bond

8.2.1 The Bidder shall deliver the required bond to the Owner simultaneous with the execution of the Contract.

8.2.2 Bond shall be in the form furnished by Facility Planning and Control, entitled CONTRACT BETWEEN OWNER AND CONTRACTOR AND PERFORMANCE AND PAYMENT BOND, a copy of which is included in the Bid Documents.

8.2.3 The Bidder shall require the Attorney-in-Fact who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of Attorney.

ARTICLE 9

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

9.1 Form to be Used

9.1.1 Form of the Contract to be used shall be furnished by Facility Planning and Control, an example of which is bound in the Bid Documents.

9.2 Award

9.2.1 After award of the Contract, the successful Bidder, if a corporation, shall furnish to the Owner the most current copy of a Disclosure of Ownership Affidavit on file with the Secretary of State.

9.2.2 In accordance with Louisiana Law, when the Contract is awarded, the successful Bidder shall, at the time of the signing of the Contract, execute the Non-Collusion Affidavit included in the Contract Documents

9.2.3 When this project is financed either partially or entirely with State Bonds, the award of this Contract is contingent upon the sale of bonds by the State Bond Commission. The State shall incur no obligation to the Contractor until the Contract Between Owner and Contractor is duly executed.

LOUISIANA UNI ORM PUBLIC OR BID ORM

TO: F d r
16
r O B d
12 1 N r .
B 2
(Owner to provide name and address of owner)

BID OR: r rr d M r
r r r d r
r B
r N . 1 6 1 2 3 F. 1 26 3
N d 2 1 1
Owner to provide name of project and other identifying information)

T d r d dd r r d r d r r r d d d r d B dd
r d r d r d d r r rr B dd r
dd d r d d r r d r r r d r r
d r r d r r r r d r r r d
r r d r r rd B dd r r d F r d T d .
_____ d d d _____
(Owner to provide name of entity preparing bidding documents.)

B dd r d dd d . T B dd r d r **ADDENDA:** r r
r d dd d B dd r d .

TOTAL BASE BID F r r r d B dd d d r d d B B d
r

_____ r _____

ALTERNATES: F r d r r d B dd r r d d r
d d r r d r .

A tern te N . 1 *(Owner to provide description of alternate and state whether add or deduct)* r

_____ r _____

A tern te N . 2 *(Owner to provide description of alternate and state whether add or deduct)* r

_____ r _____

A tern te N . 3 *(Owner to provide description of alternate and state whether add or deduct)* r

_____ r _____

NAME O BIDDER: _____

ADDRESS O BIDDER: _____

_____

LOUISIANA CONTRACTOR S LICENSE NUMBER: _____

NAME O AUT ORI ED SIGNATOR O BIDDER: _____

TITLE O AUT ORI ED SIGNATOR O BIDDER: _____

SIGNATURE O AUT ORI ED SIGNATOR O BIDDER : _____

DATE:

T E OLLO ING ITEMS ARE TO BE INCLUDED IT T E SUBMISSION O T IS LOUISIANA UNI ORM PUBLIC OR BID ORM

T r F r d r d r . O r r r d d d d d
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AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

Repair and Resurface of Asphalt Parking Lots
Elayn Hunt Correctional Center, St. Gabriel, LA

THE OWNER:
(Name, legal status and address)

Louisiana Division of Administration, Office of Facility Planning and Control
1201 North Third St, Suite 7-160
Baton Rouge, LA 70802

THE ENGINEER:
(Name, legal status and address)

Forte and Tablada, Inc.
9107 Interline Ave
Baton Rouge, LA 70809

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13 MISCELLANEOUS PROVISIONS

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document

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G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

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§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

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§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

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§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- **.1** allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- **.2** Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- **.3** whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and

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delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will

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specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

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§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

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§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

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ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- **.1** assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

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§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- **.1** The change in the Work;
- **.2** The amount of the adjustment, if any, in the Contract Sum; and
- **.3** The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- **.1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- **.2** Unit prices stated in the Contract Documents or subsequently agreed upon;
- **.3** Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- **.4** As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

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.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;

.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

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§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

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§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;

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.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a Separate Contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

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§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

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§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

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.1 employees on the Work and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

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promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act

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or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

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The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and

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approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- **.3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

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§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- **.1** that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- **.2** that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- **.1** cease operations as directed by the Owner in the notice;
- **.2** take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- **.3** except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

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§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

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§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

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§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

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Additions and Deletions Report for

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PAGE 1

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Louisiana Division of Administration, Office of Facility Planning and Control
1201 North Third St,
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THE ~~ARCHITECT:~~ENGINEER:

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Certification of Document's Authenticity

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I, Tyler H. Branch, P.E., hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:53:43 ET on 12/06/2023 under Order No. 2114476012 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2017, General Conditions of the Contract for Construction, other than those additions and deletions shown in the associated Additions and Deletions Report.

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SUPPLEMENTARY CONDITIONS

These Supplementary Conditions modify, change, delete from or add to the General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any Section, Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Section, Article, Paragraph, Subparagraph or Clause shall remain in effect.

Articles, Sections, Paragraphs, Subparagraphs or Clauses modified or deleted have the same numerical designation as those occurring in the General Conditions.

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1. The Contract Documents

In Section 1.1.1 delete the third sentence, and add the following sentence:
The Contract Documents shall include the Bid Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda.

1.1.8 Initial Decision Maker

Delete all after the words, "shall not show partiality to the Owner or Contractor".

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE [REFER TO *La R.S. 38:2317*]

1.5.1 Delete the first sentence of the paragraph.

1.5.1 In the third sentence: delete the remainder after the word "publication".

1.7 DIGITAL DATA USE AND TRANSMISSION

In the first sentence after the words, "in digital form" delete ". The parties will use AIA Document E203 2013, Building Information Modeling and Digital Data Exhibit".

1.8 BUILDING INFORMATION MODELS USE AND RELIANCE

Delete Section 1.8.

ARTICLE 2

OWNER

2.2 EVIDENCE OF THE OWNER'S FINANCIAL ARRANGEMENTS

Delete Section 2.2.

2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.3.1 In the first sentence, delete: all before "the Owner shall secure…"

Delete Section 2.3.2 and substitute the following:

2.3.2 The term Architect, when used in the Contract Documents, shall mean the prime Designer (Architect, Engineer, or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering, or landscape architecture in the State of Louisiana, identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number.

2.3.3 Delete the words: "to whom the Contractor has no reasonable objection and".

ARTICLE 3

CONTRACTOR

3.4 LABOR AND MATERIALS

3.4.2 Delete Section 3.4.2.

Delete Section 3.4.3 and substitute with the following:

3.4.3 Contractor and its employees, officers, agents, representatives, and Subcontractors shall conduct themselves in an appropriate and professional manner, in accordance with the Owner's requirements, at all times while working on the Project. Any such individual who behaves in an inappropriate manner or who engages in the use of inappropriate language or conduct while on Owner's property, as determined by the Owner, shall be removed from the Project at the Owner's request. Such individual shall not be permitted to return without the written permission of the Owner. The Owner shall not be responsible or liable to Contractor or any Subcontractor for any additional costs, expenses, losses, claims or damages incurred by Contractor or its Subcontractor as a result of the removal of an individual from the Owner's property pursuant to this Section. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

3.5 WARRANTY

3.5.2 Replace reference to "Section 9.8.4" with "Section 9.8.6".

3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS (La R.S. 40:1724[A])

3.7.1 Delete Section 3.7.1.

3.7.2 In Section 3.7.2, replace the word "public" with the word "State".

Delete Section 3.7.5 and substitute the following:

3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited to La R.S. 8:671 et seq., the Office of Coastal Protection and Restoration, and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

3.8 ALLOWANCES

Delete Sections 3.8.1, 3.8.2, and 3.8.3 in their entirety and add the following new Section 3.8.1:

3.8.1 Allowances shall not be made on any of the Work.

3.9 SUPERINTENDENT

3.9.1 Add the following to the end of the paragraph:
Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

3.10 CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 Add the following: For projects with a contract sum greater than $1,000,000.00, the Contractor shall include with the schedule, for the Owner's and Architect's information, a network analysis to identify those tasks which are on the critical path, i.e., where any delay in the completion of these tasks will lengthen the project timescale, unless action is taken. A revised schedule shall be submitted with each Application and Certificate for Payment. No payment shall be made until this schedule is received.

3.10.3 In the first sentence, delete the word "general".

After the first sentence, add the following:
If the Work is not on schedule, as determined by the Architect, and the Contractor fails to take action to bring the Work on schedule, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. Such default may be considered grounds for termination by the Owner for cause in accordance with Section 14.2.

Add the following Sections:

3.10.4 Add the following: Submittal by the contractor of a schedule or other documentation showing a completion date for his Work prior to the completion date stated in the contract shall not impose any obligation or responsibility on the Owner or Architect for the earlier completion date.

3.10.5 In the event the Owner employs a commissioning consultant, the Contractor shall cooperate fully in the commissioning process and shall require all subcontractors and

others under his control to cooperate. The purpose of such services shall be to ensure that all systems perform correctly and interactively according to the provisions of the Contract Documents.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following: This requirement is of the essence of the contract. The Architect shall determine the value of these documents and this amount shall not be approved for payment to the Contractor until all of the listed documents are delivered to the Architect in good order, completely marked with field changes and otherwise complete in all aspects.

ARTICLE 4

ARCHITECT

4.2 ADMINISTRATION OF THE CONTRACT

4.2.1 In the first sentence, delete the phrase: "the date the Architect issues the final Certificate for Payment" and replace with the phrase "final payment is due, and with the Owner's concurrence, from time to time during the one year period for correction of Work described in Section 12.2."

4.2.2 In the first sentence, after the phrase: "become generally familiar with"; insert the following: "and to keep the Owner informed about".

In the first sentence, after the phrase "portion of the Work completed", insert the following: "to endeavor to guard the Owner against defects and deficiencies in the Work,"

4.2.4 In the first sentence, delete all after "The Owner and Contractor", and add the following "may communicate directly with each other, when deemed necessary by the Owner, and the Owner will notify the Architect of any decision."

4.2.10 Add the following sentence to the end of Section 4.2.10: There shall be no restriction on the Owner having a Representative.

4.2.11 Add the following sentence to the end of Section 4.2.11:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

4.2.14 Insert the following sentence between the second and third sentences of Section 4.2.14:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

ARTICLE 5

SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Delete Section 5.2.1, and substitute the following:

5.2.1 Unless otherwise required by the Contract Documents, the Contractor shall furnish at the Pre-Construction Conference, to the Owner and the Architect, in writing, the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. No Contractor payments shall be made until this information is received.

Delete Section 5.2.2, and substitute the following:

5.2.2 The Contractor shall be solely responsible for selection and performance of all subcontractors. The Contractor shall not be entitled to claims for additional time and/or an increase in the contract sum due to a problem with performance or nonperformance of a subcontractor.

Delete Sections 5.2.3 and 5.2.4 and substitute the following:

5.2.3 The Contractor shall notify the Architect and the Owner when a subcontractor is to be changed and substituted with another subcontractor.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Delete Sections 5.4, 5.4.1, 5.4.2 and 5.4.3

ARTICLE 7

CHANGES IN THE WORK

7.1 GENERAL

Add the following Sections:

7.1.4 As part of the pre-construction conference submittals, the Contractor shall submit the following prior to the Contractor's initial request for payment:

7.1.4.1 Fixed job site overhead cost itemized with documentation to support daily rates.

7.1.4.2 Bond Premium Rate with supporting information from the General Contractor's carrier.

7.1.4.3 Labor Burden by trade for both Subcontractors and General Contractor. The Labor Burden shall be supported by the Worker's Compensation and Employer's Liability Insurance Policy Information Page. Provide for all trades.

7.1.4.4 Internal Rate Charges for all significant company owned equipment.

7.1.5 If the General Contractor fails to submit the aforementioned documentation as part of the pre-construction submittals, then pay applications shall not be processed until such time as the Owner receives this information.

7.2 CHANGE ORDERS

Delete Section 7.2.1, and substitute the following Sections:

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, the Architect, and the Contractor issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time. Any reservation of rights, stipulation, or other modification made on the change order by the contractor shall have no effect.

7.2.2 "Cost of the Work" for the purpose of Change Orders shall be the eligible costs required to be incurred in performance of the Work and paid by the Contractor and Subcontractors which eligible costs shall be limited to:

7.2.2.1 Actual wages paid directly to labor personnel, with a labor burden markup exclusively limited to applicable payroll taxes, worker's compensation insurance, unemployment compensation, and social security taxes for those labor personnel performing the Work. Wages shall be the basic hourly labor rate paid an employee exclusive of fringe benefits or other employee costs. The labor burden percentage for the "Cost of the Work" is limited to categories listed herein. Employer-provided health insurance, fringe benefits, employee training (whether a requirement of employment or not), vacation pay, etc., are examples of ineligible labor burden costs which ***shall not*** be included, as these costs are already compensated by the Overhead and Profit markup.

Supervision shall not be included as a line item in the "Cost of the Work", except when the change results in a documented delay in the critical path, as described in Section 7.2.7.

7.2.2.2 Cost of all materials and supplies necessary and required to perform the Work, identifying each item and its individual cost, including taxes. Incidental consumables are not eligible costs and shall not be included.

7.2.2.3 Cost of each necessary piece of machinery and equipment required to perform the Work, identifying each item and its individual cost, including taxes. Incidental small tools of a specific trade (i.e., shovels, saws, hammers, air compressors, etc.,) and general use vehicles, such as pickup trucks even for

moving items around the site, fuel for these general use vehicles, travel, lodging, and/or meals are not eligible and shall not be included.

7.2.2.4 Eligible Insurance costs shall be limited to documented increases in "Builder's Risk" insurance premium / costs only. Commercial General Liability, Automobile Liability, and all other required insurances, where referenced in the Contract shall be considered part of normal overhead. These costs are already compensated by the Overhead and Profit markup.

7.2.2.5 Cost for the General Contractor Performance and Payment Bond premium, where the documented cost of the premiums have been increased due to the Change Order.

7.2.3 Overhead and Profit - The Contractor and Subcontractor shall be due home office fixed overhead and profits on the Cost of the Work, but shall not exceed a total of 16% of the direct cost of any portion of Work.

The credit to the Owner resulting from a change in the Work shall be the sum of those items above, including overhead and profit. Where a change results in both credits to the Owner and extras to the Contractor for related items, overhead and profit shall be computed for credits to the Owner and extras to the Contractor. The Owner shall receive full credit for the computed overhead and profit on credit change order items.

7.2.4 The cost to the Owner resulting from a change in the Work shall be the sum of: Cost of the Work (as defined at Section 7.2.2) and Overhead and Profit (as defined at Section 7.2.3), and shall be computed as follows:

7.2.4.1 When all of the Work is General Contractor Work; 8% markup on the Cost of the Work.

7.2.4.2 When the Work is all Subcontract Work; 8% markup on the Cost of the Work for Subcontractor's Overhead and Profit, plus 8% markup on the Cost of the Work, not including the Subcontractor's Overhead and Profit markup, for General Contractor's Overhead and Profit.

7.2.4.3 When the Work is a combination of General Contractor Work and Subcontract Work; that portion of the direct cost that is General Contract Work shall be computed per Section 7.2.4.1 and that portion of the direct cost that is Subcontract Work shall be computed per Section 7.2.4.2.

Premiums for the General Contractor's bond may be included, but after the markup is added to the Cost of the Work.
Premiums for the Subcontractor's Bond shall not be included.

7.2.4.4 Subcontract cost shall consist of the items in Section 7.2.2 above plus Overhead and Profit as defined in Section 7.2.3.

7.2.5 Before a Change Order is prepared, the Contractor shall prepare and deliver to the Architect the following information concerning the Cost of the Work, not subject to waiver, within a reasonable time after being notified to prepare said Change Order:

A detailed, itemized list of labor, material and equipment costs for the General Contractor's Work including quantities and unit costs for each item of labor, material and equipment.

An itemized list of labor, material and equipment costs for each Subcontractor's and/or Sub-Subcontractor's Work including quantities and unit costs for each item of labor, material and equipment.

7.2.6 After a Change Order has been approved, no future requests for extensions of time or additional cost shall be considered for that Change Order.

7.2.7 Extended fixed job-site costs are indirect costs that are necessary to support the work in the field. Examples of fixed job-site costs are field office rental, salaries of field office staff, field office utilities, and telephone.

Extended fixed job-site costs or equitable adjustment may be included in a Change Order due to a delay in the critical path, with the exception of weather related delays. In the event of a delay in the critical path, the Contractor shall submit all changes or adjustments to the Contract Time **within twenty-one (21) days** of the event giving rise to the delay. The Contractor shall submit documentation and justification for the adjustment by performing a critical path analysis of its most recent schedule in use prior to the change, which shows an extension in critical path activities.

The Contractor shall notify the Architect in writing that the Contractor is making a claim for extended fixed job-site overhead as required by Section 15.1.2. The Contractor shall provide proof that the Contractor is unable to mitigate financial damages through Alternate Work within this Contract or replacement work. "Replacement Work" is that work which the Contractor is obligated to perform under any construction contract separate from this Contract. Reasonable proof shall be required by the Architect that the delays affected the Completion Date.

7.2.8 "Cost of the Work" whether General Contractor cost or Subcontractor cost shall not apply to the following:

7.2.8.1 Salaries or other compensation of the Contractor's personnel at the Contractor's principal office and branch offices.

7.2.8.2 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work.

7.2.8.3 Overhead and general expenses of any kind or the cost of any item not specifically and expressly included above in Cost of the Work.

7.2.8.4 Cost of supervision refer to section 7.2.2.1, with exception as provided in Section 7.2.7.

7.2.9 When applicable as provided by the Contract, the cost to Owner for Change Orders shall be determined by quantities and unit prices. The quantity of any item shall be as

submitted by the Contractor and approved by the Architect. Unit prices shall cover cost of Material, Labor, Equipment, Overhead and Profit.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.3 In the first sentence after "following methods" insert: ", but not to exceed a specified amount".

7.3.4 From .1 of the list, delete all after "Costs of labor, including" and substitute the following "social security, old age and employment insurance, applicable payroll taxes, and workers' compensation insurance;"

Delete the following from .4 of the list: "permit fees,"

Delete Section 7.3.9 and substitute the following:

7.3.9 Pending final determination of the total costs of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs.

ARTICLE 8

TIME

8.1 DEFINITIONS

Add the following:

8.1.5 The Contract Time shall not be changed by the submission of a schedule that shows an early completion date unless specifically authorized by change order.

8.2 PROGRESS AND COMPLETION

Add to Section 8.2.1 the following:

Completion of the Work must be within the Time for Completion stated in the Agreement, subject to such extensions as may be granted under Section 8.3. The Contractor agrees to commence Work not later than fourteen (14) days after the transmittal date of Written Notice to Proceed from the Owner and to substantially complete the project within the time stated in the Contract. The Owner will suffer financial loss if the project is not substantially complete in the time set forth in the Contract Documents. The Contractor and the Contractor's Surety shall be liable for and shall pay to the Owner the sum stated in the Contract Documents as fixed, agreed and liquidated damages for each consecutive calendar day (Saturdays, Sundays and holidays included) of delay until the Work is substantially complete. The Owner shall be entitled to the sum stated in the Contract Documents. Such Liquidated Damages shall be withheld by the Owner from the amounts due the Contractor for progress payments.

Delete Section 8.2.2.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 In the first sentence after the words "Owner pending" delete the words "mediation and binding dispute resolution" and add the word "litigation", and delete the last word "determine" and add the following: "recommend, subject to Owner's approval of Change Order. If the claim is not made within the limits of Article 15, all rights for future claims for that month are waived."

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

Delete Section 9.1.2.

Delete Section 9.2 and substitute the following:

9.2 SCHEDULE OF VALUES

At the Pre-Construction Conference, the Contractor shall submit to the Owner and the Architect a Schedule of Values prepared as follows:

9.2.1 The attached Schedule of Values Format shall be used. If applicable, the cost of Work for each section listed under each division, shall be given. The cost for each section shall include Labor, Materials, Overhead and Profit.

9.2.2 The Total of all items shall equal the Total Contract Sum. This schedule, when approved by the Architect, shall be used as a basis for the Contractor's Applications for Payment and it may be used for determining the cost of the Work in deductive change orders, when a specific item of Work listed on the Schedule of Values is to be removed. Once the Schedule of Values is submitted at the Pre-Construction Conference, the schedule shall not be modified without approval from the Owner and Architect.

9.3 APPLICATIONS FOR PAYMENT

Delete Sections 9.3.1, 9.3.1.1, and 9.3.1.2 and substitute the following:

9.3.1 Monthly, the Contractor shall submit to the Architect a Facility Planning and Control – Application and Certification for Payment form, supported by any additional data substantiating the Contractor's right to payment as the Owner or the Architect may require. Application for Payment shall be submitted on or about the first of each month for the value of labor and materials incorporated into the Work and of materials, suitably stored, at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows, per La R.S. 38:2248:

9.3.1.1 Projects with Contract price up to $500,000.00 – 10% of the Contract price.

9.3.1.2 Projects with Contract price of $500,000.00, or more – 5% of the Contract price.

9.3.1.3 No payment shall be made until the revised schedule required by Section 3.10.1 is received.

9.3.1.4 The normal retainage shall not be due the Contractor until after substantial completion and expiration of the forty-five day lien period and submission to the Architect of a clear lien certificate, consent of surety, and invoice for retainage.

Delete Section 9.3.2 and substitute the following:

9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, including applicable insurance.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Section 9.5.1.7: Delete the word "repeated".

Delete Section 9.5.4.

9.6 PROGRESS PAYMENTS

Delete Section 9.6.1 and substitute the following:

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment within twenty days except for projects funded fully or in part by a Federal reimbursement program. For such projects the Owner will make payment in a timely manner consistent with reimbursement.

9.6.2 Delete the phrase: "no later than seven days" from the first sentence.

After the end of the second sentence, add the following:

La R.S. 9:2784 (A) and (C) require a Contractor or Subcontractor to make payment due to each Subcontractor and supplier within fourteen (14) consecutive days of the receipt of payment from the Owner. If not paid, a penalty in the amount of ½ of 1% per day is due, up to a maximum of 15% from the expiration date until paid. The contractor or subcontractor, whichever is applicable, is solely responsible for payment of a penalty.

9.6.4 Delete the first two sentences of Section 9.6.4 and add the following to the end of the Section:

Pursuant to La. R.S. 38:2242 and La. R.S. 38:2242.2, when the Owner receives any claim of nonpayment arising out of the Contract, the Owner shall deduct 125% of such claim from the Contract Sum. The Contractor, or any interested party, may deposit security, in accordance with La. R.S. 38:2242.2, guaranteeing payment of the claim with the recorder

of mortgages of the parish where the Work has been done. When the Owner receives original proof of such guarantee from the recorder of mortgages, the claim deduction will be added back to the Contract Sum.

Delete Section **9.7 FAILURE OF PAYMENT**.

Delete Section 9.8 and substitute the following:

9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the stage in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Architect shall determine if the project is substantially complete in accordance with this Section.

9.8.2 When the Contractor considers that the Work is Substantially Complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

9.8.3 Upon receipt of the Contractor's list, the Architect shall make an inspection to determine whether the Work is substantially complete. A prerequisite to the Work being considered as substantially complete is the Owner's receipt of the executed Roofing Contractor's and Roofing Manufacturer's guarantees, where roofing Work is part of the Contract. Prior to inspection by the Architect, the Contractor shall notify the Architect that the project is ready for inspection by the State Fire Marshal's office. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use, the Contractor shall, before the Work can be considered as Substantially Complete, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

9.8.4 When the Architect determines that the project is Substantially Complete, he shall prepare a punch list of exceptions and the dollar value related thereto. The monetary value assigned to this list will be the sum of the cost estimate for each particular item of Work the Architect develops based on the mobilization, labor, material and equipment costs of correcting the item and shall be retained from the monies owed the contractor, above and beyond the standard lien retainage. The cost of these items shall be prepared in the same format as the schedule of values. At the end of the forty-five day lien period payment shall be approved for all punch list items completed up to that time. After that payment, none of the remaining funds shall be due the contractor until all punch list items are completed and are accepted by the Architect. If the dollar value of the punch list exceeds the amount of funds, less the retainage amount, in the remaining balance of the Contract, then the Project shall not be considered as substantially complete. If funds remaining are less than that required to complete the Work, the Contractor shall pay the difference.

9.8.5 When the preparation of the punch list is complete the Architect shall prepare a Recommendation of Acceptance incorporating the punch list and submit it to the Owner. Upon approval of the Recommendation of Acceptance, the Owner may issue a Notice of Acceptance of Building Contract which shall establish the Date of Substantial Completion. The Contractor shall record the Notice of Acceptance with the Clerk of Court in the Parish in which the Work has been performed. If the Notice of Acceptance has not been recorded seven (7) days after issuance, the Owner may record the Acceptance at the Contractor's expense. All additive change orders must be processed before issuance of the Recommendation of Acceptance. The Owner shall not be responsible for payment for any Work associated with change orders that is not incorporated into the contract at the time of the Recommendation of Acceptance.

9.8.6 Warranties required by the Contract Documents shall commence on the date of Acceptance of the Work unless otherwise agreed to in writing by the Owner and Contractor. Unless otherwise agreed to in writing by the Owner and Contractor, security, maintenance, heat, utilities, damage to the Work not covered by the punch list and insurance shall become the Owner's responsibility on the Date of Substantial Completion.

9.8.7 If all punch list items have not been completed by the end of the forty-five (45) day lien period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within forty-five (45) days after notification, the Surety has not completed the punch list, through no fault of the Architect or Owner, the Owner may, at his option, contract to have the balance of the Work completed and pay for such Work with the unpaid funds remaining in the Contract sum. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts. If the surety fails to complete the punch list within the stipulated time period, the Owner may not accept bonds submitted, in the future, by the surety.

9.9 PARTIAL OCCUPANCY OR USE

Delete Section 9.9.1 and substitute the following:

9.9.1 Partial Occupancy is that stage in the progress of the Work when a designated portion of the Work is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the designated portion of the Work for its intended use. The Owner may occupy or use any substantially completed portion of the Work so designated by separate agreement with the Contractor and authorized by public authorities having jurisdiction over the Work. Such occupancy or use may commence provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers the designated portion substantially complete the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

9.10 FINAL COMPLETION AND FINAL PAYMENT

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ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

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10.3 HA ARDOUS MATERIALS

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10.4 EMERGENCIES

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ARTICLE 11

INSURANCE AND BONDS

AIA A101 – 2017 E ibit A is not a part o t ese do u ents. Delete all o Se tions 11.1, 11.2, 11.3, 11.4, and 11.5, and substitute t e ollo ing:

INSURANCE RE UIREMENTS FOR NEW CONSTRUCTION, ADDITIONS AND RENOVATIONS

11.1 CONTRACTOR S LIABILITY INSURANCE

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11.2 MINIMUM SCOPE AND LIMITS OF INSURANCE

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COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

Type o Constru tion	Pro e ts up to 1,000,000	Pro e ts over 1,000,000 up to 10,000,000	Pro e ts over 10,000,000
Ne Buildings:			
O rr M	1	2	
r r r	2		
Renovations:	**T e building(s) value or t e Pro e t is .**		
O rr M	1	2	

Per Project Aggregate	2 times per occur limit**	2 times per occur limit**	2 times per occur limit**

**While the minimum Combined Single Limit of $1,000,000 is required for any renovation, the limit is calculated by taking 10% of the building value and rounding it to the nearest $1,000,000 to get the insurance limit. Example: Renovation on a $33,000,000 building would have a calculated $3,000,000 combined single limit of coverage (33,000,000 times .10 = 3,300,000 and then rounding down to $3,000,000). If the calculated limit is less than the minimum limit listed in the above chart, then the amount needed is the minimum listed in the chart. Maximum per occurrence limit required is $10,000,000 regardless of building value. The per project aggregate limit is then calculated as twice the per occurrence limit.

11.2.3 Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles.

11.2.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability and Automobile Liability only.

11.2.5 Builder's Risk

11.2.5.1 Builder's Risk Insurance shall be in an amount equal to the amount of the construction contract including any amendments and shall be upon the entire Work included in the contract. The policy shall provide coverage equivalent to the ISO form number CP 10 20, Broad Form Causes of Loss (extended, if necessary, to include the perils of wind, earthquake, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure). The policy must include architects' and engineers' fees necessary to provide plans, specifications and supervision of Work for the repair and/or replacement of property damage caused by a covered peril, not to exceed 10% of the cost of the repair and/or replacement.

11.2.5.2 Flood coverage shall be provided by the Contractor on the first floor and below for all projects, except as otherwise noted. The builder's risk insurance policy, sub-limit for flood coverage shall not be less than ten percent (10%) of the total contract cost per occurrence. If flood is purchased as a separate policy, the limit shall be ten percent (10%) of the total contract cost per occurrence (with a max of $500,000 if NFIP). Coverage for roofing projects shall **not** require flood coverage.

11.2.5.3 A Specialty Contractor may provide an installation floater in lieu of a Builder's Risk policy, with the similar coverage as the Builder's Risk policy, upon the

system to be installed in an amount equal to the amount of the contract including any amendments. Flood coverage is not required.

11.2.5.4 The policy must include coverage for the Owner, Contractor and any subcontractors as their interests may appear.

11.2.6 Pollution Liability *(required when asbestos or other hazardous material abatement is included in the contract)*

Pollution Liability insurance, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than $1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy if the policy is not renewed. The policy shall not be cancelled for any reason, except non-payment of premium.

11.2.7 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Owner. The Contractor shall be responsible for all deductibles and self-insured retentions.

11.3 OTHER INSURANCE PROVISIONS

11.3.1 The policies are to contain, or be endorsed to contain, the following provisions:

11.3.1.1 Worker's Compensation and Employers Liability Coverage

11.3.1.1.1 To the fullest allowed by law, the insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

11.3.1.2 Commercial General Liability Coverage

11.3.1.2.1 The Owner, its officers, agents, employees and volunteers are to be added as additional insureds as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. ISO Form CG 20 10 (for ongoing work) AND CG 20 37 (for completed work) (current forms approved for use in Louisiana), or equivalent, are to be used.

11.3.1.2.2 The Contractor's insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers for any and all losses that occur under the contract. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any insurance or self-

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11.3.1.3 B d r

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In the event Contractor is not required to provide or elects not to provide Worker's compensation coverage, the parties hereby agree the Contractor, its Owners, agents and employees shall have no cause of action against, and shall not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker's Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its Owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, Owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

11.3.6 Indemnification/Hold Harmless Agreement

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The State of Louisiana may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor's responsibility for the handling and expenses of all claims.

11.4 PERFORMANCE AND PAYMENT BOND

11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

11.4.3 Recordation of Contract and Bond [La R.S. 38:2241 thru 38:2241.1]

The Owner shall record within thirty (30) days the Contract Between Owner and Contractor and Performance and Payment Bond with the Clerk of Court in the Parish in which the Work is to be performed.

ARTICLE 12

UNCOVERING AND CORRECTION OF WORK

12.2 CORRECTION OF WORK

12.2.1 Before Substantial Completion

At the end of the paragraph, add the following sentences:
"If the Contractor fails to correct Work identified as defective within a thirty (30) day period, through no fault of the Designer, the Owner may hold the Contractor in default. If the Owner finds the Contractor in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have nonconforming Work corrected and hold the Surety and Contractor responsible for the cost, including architectural fees and other indirect costs. If the Surety fails to correct the Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may elect not to accept bonds submitted in the future by the Surety. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts.

12.2.2 After Substantial Completion

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences:
"If the Contractor fails to correct nonconforming Work, or Work covered by warranties, within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the non-conforming or warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming or warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming or warranty Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety."

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Delete all after the word "located".

13.2 SUCCESSORS AND ASSIGNS

13.2.1 In the second sentence, delete "Except as … 13.2.2"

Delete Section 13.2.2.

13.3 RIGHTS AND REMEDIES

Add the following Section 13.3.3:

13.3.3 The Nineteenth Judicial Court in and for the Parish of East Baton Rouge, State of Louisiana shall have sole jurisdiction and venue in any action brought under this contract.

13.4 TESTS AND INSPECTIONS

In Section 13.4.1, delete the second sentence and substitute the following:

The Contractor shall make arrangements for such tests, inspections and approvals with the Testing Laboratory provided by the Owner, and the Owner shall bear all related costs of tests, inspections and approvals.

Delete the last two sentences of Section 13.4.1.

13.5 INTEREST

Delete Section 13.5.

ARTICLE 14

TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

Delete Section 14.1.1.4.

In Section 14.1.3, after the word "profit," delete the words "on Work not executed" and substitute the following: "for Work completed prior to stoppage".

14.2 TERMINATION BY THE OWNER FOR CAUSE

Add the following Section:

14.2.1.5 failure to complete the punch list within the lien period as provided in 9.8.7.

14.2.3 Add the following sentence:

"Termination by the Owner shall not suspend assessment of liquidated damages against the Surety."

Add the following Section:

14.2.5 If an agreed sum of liquidated damages has been established, termination by the Owner under this Article shall not relieve the Contractor and/or Surety of his obligations under the liquidated damages provisions and the Contractor and/or Surety shall be liable to the Owner for per diem liquidated damages.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

In Section 14.4.3, delete all after "incurred by reason of the termination," and add "along with reasonable profit on the Work not executed."

ARTICLE 15

CLAIMS AND DISPUTES

15.1 CLAIMS

Delete Section 15.1.2, **Time Limit on Claims,** (See La R.S. 38:2189, and 38:2189.1).

15.1.3.1 Add the following to the end of the paragraph:
"A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided."

15.1.4.2 In the first sentence of the Section, delete "Initial Decision Maker's" and replace with "Architect's". In the second sentence of the Section, delete "the decision of the Initial Decision Maker" and replace with: "his/her decision".

Delete Section 15.1.6.2 and substitute the following:

15.1.6.2 If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within **twenty-one (21) days** from the last day of the month shall prohibit any future claims for adverse days for that month. No additional adverse weather days shall be granted after the original or extended contract completion date, except those adverse weather days associated with a National Weather Service named storm or federally declared weather related disaster directly affecting the project site.

Add the following Section:

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Note: Contract is on a calendar day basis.

15.2 INITIAL DECISION

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15.4 ARBITRATION

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Construction Contract Change Order
SUMMARY

State of Louisiana
Facility Planning & Control
State Project No. _____
WBS No. _____
Project Name: _____

Item No. _____
RFI No. (or COR. CPR. etc.) _____
Date: _____

Contractor Name: _____

Description of Work: _____

General Contractor Direct Costs - Breakdown No. ____ _____
(See attached breakdown)

Total General Contractor Cost ____% _____
(General Contract Direct Cost plus OH&P) (Max: 8%)

Subcontractor Cost Breakdowns
(See attached.)

Subcontractor Name	Breakdown No.	A Total Direct Cost	B OH&P (Max 8%)	C Total A+(A X B)
			%	
			%	
			%	
			%	
			%	
			%	
			%	
			%	

Subcontractor Direct Costs Total $ -
(Sum column A)

Subcontractor Direct Costs + Subcontractor OH&P
(Sum column C)

General Contractor OH&P on Subcontractor Direct Cost at ____% _____
(Sum column A times General Contractor OH&P rate.) (Max: 8%)

Total Subcontractor Costs _____
(Subcontractor Direct Costs + OH&P + General Contractor OH&P)

Change Order Subtotal _____
(Sum of Total General Contractor Costs and Total Subcontractor Costs)

Performance and Payment Bond at ____%
(Change Order Subtotal times Performance and Payment Bond rate)

Amount will be ☐ increased ☐ decreased ☐ unchanged by _____
(Sum of Change Order Subtotal and Performance and Payment Bond)

Days will be ☐ increased ☐ decreased ☐ unchanged by _____
(Attach supporting data such as meteorological reports)

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C n tr ti n C ntr t C n e Order

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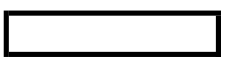

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GENERAL (R r Ar 7 S r d G r C d)

For - T r r r d r F P d C r rd r CHANGE ORDER r , SUMMARY, BREAKDOWN, BREAKDOWN COMMENT SHEET d UNIT PRICE BREAKDOWN T CHANGE ORDER r d , d d A CHANGE ORDER r d r r r , d SUMMARY E SUMMARY d r r BREAKDOWN A r , r d COMMENT SHEET I ' T BREAKDOWN r d r r r r d r r, , OH&P U d d

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CHANGE ORDER

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ACCEPTED S C r r' d ddr , d d "B " d d
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APPROVED F r r FP&C

SUMMARY (R r Ar 7 S r d G r C d)

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r d d CHANGE ORDER r

RFI No. S r r r r T r
COR (C Ord r R ,) CPR (C Pr R ,)

Pro t No., WBS No., Dat , Pro t Na . C r r

Contra tor N G r C r r

D r t on o Wor G r d r r d d **It**

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"C " I r r r d, "C"
d T r d d r d 8 T D r C

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C r r' r d d r r r ' r I r r d,

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r r d A

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I d " r d," "d r d" r " d", d **d t t t r t at don t a**

BREA DOWN

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COR (C Ord r R ,) CPR (C Pr R ,)

Pro t No., WBS No., Dat , Pro t Na . C r r

Contra tor N G r C r r r S r r

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COMMENTS SHEET

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UNIT PRICE BREAKDOWN:

The UNIT PRICE BREAKDOWN uses the same heading as the BREAKDOWN.

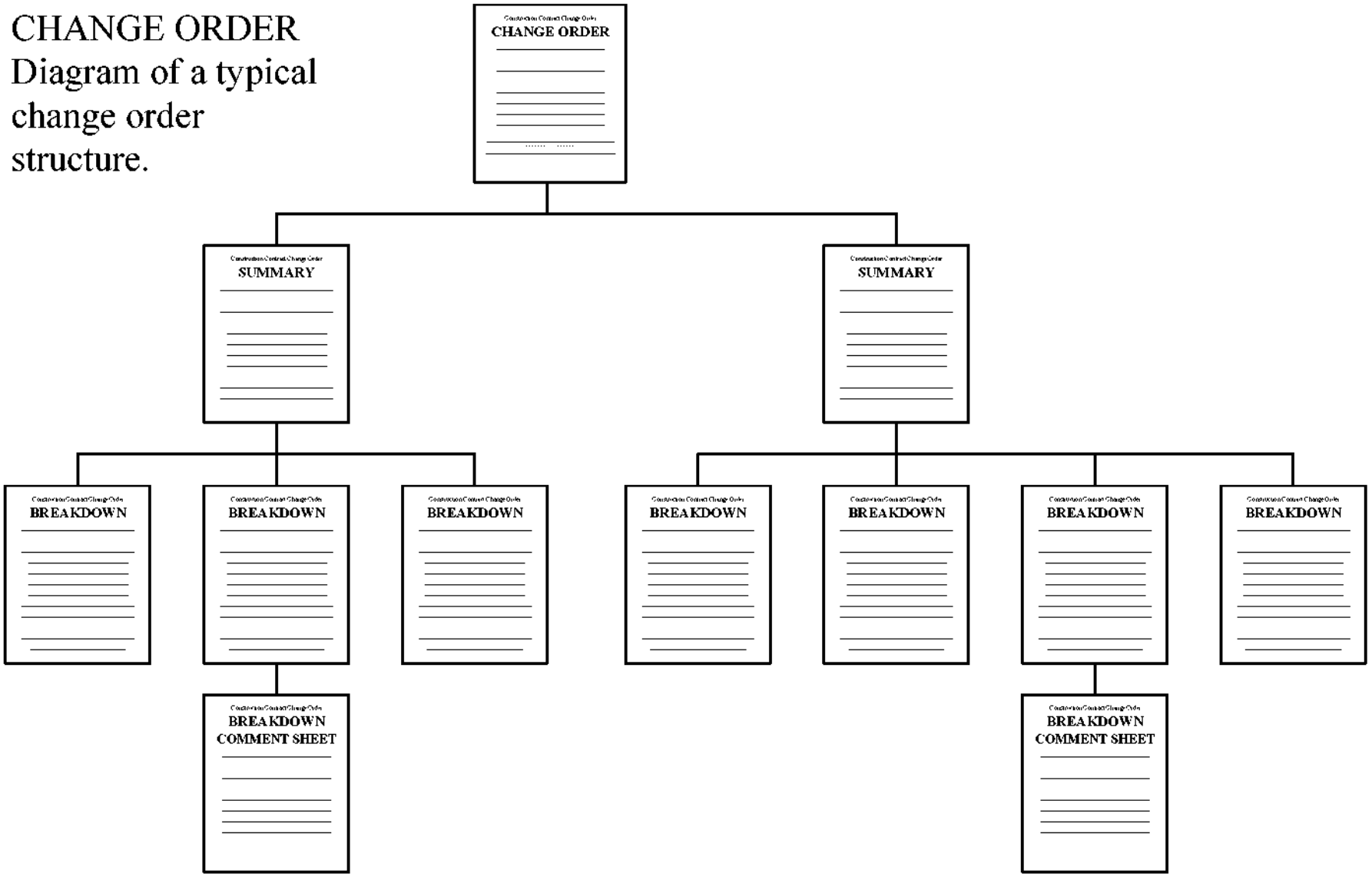
The UNIT PRICE BREAKDOWN is similar to the BREAKDOWN.

Unit Price Tabulation: Each unit price is listed along with its corresponding price and the number of units used in the work. The price and number of units are multiplied to provide the total cost of each unit price item. The pricing reference, such as the bid form for the project or a construction industry standard reference, must be cited for each unit price. This may be more fully described in "Reference Legend,"

Unit Price Total: Sum the unit prices to obtain the total cost for unit prices.

CHANGE ORDER

Diagram of a typical change order structure.



❖ **NOT FOR RECORDATION PURPOSES** ❖

Facility Planning & Control

PARTIAL OCCUPANCY

PROJECT NAME:

PROJECT LOCATION

PROJECT / PART NUMBER: CFMS / SRM No.

WBS NUMBER:

CONTRACTOR:

USER AGENCY: Louisiana Department of Corrections

The below described portion of subject project is, to the best of my knowledge and belief, complete to a point where the User desires to use in according with the Contract Documents.

DATE OCCUPIED: _____ .

WARRANTY items covered by Occupancy:

_____
Designer Date

_____
Contractor Date

_____
Facility Planning and Control Date

Punch List: Attached ❑

None ❑

c: User Agency

❖ **NOT FOR RECORDATION PURPOSES** ❖

NOT FOR RECORDATION PURPOSES

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RECOMMENDATION OF ACCEPTANCE

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NOT FOR RECORDATION PURPOSES

CERTIFICATE OF COMPLIANCE

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Designer Signature

State o Louisiana
DIVISION OF ADMINISTRATION
Fa ility Planning and Control

CERTIFICATE OF COMPLIANCE

Louisiana Building Code or State O ned Buildings

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Signature of Designer or Owner/User)

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SIGNATURE O AUT ORI ED
SIGNATOR O BIDDER A IANT

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APPENDIX A

PRE-DESIGN ASBESTOS SAMPLING REPORT

PRE-DESIGN/PRE-DEMOLITION BULK SAMPLING FOR THE STRATEGIC CAPITAL PLAN, DEFERRED MAINTENANCE FOR INFRASTRUCTURE AND STREETS (SCP PROJECT) LOUISIANA STATE UNIVERSITY BATON ROUGE, LA
PROJECT NO: 19-601-21-01; F.19002535
SITE ID NO: 2-17-014; STATE ID NOS. VARIOUS
LOUISIANA STATE UNIVERSITY

PREPARED FOR:

MR. BOYD HOLMES, PE
FORTE AND TABLADA
9107 INTERLINE AVE
BATON ROUGE, LOUISIANA 70809

PREPARED BY:

RAYNER CONSULTING GROUP, LLC
7353 HIGHLAND ROAD SUITE B-3B
BATON ROUGE, LA 70808

PROJECT NO. 13-547

MAY 22, 2024

1.0 EXECUTIVE SUMMARY - SUMMARY OF FINDINGS

Mr. Boyd Holmes, PE Project Engineer with Forte and Tablada, requested the Rayner Consulting Group (RCG), to conduct bulk samples within the six (6) buildings (buildings listed below), scheduled for demolition, on the LSU Baton Rouge Campus in Baton Rouge, Louisiana. This sampling is based on our proposal dated March 29, 2024, for up to two hundred and fifty-nine (259) bulk samples from materials suspected of containing asbestos. The results of our inspection, bulk sampling and laboratory analyses revealed the following:

Summary Suspect Asbestos Bulk Sampling Results:

On May 3, May 7, May 9, May 10, May 11 and May 12, 2024, a total of two hundred-sixty-three (263) bulk samples were conducted from the six (6) building to be demolished as follows:

Oyster Research Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and brick, the floor tile and mastic; interior caulking within door frame and ceramic tile and original piping insulation materials contains asbestos. Plasters and concrete floor paint did not contain asbestos.

Vet Science Annex Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and brick, the floor tile and mastic older piping insulation; wall waterproofing contains asbestos. Wall and ceiling plasters did not contain asbestos.

Poultry Isolation Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame, the original piping insulation, the Transite ceilings throughout contains asbestos. The sheet rock walls, and floor coatings did not contain asbestos. Additionally, Transite debris was found outside the building on the Southwest corner near a storm drain (from the Transite ceilings where several tiles had been previously removed).

Manship Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame, the Transite window wall panels (both aggregate and smooth wall panels), chilled and hot water piping insulation, floor tile, floor base (coating) and mastic, CMU wall and concrete column coating, drywall and caulking/mud contains asbestos. The duct coating and ceiling plaster did not contain asbestos.

Manship Annex Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and rollup door caulking, CMU wall coating, floor tile and mastic, piping insulation, and storefront caulk contains asbestos.

Electrical Engineering Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and rollup door caulking, the older hot water and chill water piping insulation, transite wall system throughout, the CMU wall coating, sink bottom coating, the storefront frame caulking, floor tile and mastic and roof second floor roof flashing materials contain asbestos. The newer piping insulation and Air handler equipment materials and First floor roof materials did not contain asbestos. No access to the third-floor roof.

Underground Site Utilities – Not included within this sampling report; although buried insulated piping does exist beneath the Site and will be determined, quantified, and removed.

2.0 SAMPLING INVESTIGATION, METHODS AND RESULTS

RCG investigations included the bulk sampling of suspect roofing materials from the low slope roof of the Electrical Engineering Building. The following describes our sampling methods and procedures, sampling results, our findings and recommendations, and laboratory qualifications.

2.1 Asbestos Bulk Sampling

On May 3, May 7, May 9, May 10, May 11 and May 12, 2024, the RCG Inspectors conducted two hundred-sixty-three (263) bulk sampling from Roof related field and flashing Materials. The sampling was generally conducted in accordance with The Louisiana Department of Environmental Quality LAC 33: III.2709 Sampling and LAC 33: III.2711 Analysis.

Samples were placed in individually labeled plastic bags. A sample analysis form and chain of custody were completed for all the samples. The samples were hand delivered to CA Laboratories in Baton Rouge Louisiana (see Paragraph 2.4 – Laboratory Qualifications).

The results of the laboratory analyses may be found below within Paragraph 2.3 Sample Results, Table 1- Asbestos Sampling Results, and in Appendix 1 – Bulk Sample Results, Laboratory Sample Analysis Reports, and Sampling Analysis Records. Bulk Sample Results, greater than one (1) percent are asbestos-containing materials; samples shown as None Detected (ND) are none detected for asbestos.

2.2 Sample Results:

Based on our sampling and the laboratory analyses we can offer the following results:

Table 1: Asbestos Results

Sample ID No.	Location	Description	Asbestos Content	
			%	Type
DAY 1				
05032401	OYSTER RESEARCH EXTERIOR	DOOR FRAME CAULK	2%	CHY

05032402	OYSTER RESEARCH EXTERIOR	DOOR GLAZING CAULK	2%	CHY
05032403	OYSTER RESEARCH EXTERIOR	DOOR FRAME CAULK	2%	CHY
05032404	OYSTER RESEARCH EXTERIOR	DOOR GLAZING CAULK	2%	CHY
05032405	OYSTER RESEARCH EXTERIOR	DOOR FRAME CAULK (NEWER)	2%	CHY
05032406	OYSTER RESEARCH EXTERIOR	WINDOW FRAME CAULK (NEWER)	2%	CHY
05032407	OYSTER RESEARCH EXTERIOR	WINDOW GLAZING CAULK	2%	CHY
05032408	OYSTER RESEARCH EXTERIOR	WINDOW GLAZING CAULK	2%	CHY
05032409	OYSTER RESEARCH EXTERIOR	WINDOW FRAME CAULK (NEWER)	2%	CHY
05032410	OYSTER RESEARCH EXTERIOR	WINDOW FRAME CAULK (NEWER)	2%	CHY
05032411	OYSTER RESEARCH EXTERIOR	WINDOW FRAME SILL CAULK	2%	CHY
05032412	OYSTER RESEARCH EXTERIOR	WINDOW FRAME TO SILL CAULK	2%	CHY
05032413	OYSTER RESEARCH EXTERIOR	EXPANSION JOINT AT SIDEWALK	ND	
05032414	OYSTER RESEARCH EXTERIOR	EXPANSION JOINT AT SIDEWALK	ND	
05032415	OYSTER RESEARCH INTERIOR	FLOORTILE AND MASTIC (MULTI)	6%/4%	CHY
05032416	OYSTER RESEARCH INTERIOR	FLOORTILE AND MASTIC (MULTI)	6%/5%	CHY
05032417	OYSTER RESEARCH INTERIOR	WINDOW GLAZING CAULK	2%	CHY
05032418	OYSTER RESEARCH INTERIOR	WINDOW GLAZING CAULK	2%	CHY
05032419	OYSTER RESEARCH INTERIOR	CAULK DEBRIS ON LEDGE	2%	CHY
05032420	OYSTER RESEARCH INTERIOR	DOOR FRAME TO CERAMIC CAULK	5%	CHY
05032421	OYSTER RESEARCH INTERIOR	DOOR FRAME TO CERAMIC CAULK	5%	CHY
05032422	OYSTER RESEARCH INTERIOR	COUNTERTOP AND MASTIC	ND	
05032423	OYSTER RESEARCH INTERIOR	FLOOR PAINT	ND	
05032424	OYSTER RESEARCH INTERIOR	PLOOR PAINT	ND	
05032425	OYSTER RESEARCH INTERIOR	DOOR FRAME TO CERAMIC CAULK	5%	CHY
05032426	OYSTER RESEARCH INTERIOR	DOOR FRAME TO CERAMIC GROUT	ND	
05032427	OYSTER RESEARCH INTERIOR	DOOR FRAME CAULK (NEWER)	5%	CHY
05032428	OYSTER RESEARCH INTERIOR	DOOR GLAZING CAULK	2%	CHY
05032429	OYSTER RESEARCH INTERIOR	PLASTER OVER WINODW OPENING	ND	
05032430	OYSTER RESEARCH INTERIOR	PLASTER OVER WINODW OPENING	ND	
05032401	VET SCIENCE ANNEXTURE EXT.	WINDOW GLAZING CAULK	2%	CHY
05032402	VET SCIENCE ANNEXTURE EXT	WINDOW FRAME CAULK	2%	CHY
05032403	VET SCIENCE ANNEXTURE EXT	WINDOW GLAZING CAULK	ND	
05032404	VET SCIENCE ANNEXTURE EXT	WINDOW FRAME CAULK	2%	CHY
05032405	VET SCIENCE ANNEXTURE EXT	WINDOW GLAZING CAULK	2%	CHY
05032406	VET SCIENCE ANNEXTURE EXT	WINDOW FRAME CAULK	2%	CHY
05032407	VET SCIENCE ANNEXTURE EXT	DOOR FRAME CAULK	2%	CHY
05032408	VET SCIENCE ANNEXTURE EXT	DOOR GLAZING CAULK	2%	CHY
05032409	VET SCIENCE ANNEXTURE EXT	WINDOW GLAZING CAULK	2%	CHY
05032410	VET SCIENCE ANNEXTURE EXT	WINDOW GLAZING CAULK	ND	
05032411	VET SCIENCE ANNEXTURE EXT	PIPING INSULATION & CAULK	ND	
05032412	VET SCIENCE ANNEXTURE EXT	PIPING INSULATION	ND	
05032413	VET SCIENCE ANNEXTURE EXT	BLACK WALL MATERIAL (WP)	2%	CHY
05032414	VET SCIENCE ANNEXTURE INTER.	CEILING PAINT	ND	
05032415	VET SCIENCE ANNEXTURE INTER.	CEILING PAINT	ND	
05032416	VET SCIENCE ANNEXTURE INTER.	CEILING PAINT	ND	
05032417	VET SCIENCE ANNEXTURE INTER.	CEILING PLASTER PATCH	ND	
05032418	VET SCIENCE ANNEXTURE INTER.	CEILING PLASTER FINISH COAT	ND	
05032419	VET SCIENCE ANNEXTURE INTER.	CEILING PLASTER FINISH COAT	ND	
05032420	VET SCIENCE ANNEXTURE INTER.	CEILING PLASTER ROUGH LAYER	ND	
05032421	VET SCIENCE ANNEXTURE INTER.	CEILING PLASTER ROUGH LAYER	ND	
05032422	VET SCIENCE ANNEXTURE INTER.	WALL PAINT	ND	

05032423	VET SCIENCE ANNEXTURE INTER.	WALL PAINT	ND	
05032424	VET SCIENCE ANNEXTURE INTER.	WALL PAINT	ND	
05032425	VET SCIENCE ANNEXTURE INTER.	PLASTER WALL CORNER BEAD	ND	
05032426	VET SCIENCE ANNEXTURE INTER.	PLASTER WALL @ WINDOW WELL	ND	
05032427	VET SCIENCE ANNEXTURE INTER.	FLOOR TILE AND MASTIC	2%/5%	CHY
05032428	VET SCIENCE ANNEXTURE INTER.	FLOOR TILE AND MASTIC	2%/5%	CHY
05032429	VET SCIENCE ANNEXTURE INTER.	FLOOR PAINT	ND	
05032430	VET SCIENCE ANNEXTURE INTER.	FLOOR PAINT	ND	
05032431	VET SCIENCE ANNEXTURE INTER.	RR CERAMIC TO STALL CAULK	ND	
05032432	VET SCIENCE ANNEXTURE INTER.	RR CERAMIC WALL TO DOOR FRAME	ND	
DAY 2				
05072401	POULTRY ISOLATION EXTERIOR	DOOR GLAZING CAULK	ND	
05072402	POULTRY ISOLATION EXTERIOR	WINDOW GLAZING CAULK	ND	
05072403	POULTRY ISOLATION EXTERIOR	WINDOW CAULK DEBRIS	6%	CHY
05072404	POULTRY ISOLATION EXTERIOR	WINDOW FRAME CAULK	6%	CHY
05072405	POULTRY ISOLATION EXTERIOR	TRANSITE DEBRIS ON GROUND	15%	CHY
05072406	POULTRY ISOLATION EXTERIOR	TRANSITE DEBRIS ON GROUND	15%	CHY
05072407	POULTRY ISOLATION EXTERIOR	BRICK WALL FLASHING WP	ND	
05072408	POULTRY ISOLATION EXTERIOR	BRICK WALL FLASHING WP	ND	
05072409	POULTRY ISOLATION INTERIOR	WINDOW GLAZING CAULK	ND	
05072410	POULTRY ISOLATION INTERIOR	WINDOW GLAZING CAULK	ND	
05072411	POULTRY ISOLATION INTERIOR	DOOR FRAME CAULK	ND	
05072412	POULTRY ISOLATION INTERIOR	DOOR GLAZING CAULK	6%	CHY
05072413	POULTRY ISOLATION INT ATTIC	ATTIC WINDOW LEDGE DEBRIS	ND	
05072414	POULTRY ISOLATION INT ATTIC	ATTIC WINDOW SILL DEBRIS	ND	
05072415	POULTRY ISOLATION INT ATTIC	ATTIC WINDOW CLAZING CAULK	ND	
05072416	POULTRY ISOLATION INT ATTIC	ATTIC SHEET ROCK	ND	
05072417	POULTRY ISOLATION INT ATTIC	ATTIC SHEET ROCK	ND	
05072418	POULTRY ISOLATION INT ATTIC	ATTIC FLOOR DEBRIS	ND	
05072419	POULTRY ISOLATION INTERIOR	STAIRWAY SHEET ROCK	ND	
05072420	POULTRY ISOLATION INTERIOR	CEILING TRANSITE	15%	CHY
05072421	POULTRY ISOLATION INTERIOR	CEILING TRANSITE	15%	CHY
05072422	POULTRY ISOLATION INTERIOR	RR FLOOR COATING GRAY	ND	
05072423	POULTRY ISOLATION INTERIOR	FLOOR COATING WHITE	ND	
05072424	POULTRY ISOLATION INTERIOR	FLOOR COATING WHITE	ND	
DAY 3				
05092401	MANSHIP EXTERIOR	DOOR FRAME CAULK	3%	CHY
05092402	MANSHIP EXTERIOR	DOOR FRAME CAULK	3%	CHY
05092403	MANSHIP EXTERIOR	WINDOW GLAZING CAULK	3%	CHY
05092404	MANSHIP EXTERIOR	WINDOW FRAME CAULK	3%	CHY
05092405	MANSHIP EXTERIOR	WINDOW GLAZING CAULK	3%	CHY
05092406	MANSHIP EXTERIOR	AGGREGATE WINDOW PANEL	2%	CHY
05092407	MANSHIP EXTERIOR	AGGREGATE WINDOW PANEL	2%	CHY
05092408	MANSHIP EXTERIOR	AGGREGATE WINDOW PANEL	2%	CHY
05092409	MANSHIP EXTERIOR	AGGREGATE WINDOW PANEL CAULK	4%	CHY
05092410	MANSHIP EXTERIOR	PIPING TSI INSULATION WRAP	4%	CHY
05092411	MANSHIP EXTERIOR	PIPING TSI FITTING	ND	
05092412	MANSHIP EXTERIOR	PIPING TSI RUN WRAP	4%	CHY
05092413	MANSHIP EXTERIOR	CW TSI WRAP	5%	CHY
05092414	MANSHIP EXTERIOR	CW TSI FITTING TO RUN WRAP	ND	
05092415	MANSHIP EXTERIOR	COLUMN TO WINDOW CAULK	5%	CHY

05092416	MANSHIP EXTERIOR	WINDOW FRAME TO BRICK CAULK	4%	CHY
05092417	MANSHIP EXTERIOR	WINDOW GLAZING CAULK	5%	CHY
05092418	MANSHIP EXTERIOR	WINDOW WALL PANEL CAULK	ND	
05092419	MANSHIP EXTERIOR	WINDOW WALL PANEL	15%	CHY
05092420	MANSHIP EXTERIOR	CAULK ON BRICK ON FLAT BAR	3%	CHY
05092421	MANSHIP INTERIOR	CMU TO CONCRETE BEAM CAULK	ND	
05092422	MANSHIP INTERIOR	CONCRETE CURVED CEILING CAULK	ND	
05092423	MANSHIP INTERIOR	CONCRETE BEAM COATING	ND	
05092424	MANSHIP INTERIOR	CONCRETE CURVED CEILING TO WINDOW CAULK	ND	
05092425	MANSHIP INTERIOR	DRYWALL TO CONC. COL. CAULK	4%	CHY
05092426	MANSHIP INTERIOR	CMU WALL COATING	2%	CHY
05092427	MANSHIP INTERIOR	DRYWALL TO CMU CAULK	4%	CHY
05092428	MANSHIP INTERIOR	CMU COATING	2%	CHY
05092429	MANSHIP INTERIOR	CONC CEILING TO CMU CAULK	2%	CHY
05092430	MANSHIP INTERIOR	CONCRETE COLUMN COATING	2%	CHY
05092431	MANSHIP INTERIOR	CONCRETE BEAM COATING	ND	
05092432	MANSHIP INTERIOR	CONC BEAM TO CONC. CEILNG CAULK	ND	
05092433	MANSHIP INTERIOR HALL	DOOR GLAZING CAULK	3%	CHY
05092434	MANSHIP INTERIOR HALL	CONCRETE COLUMN COATING	ND	
05092435	MANSHIP INTERIOR HALL	CMU COATING	2%	CHY
05092436	MANSHIP INTERIOR HALL	CMU COATING	2%	CHY
05092437	MANSHIP INTERIOR HALL	WINDOW WALL PANEL	2%	CHY
05092438	MANSHIP INTERIOR HALL	WW TO CONC COLUMN CAULK	2%	CHY
05092439	MANSHIP INTERIOR HALL	WALL BASE COATING	2%	CHY
05092440	MANSHIP INTERIOR HALL	CMU TO CONC COLUMN CAULK	ND	
05092441	MANSHIP INTERIOR COMPUTER L	DUCT COATING	ND	
05092442	MANSHIP INTERIOR COMPUTER L	DUCT COATING	ND	
05092443	MANSHIP INTERIOR COMPUTER L	DUCT COATING	ND	
05092444	MANSHIP INTERIOR OFFICE	WOOD WALL CAULK	ND	
DAY 4				
05102401	MANSHIP ANNEX POLICE INT.	SINL BOTTOM COATING	ND	
05102402	MANSHIP ANNEX POLICE INT.	DOOR FRAME CAULK	ND	
05102403	MANSHIP ANNEX POLICE INT.	DOOR GLAZING CAULK	2%	CHY
05102404	MANSHIP ANNEX POLICE INT.	WINDOW GLAZING CAULK	2%	CHY
05102405	MANSHIP ANNEX POLICE INT.	CMU COATING	2%	CHY
05102406	MANSHIP ANNEX POLICE INT.	COLUMN TO WINDOW CAULK	3%	CHY
05102407	MANSHIP ANNEX POLICE INT.	WALL BASE (NEWER)	ND	
05102408	MANSHIP ANNEX POLICE INT.	WALLBOARD MUD	ND	
05102409	MANSHIP ANNEX POLICE INT.	DRYWALL TO CMU CAULK	ND	
05102410	MANSHIP ANNEX POLICE INT.	CMU COATING	3%	CHY
05102411	MANSHIP ANNEX POLICE INT.	COLUMN COATING	ND	
05102412	MANSHIP ANNEX POLICE INT.	WALL BASE	ND	
05102413	MANSHIP ANNEX POLICE INT.	CMU COATING	2%	CHY
05102414	MANSHIP ANNEX POLICE INT.	DOOR FRAME CAULK	2%	CHY
05102415	MANSHIP ANNEX COMPUTER INT.	FLOOR TILE W/ MASTIC	4%/3%	CHY
05102416	MANSHIP ANNEX COMPUTER INT.	COLUMN COATING	ND	
05102417	MANSHIP ANNEX COMPUTER INT.	CMU TO CMU CAULK	2%	CHY
05102418	MANSHIP ANNEX COMPUTER INT.	FLOOR TILE & MASTIC	2%	CHY
05102419	MANSHIP ANNEX COMPUTER INT.	FLOOR TILE & MASTIC	4%/3%	CHY
05102420	MANSHIP ANNEX COMPUTER INT.	TSI WRAP NEWER	ND	

05102421	MANSHIP ANNEX COMPUTER INT.	TSI FITTING AND TAPE	2%	CHY
05102422	MANSHIP ANNEX COMPUTER INT.	CMU COATING	2%	CHY
05102423	MANSHIP ANNEX EXTERIOR	DOOR FRAME CAULK	2%	CHY
05102424	MANSHIP ANNEX EXTERIOR	WINDOW GLAZING CAULK	2%	CHY
05102425	MANSHIP ANNEX EXTERIOR	WINDOW FRAME CAULK	2%	CHY
05102426	MANSHIP ANNEX EXTERIOR	STOREFRNT FRAME TO COL CAULK	2%	CHY
05102427	MANSHIP ANNEX EXTERIOR	STOREFRONT COATING	ND	
05102428	MANSHIP ANNEX EXTERIOR	FLASHING BEHIND BRICK @ WINDOW	ND	
05102429	MANSHIP ANNEX EXTERIOR	FLASHING BEHIND BRICK	ND	
05102430	MANSHIP ANNEX EXTERIOR	WINDOW SILL CAULK	3%	CHY
05102431	MANSHIP ANNEX EXTERIOR	WINDOW GLAZING CAULK	3%	CHY
05102432	MANSHIP ANNEX EXTERIOR	WINDOW FRAME CAULK	3%	CHY
05102433	MANSHIP ANNEX EXTERIOR	WINDOW SILL CAULK	3%	CHY
05102434	MANSHIP ANNEX EXTERIOR	BRICK SILL CAULK	3%	CHY
05102435	MANSHIP ANNEX EXTERIOR	WINDOW GLAZING CAULK	3%	CHY
05102436	MANSHIP ANNEX EXTERIOR	ROLLUP DOOR FRAME CAULK	3%	CHY
05102437	MANSHIP ANNEX EXTERIOR	WINDOW FRAME TO COL CAULK	3%	CHY
05102438	MANSHIP ANNEX EXTERIOR	WINDOW FRAME CAULK	ND	
05102439	MANSHIP ANNEX EXTERIOR	BRICK FLASHING BELOW WINDOW	ND	
05102440	ELECTRICAL ENGINEERING EXT.	TSI WRAP (NEWER)	2%	CHY
05102441	ELECTRICAL ENGINEERING EXT	TSI WRAP (NEWER)	ND	
05102442	ELECTRICAL ENGINEERING EXT	DOOR FRAME CAULK	ND	
05102443	ELECTRICAL ENGINEERING EXT	TSI CAULK ON WRAP	ND	
05102444	ELECTRICAL ENGINEERING MECH	TSI MASTIC ON WRAP (NEWER)	ND	
05102445	ELECTRICAL ENGINEERING MECH	CW WRAP AND CAULK	ND	
05102446	ELECTRICAL ENGINEERING MECH	CW WRAP AND MASTIC	2%	CHY
05102447	ELECTRICAL ENGINEERING MECH	CW WRAP AND MASTIC	2%	CHY
05102448	ELECTRICAL ENGINEERING MECH	CW CAULK (NEWER)	ND	
05102449	ELECTRICAL ENGINEERING MECH	NIPPLE TS (NEWER)	ND	
05102450	ELECTRICAL ENGINEERING MECH	CW WRAP AND MASTIC	2%	CHY
05102451	ELECTRICAL ENGINEERING MECH	TSI DEBRIS MATERIAL ON GRND	ND	
05102452	ELECTRICAL ENGINEERING MECH	TSI DEBRIS MATERIAL ON GRND	ND	
05102453	ELECTRICAL ENGINEERING MECH	TSI DEBRIS WRAP	ND	
05102454	ELECTRICAL ENGINEERING EXT.	DOOR FRAME CAULK	ND	
DAY 5				
05112401	ELECTRICAL ENGINEERING EXT.	JACKETED CW PIPING WRAP	ND	
05112402	ELECTRICAL ENGINEERING EXT.	JACKETED CW PIPING WRAP	ND	
05112403	ELECTRICAL ENGINEERING EXT.	WINDOW SILL CAULK	ND	
05112404	ELECTRICAL ENGINEERING EXT.	ROLLUP DOOR FRAME CAULK	2%	CHY
05112405	ELECTRICAL ENGINEERING EXT.	BUILDING EXPANSION JOINT	ND	
05112406	ELECTRICAL ENGINEERING EXT.	BUILDING TO SIDEWALK EXP JT	ND	
05112407	ELECTRICAL ENGINEERING EXT.	SIDEWALK TO WALK EXP JT	ND	
05112408	ELECTRICAL ENGINEERING EXT.	DOOR FRAME CAULK	3%	CHY
05112409	ELECTRICAL ENGINEERING EXT.	WINDOW FRAME CAULK	ND	
05112410	ELECTRICAL ENGINEERING EXT.	WINDOW GLAZING CAULK	3%	CHY
05112411	ELECTRICAL ENGINEERING EXT.	STOREFRONT FRAME CAULK	ND	
05112412	ELECTRICAL ENGINEERING EXT.	STOREFRONT GLAZING CAULK	ND	
05112413	ELECTRICAL ENGR BASEMENT R18	TSI WRAP (NEWER)	3%	CHY
05112414	ELECTRICAL ENGR BASEMENT R18	CRAWLSPACE SOIL W/WHITE DEBRIS	ND	
05112415	ELECTRICAL ENGR BASEMENT R18	CRAWLSPACE SOIL W/WHITE DEBRIS	ND	
05112416	ELECTRICAL ENGR BASEMENT R18	CRAWLSPACE SOIL W/WHITE DEBRIS	ND	

05112417	ELECTRICAL ENGR BASEMENT R18	CW TSI WRAP & INSUL (NEWER)	ND	
05112418	ELECTRICAL ENGR BASEMENT R18	CW TSI WRAP & INSUL (NEWER)	ND	
05112419	ELECTRICAL ENGR BASEMENT R18	CRAWLSPACE SOIL W/WHITE DEBRIS	ND	
05112420	ELECTRICAL ENGR BASEMENT R18	CMU COATING	2%	CHY
05112421	ELECTRICAL ENGR BASEMENT R18	DOOR FRAME CAULK	ND	
05112422	ELECTRICAL ENGR BASEMENT R22	HW TSI FITTING INSUL & WRAP	2%	CHY
05112423	ELECTRICAL ENGR BASEMENT R22	HW TSI STR RUN INSUL & WRAP	2%	CHY
05112424	ELECTRICAL ENGR BASEMENT R22	CW TSI WRAP BLACK W/ SILVER	2%	CHY
05112425	ELECTRICAL ENGR BASEMT COORI	FLOOR TILE AND MASTIC	2%/4%	CHY
05112426	ELECTRICAL ENGR BASEMT COORI	WALL BASE WITH MASTIC	ND	
05112427	ELECTRICAL ENGR BASEMT COORI	CMU WALL COATING	2%	CHY
05112428	ELECTRICAL ENGR BASEMENT R12	WINDOW FRAME CAULK (INTER.)	ND	
05112429	ELECTRICAL ENGR BASEMENT R12	GREEN CMU COATING	3%	CHY
05112430	ELECTRICAL ENGR BASEMENT R12	DOOR FRAME CAULK	3%	CHY
05112431	ELECTRICAL ENGR BASEMENT R8	TSI NEWER ON VERT RISER	ND	
05112432	ELECTRICAL ENGR BASEMENT R8	FLOOR TILE ON DARK MASTIC (N)	ND	
DAY 6				
05122401	ELECTRICAL ENGR FIRST FL MECH	HW TSI WRAP (NEWER)	ND	
05122402	ELECTRICAL ENGR FIRST FL MECH	CW CAULK AND INSUL	ND	
05122403	ELECTRICAL ENGR FIRST FL MECH	CW WRAP AND CAULK	ND	
05122404	ELECTRICAL ENGR FIRST FL MECH	CW WRAP AND INSULATION	ND	
05122405	ELECTRICAL ENGR FIRST FL MECH	FLOOR DEBRIS MATERIALS	ND	
05122406	ELECTRICAL ENGR FIRST FL MECH	CW TSI WRAP WITH BM	ND	
05122407	ELECTRICAL ENGR FIRST FL MECH	HVAC DUCT WRAP (NEWER)	ND	
05122408	ELECTRICAL ENGR FIRST FL MECH	HVAC CABINET SEALANT	ND	
05122409	ELECTRICAL ENGR 2ND FL MECH	CW TSI WRAP AND INSULATION	ND	
05122410	ELECTRICAL ENGR 2ND FL MECH	CW TSI WRAP AND CAULK	ND	
05122411	ELECTRICAL ENGR 2ND FL MECH	HW TSI @ FLOOR LEVEL	ND	
05122412	ELECTRICAL ENGR 2ND FL MECH	CW TSI @ FLR LEVEL CAULK & WRAP)	ND	
05122413	ELECTRICAL ENGR 3RD FL MECH	CW TSI DRAK WRAP	ND	
05122414	ELECTRICAL ENGR 3RD FL MECH	TSI WRAP (WHITE)	3%	CHY
05122415	ELECTRICAL ENGR 3RD FL MECH	TSI WRAP FITTING (WHITE)	3%	CHY
05122416	ELECTRICAL ENGR 3RD FL MECH	TSI WRAP DARK & CAULK	3%	CHY
05122417	ELECTRICAL ENGR 3RD FL MECH	TSI WRAP DARK STRAIGHT RUN	3%	CHY
05122418	ELECTRICAL ENGR 3RD FL MECH	TSI INSULATION AT FITTING	4%	CHY
05122419	ELECTRICAL ENGR 3RD FL MECH	DOOR FRAME CAULK	ND	
05122420	ELECTRICAL ENGR 3RD FL JANITR	PLASTER WALL	ND	
05122421	ELECTRICAL ENGR 3RD FL RM 322	WINDOW FRAME CAULK	3%	CHY
05122422	ELECTRICAL ENGR 3RD FL RM 322	CMU TO CONC COLUMN CAULK	2%	CHY
05122423	ELECTRICAL ENGR 3RD FL RM 322	CONCRETE SILL COATING	3%	CHY
05122424	ELECTRICAL ENGR 3RD FL RM 302	CMU COATING	2%	CHY
05122425	ELECTRICAL ENGR 3RD FL RM 302	WINDOW GLAZING CAULK	2%	CHY
05122426	ELECTRICAL ENGR 3RD FL RM 325	WALL BASE AND MASTIC	ND	
05122427	ELECTRICAL ENGR 3RD FL RM 325	TRANSITE WALL SYSTEM	20%	CHY
05122428	ELECTRICAL ENGR 2ND FL RM 221	CONCRETE SILL COATING	ND	
05122429	ELECTRICAL ENGR 2ND FL RM 221	CMU TO CONC COLUMN CAULK	3%	CHY
05122430	ELECTRICAL ENGR 2ND FL RM 221	CMU COATING	3%	CHY
05122431	ELECTRICAL ENGR 2ND FL RM 201	WALL BASE AND MASTIC	ND	
05122432	ELECTRICAL ENGR 2ND FL HALL	TRANSITE WALL SYSTEM	20%	CHY
05122433	ELECTRICAL ENGR 2ND FL LAB 218	SINK BOTTOM COATING	3%	CHY
05122434	ELECTRICAL ENGR 1ST FL ROOF	ROOF MASTIC	ND	

05122435	ELECTRICAL ENGR 1ST FL ROOF	ROOF FELT	ND	
05122436	ELECTRICAL ENGR 1ST FL ROOF	ROOF FLASHING	ND	
05122437	ELECTRICAL ENGR 1ST FL ROOF	DOOR FRAME CAULK	ND	
05122438	ELECTRICAL ENGR 1ST FL RM 145	CMU COATING	3%	CHY
05122439	ELECTRICAL ENGR 1ST FL RM 145	DOOR FRAME CAULK	3%	CHY
05122440	ELECTRICAL ENGR 1ST FL RM 145	WINDOW FRAME TO SILL CAULK	3%	CHY
05122441	ELECTRICAL ENGR 1ST FL RM 125	TRANSITE WALL SYSTEM	20%	CHY
05122442	ELECTRICAL ENGR 1ST FL RM 118	TRANSITE WALL SYSTEM GLAZIN	ND	
05122443	ELECTRICAL ENGR 1ST FL RM 118	TRANSITE WALL SYSTEM	20%	CHY
05122444	ELECTRICAL ENGR 1ST FL RM 118	WALL BASE AND MASTIC	ND	
05122445	ELECTRICAL ENGR 1ST FL RM 118	CMU WALL AT PLATE COATING	2%	CHY
05122446	ELECTRICAL ENGR 1ST FL RM 118	DOOR FRAME CAULK	2%	CHY
05122447	ELECTRICAL ENGR 1ST FL RM 108	FLOOR TILE AND MASTIC	3%	CHY

Bulk Samples greater than one percent (>1%) are considered Asbestos-Containing.
ND- None Detected for Asbestos
CHY-Chrysotile

2.3 Laboratory Qualifications

The analysis of the bulk material; asbestos samples were performed by CA Labs LLC, of Baton Rouge, Louisiana. CA Labs, LLC is a successful participant in the National Institute of Standards and Technology (NIST), and National Voluntary Laboratory Accreditation Program (NVLAP), mandated by the Environmental Protection Agency (EPA). Analysis of bulk samples for asbestos was performed in accordance with the EPA-endorsed Polarized Light Microscopy (PLM) Method 40CFR Part 763 Appendix E to Subpart E (Interim) / EPA-600/R-93/116 (Improved), for determining asbestos in bulk samples.

3.0 RECOMMENDATIONS

Based on the results of our sampling, we can offer the following recommendations:

Bulk Sampling:

Oyster Research Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and brick, the floor tile and mastic; interior caulking within door frame and ceramic tile and original piping insulation materials contains asbestos. Plasters and concrete floor paint did not contain asbestos.

Vet Science Annex Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and brick, the floor tile and mastic older piping insulation; wall waterproofing contains asbestos. Wall and ceiling plasters did not contain asbestos.

Poultry Isolation Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame, the original piping insulation, the Transite ceilings throughout contains asbestos. The sheet rock walls, and floor coatings did not contain asbestos. Additionally, Transite debris was found outside the building on the Southwest corner near a storm drain (from the Transite ceilings where several tiles had been previously removed).

Manship Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame, the Transite window wall panels (both aggregate and smooth wall panels), chilled and hot water piping insulation, floor tile, floor base (coating) and mastic, CMU wall and concrete column coating, drywall and caulking/mud contains asbestos. The duct coating and ceiling plaster did not contain asbestos.

Manship Annex Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and rollup door caulking, CMU wall coating, floor tile and mastic, piping insulation, and storefront caulk contains asbestos.

Electrical Engineering Building: the laboratory results revealed the interior and exterior window glazing and frame caulking, the door glazing and frame caulking including the caulking between the window frame and rollup door caulking, the older hot water and chill water piping insulation, transite wall system throughout, the CMU wall coating, sink bottom coating, the storefront frame caulking, floor tile and mastic and roof second floor roof flashing materials contain asbestos. The newer piping insulation and Air handler equipment materials and First floor roof materials did not contain asbestos. No access to the third-floor roof.

In accordance with Federal and State Regulations, prior to roofing replacement where the parapet flashing materials will be impacted, RCG recommends asbestos-containing materials to be impacted by the forces of the upcoming building demolition, be removed by a Contractor licensed to handle asbestos-containing materials and disposed of in accordance with Federal and State regulations. The written design should be prepared by a licensed Asbestos Project Designer, along with the requirement for area monitoring and clearance to be conducted by trained and certified asbestos licensed Inspectors and Contractor Supervisors.

Inspected By:

Harry Rayner

Harry Rayner
Rayner Consulting Group, LLC
Inspector MI114302

APPENDIX 1

BULK SAMPLE RESULTS, LABORATORY SAMPLE ANALYSIS REPORTS, AND SAMPLING ANALYSIS RECORDS AND EXCERPTS FOR THE 1992 ASBESTOS MANAGEMENT PLAN

RCG

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CBR2405307

harryrayner320@yahoo.com

ASBESTOS SAMPLE ANALYSIS RECORD

No.	Sample ID No.	Building & Sampling Locationghn	Sample Type	Material Description	Analytical Method	Asbestos Conten % Type
1	05032401	OYSTER RESEARCH EXTERIOR	B	DOOR FRAME CAULK		2% CHY
2	05032402			DOOR GLAZING CAULK		2% CHY
3	05032403			DOOR FRAME CAULK		2% CHY
4	05032404			DOOR GLAZING CAULK		2% CHY
5	05032405			DOOR FRAME CAULK (NEWER)		2% CHY
6	05032406			WINDOW FRAME CAULK (NEWER)		2% CHY
7	05032407			WINDOW GLAZING CAULK		2% CHY
8	05032408			WINDOW GLAZING CAULK		2% CHY
9	05032409			WINDOW FRAME CAULK (NEWER)		2% CHY
10	05032410			WINDOW FRAME CAULK (NEW/OLD)		2% CHY
11	05032411			WINDOW FRAME TO SILL CAULK		2% CHY
12	05032412			WINDOW FRAME TO SILL CAULK (NEWER)		2% CHY

SAMPLE CHAIN OF CUSTODY RECORD

Date	Time	Printed Name	Signature	Affiliation/Company	Method of Transfer	Purpose
5/7/24	4PM	Harry Rayner	Harry Rayner	RCG	Hand	Analysis

Batch #: 24B26 Client Name: EAT LOU INFRAS Job No.: 13-547 Sampler: Harry Rayner

Date Collected: 05/03/24 Lab Name: CA Labs Method: PLM Signature: Harry Rayner

TAT: 3 DAYS Comments: Email:

SAMPLE TYPE			METHOD	
A. Microvac	1. Amosite	4. Anthophyllite	1. Polarized Light Microscopy (PLM)	4. Transmission Electroscope
B. Bulk	2. Chrysotile	5. Tremolite	2. PLM & Dispersion Staining	
C. Debris	3. Crocidolite	6. Actinolite	3. X-Ray Diffraction	

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CBR24053077

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
13	05032413	OYSTER POINT EXTERIOR	B	EXPANSION JOINT @ SIDEWALK		ND
14	05032414			EXPANSION JT @ SIDEWALK		ND
15	05032415	INTERIOR		FLOOR TILE & MASTIC (MULTI)		6% / 4% CHY
16	05032416			FLOOR TILE & MASTIC (MULTI)		6% / 5% CHY
17	05032417			GLAZING CAULK		2% CHY
18	05032418			GLAZING CAULK		2% CHY
19	05032419			CAULK DEBRIS		2% CHY
20	05032420			DOOR FRAME TO DRYWALL CAULK		5% CHY
21	05032421			DOOR FRAME		5% CHY
22	05032422			COUNTER TOP & MASTIC		ND
23	05032423			FLOOR PAINT		ND
24	05032424			FLOOR PAINT		ND
25	05032425			DOOR FRAME TO CERAMIC WALL CAULK		5% CHY
26	05032426			DOOR FRAME TO CERAMIC WALL GROUT		ND
27	05032427			DOOR FRAME CAULK (VENEER)		5% CHY
28	05032428			DOOR GLAZING CAULK		2% CHY
29	05032429			PLASTER OVER WINDOW OPENING		ND
30	05032430			PLASTER OVER WINDOW OPENING		ND
31						
32						
33						
34						
35						
36						

AJR 5/7/24 4:45

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CBR2405307G

ASBESTOS SAMPLE ANALYSIS RECORD

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
1	050324 01	NETSCIENCE AG ANNEX EXT.	B	WINDOW GLAZING CAULK		2% CHY
2	050324 02			WINDOW FRAME CAULK		2% CHY
3	050324 03			WINDOW GLAZING CAULK (MOVED)		ND
4	050324 04			WINDOW FRAME CAULK		2% CHY
5	050324 05			WINDOW GLAZING CAULK		2% CHY
6	050324 06			WINDOW FRAME CAULK (DOUBLE PANE)		2% CHY
7	050324 07			DOOR FRAME CAULK		2% CHY
8	050324 08			DOOR GLAZING CAULK		2% CHY
9	050324 09			WINDOW GLAZING CAULK		2% CHY
10	050324 10			EXTERIOR GLAZING CAULK		ND
11	050324 11			PIPING INSULATION & CAULK		ND
12	050324 12			PIPING INSULATION		ND

SAMPLE CHAIN OF CUSTODY RECORD

Date	Time	Printed Name	Signature	Affiliation/Company	Method of Transfer	Purpose
5/7/24	4:20	Harry Rayner	Harry Rayner	RCG	Hand	Analysis

Batch #: 24B27 Client Name: FAT LEO INFRAS. Job No.: 13-547 Sampler: Harry Rayner

Date Collected: 05/03/24 Lab Name: CALabs Method PLM Signature: Harry Rayner

TAT: 3 DAYS Comment: Email:

SAMPLE TYPE		
A. Microvac	1. Amosite	4. Anthophyllite
B. Bulk	2. Chrysotile	5. Tremolite
C. Debris	3. Crocidolite	6. Actinolite

METHOD	
1. Polarized Light Microscopy (PLM)	4. Transmission Electroscope
2. PLM & Dispersion Staining	
3. X-Ray Diffraction	

CJL 5/7/24 4:15

CBR24053076

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
13	05032413	VET SCIENCE ANNEX EXTERIOR	B	BLOCK WALL MATERIAL	(VP)	3% CHY
14	05032414	INTERIOR		CEILING PAINT		ND
15	05032415			CEILING PAINT		ND
16	05032416			CEILING PAINT		ND
17	05032417			CEILING PLASTER PATCH		ND
18	05032418			CEILING PLASTER FINISH COAT		ND
19	05032419			CEILING PLASTER FINISH COAT		ND
20	05032420			CEILING PLASTER ROUGH COAT		ND
21	05032421			CEILING PLASTER ROUGH COAT		ND
22	05032422			WALL PAINT		ND
23	05032423			WALL PAINT		ND
24	05032424			WALL PAINT		ND
25	05032425			PLASTER WALL @ CORNER BEAD		ND
26	05032426			PLASTER WALL @ WINDOW WELL		ND
27	05032427			FT & MASTIC		2%/5% CHY
28	05032428			FT & MASTIC		2%/5% CHY
29	05032429			FLOOR PAINT		ND
30	05032430			FLOOR PAINT		ND
31	05032431			RR CERAMIC TO STALL CAULK		ND
32	05032432			RR CERAMIC WALL TO DOOR FRAME		ND
33						
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LSU

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ASBESTOS SAMPLE ANALYSIS RECORD

No.	Sample ID No	Building & Sampling Location/ghn	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
1	050724 01	POULTRY EXTERIOR	B	DOOR GLAZING CAULK		ND
2	050724 02			WINDOW GLAZING CAULK		ND
3	050724 03			WINDOW CAULK DEBRIS		6% CHY
4	050724 04			EXT WINDOW FRAME CAULK		6% CHY
5	050724 05			TRANSITE DEBRIS ON GROUND		15% CHY
6	050724 06			TRANSITE DEBRIS ON GROUND		15% CHY
7	050724 07			BRICK WALL FLASHING & W/P		ND
8	050724 08			BRICK WALL FLASHING & W/P		ND
9	050724 09	INTERIOR		GLAZING CAULK (WINDOW)		ND
10	050724 10			WINDOW GLAZING CAULK		ND
11	050724 11			DOOR FRAME CAULK		ND
12	050724 12			DOOR GLAZING CAULK		6% CHY

SAMPLE CHAIN OF CUSTODY RECORD

Date	Time	Printed Name	Signature	Affiliation/Company	Method of Transfer	Purpose
5/7/24	4:20	Harry Rayner	Harry Rayner	RCG	Hand	Analysis

Batch #: 24B34 Client Name: F&T LSU INFRA Job No.: 13-567 Sampler: Harry Rayner

Date Collected: 5/7/24 Lab Name: CALABS Method: PLM Signature: Harry Rayner

TAT: 3 Days Comments: Email:

SAMPLE TYPE			METHOD	
A. Microvac	1. Amosite	4. Anthophyllite	1. Polarized Light Microscopy (PLM)	4. Transmission Electroscope
B. Bulk	2. Chrysotile	5. Tremolite	2. PLM & Dispersion Staining	
C. Debris	3. Crocidolite	6. Actinolite	3. X-Ray Diffraction	

Ash 5/7/24 4:15

GET ROOFS

TRANSITE CEILING THROUGHOUT

CBR240530T4

No.	Sample ID No	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
13	05072413	POULTRY INTERIOR ATTIC	B	ATTIC WINDOW LEDGE DEBRIS		ND
14	05072414			ATTIC WINDOW SILL DEBRIS		ND
15	05072415			ATTIC WINDOW CAULKING CAULK		ND
16	05072416			ATTIC SHEET ROCK		ND
17	05072417			ATTIC SHEET ROCK		ND
18	05072418			ATTIC FLOOR DEBRIS @ H/W		ND
19	05072419	MAIN FL		STAIRWAY SHEET ROCK		ND
20	05072420			CEILING TRANSITE		15% CHY
21	05072421			CEILING TRANSITE		15% CHY
22	05072422			RR FLOOR COATING (GRAY)		ND
23	05072423			FLOOR COATING (WHITE)		ND
24	05072424			FLOOR COATING (WHITE)		ND
25						
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5/7/24 4:15

RCG

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ASBESTOS SAMPLE ANALYSIS RECORD

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
1	05092401	MANHUP EXTERIOR	B	DOOR FRAME CAULK		3% CHY
2	05092402			DOOR FRAME CAULK		3% CHY
3	05092403			WINDOW GLAZING CAULK		3% CHY
4	05092404			WINDOW FRAME CAULK		3% CHY
5	05092405			WINDOW GLAZING CAULK		3% CHY
6	05092406			AGGREGATE WINDOW WALL PANEL		2% CHY
7	05092407			AGGREGATE WINDOW WALL PANEL		2% CHY
8	05092408			AGGREGATE WINDOW WALL PANEL		2% CHY
9	05092409			AGGR. PANEL CAULK (NEWER)		4% CHY
10	05092410			TSI PIPING RUN IN SILVER WRAP		4% CHY
11	05092411			TSI FITTING		ND
12	05092412			TSI PIPING RUN WRAP		4% CHY

SAMPLE CHAIN OF CUSTODY RECORD

Date	Time	Printed Name	Signature	Affiliation/Company	Method of Transfer	Purpose
5/13/24	12:50	Harry Rayner	Harry Rayner	RCG	Hand	Analysis

Batch #: 24-B 34 Client Name: E4T LSU Baton Rouge Job No.: 13-547 Sampler: Harry Rayner

Date Collected: 5/9/24 Lab Name: CA Labs Method: PLM Signature: Harry Rayner

TAT: 3 DAYS Comments: Email:

SAMPLE TYPE			METHOD	
A. Microvac	1. Amosite	4. Anthophyllite	1. Polarized Light Microscopy (PLM)	4. Transmission Electroscope
B. Bulk	2. Chrysotile	5. Tremolite	2. PLM & Dispersion Staining	
C. Debris	3. Crocidolite	6. Actinolite	3. X-Ray Diffraction	

5/13/24 8:00

CBR 24053184

No.	Sample ID No	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
13	05092413	MAINSHIP EXTERIOR	B	CW TSI WRAP		5% CHY
14	05092414			CW TSI FITTING RUBBER		ND
15	05092415			COLUMN TO WINDOW CAULK		3% CHY
16	05092416			WINDOW FRAME TO BRICK CAULK		4% CHY
17	05092417			GLAZING CAULK		5% CHY
18	05092418			WINDOW WALL PANEL CAULK		ND
19	05092419			WINDOW WALL PANEL		15% CHY
20	05092420			CAULKING ON BRICK @ FLAT BAR		3% CHY
21	05092421	INTERIOR		CMU TO CONC BEAM CAULK		ND
22	05092422			CONC CURVED CEILING CAULK		ND
23	05092423			CONC BEAM COATING		ND
24	05092424			CONC CURVED CEILING TO WINDOW CAULK		ND
25	05092425			DRYWALL TO CONC COL. MUD/CAULK		4% CHY
26	05092426			CMU WALL COATING		2% CHY
27	05092427			DRYWALL TO CMU CAULK/MUD		4% CHY
28	05092428			CMU COATING		1% CHY
29	05092429			CONC. CEILING TO CMU CAULK		3% CHY
30	05092430			CONC. COLUMN COATING		2% CHY
31	05092431			CONC. BEAM COATING		ND
32	05092432			CONC. BEAM TO CONC CEILING MTL		ND
33	05092433	HALL		DOOR GLAZING CAULK		3% CHY
34	05092434			CONC. COLUMN COATING		ND
35	05092435			CMU COATING		2% CHY
36	05092436			CMU COATING		2% CHY

5/13/24 8:00

CPR2405318A

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
37	05092437	MARSHALL INTERIOR	B	WINDOW WALL PANEL		2% CHY
38	05092438	HALL		WW. TO CONC. COL. CAULK		2% CHY
39	05092439	HALL		WALL BASE COATING		2% CHY
40	05092440	HALL		CMU TO COLUMN CAULK		ND
41	05092441	COMP LAB		DUCT COATING		ND
42	05092442	COMP LAB		DUCT COATING		ND
43	05092443	COMP LAB		DUCT INSULATION SILVER		ND
44	05092444	OFC		WOOD WALL CAULK		ND
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5/13/24 8:00

RCG

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Baton Rouge, LA 70808
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CBR2405318S

harryrayner320@yahoo.com

ASBESTOS SAMPLE ANALYSIS RECORD

No.	Sample ID No	Building & Sampling Location/no	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
1	05102401	MAINSHIP ANNEX ~~KITCHEN~~ PRICE	B	~~PAINT~~ SINK BOTTOM		ND
2	05102402			DOOR FRAME CAULK		ND
3	05102403			DOOR GLAZING CAULK		2% CHY
4	05102404			WINDOW GLAZING CAULK		2% CHY
5	05102405			CMU COATING		2% CHY
6	05102406			COLUMN TO WINDOW CAULK		3% CHY
7	05102407			WALL BASE (NEWER)		ND
8	05102408			WALL BOARD MUD		ND
9	05102409			DRYWALL TO CMU CAULK		ND
10	05102410			CMU COATING		3% CHY
11	05102411			COLUMN COATING		ND
12	05102412			WALL BASE		ND

SAMPLE CHAIN OF CUSTODY RECORD

Date	Time	Printed Name	Signature	Affiliation/Company	Method of Transfer	Purpose
5/11/24	12:50	HARRY RAYNER		RCG	Hand	Analysis

Batch #: 24B35 Client Name: LSU INFRAS. Job No.: 13-547 Sampler: Harry Rayner

Date Collected: 5/10/24 Lab Name: CA Labs Method PLM Signature:

TAT: 3 DAYS Comments: Email:

SAMPLE TYPE			METHOD	
A. Microvac	1. Amosite	4. Anthophyllite	1. Polarized Light Microscopy (PLM)	4. Transmission Electroscope
B. Bulk	2. Chrysotile	5. Tremolite	2. PLM & Dispersion Staining	
C. Debris	3. Crocidolite	6. Actinolite	3. X-Ray Diffraction	

5/13/24 8:00

CRR240531BS

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
13	051024-13	MAINTENANCE ANNEX POLICE INTERIOR	B	CMU COATING		2% CHRY
14	051024-14			DOOR FRAME CAULK		2% CHRY
15	051024-15	COMPUTER LAB		FLOOR TILE W/MASTIC		4% 3% CHRY
16	051024-16			COLUMN COATING		ND
17	051024-17			CMU TO CMU SILL CAULK		3% CHRY
18	051024-18			FLOOR TILE MASTIC		3% 4% CHRY
19	051024-19			FLOOR TILE & MASTIC		3% 4% CHRY
20	051024-20			TSI WRAP (NEWER)		ND
21	051024-21			TSI FITTING W/TAPE		2% CHRY
22	051024-22			CMU COATING		2% CHRY
23	051024-23	EXTERIOR		DOOR FRAME CAULK		2% CHRY
24	051024-24			GLAZING CAULK		2% CHRY
25	051024-25			WINDOW FRAME CAULK		2% CHRY
26	051024-26			STOREFRONT FRAME TO CONC. CAULK		2% CHRY
27	051024-27			STORE FRONT COATING		ND
28	051024-28			FLASHING BEHIND BRICK	GENERIC WINDOW	ND
29	051024-29			FLASHING BEHIND BRICK		ND
30	051024-30			SILL CAULK		3% CHRY
31	051024-31			GLAZING CAULK		3% CHRY
32	051024-32			WINDOW FRAME CAULK		3% CHRY
33	051024-33			SILL CAULK (WINDOW)		3% CHRY
34	051024-34			BRICK SILL CAULK		3% CHRY
35	051024-35			GLAZING CAULK		3% CHRY
36	051024-36			ROLL-UP DOOR CAULK (NEWER)		3% CHRY

5/13/24 8:00

CBR.2405318S

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
37	05102437	MANSHIP ANNEX EXTERIOR	B	WINDOW FRAME TO COL	CAULK	3% CHY
38	05102438			WINDOW FRAME CAULK		ND
39	05102439			BRICK FLASHING UNDER WIN		ND
40	05102440	ELECTRICAL ENCL EXTERIOR		TSI WRAP NEWER		2% CHY
41	05102441			TSI WRAP NEWER		ND
42	05102442			DOOR FRAME CAULK		ND
43	05102443			TSI & CAULK ON WRAP		ND
44	05102444	MECH RM		TSI & MASTIC (NEWER)		ND
45	05102445			CW WRAP & CAULK		ND
46	05102446			CW WRAP & MASTIC		2% CHY
47	05102447			CW WRAP & MASTIC		2% CHY
48	05102448			CW CAULK (NEWER)		ND
49	05102449			NIPPLE TSI (NEWER)		ND
50	05102450			CW WRAP & MASTIC		2% CHY
51	05102451			TSI DEBRIS MATERIAL		ND
52	05102452			TSI DEBRIS MATERIAL		ND
53	05102493			TSI DEBRIS WRAP		ND
54	05102454	EXTERIOR		DOOR FRAME CAULK		ND
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ash 5/13/24 8:00

RCG

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CBR240531B3

harryrayner320@yahoo.com

ASBESTOS SAMPLE ANALYSIS RECORD

No.	Sample ID No.	Building & Sampling Location/ghn	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
1	05112401	EE BLDG EXTERIOR	S	TSI CAN ? (NEWER) JACKETED		ND
2	05112402			TSI CAN ? (NEWER) JACKETED		ND
3	05112403			WINDOW SILL CAULK		ND
4	05112404			ROLLUP DOOR CAULK		2%CHY
5	05112405			BLDG EXP. JT CAULK		ND
6	05112406			BLDG TO SI WALK JT MAT'L		ND
7	05112407			SIDEWALK TO WALK JT MAT'L		ND
8	05112408			DOOR FRAME CAULK		3%CHY
9	05112409			WINDOW FRAME CAULK		ND
10	05112410			WINDOW GLAZING CAULK (NEWER)		ND
11	05112411			STORE FRONT FRAME CAULK		3%CHY
12	05112412			STORE FRONT GLAZING CAULK (NEWER)		ND

SAMPLE CHAIN OF CUSTODY RECORD

Date	Time	Printed Name	Signature	Affiliation/Company	Method of Transfer	Purpose
5/13/24	12:50	Harry Rayner	Harry Rayner	RCG	Hand	Analysis

Batch #: 24036 Client Name: FIT INTIAS Lab No. 13-547 Sample: Harry Rayner

Date Collected: 5/11/24 Lab Name: CA Lab Method: Signature: Harry Rayner

TAT: 3 DAYS Comments: Email:

SAMPLE TYPE			METHOD	
A. Microvac	1. Amosite	4. Anthophyllite	1. Polarized Light Microscopy (PLM)	4. Transmission Electroscope
B. Bulk	2. Chrysotile	5. Tremolite	2. PLM & Dispersion Staining	
C. Debris	3. Crocidolite	6. Actinolite	3. X-Ray Diffraction	

5/13/24 8:00

CBR24053183

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Conten % Type
13	051124 13	EECCCG BASE INT.	B	TSI WRAP (NEWER?)		3% CHY
14	051124 14	(TO CRAWL) RM 19		CRAWL SPACE SOIL W/ WHITE		ND
15	051124 15			CRAWL SPACE SOIL W/ WHITE DEBRIS		ND
16	051124 16			CRAWL SPACE SOIL W/ WHITE DEBRIS		ND
17	051124 17			CW TSI WRAP & INSUL (NEWER)		ND
18	051124 18			CW TSI WRAP & INSUL (NEWER)		ND
19	051124 19			CRAWL SPACE SOIL W/ WHITE DEBRIS		ND
20	051124 20			CMU COATING		2% CHY
21	051124 21			DOOR FRAME CAULK		ND
22	051124 22	RM 22		HW TSI FTG. INSUL & WRAP		2% CHY
23	051124 23			HW TST RUN INSUL & WRAP		2% CHY
24	051124 24			CW TST WRAP SILVER/BLACK		2% CHY
25	051124 25	CORRIDOR		FLOOR TILE & MASTIC		2%/4% CHY
26	051124 26			WALL BASE W/ MASTIC		ND
27	051124 27			CMU WALL COATING		2% CHY
28	051124 28	RM 12		WIN & FRAME CAULK (INTERIOR)		ND
29	051124 29			GREEN CMU COATING		3% CHY
30	051124 30			DOOR FRAME CAULK		3% CHY
31	051124 31	RM 8		TSI (NEWER) ON VERTICAL		ND
32	051124 32			FLOOR TILE (NEWER) ON BM		ND
33						
34						
35						
36						

5/13/24 8:00

RCG

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CBR240531 86

harryrayner320@yahoo.com

ASBESTOS SAMPLE ANALYSIS RECORD

No.	Sample ID No.	Building & Sampling Location ghn	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
1	051240	EE BUILDING FIRST FLOOR	P	HVAC TSI WRAP (NEWER)		ND
2	05122402	MECH RM		CW CAULK & INSUL		ND
3	05122403			CW WRAP & CAULK		ND
4	05122404			CW CAULK & INSUL		ND
5	05122405			FLOOR DEBRIS MAT'L		ND
6	05122406			CW TSI WRAP W/ FTG		ND
7	05122407			HVAC DUCT WRAP (NEWER)		ND
8	05122408			HVAC CONTINENT SEALANT (ROOF)		ND
9	05122409	2ND FLOOR MECH RM		CW TSI WRAP & INSUL		ND
10	05122410			CW TSI WRAP & CAULK		ND
11	05122411			HW TSI @ FLOOR LEVEL (CAULK & WRAP)		ND
12	05122412			CW TSI @ FLR LEVEL (CAULK & WRAP)		ND

SAMPLE CHAIN OF CUSTODY RECORD

Date	Time	Printed Name	Signature	Affiliation/Company	Method of Transfer	Purpose
5/2/24	2:20	Harry Rayner		RCG	Hand	Analysis

Batch #: 24B0836 Client Name: LSU FAT Inters. Job No.: 13-547 Sampler: Harry Rayner

Date Collected: 5/2/24 Lab Name: CALab Method: PLM Signature:

TAT: 3 DAYS Comments: Email:

SAMPLE TYPE		
A. Microvac	1. Amosite	4. Anthophyllite
B. Bulk	2. Chrysotile	5. Tremolite
C. Debris	3. Crocidolite	6. Actinolite

METHOD	
1. Polarized Light Microscopy (PLM)	4. Transmission Electroscope
2. PLM & Dispersion Staining	
3. X-Ray Diffraction	

5/3/24 8:00

CBR240531816

No.	Sample ID No	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
13	05122413	EE BLDG THIRD FL MECH RM		CW TSI DARK WRAP		ND
14	05122414			TSI WRAP (WHITE)		3% CHY
15	05122415			TSI WRAP FIG (WHITE)		3% CHY
16	05122416			TSI WRAP DARK (WHITE)		3% CHY
17	05122417			TSI WRAP DARK BY PLANT RM		3% CHY
18	05122418			TSI INSUL & FITTING		4% CHY
19	05122419	MECH RM		DOOR FRAME CAULK		ND
20	05122420	HALL JANITOR		PLASTER WALL		ND
21	05122421	RM 322		WINDOW FRAME CAULK		3% CHY
22	05122422			CMU TO CONC. COL. CAULK		2% CHY
23	05122423			CONCRETE SILL COATING		5% CHY
24	05122424	RM 302		CMU COATING		2% CHY
25	05122425			WINDOW GLAZING CAULK		2% CHY
26	05122426	RM 326		WALL BASE & MASTIC		ND
27	05122427			TRANSITE? WALL SYSTEM		20% CHY
28	05122428	SECOND FL RM 221		CONCRETE SILL COATING		ND
29	05122429			CMU TO CONC. COL. CAULK		3% CHY
30	05122430			CMU COATING		3% CHY
31	05122431	RM 201		WALL BASE & MASTIC		ND
32	05122432	HALL @ RM 20		TRANSITE? WALL SYSTEM		20% CHY
33	05122433	LAB 216		SINK BOTTOM COATING		3% CHY
34	05122434	PENTHOUSE ROOF		ROOF MASTIC		ND
35	05122435			ROOF FELT		ND
36	05122436			ROOF FLASHING		ND

AJL 5/13/24 8:00

CHR2405318b

No.	Sample ID No.	Building & Sampling Location	Sample Type	Material Description	Analytical Method	Asbestos Content % Type
37	05122437	EE BLDG 2ND FLOOR FIRST	B	DOOR FRAME/CAULK		ND
38	05122438	FIRST FL RM 145		CMU COATING		3% CHY
39	05122439			DOOR FRAME CAULK		3% CHY
40	05122440			WINDOW FRAME TO SILL CAULK		3% CHY
41	05122441	RM 125		TRANSITE? WALL SYSTEM		20% CHY
42	05122442	RM 118		TRANSITE WALL SYS. WINDOW GLAZING		ND
43	05122443			TRANSITE? WALL SYSTEM		20% CHY
44	05122444			WALL BASE & MASTIC		ND
45	05122445			CMU WALL/PLATE COATING		2% CHY
46	05122446			DOOR FRAME CAULK		2% CHY
47	05122447	RM 102		FLOOR TILE MASTIC?		3% CHY
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5/13/24 8:00

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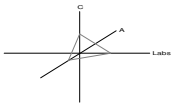

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Attn: Harry Rayner
Customer Project: F&T LSU Infras
Reference #: CBR24053074 Date: 5/9/2024

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

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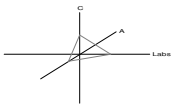

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F&T LSU Infras **CA Labs Project #:** CBR24053074

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
05072403	*03-1*	*Gray Surfaced White Sealant*	***6% Chrysotile***	***Gray Surfaced White Sealant***
05072404	*04-1*	*Gray Surfaced White Sealant*	***6% Chrysotile***	***Gray Transite***
05072405	*05-1*	*Gray Transite*	***15% Chrysotile***	***Brown Sealant***
05072406	*06-1*	*Gray Transite*	***15% Chrysotile***	***Tan Surfaced Gray Transite***
05072412	*12-1*	*Brown Sealant*	***6% Chrysotile***	
05072420	*20-1*	*Tan Surfaced Gray Transite*	***15% Chrysotile***	
05072421	*21-1*	*Tan Surfaced Gray Transite*	***15% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
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Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053074

Date: 5/9/2024
Samples Received:
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05072401		*01-1*	*Black and White Sealant*	*N*	***None Detected***	2% wo	98% qu, ma, bi, ca
05072402		*02-1*	*White Sealant*	*Y*	***None Detected***	2% wo	98% qu, ma, bi, ca
05072403		*03-1*	*Gray Surfaced White Sealant*	*N*	***6% Chrysotile***		94% qu, bi, ca
05072404		*04-1*	*Gray Surfaced White Sealant*	*N*	***6% Chrysotile***		94% qu, bi, ca
05072405		*05-1*	*Gray Transite*	*Y*	***15% Chrysotile***		85% qu, ma, ca
05072406		*06-1*	*Gray Transite*	*Y*	***15% Chrysotile***		85% qu, ma, ca
05072407		*07-1*	*Black Tar*	*Y*	***None Detected***	3% ce	97% qu, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Alicia Stretz
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CA Labs
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NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053074

Date: 5/9/2024
Samples Received:
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05072408		*08-1*	*Black Tar*	*Y*	***None Detected***	3% ce	97% qu, bi
05072409		*09-1*	*White Sealant*	*Y*	***None Detected***		100% qu, bi, ca
05072410		*10-1*	*White Sealant*	*Y*	***None Detected***	2% wo	98% qu, ma, bi, ca
05072411		*11-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma, ca
05072412		*12-1*	*Brown Sealant*	*Y*	***6% Chrysotile***		94% qu, bi, ca
05072413		*13-1*	*Brown Plaster*	*Y*	***None Detected***		100% qu, ma, ca
05072414		*14-1*	*White Surfaced White Sealant*	*N*	***None Detected***	2% wo	98% qu, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Alicia Stretz
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CA Labs
Dedicated to Quality

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053074

Date: 5/9/2024
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Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05072415		*15-1*	*White Surfaced White Sealant*	*N*	***None Detected***	2% wo	98% qu, bi, ca
05072416		*16-1*	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
05072417		*17-1*	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
05072418		*18-1*	*Gold Vermiculite Insulation*	*Y*	***None Detected***		100% ve
05072419		*19-1*	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
05072420		*20-1*	*Tan Surfaced Gray Transite*	*N*	***15% Chrysotile***		85% qu, bi, ma, ca
05072421		*21-1*	*Tan Surfaced Gray Transite*	*N*	***15% Chrysotile***		85% qu, bi, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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CA Labs Project #: CBR24053074

Date: 5/9/2024
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Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05072422		*22-1*	*Gray Surfacing*	*Y*	***None Detected***		100% qu, bi
05072423		*23-1*	*White Sealant*	*Y*	***None Detected***		100% qu, bi, ca
05072424		*24-1*	*White Sealant*	*Y*	***None Detected***		100% qu, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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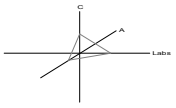

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Attn: Harry Rayner
Customer Project: F & T LSU Infras.
Reference #: CBR24053076 Date: 5/8/2024

Analysis and Met od

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Dis ussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

uali i ations

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

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TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F & T LSU Infras. **CA Labs Project #:** CBR24053076

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
05032401	*01-1*	*Gray and White Sealant*	***2% Chrysotile***	***Gray and White Sealant***
05032402	*02-1*	*Gray and White Sealant*	***2% Chrysotile***	***Gray Sealant***
05032404	*04-1*	*Gray Sealant*	***2% Chrysotile***	***Yellow Surfaced Gray Sealant***
05032405	*05-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	***Gray and Blue Sealant***
05032406	*06-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	***Black Sealant***
05032407	*07-1*	*Gray and Blue Sealant*	***2% Chrysotile***	***Brown Floor Tile***
05032408	*08-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	***Black Mastic***
05032409	*09-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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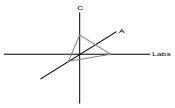

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Overview of Project Sample Material Containing Asbestos

Customer Project: F & T LSU Infras. **CA Labs Project #:** CBR24053076

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
05032413	*13-1*	*Black Sealant*	***7% Chrysotile***	
05032427	*27-1*	*Brown Floor Tile*	***2% Chrysotile***	
	27-2	*Black Mastic*	***5% Chrysotile***	
05032428	*28-1*	*Brown Floor Tile*	***2% Chrysotile***	
	28-2	*Black Mastic*	***5% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
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or - organic
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mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project:
F & T LSU Infras.

Turnaround Time: 3 Day

CA Labs Project #:
CBR24053076

Date: 5/8/2024
Samples Received: 5/7/2024
Date Of Sampling: 5/3/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032401		*01-1*	*Gray and White Sealant*	*N*	***2% Chrysotile***		98% qu, ma, ca
05032402		*02-1*	*Gray and White Sealant*	*N*	***2% Chrysotile***		98% qu, ma, ca
05032403		*03-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
05032404		*04-1*	*Gray Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca
05032405		*05-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032406		*06-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032407		*07-1*	*Gray and Blue Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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05032408		*08-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032409		*09-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032410	***10***	*10-1*	*Yellow Surfaced White and Blue Sealant*	*N*	***None Detected***	2% wo	98% qu, ma, bi, ca
05032411		*11-1*	*Yellow Insulation*	*Y*	***None Detected***	2% ce	98% qu, ve, ma, ca
05032412		*12-1*	*Yellow Insulation*	*Y*	***None Detected***	2% ce	98% qu, ve, ma, ca
05032413		*13-1*	*Black Sealant*	*Y*	***7% Chrysotile***		93% qu, ma, bi
05032414		*14-1*	*Tan Surfacing*	*Y*	***None Detected***		100% qu, bi

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05032415		*15-1*	*Tan Surfacing*	*Y*	***None Detected***		100% qu, bi
05032416		*16-1*	*Tan Surfacing*	*Y*	***None Detected***		100% qu, bi
05032417		*17-1*	*White Plaster*	*Y*	***None Detected***		100% qu, ma, ca
05032418		*18-1*	*White Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
05032419		*19-1*	*White Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
05032420		*20-1*	*White and Gray Plaster*	*N*	***None Detected***		100% qu, ma, ca
05032421		*21-1*	*Gray Plaster*	*Y*	***None Detected***		100% qu, ma, ca

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Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032422		*22-1*	*Tan Surfacing*	*Y*	***None Detected***		100% qu, bi
05032423		*23-1*	*Tan Surfacing*	*Y*	***None Detected***		100% qu, bi
05032424		*24-1*	*Tan Surfacing*	*Y*	***None Detected***		100% qu, bi
05032425		*25-1*	*Tan Surfaced Gray Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
05032426		*26-1*	*Tan Surfaced Gray Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
05032427		*27-1*	*Brown Floor Tile*	*Y*	***2% Chrysotile***		98% qu, ma, ca
		27-2	*Black Mastic*	*Y*	***5% Chrysotile***		95% qu, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Zo Andriampenomanana
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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Fax 225-751-5634

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project:
F & T LSU Infras.

Turnaround Time: 3 Day

CA Labs Project #:
CBR24053076

Date: 5/8/2024
Samples Received: 5/7/2024
Date Of Sampling: 5/3/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032428		*28-1*	*Brown Floor Tile*	*Y*	***2% Chrysotile***		98% qu, ma, ca
		28-2	*Black Mastic*	*Y*	***5% Chrysotile***		95% qu, bi
05032429		*29-1*	*Red Surfacing*	*Y*	***None Detected***		100% qu, bi
05032430		*30-1*	*Red Surfacing*	*Y*	***None Detected***		100% qu, bi
05032431		*31-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma, ca
05032432		*32-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

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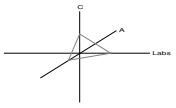

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Attn: Harry Rayner
Customer Project: F&T LSU Infras
Reference #: CBR24053077 Date: 5/9/2024

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

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NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F&T LSU Infras **CA Labs Project #:** CBR24053077

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
05032401	*01-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	***Yellow Surfaced Gray Sealant***
05032402	*02-1*	*Gray Sealant*	***2% Chrysotile***	***Gray Floor Tile***
05032403	*03-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	***Yellow and Black Mastic***
05032404	*04-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	***Tan Sealant***
05032405	*05-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	***Gray Debris***
05032406	*06-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	
05032407	*07-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	
05032408	*08-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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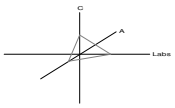

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F&T LSU Infras **CA Labs Project #:** CBR24053077

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
05032409	*09-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	
05032410	*10-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	
05032411	*11-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	
05032412	*12-1*	*Yellow Surfaced Gray Sealant*	***2% Chrysotile***	
05032415	*15-1*	*Gray Floor Tile*	***6% Chrysotile***	
	15-2	*Yellow and Black Mastic*	***4% Chrysotile***	
05032416	*16-1*	*Gray Floor Tile*	***6% Chrysotile***	
	16-2	*Black Mastic*	***5% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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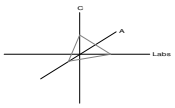

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F&T LSU Infras **CA Labs Project #:** CBR24053077

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
05032417	*17-1*	*Gray Sealant*	***2% Chrysotile***	
05032418	*18-1*	*Gray Sealant*	***2% Chrysotile***	
05032419	*19-1*	*Gray Sealant*	***2% Chrysotile***	
05032420	*20-1*	*Tan Sealant*	***5% Chrysotile***	
05032421	*21-1*	*Tan Sealant*	***5% Chrysotile***	
05032425	*25-1*	*Tan Sealant*	***5% Chrysotile***	
05032427	*27-1*	*Tan Sealant*	***5% Chrysotile***	
05032428	*28-1*	*Gray Debris*	***2% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
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wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
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ka - kaolin (clay)
pa - palygorskite (clay)

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NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053077

Date: 5/9/2024
Samples Received: 5/7/2024
Date Of Sampling: 5/3/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032401		*01-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032402		*02-1*	*Gray Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca
05032403		*03-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032404		*04-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032405		*05-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032406		*06-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032407		*07-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
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Approved Signatories:

Zo Andriampenomanana
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053077

Date: 5/9/2024
Samples Received: 5/7/2024
Date Of Sampling: 5/3/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032408		*08-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032409		*09-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032410		*10-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032411		*11-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032412		*12-1*	*Yellow Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032413		*13-1*	*Black Felt*	*Y*	***None Detected***	60% ce	40% qu, ot, bi
05032414		*14-1*	*Black Felt*	*Y*	***None Detected***	60% ce	40% qu, ot, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
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Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053077

Date: 5/9/2024
Samples Received: 5/7/2024
Date Of Sampling: 5/3/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032415		*15-1*	*Gray Floor Tile*	*Y*	***6% Chrysotile***		94% qu, ma, ca
		15-2	*Yellow and Black Mastic*	*N*	***4% Chrysotile***		96% qu, bi
05032416		*16-1*	*Gray Floor Tile*	*Y*	***6% Chrysotile***		94% qu, ma, ca
		16-2	*Black Mastic*	*N*	***5% Chrysotile***		95% qu, bi
05032417		*17-1*	*Gray Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca
05032418		*18-1*	*Gray Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca
05032419		*19-1*	*Gray Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053077

Date: 5/9/2024
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Date Of Sampling: 5/3/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032420		*20-1*	*Tan Sealant*	*Y*	***5% Chrysotile***		95% qu, ma, ca
05032421		*21-1*	*Tan Sealant*	*Y*	***5% Chrysotile***		95% qu, ma, ca
05032422		*22-1*	*Tan Paneling*	*Y*	***None Detected***	60% ce	40% qu, ma
05032423		*23-1*	*Orange Surfacing*	*Y*	***None Detected***		100% qu, bi
05032424		*24-1*	*Orange Surfaced Gray Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
05032425		*25-1*	*Tan Sealant*	*Y*	***5% Chrysotile***		95% qu, ma, ca
05032426		*26-1*	*Gray Grout*	*Y*	***None Detected***		100% qu, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Zo Andriampenomanana
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
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6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CA Labs
Dedicated to Quality

CA Labs, L.L.C.
12232 Industriplex, Suite 32
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Phone 225-751-5632
Fax 225-751-5634

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 Day

CA Labs Project #: CBR24053077

Date: 5/9/2024
Samples Received: 5/7/2024
Date Of Sampling: 5/3/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
05032427		*27-1*	*Tan Sealant*	*Y*	***5% Chrysotile***		95% qu, ma, ca
05032428		*28-1*	*Gray Debris*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
05032429		*29-1*	*Tan Plaster*	*Y*	***None Detected***		100% qu, ma, ca
05032430		*30-1*	*Tan Plaster*	*Y*	***None Detected***		100% qu, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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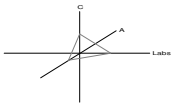

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Attn: Harry Rayner
Customer Project: F&T Infras.
Reference #: CBR24053183 Date: 5/15/2024

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

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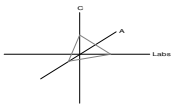

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F&T Infras. **CA Labs Project #:** CBR24053183

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
051124-04	*04-1*	*Brown Sealant*	***2% Chrysotile***	***Brown Sealant***
051124-08	*08-1*	*Gray Sealant*	***3% Chrysotile***	***Gray Sealant***
051124-11	*11-1*	*Gray Sealant*	***3% Chrysotile***	***Black Sealant on Wrap***
051124-13	*13-1*	*Black Sealant on Wrap*	***3% Chrysotile***	***Tan Surfaced White Compound***
051124-20	*20-1*	*Tan Surfaced White Compound*	***2% Chrysotile***	***Gray Surfaced Black Sealant on Wrap***
051124-22	*22-1*	*Gray Surfaced Black Sealant on Wrap*	***2% Chrysotile***	***Tan Floor Tile***
051124-23	*23-1*	*Gray Surfaced Black Sealant on Wrap*	***2% Chrysotile***	***Black Mastic***
051124-24	*24-1*	*Gray Surfaced Black Sealant on Wrap*	***2% Chrysotile***	***Green Surfaced White Compound***

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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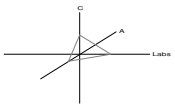

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F&T Infras. **CA Labs Project #:** CBR24053183

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
051124-25	*25-1*	*Tan Floor Tile*	***2% Chrysotile***	
	25-2	*Black Mastic*	***4% Chrysotile***	
051124-27	*27-1*	*Tan Surfaced White Compound*	***2% Chrysotile***	
051124-28	*28-1*	*Gray Sealant*	***3% Chrysotile***	
051124-29	*29-1*	*Green Surfaced White Compound*	***3% Chrysotile***	
051124-30	*30-1*	*Gray Sealant*	***3% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project:
F&T Infras.

Turnaround Time: 3 day

CA Labs Project #:
CBR24053183

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/11/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051124-01		*01-1*	*Black and White Sealant on Foil*	*N*	***None Detected***	2% ce	98% qu, ma, ca, ot
		01-2	*Yellow Foam*	*Y*	***None Detected***		100% ot
051124-02		*02-1*	*Black and White Sealant on Foil*	*N*	***None Detected***	2% ce	98% qu, ma, ca, ot
051124-03		*03-1*	*Brown Sealant*	*Y*	***None Detected***		100% qu, ma, ca
051124-04		*04-1*	*Brown Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca
051124-05		*05-1*	*White Surfaced Gray Sealant*	*N*	***None Detected***		100% qu, bi, ma, ca
051124-06		*06-1*	*Black Mastic*	*Y*	***None Detected***	2% ce	98% qu, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Corinne Barr
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
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NVLAP #200772-0
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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
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Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project:
F&T Infras.

Turnaround Time: 3 day

CA Labs Project #:
CBR24053183

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/11/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051124-07		*07-1*	*Black Mastic*	*Y*	***None Detected***	2% ce	98% qu, bi
051124-08		*08-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051124-09		*09-1*	*Blue Surfaced Gray Sealant*	*N*	***None Detected***		100% qu, bi, ma, ca
051124-10		*10-1*	*Gray Sealant*	*Y*	***None Detected***	2% wo	98% qu, ma, ca
051124-11		*11-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051124-12		*12-1*	*Gray Sealant*	*Y*	***None Detected***		100% qu, ma, ca
051124-13		*13-1*	*Black Sealant on Wrap*	*N*	***3% Chrysotile***	50% ce	47% qu, bi, ma, ca, ot

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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Turnaround Time: 3 day

CA Labs Project #:
CBR24053183

Date: 5/15/2024
Samples Received: 5/13/2024
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Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051124-14		*14-1*	*Tan Debris*	*Y*	***None Detected***		100% qu, ma, ca
051124-15		*15-1*	*Tan Debris*	*Y*	***None Detected***		100% qu, ma, ca
051124-16		*16-1*	*Tan Debris*	*Y*	***None Detected***		100% qu, ma, ca
051124-17		*17-1*	*Tan Wrap on Foil*	*N*	***None Detected***	60% ce	40% qu, ma, ot
		17-2	*Brown Foam*	*Y*	***None Detected***		100% ot
051124-18		*18-1*	*Tan Wrap on Foil*	*N*	***None Detected***	60% ce	40% qu, ma, ot
		18-2	*Brown Foam*	*Y*	***None Detected***		100% ot

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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Turnaround Time: 3 day

CA Labs Project #: CBR24053183

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/11/2024
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Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051124-19		*19-1*	*Tan Debris*	*Y*	***None Detected***		100% qu, ma, ca
051124-20		*20-1*	*Tan Surfaced White Compound*	*N*	***2% Chrysotile***		98% qu, bi, ma, ca
051124-21		*21-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma, ca
051124-22		*22-1*	*Gray Surfaced Black Sealant on Wrap*	*N*	***2% Chrysotile***	50% fg	48% qu, bi, ma, ca
		22-2	*Gray Insulation*	*Y*	***None Detected***	20% fg	80% qu, ma, ca
		22-3	*Yellow Fibrous Insulation*	*Y*	***None Detected***	100% fg	
051124-23		*23-1*	*Gray Surfaced Black Sealant on Wrap*	*N*	***2% Chrysotile***	50% fg	48% qu, bi, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: F&T Infras.

Turnaround Time: 3 day

CA Labs Project #: CBR24053183

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/11/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		23-2	*Yellow Fibrous Insulation*	*Y*	***None Detected***	100% fg	
051124-24		*24-1*	*Gray Surfaced Black Sealant on Wrap*	*N*	***2% Chrysotile***	50% fg	48% qu, bi, ma, ca
		24-2	*Yellow Fibrous Insulation*	*Y*	***None Detected***	100% fg	
051124-25		*25-1*	*Tan Floor Tile*	*Y*	***2% Chrysotile***		98% qu, ma, ca
		25-2	*Black Mastic*	*Y*	***4% Chrysotile***		96% qu, bi
051124-26		*26-1*	*Black Surfaced Brown Cove Base*	*N*	***None Detected***		100% qu, bi, ma
		26-2	*Brown Mastic*	*Y*	***None Detected***		100% qu, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Corinne Barr
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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NVLAP #200772-0
TDSHS #300370
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Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051124-27		*27-1*	*Tan Surfaced White Compound*	*N*	***2% Chrysotile***		98% qu, bi, ma, ca
051124-28		*28-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051124-29		*29-1*	*Green Surfaced White Compound*	*N*	***3% Chrysotile***		97% qu, bi, ma, ca
051124-30		*30-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051124-31		*31-1*	*Tan Wrap on Foil*	*N*	***None Detected***	60% ce	40% qu, ma, ot
		31-2	*Black Mastic*	*Y*	***None Detected***		100% qu, bi
		31-3	*Yellow Fibrous Insulation*	*Y*	***None Detected***	100% fg	

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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
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051124-32		*32-1*	*Tan Floor Tile*	*Y*	***None Detected***		100% qu, ma, ca
		32-2	*Black Mastic*	*Y*	***None Detected***		100% qu, bi

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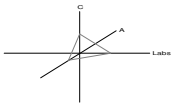

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TDSHS #300370
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LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Attn: Harry Rayner
Customer Project: F&T LSU Infras
Reference #: CBR24053184 Date: 5/15/2024

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

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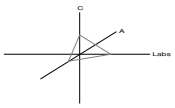

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: F&T Infras **CA Labs Project #:** CBR24053184

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
050924-01	*01-1*	*Gray Surfaced White Sealant*	***3% Chrysotile***	***Gray Surfaced White Sealant***
050924-02	*02-1*	*Gray Surfaced White Sealant*	***3% Chrysotile***	***Gray Sealant***
050924-03	*03-1*	*Gray Sealant*	***3% Chrysotile***	***Gray Paneling***
050924-04	*04-1*	*Gray Sealant*	***3% Chrysotile***	***Black Wrap***
050924-05	*05-1*	*Gray Sealant*	***3% Chrysotile***	***Black Wrap on Tan Insulation***
050924-06	*06-1*	*Gray Paneling*	***2% Chrysotile***	***Gray Transite***
050924-07	*07-1*	*Gray Paneling*	***2% Chrysotile***	***Tan Surfaced Tan Compound***
050924-08	*08-1*	*Gray Paneling*	***2% Chrysotile***	***Tan Surfaced White Compound***

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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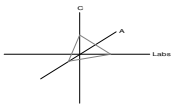

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Overview of Project Sample Material Containing Asbestos

Customer Project: F&T LSU Infras **CA Labs Project #:** CBR24053184

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
050924-09	*09-1*	*Gray Sealant*	***4% Chrysotile***	
050924-10	*10-1*	*Black Wrap*	***4% Chrysotile***	
050924-12	*12-1*	*Gray and Black Wrap*	***4% Chrysotile***	
050924-13	*13-1*	*Black Wrap on Tan Insulation*	***6% Chrysotile***	
050924-15	*15-1*	*Gray Sealant*	***5% Chrysotile***	
050924-16	*16-1*	*Gray Sealant*	***4% Chrysotile***	
050924-17	*17-1*	*Gray Sealant*	***5% Chrysotile***	
050924-19	*19-1*	*Gray Transite*	***15% Chrysotile***	

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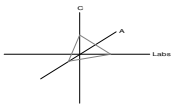

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Overview of Project Sample Material Containing Asbestos

Customer Project: F&T LSU Infras **CA Labs Project #:** CBR24053184

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
050924-20	*20-1*	*Gray Sealant*	***3% Chrysotile***	
050924-25	*25-1*	*Tan Surfaced Tan Compound*	***4% Chrysotile***	
050924-26	*26-1*	*Tan Surfaced White Compound*	***2% Chrysotile***	
050924-27	*27-1*	*Tan Surfaced Tan Compound*	***4% Chrysotile***	
050924-28	*28-1*	*Gray Surfaced White Compound*	***2% Chrysotile***	
050924-29	*29-1*	*White Surfaced Green Compound*	***2% Chrysotile***	
050924-30	*30-1*	*White Surfaced Green Compound*	***2% Chrysotile***	
050924-33	*33-1*	*Tan Sealant*	***3% Chrysotile***	

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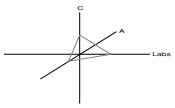

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050924-35	*35-1*	*Gray and White Debris*	***2% Chrysotile***	
050924-36	*36-1*	*Gray and White Debris*	***2% Chrysotile***	
050924-37	*37-1*	*Gray and White Debris*	***2% Chrysotile***	
050924-38	*38-1*	*Gray and White Debris*	***2% Chrysotile***	
050924-39	*39-1*	*Gray and White Debris*	***2% Chrysotile***	

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050924-02		*02-1*	*Gray Surfaced White Sealant*	*N*	***3% Chrysotile***		97% qu, ma, bi, ca
050924-03		*03-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma
050924-04		*04-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
050924-05		*05-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
050924-06		*06-1*	*Gray Paneling*	*N*	***2% Chrysotile***		98% qu, ma, ca
050924-07		*07-1*	*Gray Paneling*	*N*	***2% Chrysotile***		98% qu, ma, ca

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Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
050924-08		*08-1*	*Gray Paneling*	*N*	***2% Chrysotile***		98% qu, ma, ca
050924-09		*09-1*	*Gray Sealant*	*Y*	***4% Chrysotile***		96% qu, ma
050924-10		*10-1*	*Black Wrap*	*N*	***4% Chrysotile***	25% fg	71% qu, ma, bi
		10-2	*Black Blown Glass Insulation*	*Y*	***None Detected***		100% ot
050924-11		*11-1*	*Black Felt*	*Y*	***None Detected***	60% ce	40% qu, bi
050924-12		*12-1*	*Gray and Black Wrap*	*N*	***4% Chrysotile***	25% fg	71% qu, ma, bi
		12-2	*Black Blown Glass Insulation*	*Y*	***None Detected***		100% ot

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Zo Andriampenomanana
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CA Labs
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Fax 225-751-5634

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053184

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/9/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
050924-13		*13-1*	*Black Wrap on Tan Insulation*	*N*	***6% Chrysotile***	25% fg	69% qu, ma, bi
050924-14		*14-1*	*Black Felt*	*Y*	***None Detected***	60% ce	40% qu, bi
050924-15		*15-1*	*Gray Sealant*	*Y*	***5% Chrysotile***		95% qu, ma
050924-16		*16-1*	*Gray Sealant*	*Y*	***4% Chrysotile***		96% qu, ma, ca
050924-17		*17-1*	*Gray Sealant*	*Y*	***5% Chrysotile***		95% qu, ma, ca
050924-18	***10***	*18-1*	*Gray Sealant*	*Y*	***None Detected***		100% qu, ma
050924-19		*19-1*	*Gray Transite*	*N*	***15% Chrysotile***		85% qu, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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Polarized Light Asbestiform Materials Characterization

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Phone # 225-916-2824
Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053184

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/9/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
050924-20		*20-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
050924-21		*21-1*	*White Surfaced Gray CMU*	*N*	***None Detected***		100% qu, ma, bi, ca
050924-22		*22-1*	*White Surfaced Gray Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
050924-23		*23-1*	*White Surfaced Gray Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
050924-24		*24-1*	*Gray Plaster*	*Y*	***None Detected***		100% qu, ma, ca
050924-25		*25-1*	*Tan Surfaced Tan Compound*	*N*	***4% Chrysotile***		96% qu, mi, bi, ca
050924-26		*26-1*	*Tan Surfaced White Compound*	*N*	***2% Chrysotile***		98% qu, mi, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
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ma - matrix	qu - quartz	sy - synthetic	

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Analyst

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Alicia Stretz

Laboratory Director
Chris Williams

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Polarized Light Asbestiform Materials Characterization

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Turnaround Time: 3 day

CA Labs Project #: CBR24053184

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/9/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
050924-27		*27-1*	*Tan Surfaced Tan Compound*	*N*	***4% Chrysotile***		96% qu, mi, bi, ca
050924-28		*28-1*	*Gray Surfaced White Compound*	*N*	***2% Chrysotile***		98% qu, mi, bi, ca
050924-29		*29-1*	*White Surfaced Green Compound*	*N*	***2% Chrysotile***		98% qu, mi, bi, ca
050924-30		*30-1*	*White Surfaced Green Compound*	*N*	***2% Chrysotile***		98% qu, mi, bi, ca
050924-31		*31-1*	*White Surfaced Gray Concrete*	*N*	***None Detected***		100% qu, ma, bi, ca
050924-32		*32-1*	*White Surfaced Gray Concrete*	*N*	***None Detected***		100% qu, ma, bi, ca
050924-33		*33-1*	*Tan Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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Polarized Light Asbestiform Materials Characterization

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Baton Rouge, LA 70808

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Fax #

Customer Project: F&T LSU Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053184

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/9/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
050924-34		*34-1*	*Gray Surfaced Gray Compound*	*N*	***None Detected***		100% qu, mi, bi, ca
050924-35		*35-1*	*Gray and White Debris*	*N*	***2% Chrysotile***		98% qu, mi, ma, bi, ca
050924-36		*36-1*	*Gray and White Debris*	*N*	***2% Chrysotile***		98% qu, mi, ma, bi, ca
050924-37		*37-1*	*Gray and White Debris*	*N*	***2% Chrysotile***		98% qu, mi, ma, bi, ca
050924-38		*38-1*	*Gray and White Debris*	*N*	***2% Chrysotile***		98% qu, mi, ma, bi, ca
050924-39		*39-1*	*Gray and White Debris*	*N*	***2% Chrysotile***		98% qu, mi, ma, bi, ca
050924-40		*40-1*	*Gray Surfaced Gray CMU*	*N*	***None Detected***		100% qu, ma, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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Polarized Light Asbestiform Materials Characterization

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Customer Project: F&T LSU Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053184

Date: 5/15/2024
Samples Received: 5/13/2024
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Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
050924-41		*41-1*	*Gray Sealant*	*Y*	***None Detected***		100% qu, ma
050924-42		*42-1*	*Gray Sealant*	*Y*	***None Detected***		100% qu, ma
050924-43		*43-1*	*Tan Wrap with Foil*	*N*	***None Detected***	20% fg 50% ce	30% ot
		43-2	*Yellow Fibrous Insulation*	*Y*	***None Detected***	100% fg	
050924-44		*44-1*	*White and Tan Debris*	*N*	***None Detected***		100% qu, ma, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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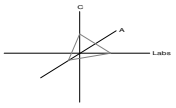

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Attn: Harry Rayner
Customer Project: LSU Infras
Reference #: CBR24053185 Date: 5/15/2024

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

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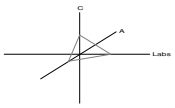

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: LSU Infras **CA Labs Project #:** CBR24053185

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
051024-03	*03-1*	*Gray Sealant*	***2% Chrysotile***	***Gray Sealant***
051024-04	*04-1*	*White Sealant*	***2% Chrysotile***	***White Sealant***
051024-05	*05-1*	*White Surfaced Tan Compound*	***2% Chrysotile***	***White Surfaced Tan Compound***
051024-06	*06-1*	*Tan Sealant*	***3% Chrysotile***	***Tan Sealant***
051024-10	*10-1*	*White Sealant*	***3% Chrysotile***	***Gray Surfaced White Compound***
051024-13	*13-1*	*Gray Surfaced White Compound*	***2% Chrysotile***	***Tan Floor Tile***
051024-14	*14-1*	*Tan Sealant*	***2% Chrysotile***	***Black Mastic***
051024-15	*15-1*	*Tan Floor Tile*	***3% Chrysotile***	***White Wrap***

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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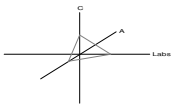

NVLAP #200772-0
TDSHS #300370
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LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: LSU Infras **CA Labs Project #:** CBR24053185

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
	15-2	*Black Mastic*	***4% Chrysotile***	
051024-17	*17-1*	*Tan Sealant*	***3% Chrysotile***	
051024-18	*18-1*	*Tan Floor Tile*	***3% Chrysotile***	
	18-2	*Black Mastic*	***4% Chrysotile***	
051024-19	*19-1*	*Tan Floor Tile*	***3% Chrysotile***	
	19-2	*Black Mastic*	***4% Chrysotile***	
051024-21	*21-1*	*White Wrap*	***2% Chrysotile***	
051024-22	*22-1*	*White Surfaced Gray Compound*	***2% Chrysotile***	

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CA Labs, L.L.C.
12232 Industriplex, Suite 32
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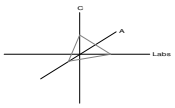
Fax 225-751-5634



NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: LSU Infras **CA Labs Project #:** CBR24053185

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
051024-23	*23-1*	*White Sealant*	***2% Chrysotile***	
051024-24	*24-1*	*White Sealant*	***2% Chrysotile***	
051024-25	*25-1*	*Tan Sealant*	***2% Chrysotile***	
051024-26	*26-1*	*Tan and Gray Sealant*	***2% Chrysotile***	
051024-30	*30-1*	*Gray Sealant*	***3% Chrysotile***	
051024-31	*31-1*	*Gray Sealant*	***3% Chrysotile***	
051024-32	*32-1*	*Gray Sealant*	***3% Chrysotile***	
051024-33	*33-1*	*Gray Sealant*	***3% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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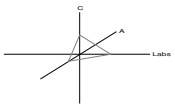

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Overview of Project Sample Material Containing Asbestos

Customer Project: LSU Infras **CA Labs Project #:** CBR24053185

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051024-34	*34-1*	*Gray Sealant*	***3% Chrysotile***	
051024-35	*35-1*	*Gray Sealant*	***3% Chrysotile***	
051024-36	*36-1*	*Gray Sealant*	***3% Chrysotile***	
051024-37	*37-1*	*Gray Sealant*	***3% Chrysotile***	
051024-40	*40-1*	*Gray Sealant*	***2% Chrysotile***	
051024-46	*46-1*	*Black Sealant on Tan Wrap*	***2% Chrysotile***	
051024-47	*47-1*	*Black Sealant on Tan Wrap*	***2% Chrysotile***	
051024-50	*50-1*	*Black Sealant*	***2% Chrysotile***	

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Overview of Project Sample Material Containing Asbestos

Customer Project: LSU Infras **CA Labs Project #:** CBR24053185

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate	pe - perlite	fg - fiberglass	pa - palygorskite (clay)
gypsum - gypsum	qu - quartz	mw - mineral wool	
bi - binder		wo - wollastinite	
or - organic		ta - talc	
ma - matrix		sy - synthetic	
mi - mica		ce - cellulose	
ve - vermiculite		br - brucite	
ot - other		ka - kaolin (clay)	

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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: LSU Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053185

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/10/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051024-01		*01-1*	*Gray Sealant*	*Y*	***None Detected***	6% ce	94% qu, ma
051024-02		*02-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
051024-03		*03-1*	*Gray Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca
051024-04		*04-1*	*White Sealant*	*N*	***2% Chrysotile***		98% qu, ma, ca
051024-05		*05-1*	*White Surfaced Tan Compound*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
051024-06		*06-1*	*Tan Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051024-07		*07-1*	*Black Cove Base*	*Y*	***None Detected***		100% qu, ma

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
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bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

David Darby
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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Turnaround Time: 3 day

CA Labs Project #: CBR24053185

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/10/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		07-2	*Tan Mastic*	*Y*	***None Detected***		100% qu, bi
051024-08		*08-1*	*White Surfaced White Compound*	*N*	***None Detected***		100% qu, mi, bi, ca
051024-09		*09-1*	*White Surfaced White Compound*	*N*	***None Detected***		100% qu, mi, bi, ca
051024-10		*10-1*	*White Sealant*	*Y*	***3% Chrysotile***		97% qu, ma
051024-11		*11-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma, bi
051024-12		*12-1*	*Tan Cove Base*	*Y*	***None Detected***		100% qu, ma
		12-2	*Tan Mastic*	*Y*	***None Detected***		100% qu, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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CA Labs Project #: CBR24053185

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/10/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051024-13		*13-1*	*Gray Surfaced White Compound*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
051024-14		*14-1*	*Tan Sealant*	*Y*	***2% Chrysotile***		98% qu, ma
051024-15		*15-1*	*Tan Floor Tile*	*Y*	***3% Chrysotile***		97% qu, ma, ca
		15-2	*Black Mastic*	*Y*	***4% Chrysotile***		96% qu, bi
051024-16		*16-1*	*White Surfaced Gray Compound*	*N*	***None Detected***		100% qu, ma, bi, ca
051024-17		*17-1*	*Tan Sealant*	*Y*	***3% Chrysotile***		97% qu, ma
051024-18		*18-1*	*Tan Floor Tile*	*Y*	***3% Chrysotile***		97% qu, ma

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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Polarized Light Asbestiform Materials Characterization

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Turnaround Time: 3 day

CA Labs Project #: CBR24053185

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/10/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		18-2	*Black Mastic*	*Y*	***4% Chrysotile***		96% qu, bi
051024-19		*19-1*	*Tan Floor Tile*	*Y*	***3% Chrysotile***		97% qu, ma
		19-2	*Black Mastic*	*Y*	***4% Chrysotile***		96% qu, bi
051024-20		*20-1*	*White Wrap*	*Y*	***None Detected***	60% fg	40% qu, ma
		20-2	*Yellow Insulation*	*Y*	***None Detected***	100% fg	
051024-21		*21-1*	*White Wrap*	*Y*	***2% Chrysotile***		98% qu, ma, bi
051024-22		*22-1*	*White Surfaced Gray Compound*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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051024-23		*23-1*	*White Sealant*	*Y*	***2% Chrysotile***		98% qu, ma
051024-24		*24-1*	*White Sealant*	*Y*	***2% Chrysotile***		98% qu, ma
051024-25		*25-1*	*Tan Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, ca
051024-26		*26-1*	*Tan and Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, ca
051024-27		*27-1*	*Gray Surfacing*	*Y*	***None Detected***		100% qu, bi
051024-28		*28-1*	*Black Sealant*	*Y*	***None Detected***		100% qu, ma, bi
051024-29		*29-1*	*Black Sealant*	*Y*	***None Detected***		100% qu, ma, bi

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Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051024-30		*30-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051024-31		*31-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051024-32		*32-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, bi
051024-33		*33-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051024-34		*34-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051024-35		*35-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051024-36		*36-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca

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051024-37		*37-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051024-38		*38-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
051024-39		*39-1*	*Black Sealant*	*Y*	***None Detected***		100% qu, ma, bi
051024-40		*40-1*	*Gray Sealant*	*Y*	***2% Chrysotile***		98% qu, ma
051024-41		*41-1*	*Tan Sealant*	*Y*	***None Detected***	6% ce	94% qu, ma, bi
051024-42		*42-1*	*Gray Sealant*	*Y*	***None Detected***		100% qu, ma, ca
051024-43		*43-1*	*Black and White Sealant*	*N*	***None Detected***	6% ce	94% qu, ma, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

David Darby
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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2. Fire Damage no significant fiber damages effecting fibrous percentages
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4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
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7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CA Labs
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Phone 225-751-5632
Fax 225-751-5634

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: LSU Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053185

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/10/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051024-44		*44-1*	*White Wrap*	*N*	***None Detected***	40% ce	60% qu, ma, ot
051024-45		*45-1*	*White Wrap*	*Y*	***None Detected***	3% wo 40% ce	57% qu, ma, ot
051024-46		*46-1*	*Black Sealant on Tan Wrap*	*N*	***2% Chrysotile***	40% ce	58% qu, ma, bi
051024-47		*47-1*	*Black Sealant on Tan Wrap*	*N*	***2% Chrysotile***	40% ce	58% qu, ma, bi
051024-48		*48-1*	*Tan Sealant*	*Y*	***None Detected***		100% qu, ma
051024-49		*49-1*	*Black and White Sealant*	*N*	***None Detected***		100% qu, ma, bi, ot
051024-50		*50-1*	*Black Sealant*	*Y*	***2% Chrysotile***		98% qu, ma, bi

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Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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Polarized Light Asbestiform Materials Characterization

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CA Labs Project #: CBR24053185

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/10/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051024-51		*51-1*	*Brown Insulation*	*Y*	***None Detected***	80% ce	20% qu, ma, ca
051024-52		*52-1*	*White Wrap*	*Y*	***None Detected***	3% wo 40% ce	57% qu, ma
051024-53		*53-1*	*White Wrap*	*Y*	***None Detected***	3% wo 40% ce	57% qu, ma
051024-54		*54-1*	*Gray Sealant*	*Y*	***None Detected***	6% ce	94% qu, ma

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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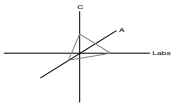

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Attn: Harry Rayner
Customer Project: LSU F&T Infras
Reference #: CBR24053186 Date: 5/15/2024

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be detectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

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NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: LSU F&T Infras **CA Labs Project #:** CBR24053186

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
051224-14	*14-1*	*White Sealant on Wrap*	***3% Chrysotile***	***White Sealant on Wrap***
051224-15	*15-1*	*White Sealant on Wrap*	***3% Chrysotile***	***Black Sealant on Wrap***
051224-16	*16-1*	*Black Sealant*	***3% Chrysotile***	***Gray Insulation***
051224-17	*17-1*	*Black Sealant on Wrap*	***3% Chrysotile***	***Tan Sealant***
051224-18	*18-1*	*Gray Insulation*	***4% Chrysotile***	***Tan Surfaced Gray Sealant***
051224-21	*21-1*	*Tan Sealant*	***3% Chrysotile***	***Tan Surfaced Green Compound***
051224-22	*22-1*	*Tan Sealant*	***2% Chrysotile***	***Gray Transite***
051224-23	*23-1*	*Tan Surfaced Gray Sealant*	***3% Chrysotile***	***Tan Surfaced Tan Compound***

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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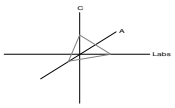

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: LSU F&T Infras **CA Labs Project #:** CBR24053186

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
051224-24	*24-1*	*Tan Surfaced Green Compound*	***2% Chrysotile***	
051224-25	*25-1*	*White Sealant*	***2% Chrysotile***	
051224-27	*27-1*	*Gray Transite*	***20% Chrysotile***	
051224-29	*29-1*	*Tan Sealant*	***3% Chrysotile***	
051224-30	*30-1*	*Tan Surfaced Tan Compound*	***3% Chrysotile***	
051224-32	*32-1*	*Tan Surfaced Gray Transite*	***20% Chrysotile***	
051224-33	*33-1*	*Tan Sealant*	***3% Chrysotile***	
051224-38	*38-1*	*White Surfaced White Compound*	***3% Chrysotile***	

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qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
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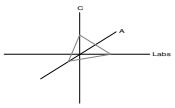

NVLAP #200772-0
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CDPHE #AL-18111
LELAP #03069

Overview of Project Sample Material Containing Asbestos

Customer Project: LSU F&T Infras **CA Labs Project #:** CBR24053186

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
051224-39	*39-1*	*Gray Sealant*	***3% Chrysotile***	
051224-40	*40-1*	*White Surfaced Gray Sealant*	***3% Chrysotile***	
051224-41	*41-1*	*White Surfaced Gray Transite*	***20% Chrysotile***	
051224-43	*43-1*	*White Surfaced Gray Transite*	***20% Chrysotile***	
051224-45	*45-1*	*Tan Surfaced Tan Compound*	***2% Chrysotile***	
051224-46	*46-1*	*Tan Surfaced Gray Sealant*	***2% Chrysotile***	
051224-47	*47-1*	*Tan Floor Tile*	***3% Chrysotile***	

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

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Phone # 225-916-2824
Fax #

Customer Project: LSU F&T Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053186

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/12/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051224-01		*01-1*	*White Wrap*	*Y*	***None Detected***	60% ce	40% qu, ma, ot
051224-02		*02-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
		02-2	*Black Blown Glass Insulation*	*Y*	***None Detected***		100% qu, ot
051224-03		*03-1*	*White Wrap*	*N*	***None Detected***	60% ce 3% wo	37% qu, ma, ot
051224-04		*04-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
		04-2	*Black Blown Glass Insulation*	*Y*	***None Detected***		100% qu, ot
051224-05		*05-1*	*Gray Insulation*	*Y*	***None Detected***	80% fg	20% qu, ma

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Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051224-06		*06-1*	*White Wrap*	*N*	***None Detected***	60% ce 3% wo	37% qu, ma, ot
		06-2	*Black Blown Glass Insulation*	*Y*	***None Detected***		100% qu, ot
051224-07		*07-1*	*Brown Wrap*	*Y*	***None Detected***	60% ce	40% qu, ma, ot
051224-08		*08-1*	*Gray Sealant*	*Y*	***None Detected***		100% qu, ma
051224-09		*09-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
		09-2	*Yellow Insulation*	*Y*	***None Detected***	100% fg	
051224-10		*10-1*	*White Wrap*	*Y*	***None Detected***	40% ce	60% qu, ma

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051224-11		*11-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
		11-2	*Yellow Insulation*	*Y*	***None Detected***	100% fg	
051224-12		*12-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma
		12-2	*Black Sealant*	*Y*	***None Detected***		100% qu, ma, bi
051224-13		*13-1*	*Black Wrap*	*N*	***None Detected***	70% ce	30% qu, ma
		13-2	*Silver Foil*	*N*	***None Detected***		100% qu, ot
051224-14		*14-1*	*White Sealant on Wrap*	*N*	***3% Chrysotile***	40% ce	57% qu, ma

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

David Darby
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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9. < 1% Result point counted positive
10. TEM analysis suggested

CA Labs
Dedicated to Quality

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

NVLAP #200772-0
TDSHS #300370
CDPHE #AL-18111
LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: LSU F&T Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053186

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/12/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051224-15		*15-1*	*White Sealant on Wrap*	*N*	***3% Chrysotile***	40% ce	57% qu, ma
051224-16		*16-1*	*Black Sealant*	*N*	***3% Chrysotile***	40% ce	57% qu, ma
		16-2	*Yellow Insulation*	*Y*	***None Detected***	100% fg	
051224-17		*17-1*	*Black Sealant on Wrap*	*N*	***3% Chrysotile***	60% ce	37% qu, ma, bi
		17-2	*Silver Foil*	*Y*	***None Detected***		100% qu, ot
051224-18		*18-1*	*Gray Insulation*	*Y*	***4% Chrysotile***	30% fg	66% qu, ma, ca
051224-19		*19-1*	*White Sealant*	*Y*	***None Detected***		100% qu, ma, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
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Polarized Light Asbestiform Materials Characterization

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Fax #

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Turnaround Time: 3 day

CA Labs Project #: CBR24053186

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/12/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051224-20		*20-1*	*White Plaster*	*Y*	***None Detected***		100% qu, ma, ca
051224-21		*21-1*	*Tan Sealant*	*Y*	***3% Chrysotile***		97% qu, ma
051224-22		*22-1*	*Tan Sealant*	*Y*	***2% Chrysotile***		98% qu, ma
051224-23		*23-1*	*Tan Surfaced Gray Sealant*	*N*	***3% Chrysotile***		97% qu, ma, ca
051224-24		*24-1*	*Tan Surfaced Green Compound*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
051224-25		*25-1*	*White Sealant*	*Y*	***2% Chrysotile***		98% qu, ma
051224-26		*26-1*	*Brown Cove Base*	*Y*	***None Detected***		100% qu, ma

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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LELAP #03069

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Harry Rayner
Rayner Consulting Group
7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project: LSU F&T Infras

Turnaround Time: 3 day

CA Labs Project #: CBR24053186

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/12/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		26-2	*Brown Mastic*	*Y*	***None Detected***		100% qu, bi
051224-27		*27-1*	*Gray Transite*	*Y*	***20% Chrysotile***		80% qu, ma, ca
051224-28		*28-1*	*Tan Surfaced White Plaster*	*N*	***None Detected***		100% qu, ma, bi, ca
051224-29		*29-1*	*Tan Sealant*	*Y*	***3% Chrysotile***		97% qu, ma
051224-30		*30-1*	*Tan Surfaced Tan Compound*	*N*	***3% Chrysotile***		97% qu, ma, bi, ca
051224-31		*31-1*	*Brown Cove Base*	*Y*	***None Detected***		100% qu, ma
		31-2	*Brown Mastic*	*Y*	***None Detected***		100% qu, bi

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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Customer Info: **Attn:** Harry Rayner
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7353 Highland Road Suite B-3B
Baton Rouge, LA 70808

Phone # 225-916-2824
Fax #

Customer Project:
LSU F&T Infras

Turnaround Time: 3 day

CA Labs Project #:
CBR24053186

Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/12/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051224-32		*32-1*	*Tan Surfaced Gray Transite*	*N*	***20% Chrysotile***		80% qu, ma, bi, ca
051224-33		*33-1*	*Tan Sealant*	*Y*	***3% Chrysotile***		97% qu, ma
051224-34		*34-1*	*Black Tar*	*Y*	***None Detected***		100% qu, ma, bi
051224-35		*35-1*	*Black Felt and Tar*	*N*	***None Detected***	40% ce	60% qu, ma, bi
051224-36		*36-1*	*Black Felt and Tar*	*N*	***None Detected***	30% fg	70% qu, ma, bi
051224-37		*37-1*	*Gray Sealant*	*Y*	***None Detected***		100% qu, ma
051224-38		*38-1*	*White Surfaced White Compound*	*N*	***3% Chrysotile***		97% qu, ma, bi, ca

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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Phone # 225-916-2824
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Turnaround Time: 3 day

CA Labs Project #: CBR24053186

Date: 5/15/2024
Samples Received: 5/13/2024
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Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051224-39		*39-1*	*Gray Sealant*	*Y*	***3% Chrysotile***		97% qu, ma, ca
051224-40		*40-1*	*White Surfaced Gray Sealant*	*N*	***3% Chrysotile***		97% qu, ma, bi, ca
051224-41		*41-1*	*White Surfaced Gray Transite*	*N*	***20% Chrysotile***		80% qu, ma, bi, ca
051224-42		*42-1*	*Black Sealant*	*Y*	***None Detected***		100% qu, ma
051224-43		*43-1*	*White Surfaced Gray Transite*	*N*	***20% Chrysotile***		80% qu, ma, bi, ca
051224-44		*44-1*	*Brown Cove Base*	*Y*	***None Detected***		100% qu, ma
		44-2	*Brown Mastic*	*Y*	***None Detected***		100% qu, bi

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Date: 5/15/2024
Samples Received: 5/13/2024
Date Of Sampling: 5/12/2024
Purchase Order #: 13-547

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
051224-45		*45-1*	*Tan Surfaced Tan Compound*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
051224-46		*46-1*	*Tan Surfaced Gray Sealant*	*N*	***2% Chrysotile***		98% qu, ma, bi, ca
051224-47		*47-1*	*Tan Floor Tile*	*Y*	***3% Chrysotile***		97% qu, ma, ca

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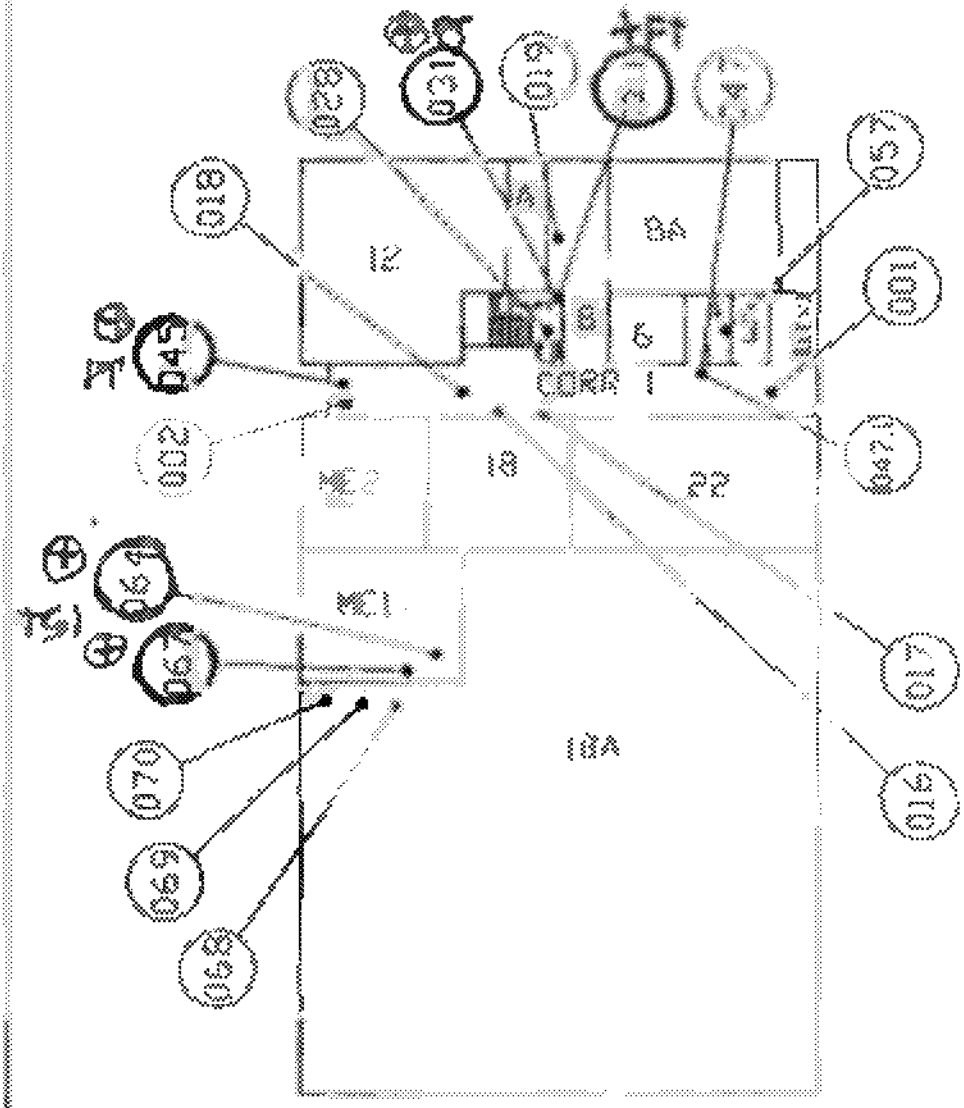
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* CHECK DOUBLE LOCKS
- WATER PROOFING
- FLAT FLAME ROOF
- ATTIC ENTRANCE

= FIRE DOOR

LSU BATON ROUGE - MAIN CAMPUS
ELECTRICAL ENGINEERING
HIGHLAND ROAD
BATON ROUGE, LA 70803

STATE I.D. # LE1EN
SITE CODE: 2-17-0144
APPROXIMATE SCALE: 1"=30'
1 FLOOR OF 2 FLOORS
FLOOR AREA: 17,420 SQ FT

LSU EASTERN GEORGE - MAIN CAMPUS
ELECTRICAL ENGINEERING
HIGHLAND ROAD
EASTERN POINTE, LA 70803

STATIC LOAD CALCULATION
SITE CODE: A-17-0464
APPROXIMATE TOTAL AREA
2_FLOOR OF 3_FLOOR
FLOOR AREA (GROSS SQ FT)

008 (-)
009 (-)
036 Not Analyzed
041 (-)
CM: 082
AM: NB
CR: NB
Others: NB
049 (-)
CM: 100
AM: NB
CR: NB
Others: NB
049 R-2
055 (-)
056 (-)
061 (-)

Site Plan

LSU BATON ROUGE - MAIN CAMPUS
ELECTRICAL ENGINEERING
HIGHLAND ROAD
BATON ROUGE, LA 70803

STATE I.D. # 16100
SITE BLDG. 2-17-0144
APPROXIMATE SCALE: 1"=50'
2 FLOOR OF 2 FLOORS
FLOOR AREA: 7,870 SQ. FT.

* Look for entrance hatch on below

(3) F.D.= FIRE DOOR

LSU BATON ROUGE - MAIN CAMPUS
ELECTRICAL ENGINEERING
HIGHLAND ROAD
BATON ROUGE, LA. 70803

STATE I.D. #: LCLCN
SITE CODE: 2-17-0144
APPROXIMATE SCALE: 1"=30'
ATTIC
FLOOR AREA: 3,951 SQ. FT.

BULK SAMPLE / CHAIN OF CUSTODY FORM

FORM F

State ID: LELEN Building Name: Electrical Engineering

Sample Date: 5/23/92

Name of Accredited Building Inspector Collecting Bulk Samples: Cheryl Berry Thomas Bourgeois

Louisiana DEQ Accreditation Number: 228149

Total Number of Samples Collected from this Building: 31 (less 0 Imminent hazard samples.)

Sample Number	H.A. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
LELEN 001	1	Bas	2x2 Ceiling Tile	Cor1	North Central
LELEN 002	1	Bas		Cor1	South Central
LELEN 003	1	1		118	West Central Hallway
LELEN 004	1	1		Lobby1	South West corner
LELEN 005	1	1		150	East Central Wall
LELEN 006	1	2		Cor21	East Central
LELEN 007	1	2		Cor23	West Central
LELEN 008	1	3		322	South West corner
LELEN 009	1	3		Cor31	East Central
LELEN 010	2	1		156	South Room
LELEN 011	2	1		150A	South West
LELEN 012	2	1		150C	Central
LELEN 013	3	2	2x2 Ceiling Tile	Stair 2	Near Light
LELEN 014	3	2		Stair	South East
LELEN 015	3	2		Stair	West by Door (2)

REVISED 3/31/92

BULK SAMPLE / CHAIN OF CUSTODY FORM

FORM F

State ID: LSUBR Building Name: Electrical Engineering

Sample Date: 5/28/92

Name of Accredited Building Inspector Collecting Bulk Samples: Cheryl Berry

Louisiana DEQ Accreditation Number: 20049

Total Number of Samples Collected from this Building: 11 less 2 imminent hazard samples.

Sample Number	H.A. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
LSUBR 014	4	Ext	2x2 w/ [illegible]	Corr	East Corridor
LSUBR 017	4	Ext		Corr	East Corridor
LSUBR 018	4	Ext		Corr	East Corridor
LSUBR 019	4	Ext	2x2 Wood Cot	8	South Corridor
LSUBR 020	3	1st		150	At Coed Entrance
LSUBR 021	5	2nd	"	212	Northwest corner
LSUBR 022	5	2nd	2x2 Cot	212	Northeast corner
LSUBR 023	5	2nd		212	Southwest corner
LSUBR 024	5	2nd		212A1	Center of room
LSUBR 025	5	2nd		212	Northwest corner
LSUBR 026	5	2nd		212	Center of room
[illegible]	5	2nd	[illegible]	[illegible]	[illegible]
LSUBR 028	5	1st	[illegible]	[illegible]	[illegible]
LSUBR 029	2	1		Corr 2	North East
LSUBR 030	2	1	"	Corr 2	North East

REVISED 3/31/92

BULK SAMPLE / CHAIN OF CUSTODY FORM

FORM E

State ID: LELEN

Building Name: Electrical Engr

Sample Date: 5/25/12

Name of Accredited Building Inspector Collecting Bulk Samples: (only one inspector per building)

Cheryl Berry

Louisiana DEQ Accreditation Number: 2IN489

Total Number of Samples Collected from this Building: 11 less 0 (assume all materials are asbestos containing unless sampled) inviment hazard samples.

Sample Number	H.A. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
LELEN 031	1	2	9x9 Tan FF	203	Southwest corner
LELEN 032	9	1		118	North-east area
LELEN 033	3	1		102	In doorway
LELEN 034	4	2		247	In doorway
LELEN 035	5	2		201	Center of room
LELEN 036	6	3		326	In doorway
LELEN 037	7	1	1X1 Gray	[illegible]	North-east corner
LELEN 038	8	2	9x9 Cork FF	212	North-east corner
LELEN 039	12	2	[illegible]	[illegible]	South-west corner
LELEN 040	13	1	[illegible]	Corr. 102	Near corner
LELEN 041	10	3	[illegible]	350	North-west corner
LELEN 042	[illegible]	2	[illegible]	[illegible]	In corner - wall
LELEN 043	14	1	[illegible]	154	South-east area
LELEN 044	11	2	9x9 Gray FF	[illegible]	North-east corner
LELEN 045	15	Roof	[illegible]	[illegible]	South End of Line

REVISED 3/31/92

BULK SAMPLE / CHAIN OF CUSTODY FORM

FORM F

Page 4 of 5

State ID: LOUISIANA Building Name: Electrical Engr.

Sample Date: 3/20/92

Name of Accredited Building Inspector Collecting Bulk Samples: Cheryl Berry

Louisiana DEQ Accreditation Numbers: 2320499

Total Number of Samples Collected from this Building: 31 less 0 (Include confirmation runs if more than 10 positive are collected) Imminent hazard samples.

Sample Number	H.A. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
LOUISIANA 046	19	2	[illegible]	210	North-east corner
LOUISIANA 047	23	2	[illegible]	[illegible]	[illegible] by Rm
LOUISIANA 048	21	1	[illegible]	[illegible]	[illegible] way
LOUISIANA 049	22	3	[illegible]	[illegible]	[illegible] corner
LOUISIANA 050	24	1	[illegible]	102C	South central
LOUISIANA 051	24	1		118	South East
LOUISIANA 052	24	1		130	North East Corridor
LOUISIANA 053	24	2		212	North-[illegible] Corridor
LOUISIANA 054	24	2		210 A1	South-[illegible] Corridor
LOUISIANA 055	24	3		312	[illegible]
LOUISIANA 056	[illegible]	[illegible]		[illegible]	[illegible]
LOUISIANA 057	25	6c	Plaster	4	North East
LOUISIANA 058	25	1		118	South Central
LOUISIANA 059	25	1		102C	North East Corner
LOUISIANA 060	25	2		201	South East Corner

REVISED 3/31/92

BULK SAMPLE / CHAIN OF CUSTODY FORM

FORM E

State ID: LELEN Building Name: Electrical Engr.

Sample Date: 5/28/92

Name of Accredited Building Inspector Collecting Bulk Samples: Cheryl Bond Chris Eddy

(only one inspector per building)

Louisiana DEQ Accreditation Number: 2301

Total Number of Samples Collected from this Building: 21 less 9

(Where combination does not exceed 10 samples are collected) imminent hazard samples

Sample Number	H.A. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
[redacted] LELEN 061	25	3	Plaster	326	South west corner
[redacted] LELEN 062	[illegible]	1st	Mudsill Fill	130	Center of north wall
[redacted] LELEN 063	26	2nd		228	Center of west wall
[redacted] LELEN 064	26	B		ME1	North-east area
[redacted] LELEN 065	27	1	Terrazzo floor	130	Center of northwall
ELEN 066	27	2		228	Center of west wall
ELEN 067	27	Bas		ME1	Center of east wall
ELEN 068	28	Bas	Terrazzo	18A	North-end of bar
ELEN 069	27	Bas		18A	North-end of bar
ELEN 070	28	Bas		18A	South-end of bar
ELEN 071	28	2	[illegible]	228	South wall
ELEN 072	30	2	Terrazzo	228	East wall

REVISED 3/31/92

LAB SUMMARY

STATE ID: LOUISIANA FORM B

			ASBESTOS					NON-ASBESTOS			
SAMPLE	N.A.D	RESULT	CHRY	AMOS	CROC	OTHER	TOTAL	SYNTH	F/G	CELL	NON-FIB
001	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
002	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
003	1	NEGATIVE	ND	ND	ND	Other	ND	ND	80%	TR	19
004	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
005	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
006	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
007	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
008	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
009	1	NEGATIVE	ND	ND	ND	Other	ND	ND	85%	TR	14
010	2	NEGATIVE	ND	ND	ND	Other	ND	ND	45%	20%	35
011	2	NEGATIVE	ND	ND	ND	Other	ND	ND	45%	25%	30
012	2	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
013	3	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
014	3	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
015	3	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
016	4	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	65%	31
017	4	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	65%	31
018	4	NEGATIVE	ND	ND	ND	Other	ND	ND	TR	90%	9
019	5	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
020	5	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
021	5	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
022	6	NEGATIVE	ND	ND	ND	Other	ND	ND	50%	10%	40
023	6	NEGATIVE	ND	ND	ND	Other	ND	ND	50%	10%	40
024	6	NEGATIVE	ND	ND	ND	Other	ND	ND	50%	10%	40
025	6	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
026	6	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
028	8	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
029	8	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
030	8	NEGATIVE	ND	ND	ND	Other	ND	ND	30%	40%	30
031	9	POSITIVE	15%	ND	ND	Other	15%	ND	2-4%	2-4%	77
031.1	9	POSITIVE	10%	ND	ND	Other	10%	ND	TR	2-4%	85
032	9										0
033	9										0
034	9										0
035	9										0
036	9										0
037	10	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	2-4%	92
038	11	POSITIVE	10%	ND	ND	Other	10%	ND	TR	2-4%	88
038.1	11	NEGATIVE	ND	ND	ND	Other	ND	ND	TR	TR	98
039	12	NEGATIVE	ND	ND	ND	Other	ND	ND	TR	5%	94
039.1	12	POSITIVE	5%	ND	ND	Other	5%	ND	TR	2-4%	90
040	13	POSITIVE	30%	ND	ND	Other	30%	ND	TR	2-4%	64
040.1	13	NEGATIVE	ND	ND	ND	Other	ND	ND	TR	5%	94
041	14	POSITIVE	20%	ND	ND	Other	20%	ND	TR	2-4%	75
042	15	POSITIVE	20%	ND	ND	Other	20%	ND	2-4%	5%	71
042.1	15	POSITIVE	10%	ND	ND	Other	10%	ND	TR	2-4%	85
043	16	POSITIVE	20%	ND	ND	Other	20%	ND	2-4%	5%	71
044	17	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	10%	86
045	18	POSITIVE	20%	ND	ND	Other	20%	ND	2-4%	5%	71
046	19	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	10%	86
046.1	19	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	5%	91
047	20	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	10%	86
047.1	20	NEGATIVE	ND	ND	ND	Other	ND	ND	TR	5%	94
048	21	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	10%	86
048.1	21	POSITIVE	10%	ND	ND	Other	10%	ND	2-4%	2-4%	82
049	22	POSITIVE	10%	ND	ND	Other	10%	ND	2-4%	2-4%	82

049.1	22	NEGATIVE	ND	ND	ND	Other	ND	ND	TR	5%	94
050	24	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	30%	66
051	24	NEGATIVE	ND	ND	ND	Other	ND	ND	20%	30%	50
052	24	NEGATIVE	ND	ND	ND	Other	ND	ND	15%	20%	65
053	24	NEGATIVE	ND	ND	ND	Other	ND	ND	5%	40%	55
054	24	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	30%	70
055	24	NEGATIVE	ND	ND	ND	Other	ND	ND	5%	30%	65
056	24	NEGATIVE	ND	ND	ND	Other	ND	ND	5%	30%	65
057	25	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	2-4%	92
058	25	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	2-4%	92
059	25	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	2-4%	92
060	25	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	10%	86
061	25	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	2-4%	92
062	26	NEGATIVE	ND	ND	ND	Other	ND	ND	20%	2-4%	66
063	26	POSITIVE	1-4%	ND	ND	Other	1-4	ND	10%	ND	66
064	26	NEGATIVE	TR	ND	ND	Other	TR	ND	30%	2-4%	65
065	27	POSITIVE	2-4%	ND	ND	Other	2-4	ND	2-4%	70%	22
066	27										0
067	27										0
068	28	NEGATIVE	ND	ND	ND	Other	ND	ND	TR	30%	69
069	28	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	40%	56
070	28	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	40%	55
071	29	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	TR	95
072	30	POSITIVE	2-4%	ND	ND	Other	2-4	ND	5%	TR	90

TOTAL NUMBER OF SAMPLES: 60

007
008
006
013
011
012
014
003
004
002
001
LAB
LAB
LAB

BULK SAMPLE / CHAIN OF CUSTODY FORM

FORM F

State ID: LLABT Building Name: Louisiana Business and Tech. Center

Sample Date: 8 / 25 / 92 (Month / Day / Year)

Name of Accredited Building Inspector Collecting Bulk Samples: F. Cotinas (Signature) (Printed)

Louisiana DEQ Accreditation Number: 2IO4W8

Total Number of Samples Collected from this Building: 12 (Including composite samples if more than 10 samples are collected) 12 total 1 Imminent hazard samples.

Sample Number		H.P. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
LLABT	001	1	1st	9x9 FT (+) Brown Strips (+)	102	North East Quadrant in doorway
LLABT	002	2	1st	9x9 FT (+)	H-101	North West Quadrant
LLABT	003	3	1st	Drywall (ND)	116	South West corner on West wall
LLABT	004		1st		110	South East Quadrant
					100	VOID
LLABT	006		1st		H-103	Center of North Wall
LLABT	007		1st		H-101	South West Corner
LLABT	008		1st		H-E	North West Corner
					L-100	VOID
LLABT	010	4	1st	9x9 FT (+) Brown / Patch	H-101	On East side of Wisteria door in hallway
LLABT	011	5	1st	2x2 FT (ND)	H-J	South East Corner
LLABT	012		1st		H-J H-103	Center of North Wall
LLABT	013		1st			North West Quadrant
LLABT	014	6	1st	9x9 FT (+) Brown / Patch	H-10	West Edge of Main doorway
LLABT	015	7	1st	9x9 FT (ND)	155	VOID

REVISED 3/31/92

LAB SUMMARY

STATE ID: LLANT

FORM 6

			ASBESTOS					NON-ASBESTOS			
SAMPLE	M.A.#	RESULT	CHRY	AMOS	CROC.	OTHER	TOTAL	STRUCT F/G		CELL	NON-FIB
001	1	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	2-4%	92
002	2	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	2-4%	92
003	3	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	10%	86
004	3	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	10%	90
006	3	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	10%	90
007	3	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	10%	90
00%	3	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	5%	95
010	4	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	2-4%	92
010.1	4	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	TR	99
011	5	NEGATIVE	ND	ND	ND	Other	ND	ND	40%	30%	30
012	5	NEGATIVE	ND	ND	ND	Other	ND	ND	45%	25%	30
013	5	NEGATIVE	ND	ND	ND	Other	ND	ND	45%	25%	30
014	6	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	2-4%	92

TOTAL NUMBER OF SAMPLES: 13

BUILDING INSPECTION INFORMATION SHEET FORM C.2

(Complete one Form C.2 per building at each facility)

STATE ID: 22 4 A

SITE CODE: 21-3 7-2 1 4A

FACILITY NAME: LSU Main Campus

BUILDING NAME: Louisiana Business and Technology Center

BUILDING ADDRESS: S. Stadium Dr. Baton Rouge, La 70803

IS THE ABOVE ADDRESS CORRECT? ● Yes ○ No

IF NOT, WHAT IS THE CORRECT ADDRESS?

CORRECT ADDRESS:

BUILDING DESCRIPTION: 1 story brick and concrete bldg.

PUBLIC HOLDING OR OPERATION
- ● Days only
- ○ Nights only
- ○ 24 hours a day
- ○ Not occupied

WERE ANY ROOMS INACCESSIBLE?
- ○ No
- ● Yes (explain below)

Locked - Closing

OCCUPANCY LEVEL
- ● Class employees
- ○ Clients/Patients/Residents
- ○ Visitors
- ○ Students
- ○ Employees
- ○ Mixed
- ○ None

BUILDING AREA (sq. footage): 8,178 SF

BUILDING INSPECTION DATE

Month	Day	Year
● June	1	92
● July		
● August		
● September		
● October		
● November		
● December		

Month	Day	Year
● June	14	92
● July		
● August		
● September		
● October		
● November		
● December		

NUMBER OF STORIES: 1

YEAR OF CONSTRUCTION: 1965

BUILDING AREA (sq. footage of the building): 8740

TOTAL NUMBER OF SAMPLES COLLECTED AT THIS BUILDING: 11

COMMENTS:

ACCREDITATIONS AGENCY

(LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY)

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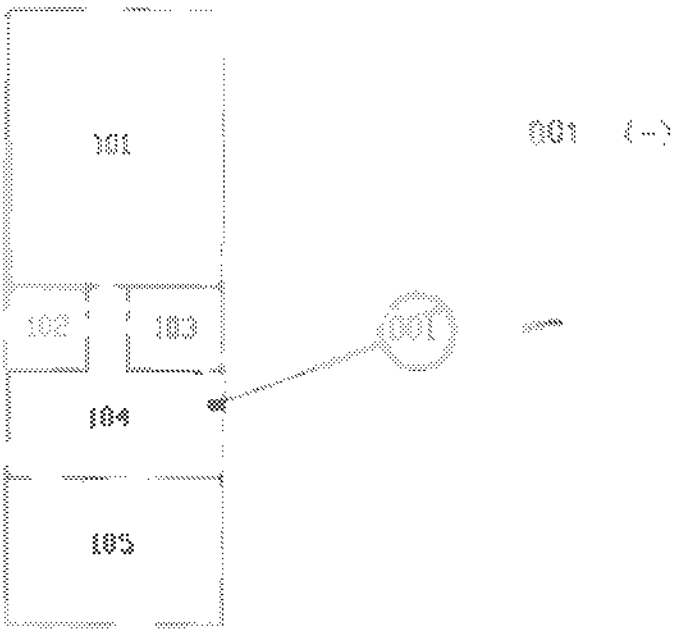

LSU BATON ROUGE - MAIN CAMPUS
POULTRY EDUCATION
NICHOLSON ROAD
BATON ROUGE, LA. 70803

STATE OF LOUISIANA
SITE LOCATION: 0-17-0140
APPROXIMATE SCALE: 1"=20'
__ FLOORS OF __ FLOORS
FLOOR AREA: 1,000 SQ. FT.

BULK SAMPLE / CHAIN OF CUSTODY FORM FORM F

State ID: LAN 20 Building Name: [illegible]

Sample Date: 9/23/92

Name of Accredited Building Inspector Collecting Bulk Samples: [illegible]

Louisiana DEQ Accreditation Number: 21448

Total Number of Samples Collected from this Building: 1 less 0 imminent hazard samples.

Sample Number	H.A. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
[redacted]	1	1st	V.F.T.	104	[illegible]

REVISED 3/31/92

LAB SUMMARY

STATE ID: LA000 FORM 5

			ASBESTOS					NON-ASBESTOS			
SAMPLE	F.A.#	RESULT	CHRY	AMOS	CROC	OTHER	TOTAL	FIBER	F/G	CELL	NON-FIB
001	1	NEGATIVE	ND	ND	ND	Other	ND	ND	5%	25%	70

TOTAL NUMBER OF SAMPLES: 1

BUILDING INSPECTION INFORMATION SHEET FORM C.2

(Complete one Form C.2 per building at each facility)

STATE ID: LA [illegible]

SITE CODE: 12-17-0[illegible]

FACILITY NAME: LSU Ham Comp.S

BUILDING NAME: Ag Sci. & Poultry Isolation

BUILDING ADDRESS: S. Stadium Dr

Baton Rouge, La 7803

IS THE ABOVE ADDRESS CORRECT? ● Yes ○ No

IF NOT, WHAT IS THE CORRECT ADDRESS?

CORRECT ADDRESS:

BUILDING DESCRIPTION: Isolation and Quarantine Bldg

PUBLIC HOURS OF OPERATION
- ● Days only
- ○ Nights only
- ○ 24 hours a day
- ○ Not occupied

WERE ANY ROOMS INACCESSIBLE?
- ● No
- ○ Yes (explain below)

OCCUPANCY LEVEL
- ○ Some employees
- ○ Clients/Patients/Residents
- ○ Visitors
- ○ Students
- ○ Primary
- ● Animals
- ○ Home

BUILDING AREA (as assigned): 1614 SF

BUILDING INSPECTION DATE

	FROM: DAY	FROM: YEAR	TO: DAY	TO: YEAR
○ Jan				
○ Feb	24	92	24	92
○ Mar				
○ Apr				
● May		91		91
○ Jun				
○ Jul				92
○ Aug				
○ Sep		93		93
○ Oct				
○ Nov				
○ Dec				

NUMBER OF STORIES: 01

YEAR OF CONSTRUCTION: 1975

BUILDING AREA (as calculated in the field): [illegible]

TOTAL NUMBER OF SAMPLES COLLECTED AT THIS BUILDING: [illegible]

COMMENTS:

ACCREDITATION AGENCY

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

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FD= FIRE DOOR

LSU BATON ROUGE - MAIN CAMPUS
ENVIRONMENT SCIENCE ANNEX
HIGHLAND ROAD
BATON ROUGE, LA. 70803

STATE ID #: LA-[illegible]
SITE CODE: 2[illegible]
APPROXIMATE SCALE: 1"=10'
ATTIC
FLOOR AREA= 2332 SQ. FT.

BULK SAMPLE / CHAIN OF CUSTODY FORM

FORM F

Page 1 of 1

State ID: LYSAY Building Name: Vol Science Area

Sample Date: 5/Dec/92

Name of Accredited Building Inspector Collecting Bulk Samples: Joseph M Ruhe (printed) Joseph M Ruhe (signature)

Louisiana DEQ Accreditation Number: 21038

Total Number of Samples Collected from this Building: 5 less 0 (Write confirmation here if area was re-sampled and reanalyzed) imminent hazard samples.

Sample Number	H.A. Number	Floor Number	Material Description	Room Number	Location of Sample Within Room
LYSAY 001	1	1st	Floor tile	101	South West Area
LYSAY 002	2	1st	Floor tile	101	South West Area
LYSAY 003	3	2nd	Pipe insulation	200	South East Area
LYSAY 004				200	East Area North of Access
LYSAY 005				200	South East Area

REVISED 3/31/92

Lab SUMMARY

State ID: LPEXX

FORM H

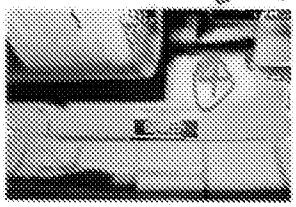
			ANERGIES					NON-ANERGIES			
SAMPLE	H.A.#	RESULT	CERT	AMCH	CHOC	OTHER	TOTAL	NIGHT	F/O	CELL	NON-FIS
001	1	POSITIVE	10%	ND	ND	Other	10%	ND	2-4+	TR	85
002	2	POSITIVE	20%	ND	ND	Other	20%	ND	2-4+	2-4+	72
002.1	2	POSITIVE	10%	ND	ND	Other	10%	ND	TR	2-4+	85
003	3	POSITIVE	20%	ND	30%	Other	70%	ND	TR	TR	28
004	3										0
005	3										0

TOTAL NUMBER OF SAMPLES: 6

APPENDIX 2

PHOTOGRAPHS

OYSTER RESEARCH BUILDING →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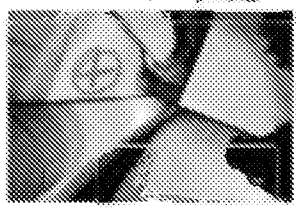
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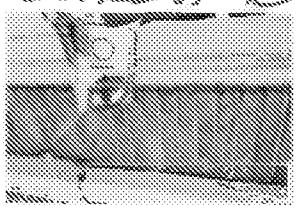
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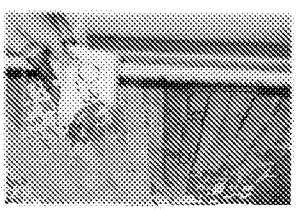
IMG_0050 DG CAULK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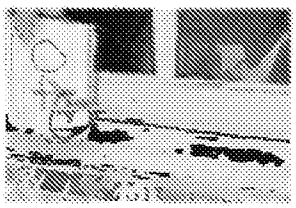
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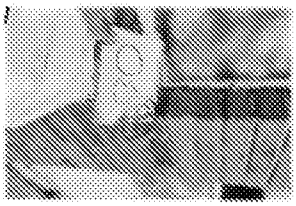
IMG_0054 WF CAULK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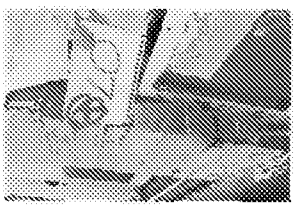
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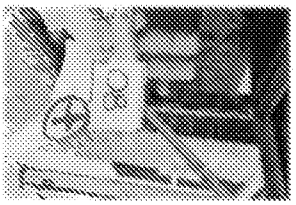
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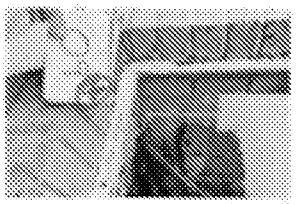
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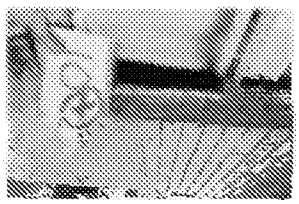
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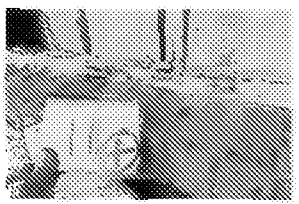
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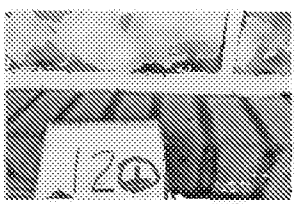
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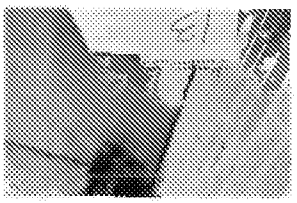
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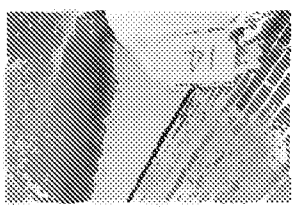
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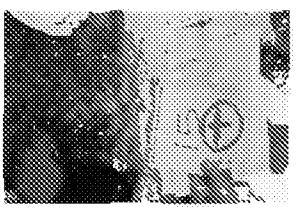
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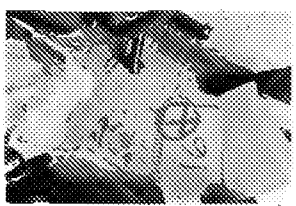
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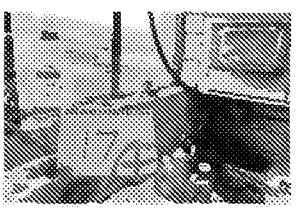
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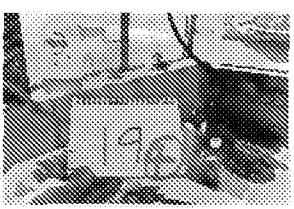
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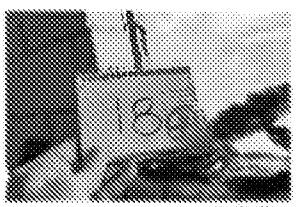
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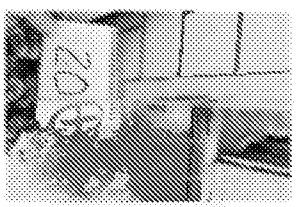
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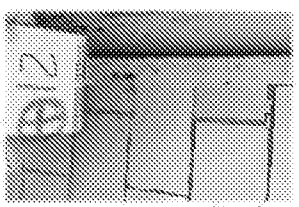
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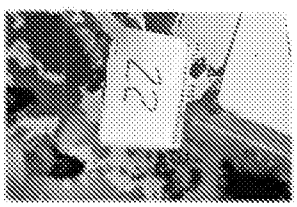
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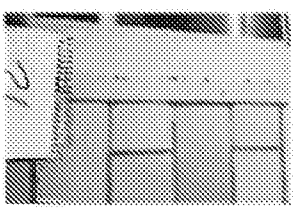
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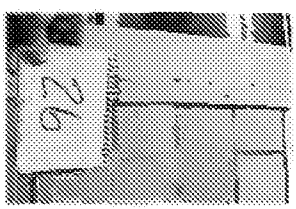
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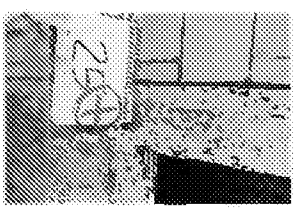
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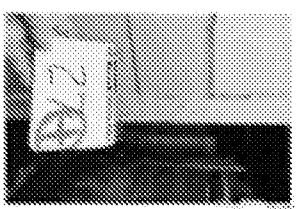
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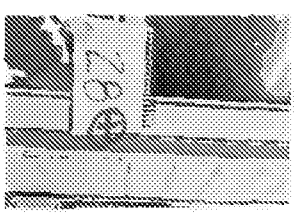
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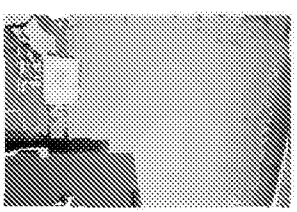
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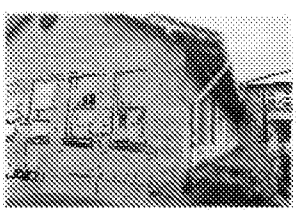
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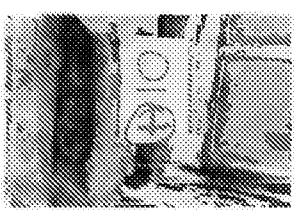
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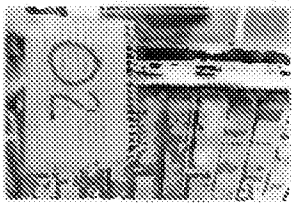
VET SCIENCE ANNEX →

VET SCIENCE ANNEX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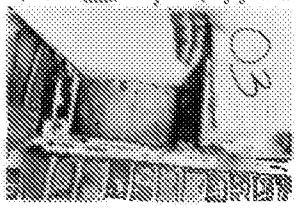
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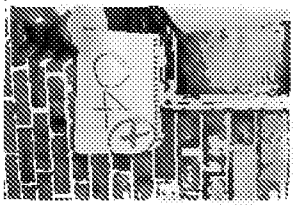
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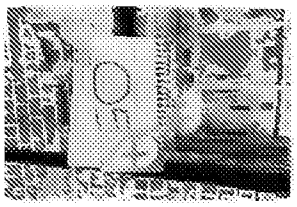
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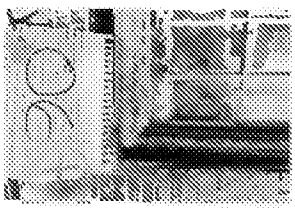
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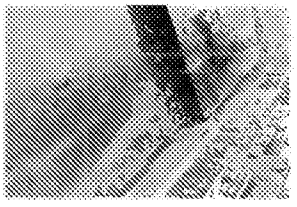
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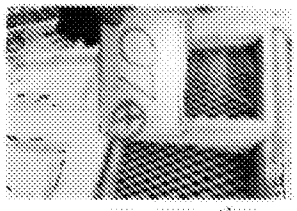
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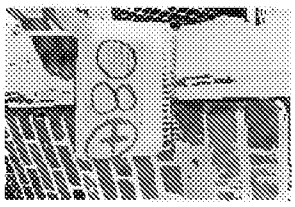
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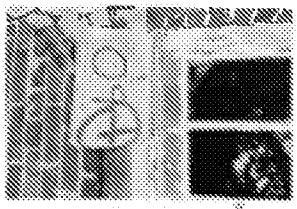
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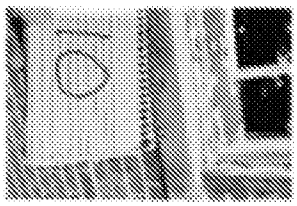
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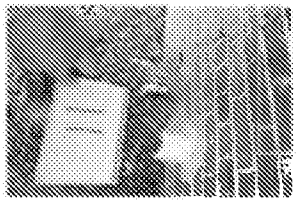
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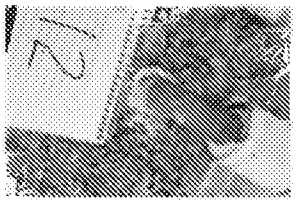
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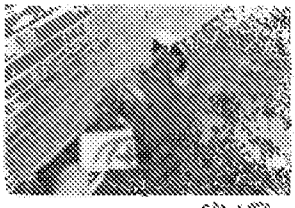
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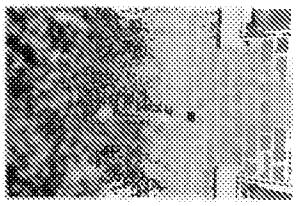
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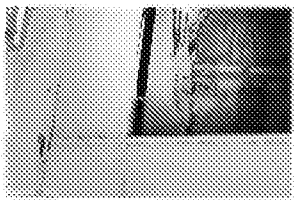
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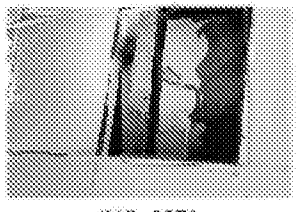
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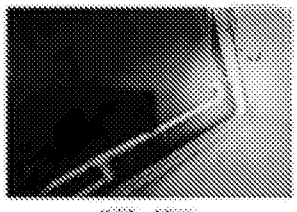
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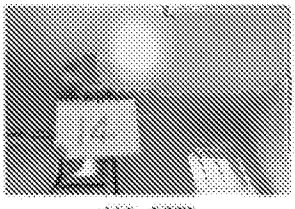
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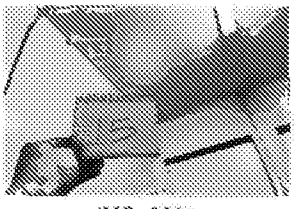
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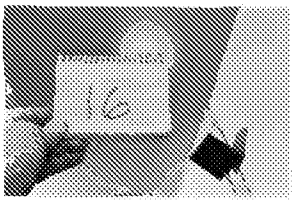
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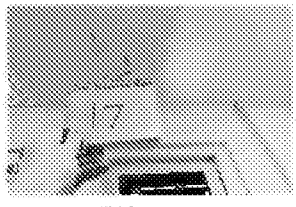
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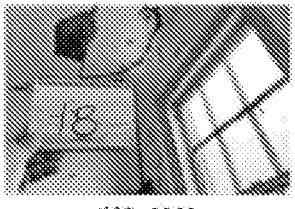
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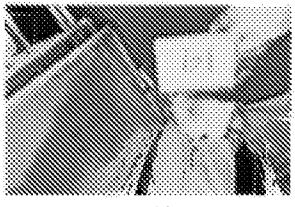
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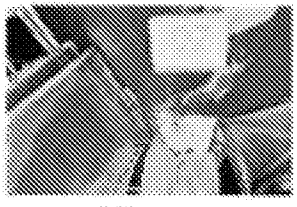
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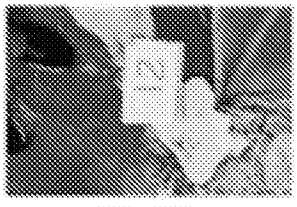
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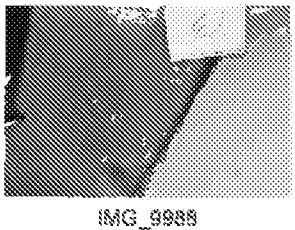
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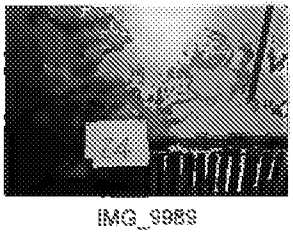
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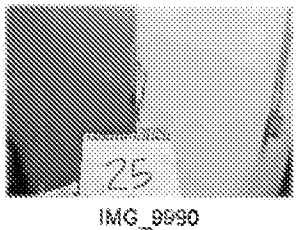
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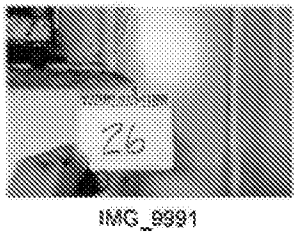
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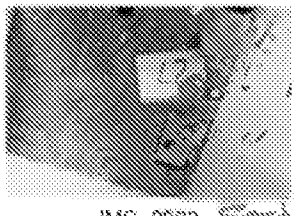
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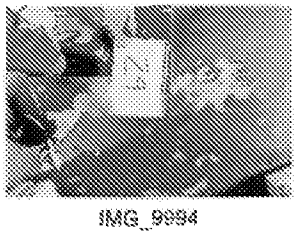
IMG_9993 F-2 WALL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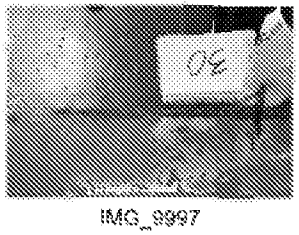
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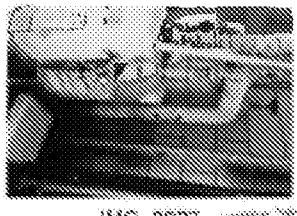
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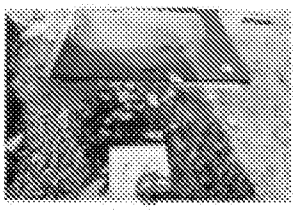
POULTRY BUILDING →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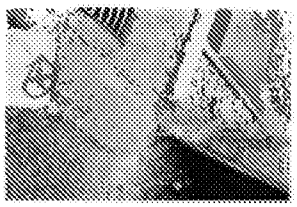
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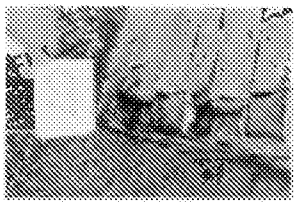
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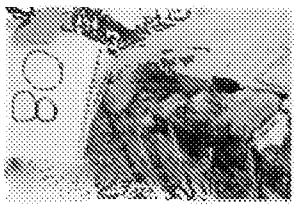
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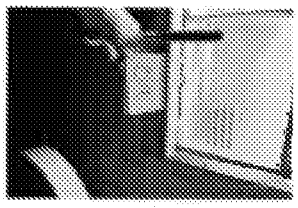
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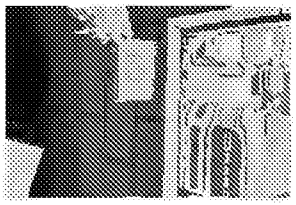
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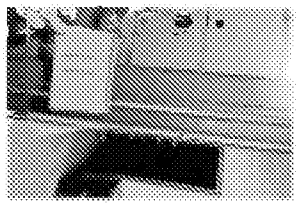
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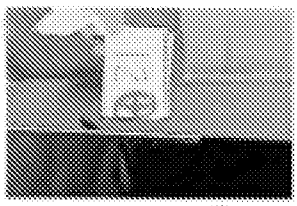
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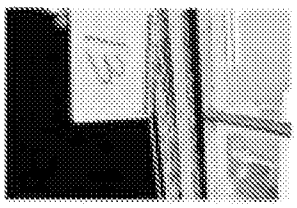
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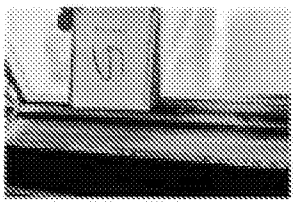
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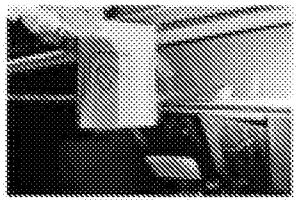
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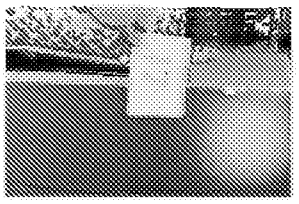
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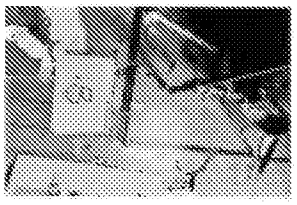
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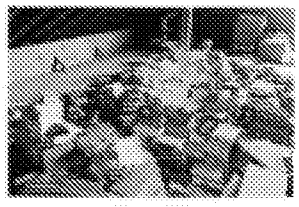
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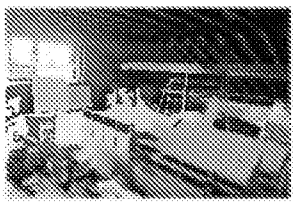
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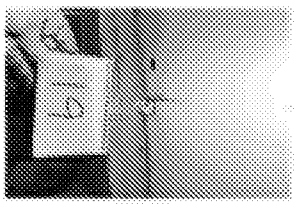
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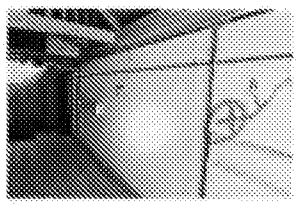
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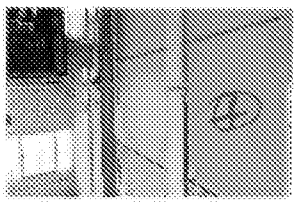
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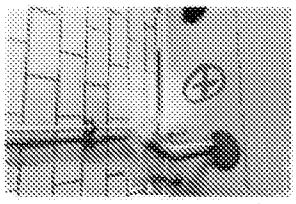
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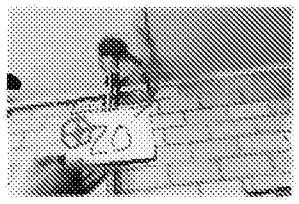
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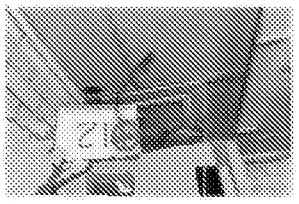
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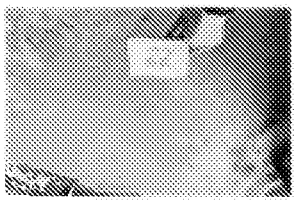
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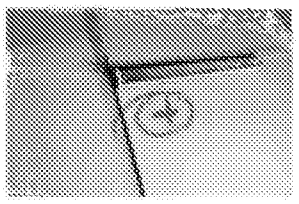
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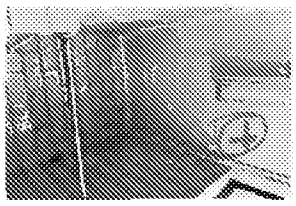
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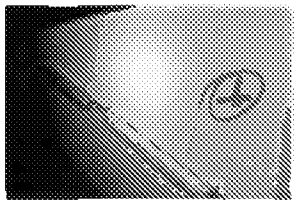
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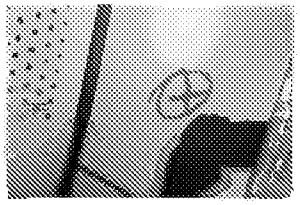
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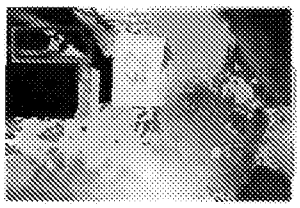
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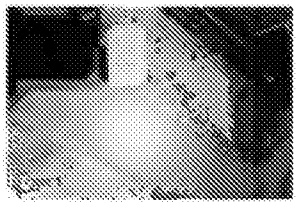
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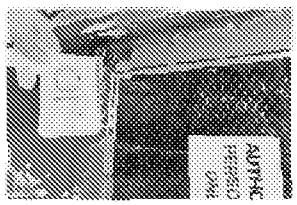

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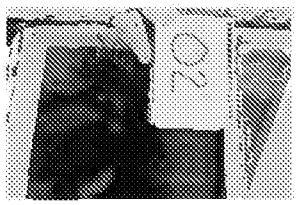
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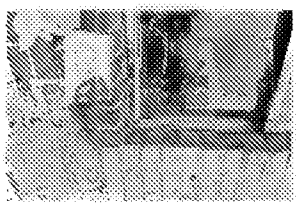
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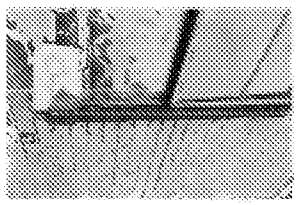
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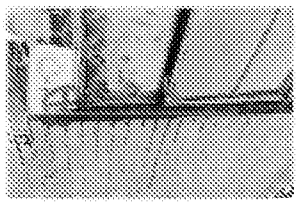
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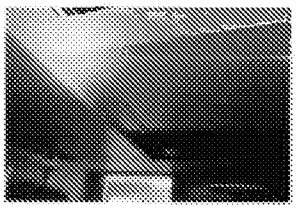
MAINSHIP BUILDING →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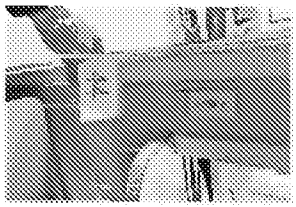
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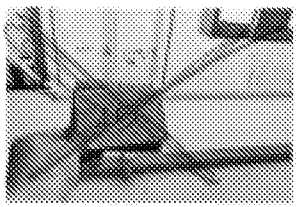
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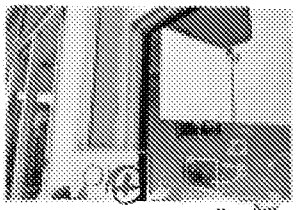
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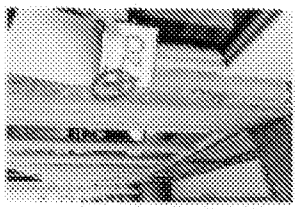
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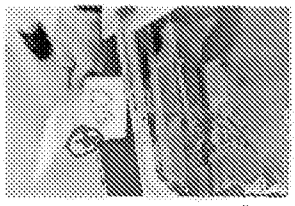
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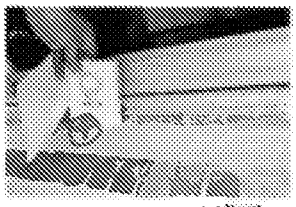
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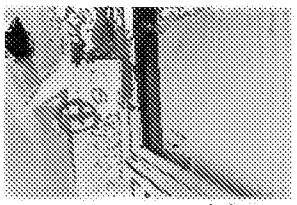
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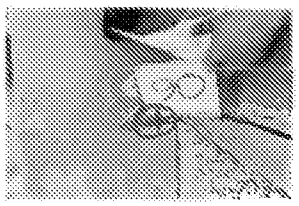
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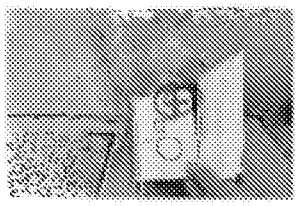
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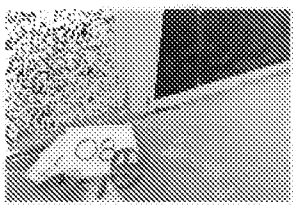
IMG_0327 TRANSOM PANEL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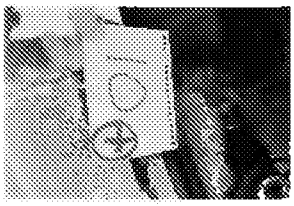
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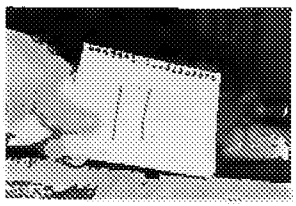
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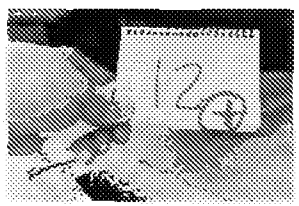
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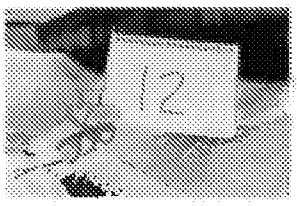
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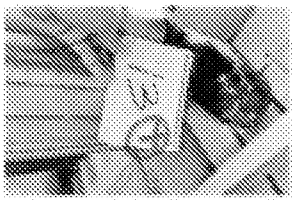
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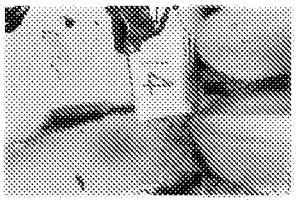
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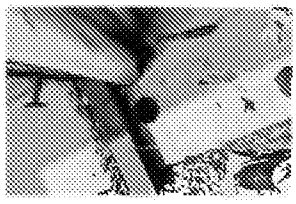
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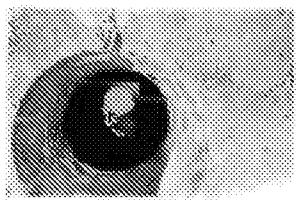
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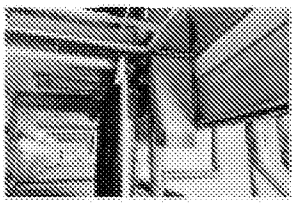
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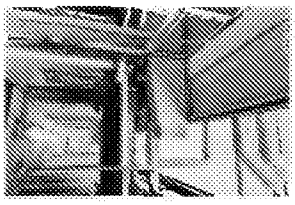
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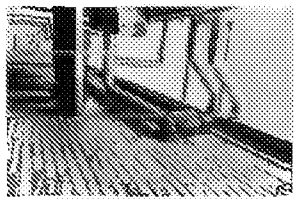
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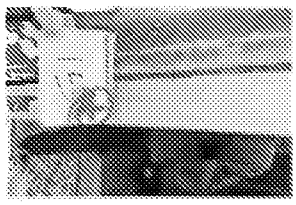
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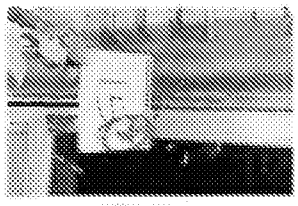
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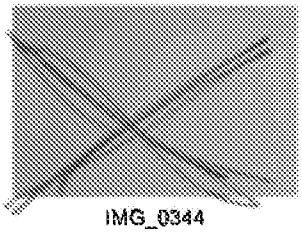
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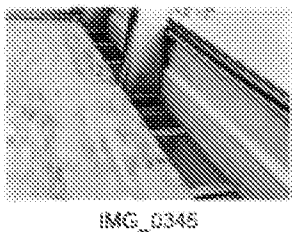
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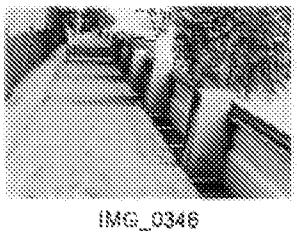
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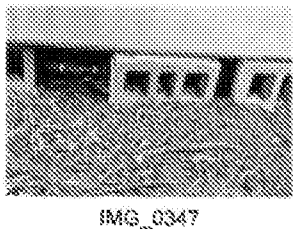
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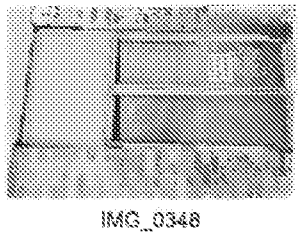
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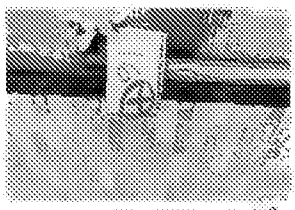
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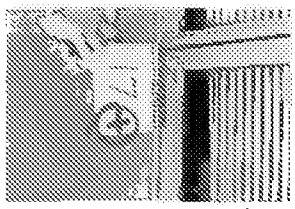
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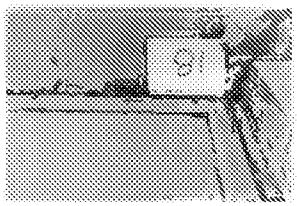
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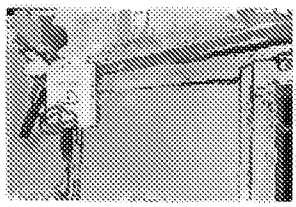
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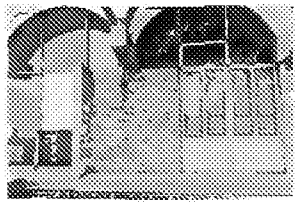
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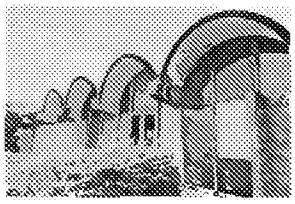
MANSHIP BUILDING →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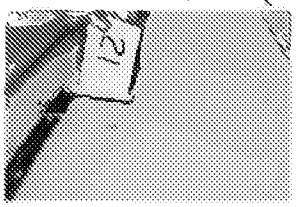
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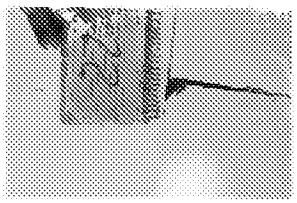
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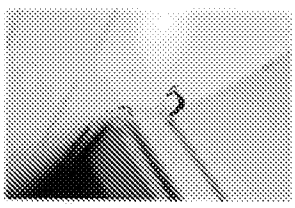
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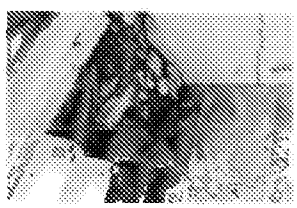
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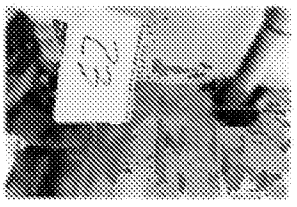
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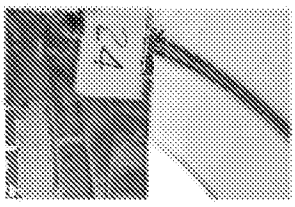
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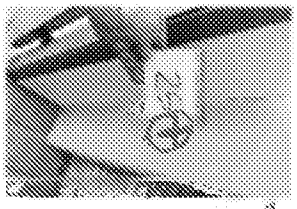
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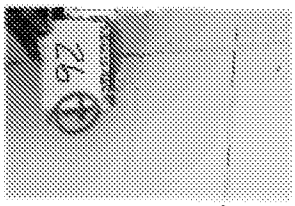
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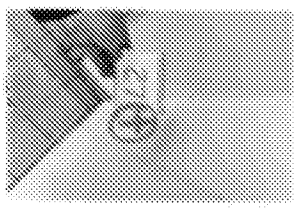
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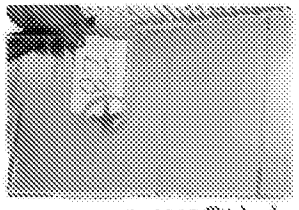
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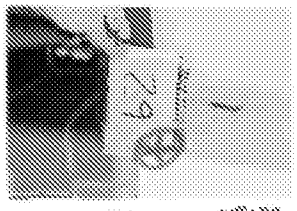
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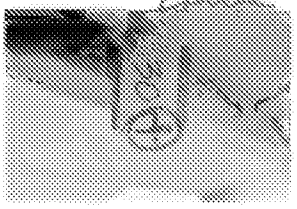
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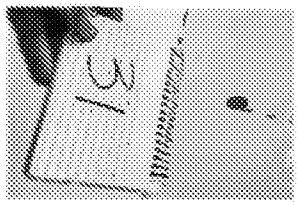
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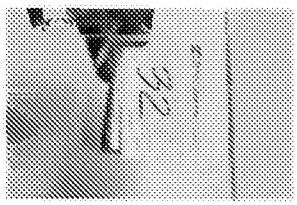
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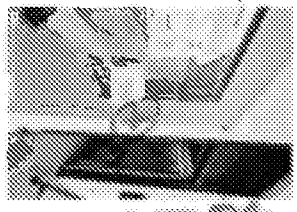
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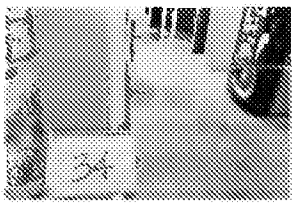
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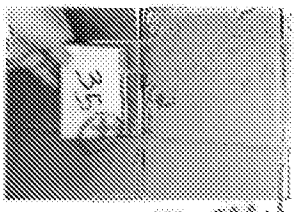
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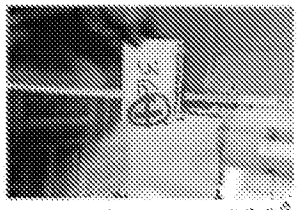
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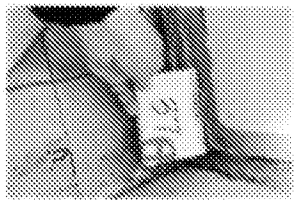
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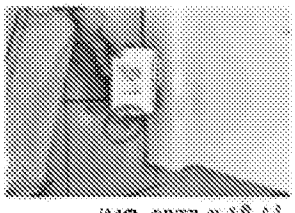
IMG_0376 WW TO CMU COL CAULK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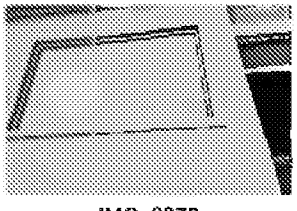
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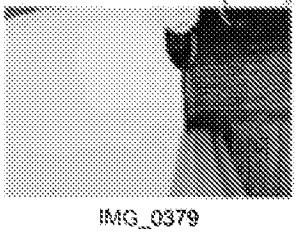
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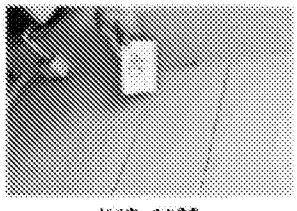
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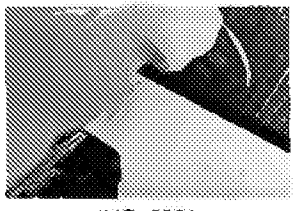
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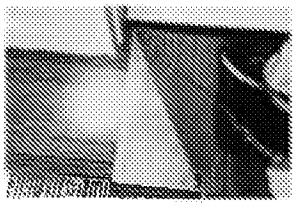
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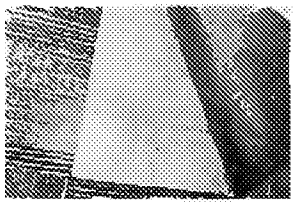
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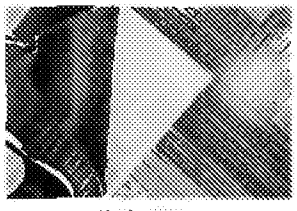
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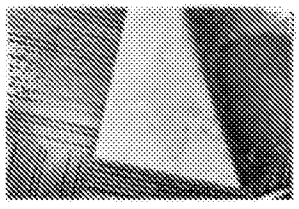
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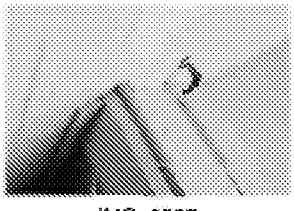
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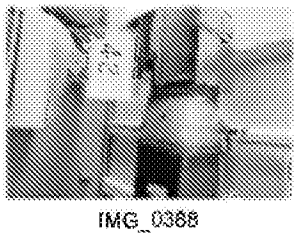
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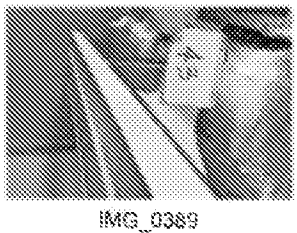
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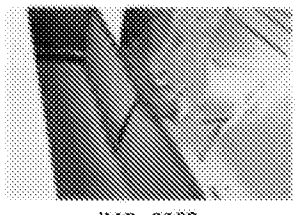
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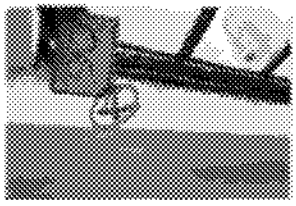
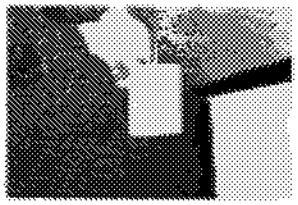
MANSHIP ANNEX BLDG



IMG_0408 CAT TO WINDOW CAULK



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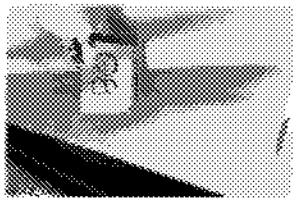

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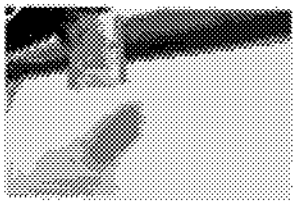

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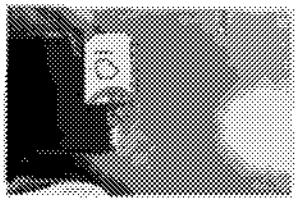

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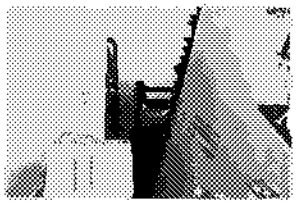

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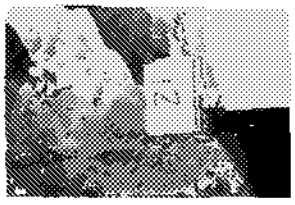

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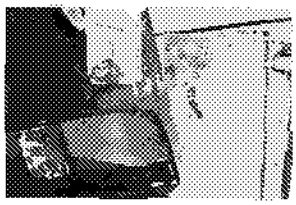

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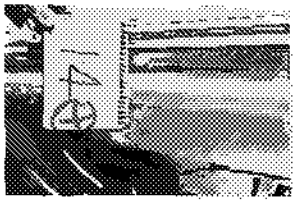
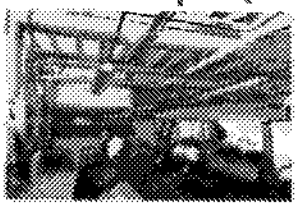


IMG_0416 DF CAULK



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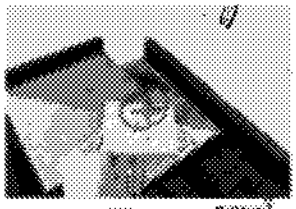

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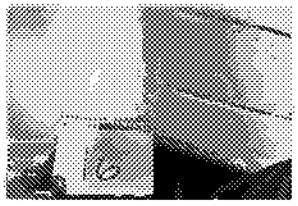

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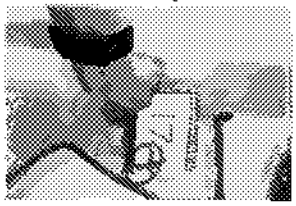

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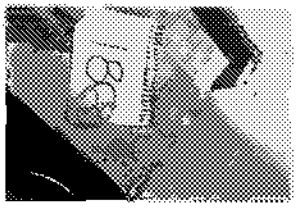

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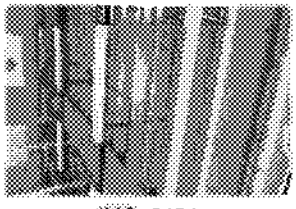
IMG_0423 FT& MASTIC



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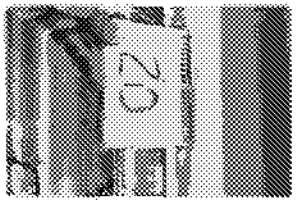

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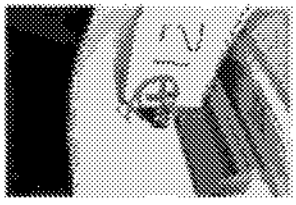

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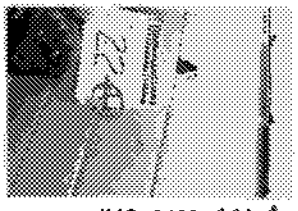

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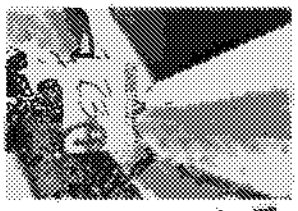

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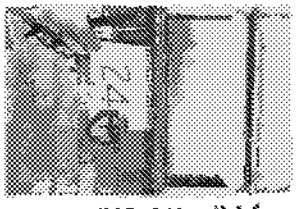

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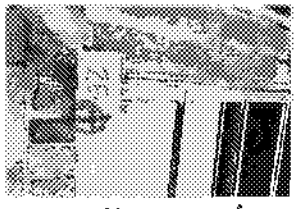

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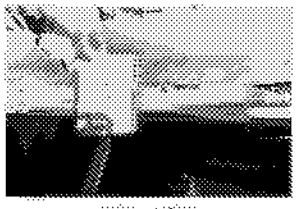

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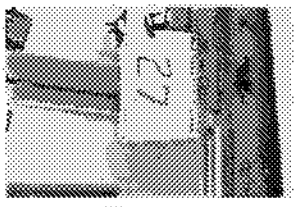

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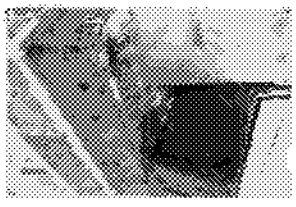

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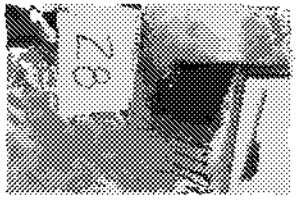

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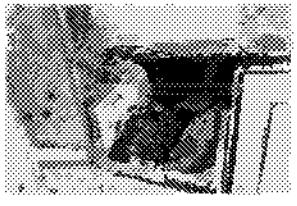

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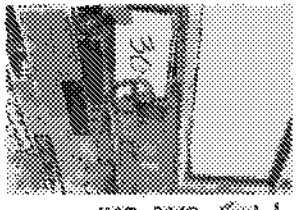

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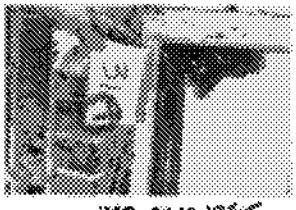

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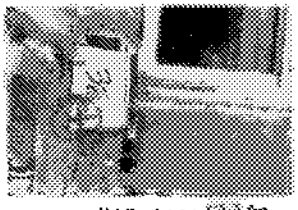

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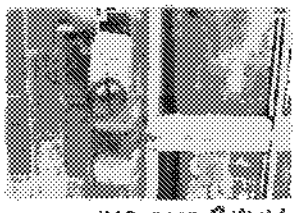

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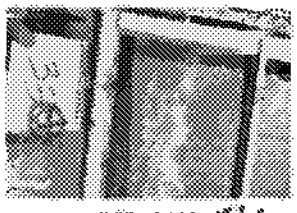

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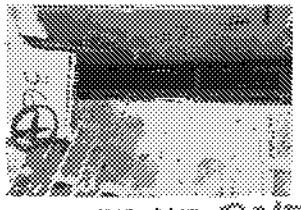

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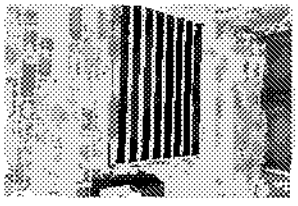

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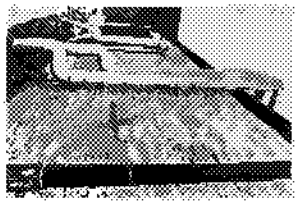
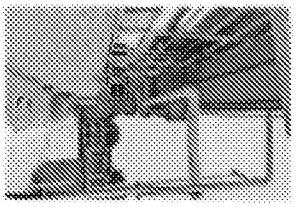


IMG_0449 TOI

5 1 of 6

MANSHIP ANNEX BLDG →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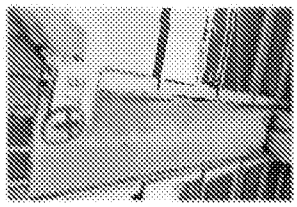
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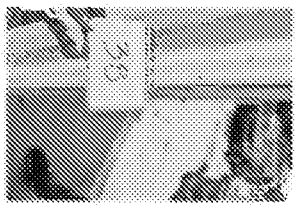
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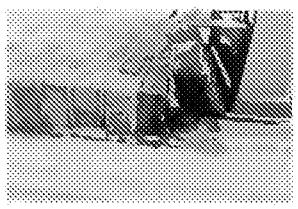
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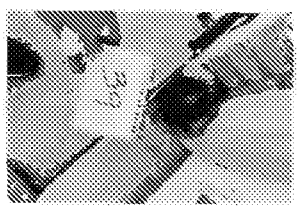
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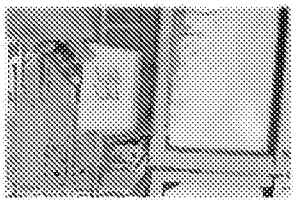
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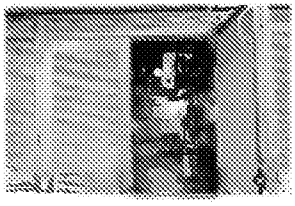
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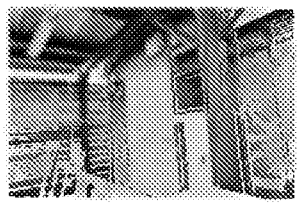
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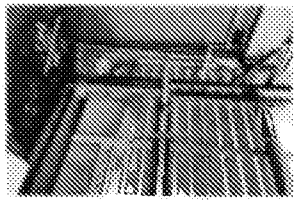
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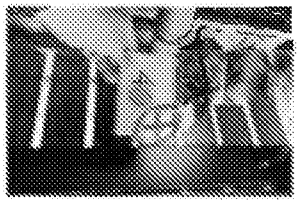
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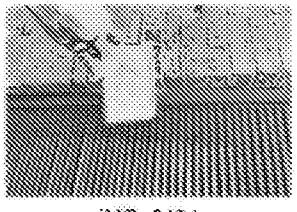
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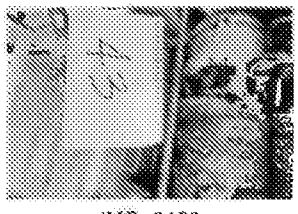
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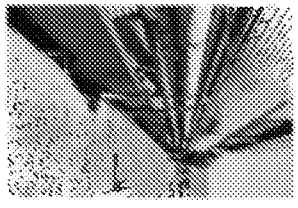
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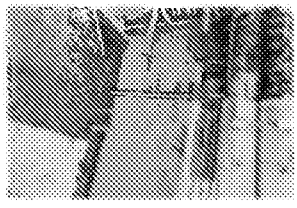
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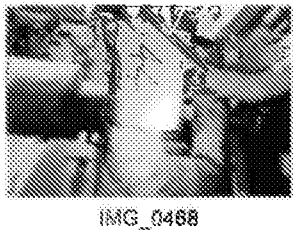
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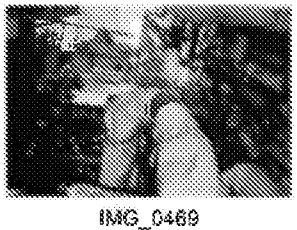
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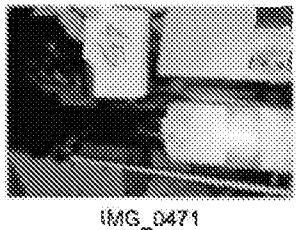
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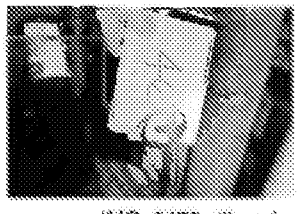
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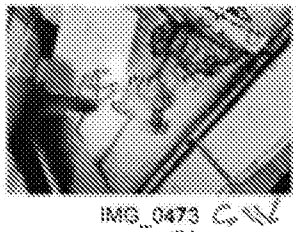
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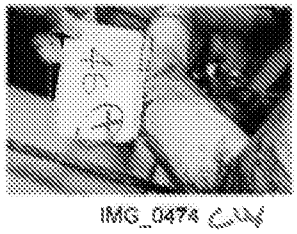
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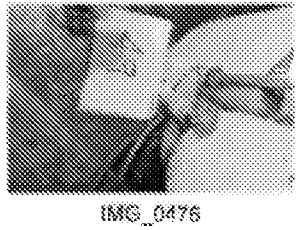
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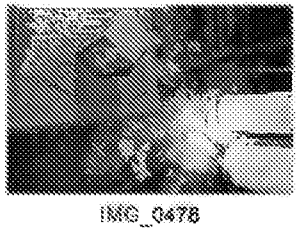
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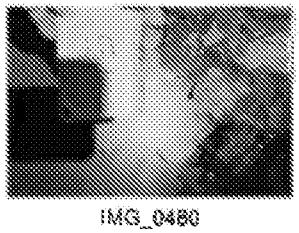
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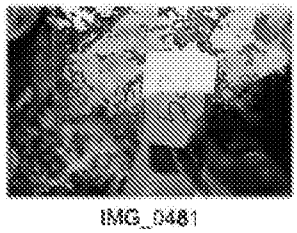
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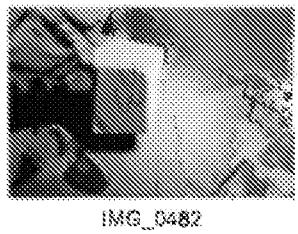
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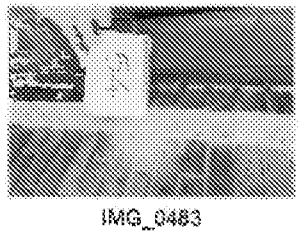
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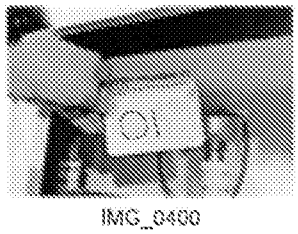
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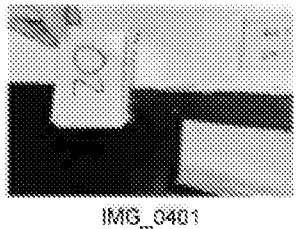
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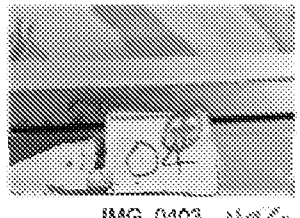
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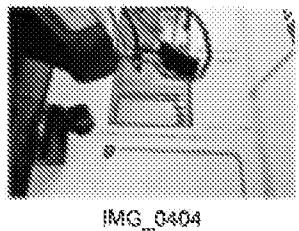
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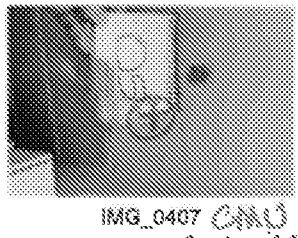
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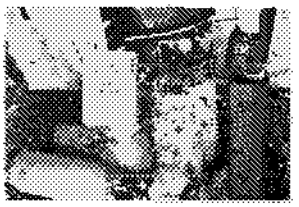
Slides

ELECTRICAL ENGINEERING BLG →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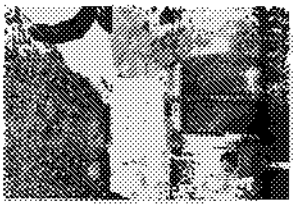
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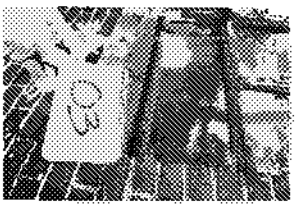
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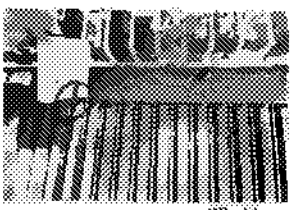
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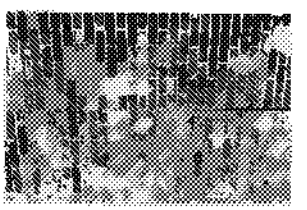
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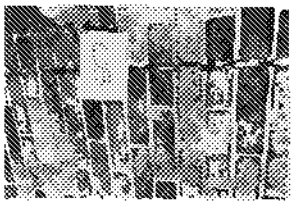
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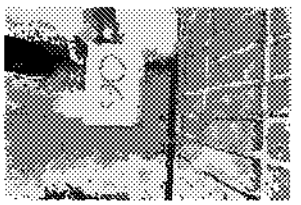
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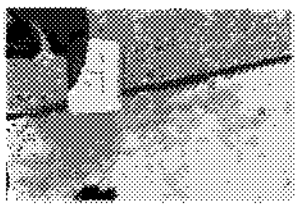
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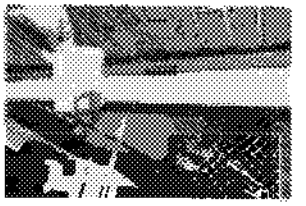
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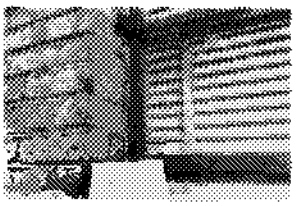
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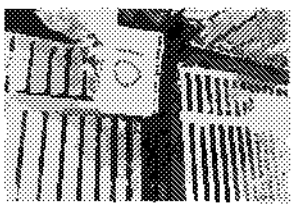
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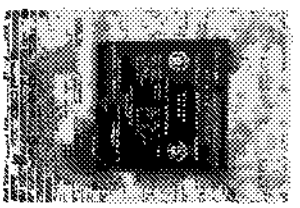
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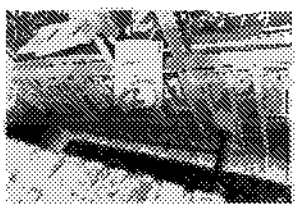
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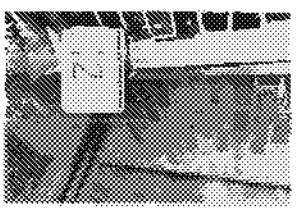
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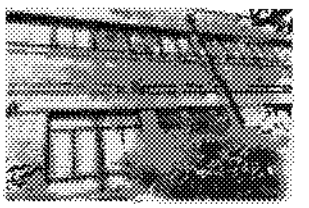
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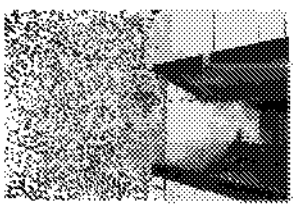
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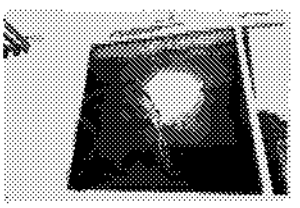
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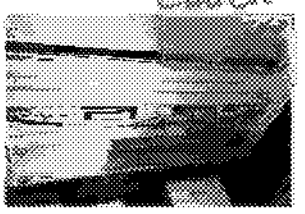
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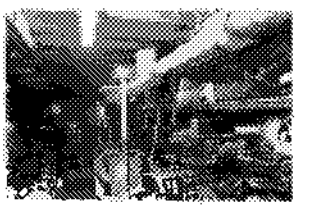
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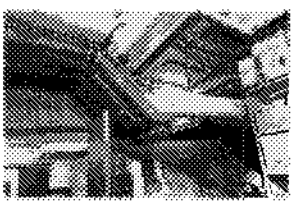
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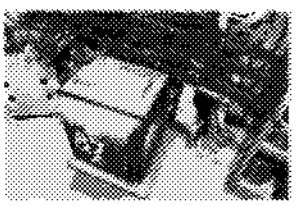
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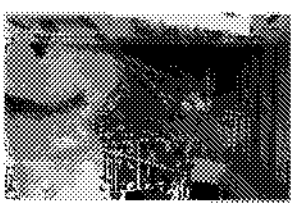
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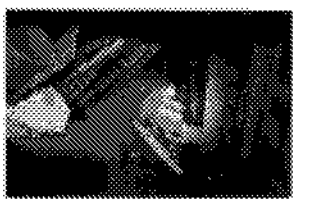
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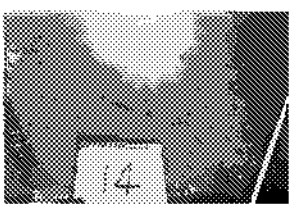
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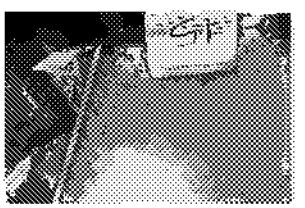
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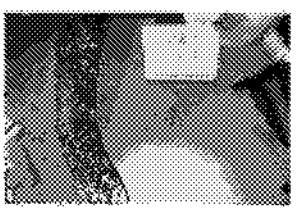
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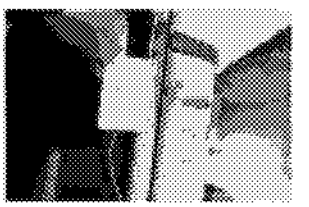
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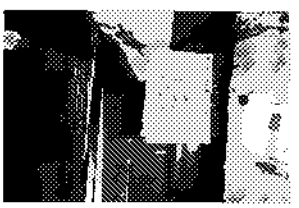
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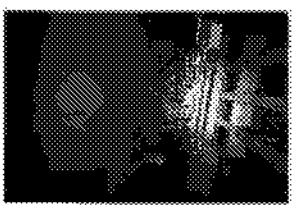
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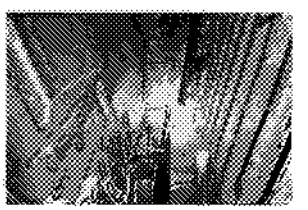
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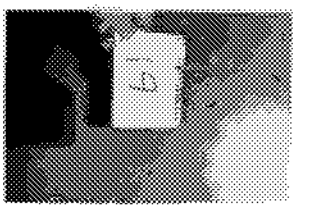
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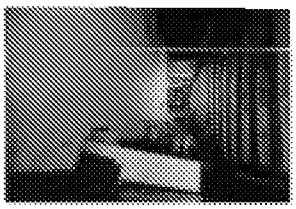
ADDITION

ELECTRICAL ENGINEERING BLK →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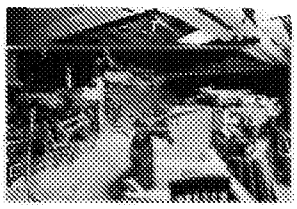
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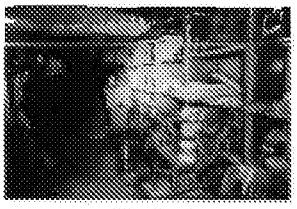
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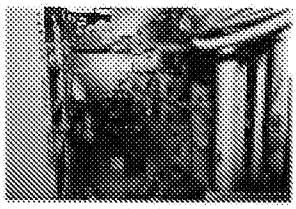
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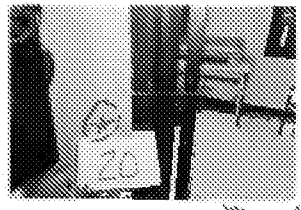
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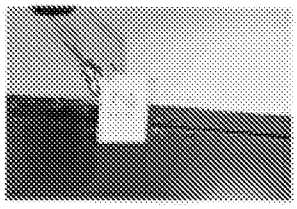
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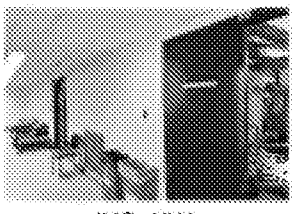
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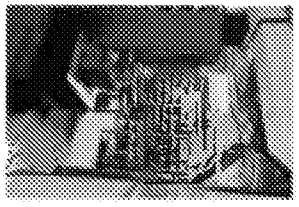
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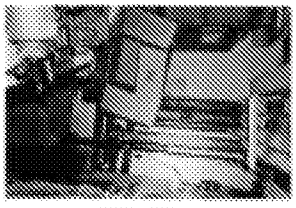
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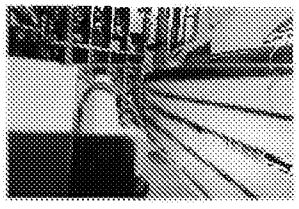
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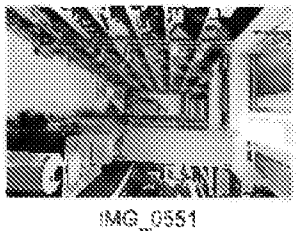
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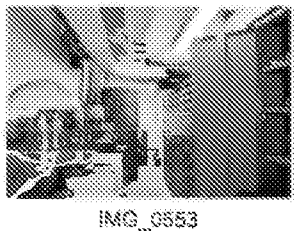
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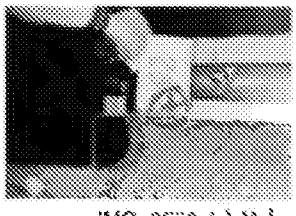
IMG_0555 S.W. TBS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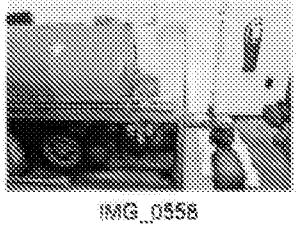
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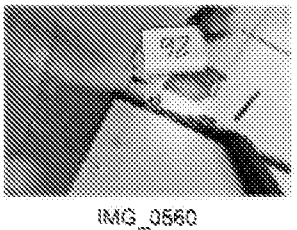
IMG_0559 East Mezz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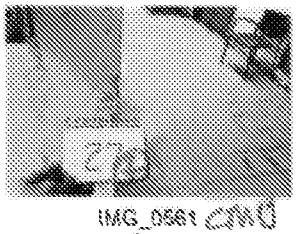
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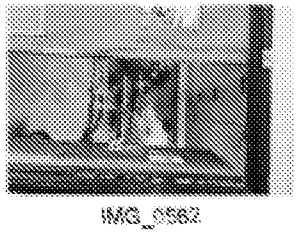
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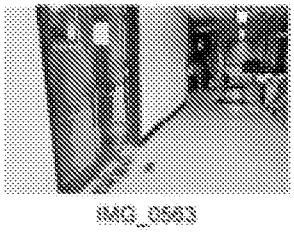
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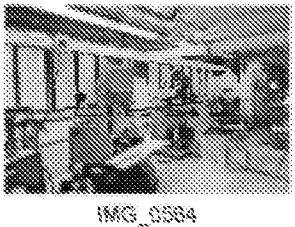
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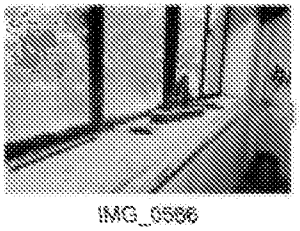
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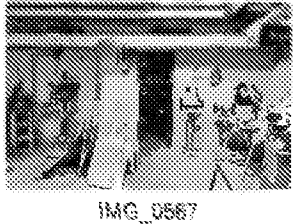
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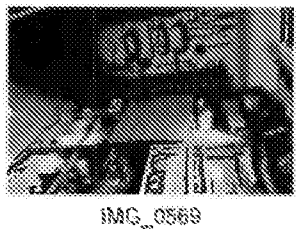
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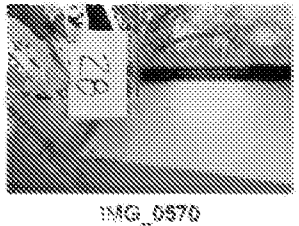
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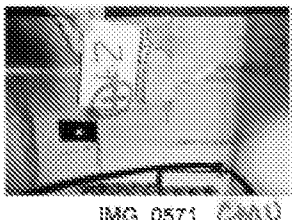
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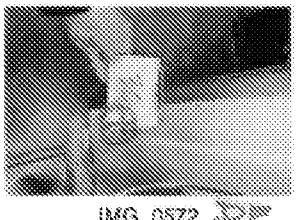
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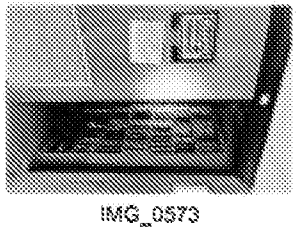
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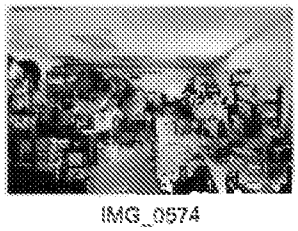
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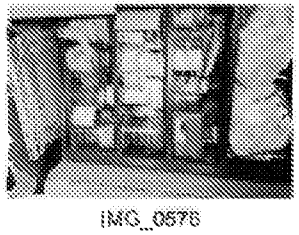
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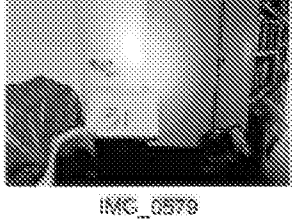
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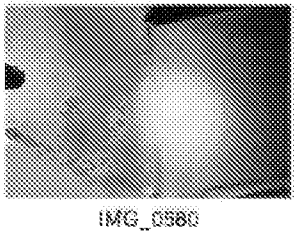
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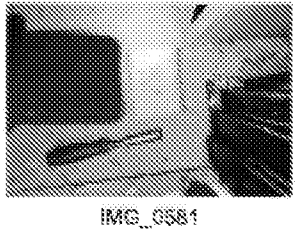
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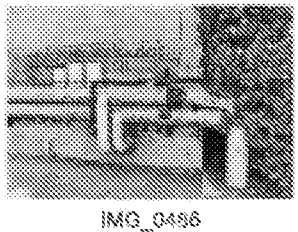
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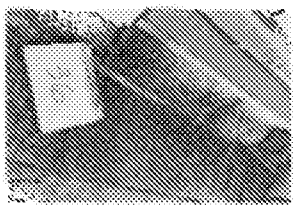
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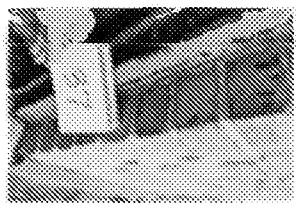
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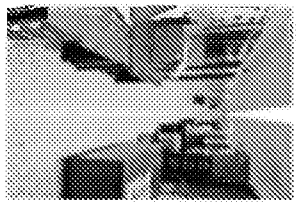
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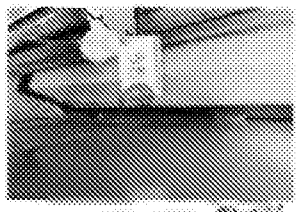
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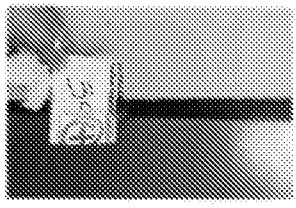
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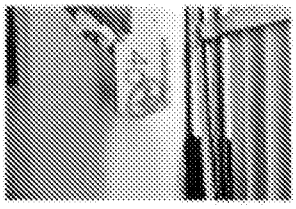
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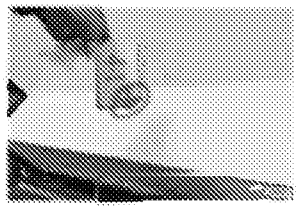
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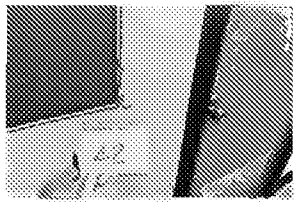
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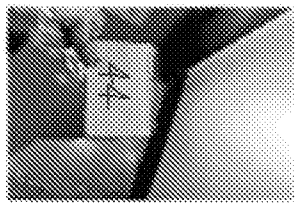
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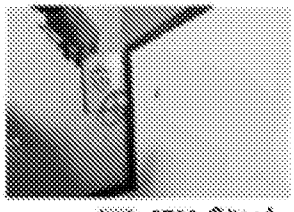
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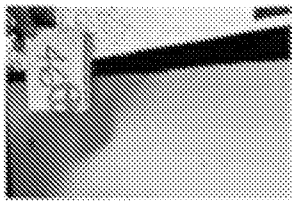
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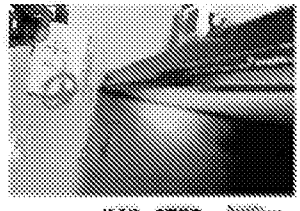
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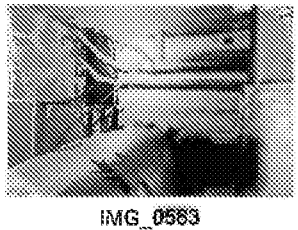
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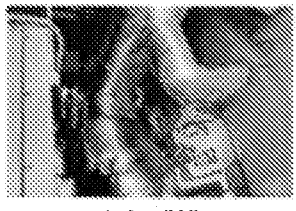
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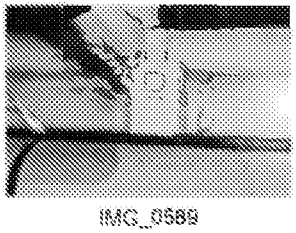
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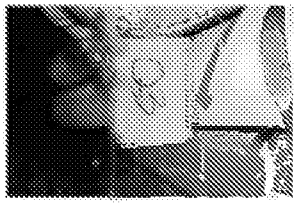
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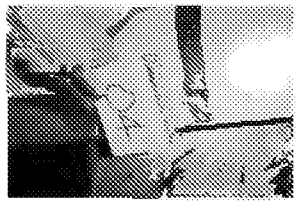
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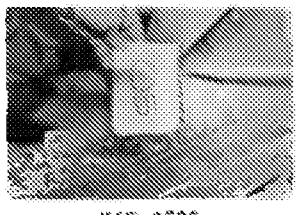
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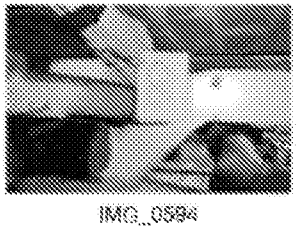
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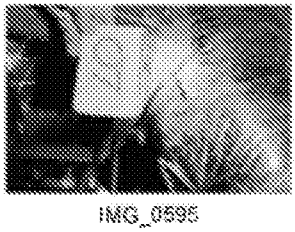
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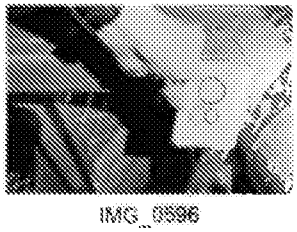
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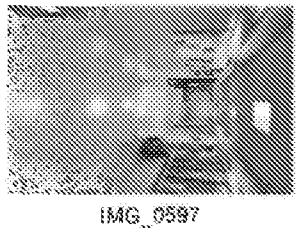
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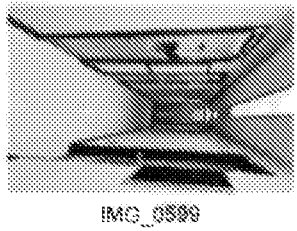
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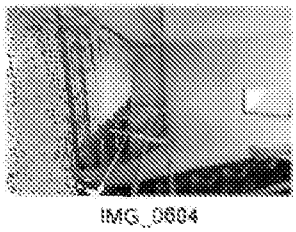
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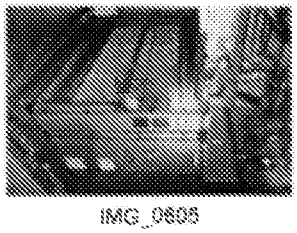
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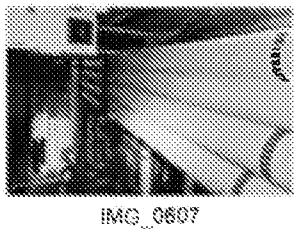
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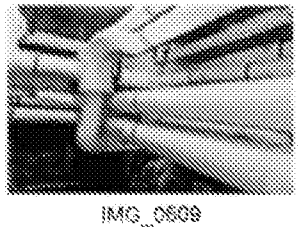
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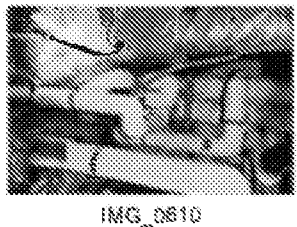
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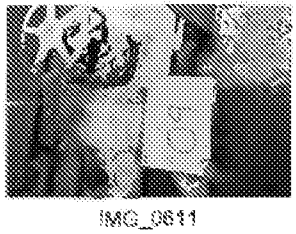
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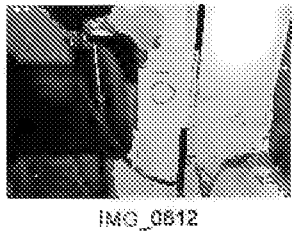
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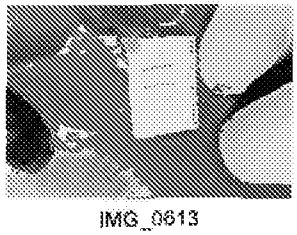
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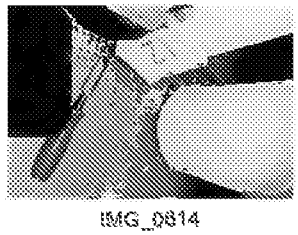
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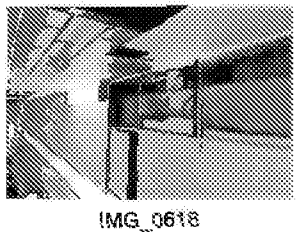
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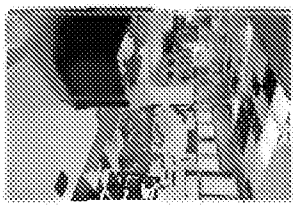
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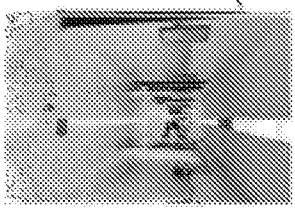
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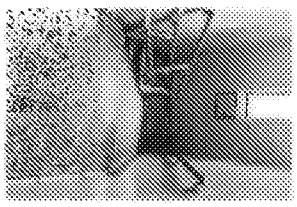
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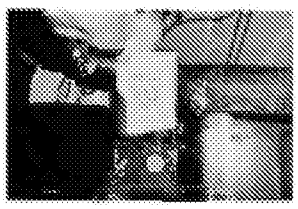
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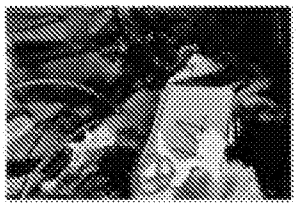
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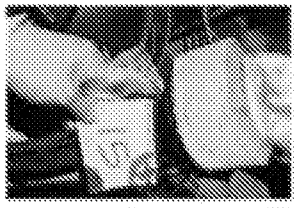
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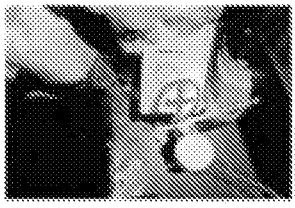
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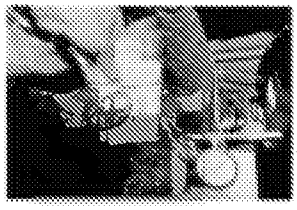
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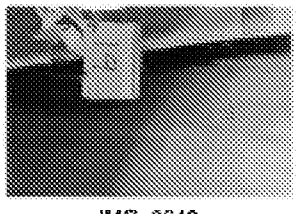
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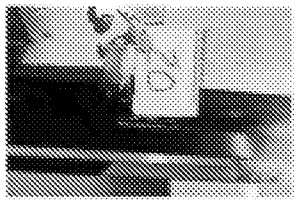
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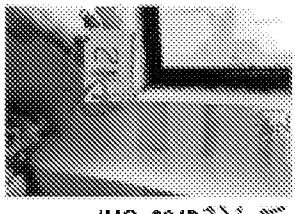
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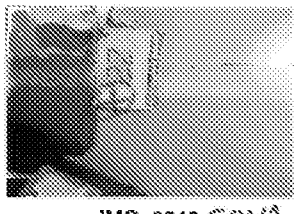
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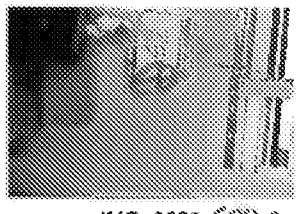
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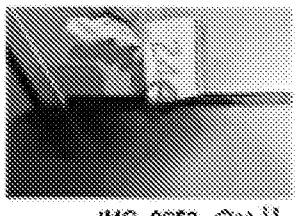
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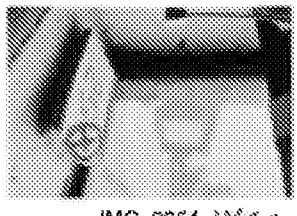
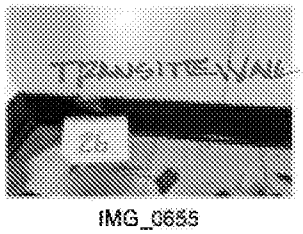

IMG_0654 W.F. CAULK



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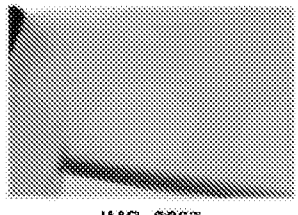
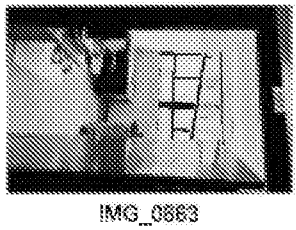

IMG_0657 TRANSITE WALL SYSTEM (TWS)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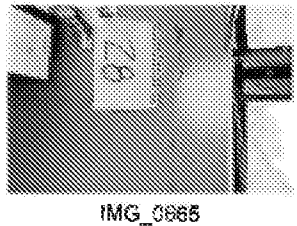
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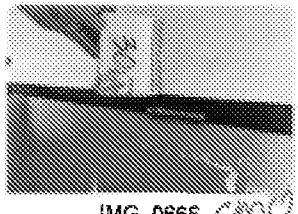
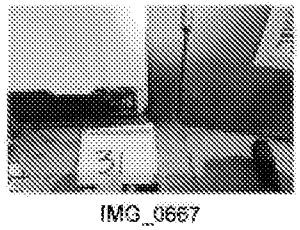

IMG_0666 CMU COURSE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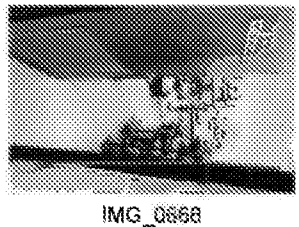
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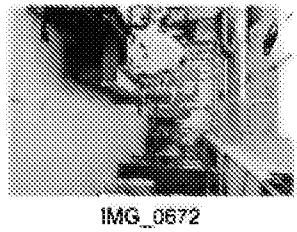
IMG_0669 TWS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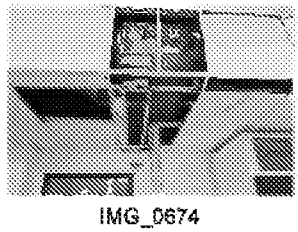
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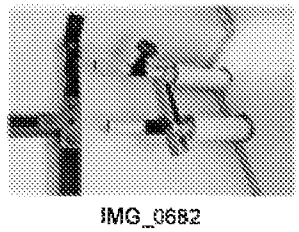
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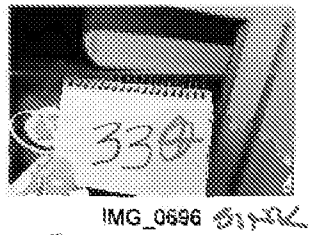
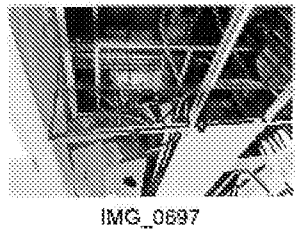


IMG_0696 SINK BOTTOM COURSE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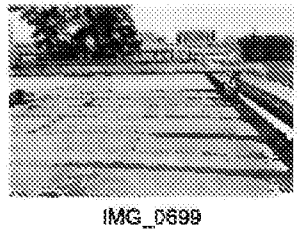
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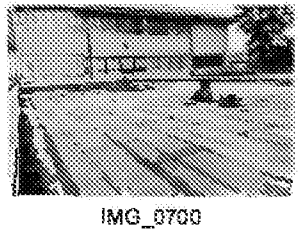
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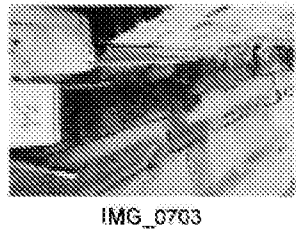
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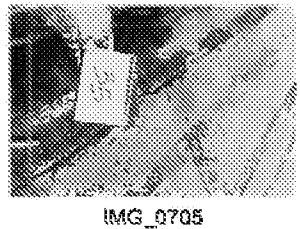
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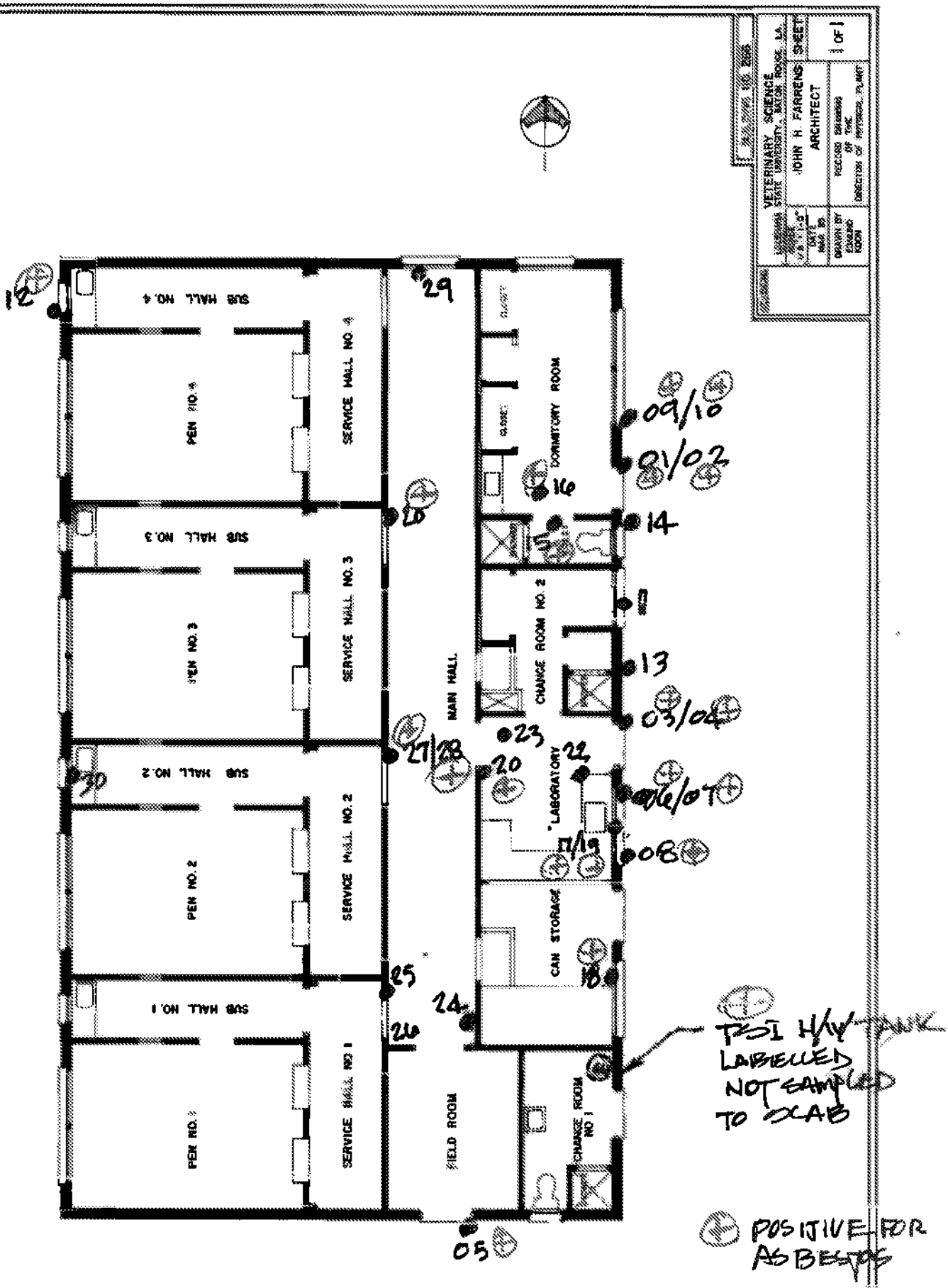
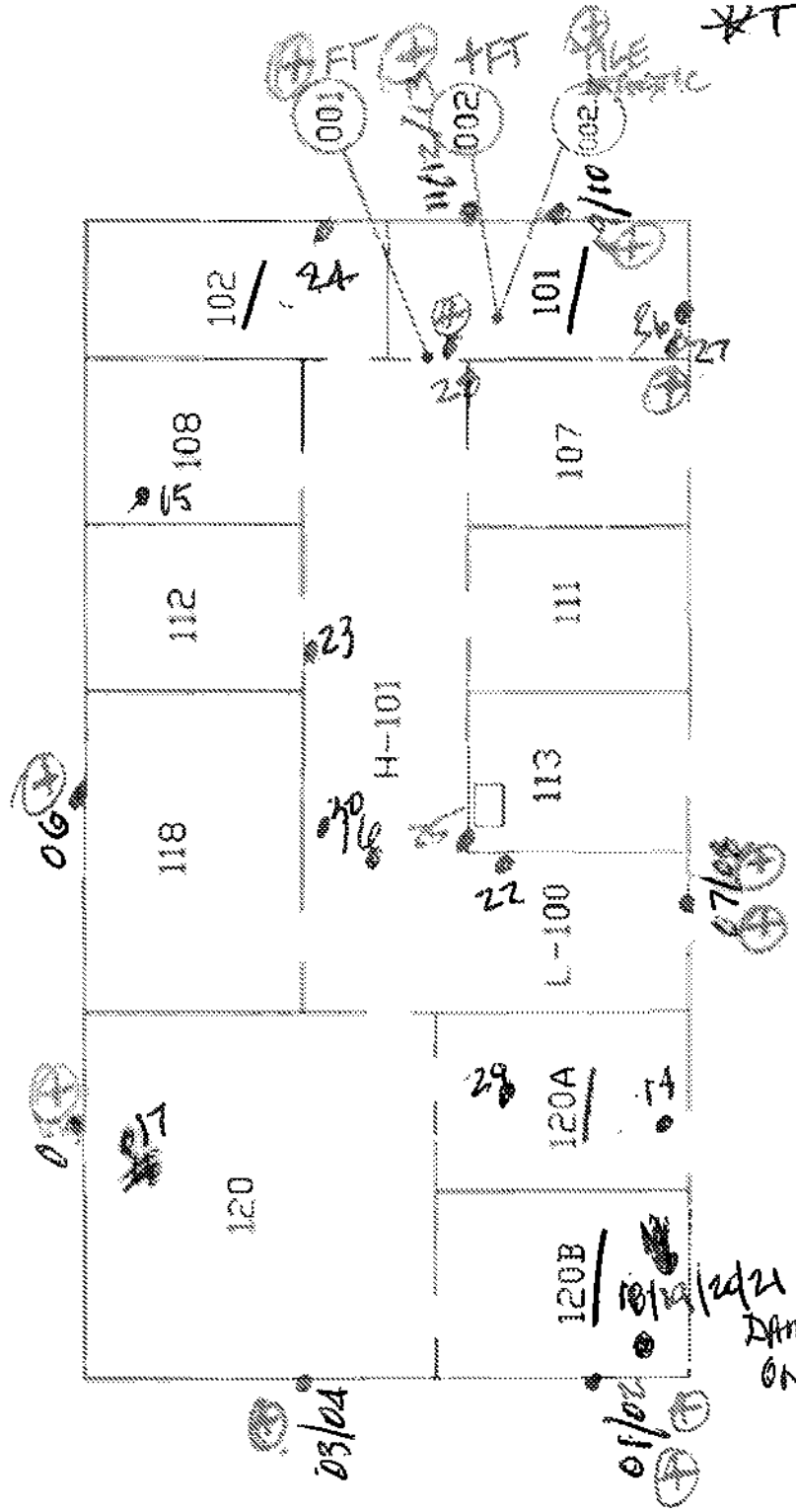
5/12/24

APPENDIX 3

SAMPLE LOCATIONS


VETERINARY SCIENCE
JOHN H. FARRENS
ARCHITECT
SHEET
1 OF 1
SUB HALL NO. 4
PEN NO. 4
SERVICE HALL NO. 4
SUB HALL NO. 3
PEN NO. 3
SERVICE HALL NO. 3
SUB HALL NO. 2
PEN NO. 2
SERVICE HALL NO. 2
SUB HALL NO. 1
PEN NO. 1
SERVICE HALL NO. 1
MAIN HALL
FIELD ROOM
DORMITORY ROOM
CLOSET
CHANGE ROOM NO. 2
LABORATORY
CAN STORAGE
CHANGE ROOM NO. 1
12
29
09/10
01/02
16
10
14
13
03/04
23
27/28
20
22
06/07
11/19
08
30
25
24
26
05
TSI H/V TANK
LABELLED
NOT SAMPLED
TO SCAB
POSITIVE FOR
ASBESTOS
QUOTEK PARASITE 811644

FORM C-3



*TSI IN LVALL ATTIC & EXT WALL TO GROUND

UNDERGROUND PIPE

UNDER SLAB PIPE

001 (+)
CH: 10%
AM: ND
CR: ND
Other: ND
Tile

002 (+)
CH: 20%
AM: ND
CR: ND
Other: ND
Tile

002.1(+)
CH: 10%
AM: ND
CR: ND
Other: ND
Mastic

DAMAGED CEILING ON FLOOR

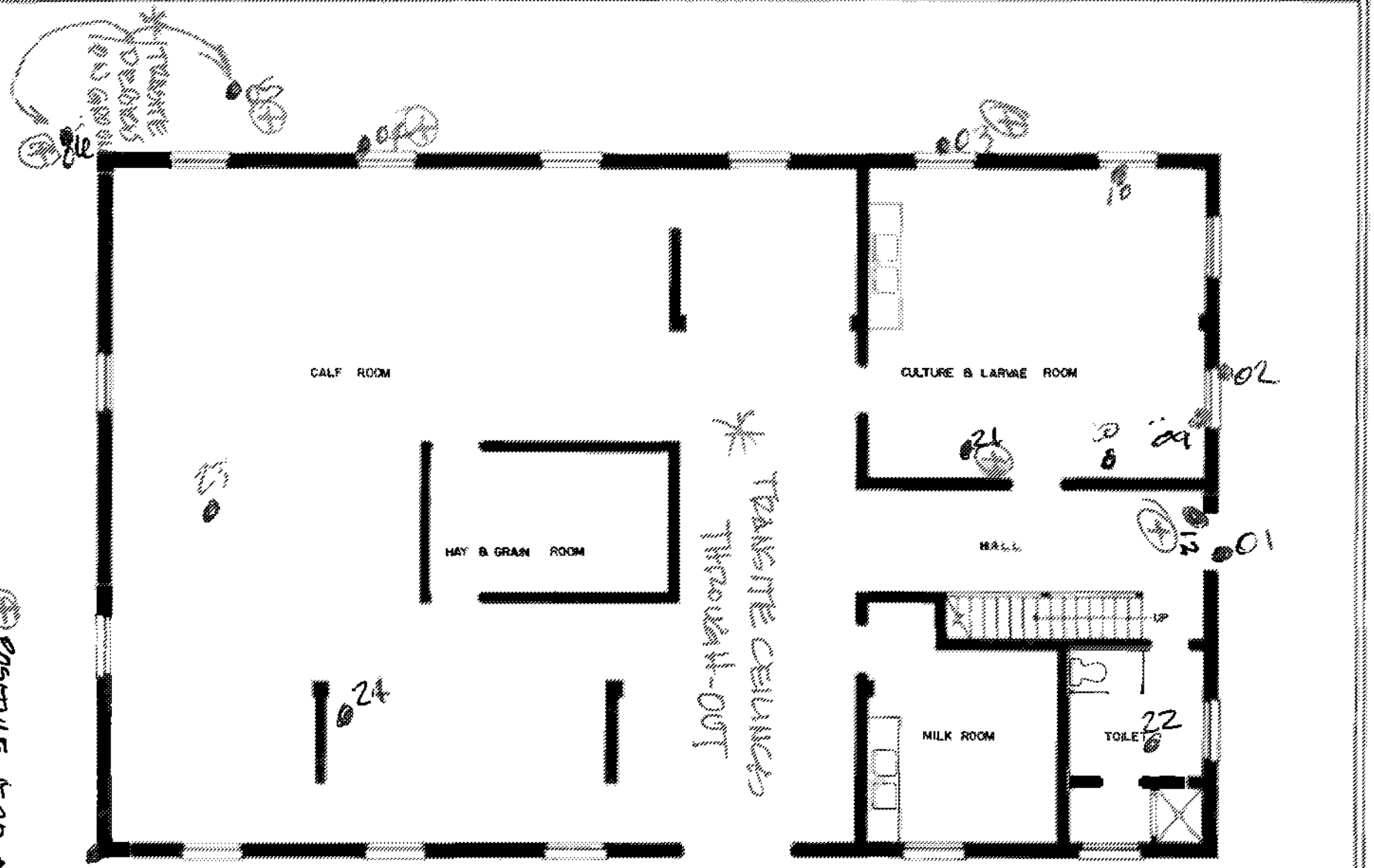
(+) POSITIVE FOR ASBESTOS

(FD) FD= FIRE DOOR

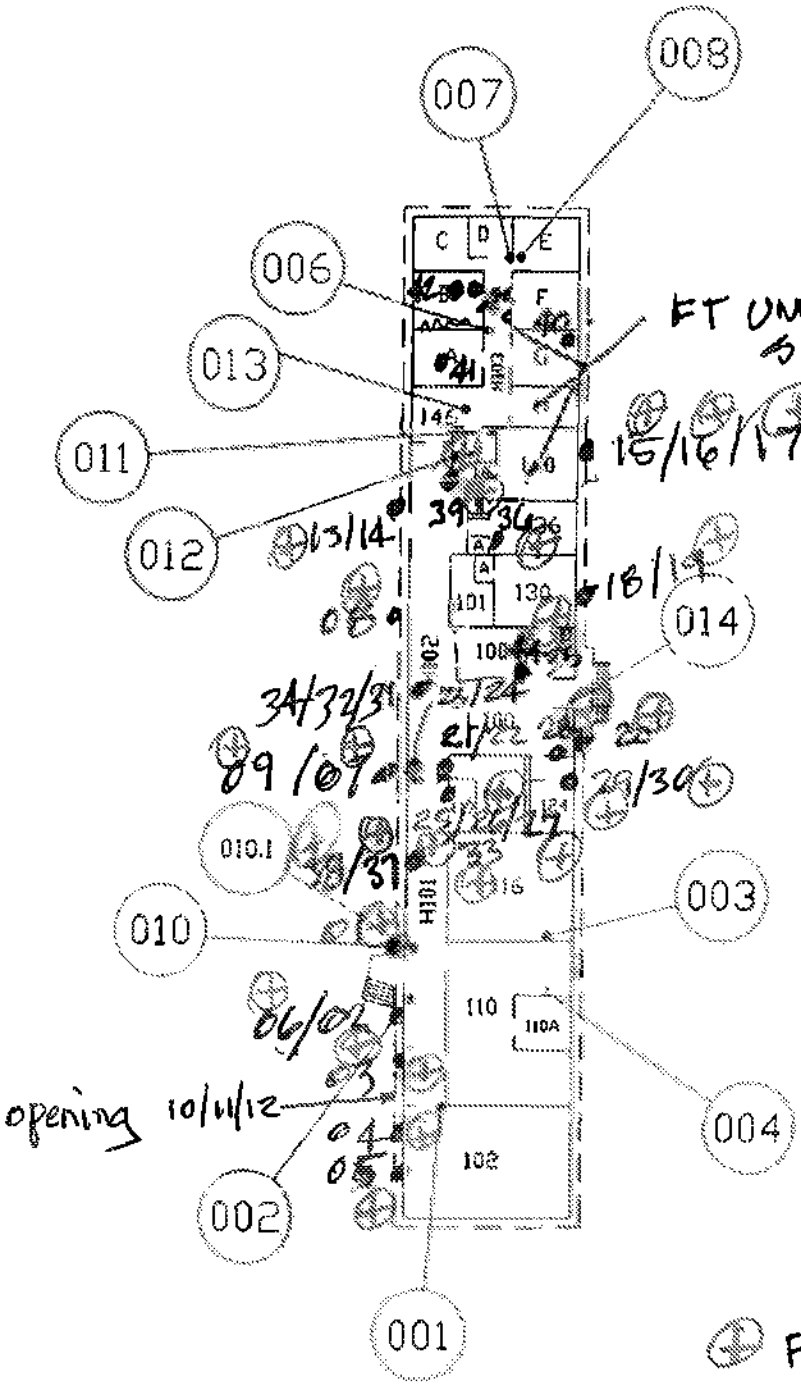
S11645

LSU BATON ROUGE - MAIN CAMPUS
VETERINARY SCIENCE ANNEX USE
HIGHLAND ROAD
BATON ROUGE, LA. 70803

STATE I.D. #: LVSAX
SITE CODE: 2-17-014A
APPROXIMATE SCALE: 1"=10'
1 FLOOR OF 2 FLOOR
FLOOR AREA: 2,112 SQ. FT.


CALF ROOM
HAY & GRAIN ROOM
CULTURE & LARVAE ROOM
HALL
MILK ROOM
TOILET
UP
TRANSFER CAGES THROUGH-OUT
POSITIVE FOR ABBESTOS
07/08
POULTRY
BUILDING NO. 265
VETERINARY SCIENCE
JOHN H. FARRENS
ARCHITECT
SHEET
OF
POULTRY SILOS

EXT WINDOW CAULK
14
13
15
16
17
1948
BOULTBY ATTIC
ATTIC



MAT FLAG
FT (+)
DRYWALL –
242 CT –

FT UNDER CARPET SQUARES

001 (+)
CH: 2-4%
AM: ND
CR: ND
Other: ND
002 (+)
CH: 2-4%
AM: ND
CR: ND
Other: ND
003 (–)
004 (–)
006 (–)
007 (–)
008 (–)
010 (+)
CH: 2-4%
AM: ND
CR: ND
Other: ND
010.1(–)
011 (–)
012 (–)
013 (–)
014 (+)
CH: 2-4%
AM: ND
CR: ND
Other: ND

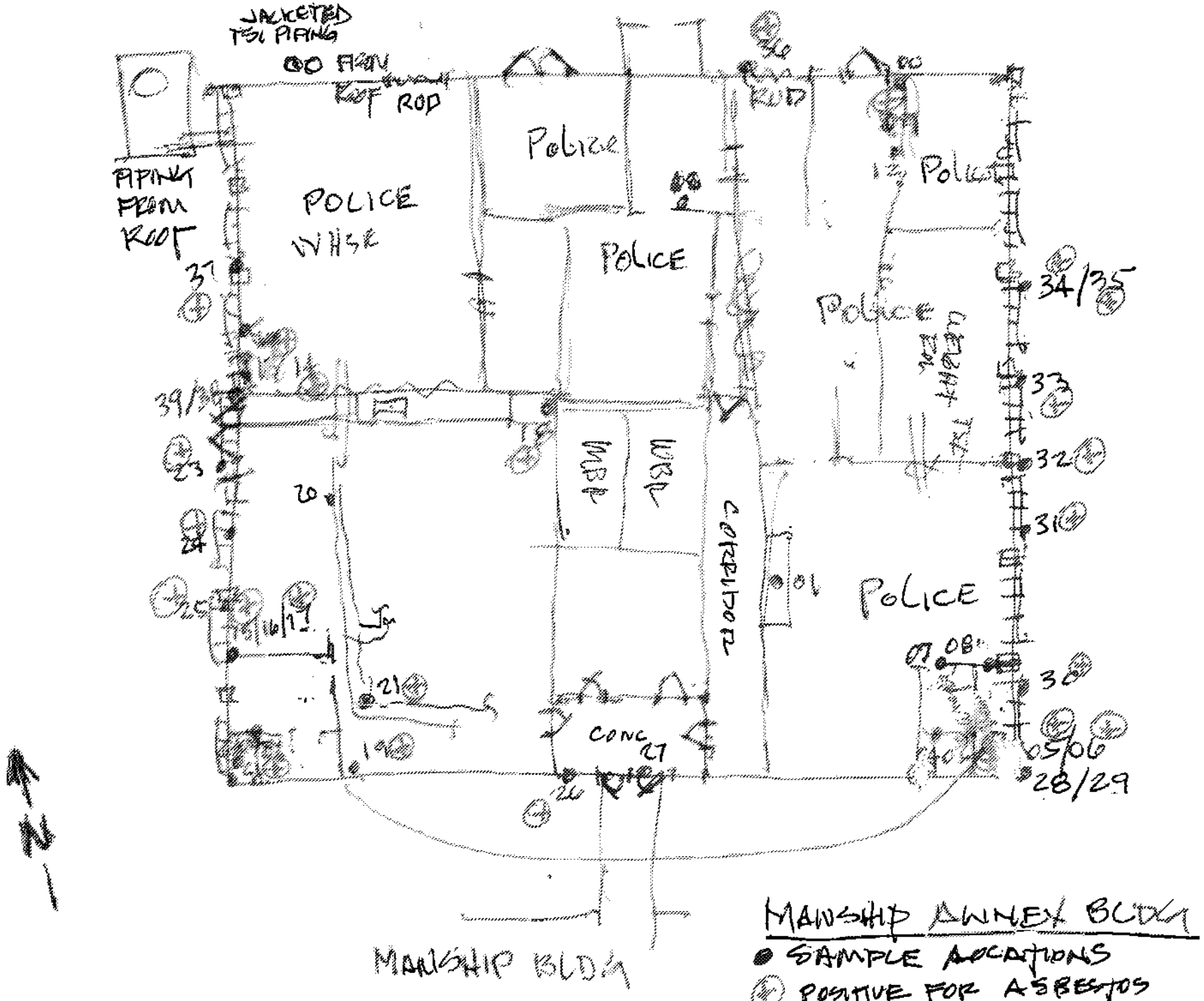
(+) POSITIVE FOR ASBESTOS

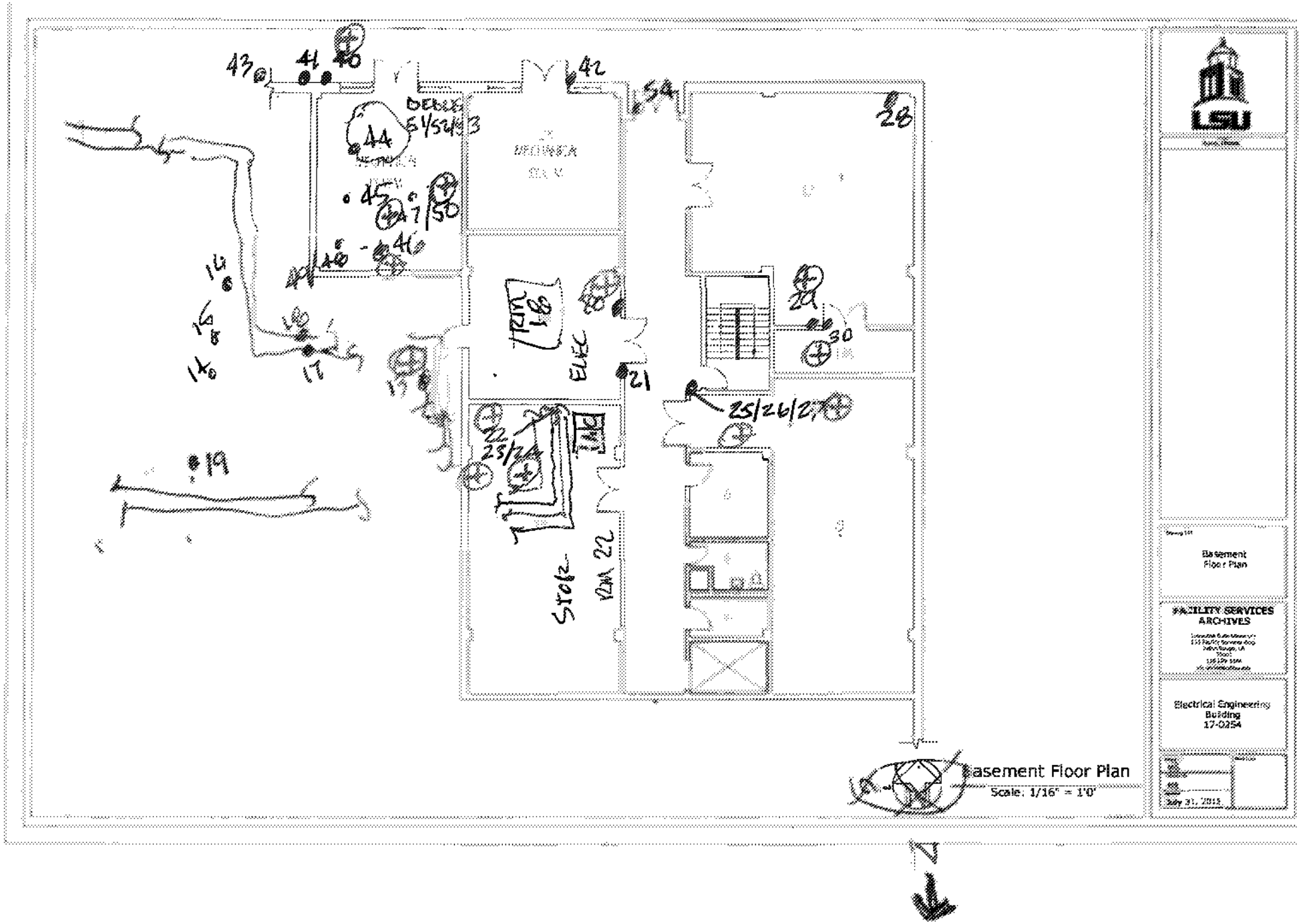
LSU BATON ROUGE - MAIN CAMPUS
LA. BUSINESS/ TECHNOLOGY CENTER
HIGHLAND ROAD
BATON ROUGE, LA 70803

(FD) FD= FIRE DOOR

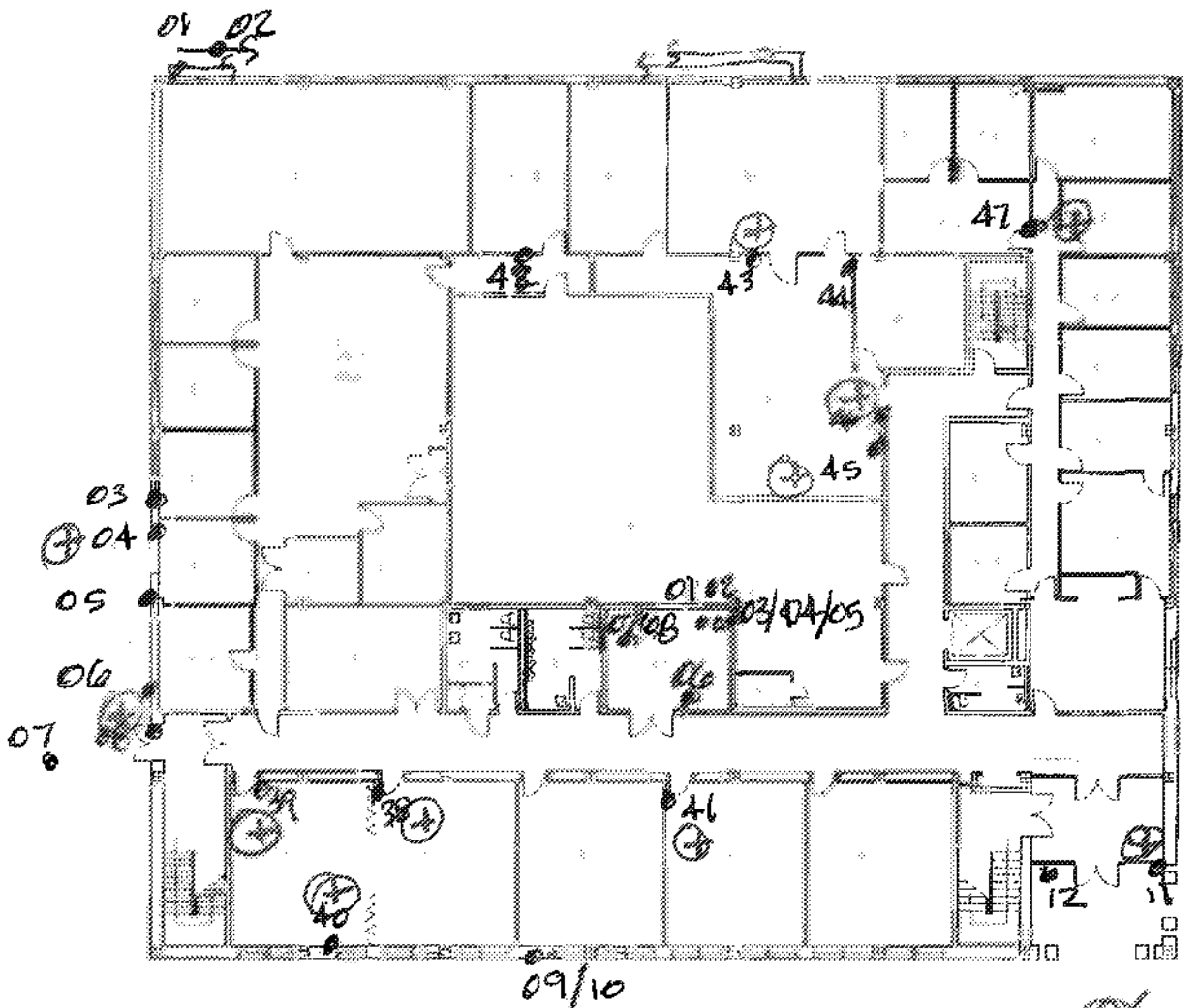
STATE I.D #: LLABT
SITE CODE: 2-17-014A
APPROXIMATE SCALE: 1"=40'
1 FLOOR OF 1 FLOOR
FLOOR AREA: 8,913 SQ. FT.

MAN SHIP


JACKETED TSI PIPING
TSI PIPING FROM ROOF
ROD
POLICE WHSE
POLICE
POLICE
POLICE
POLICE
MEN LOCKER RM
WOMEN LOCKER RM
CORRIDOR
CONC
MANSHIP BLDG
MANSHIP ANNEX BLDG
SAMPLE LOCATIONS
POSITIVE FOR ASBESTOS


Basement Floor Plan
Scale: 1/16" = 1'0"
Basement Floor Plan
FACILITY SERVICES ARCHIVES
Electrical Engineering Building 17-0254
July 31, 2015

NEUER HVAC & PIPING



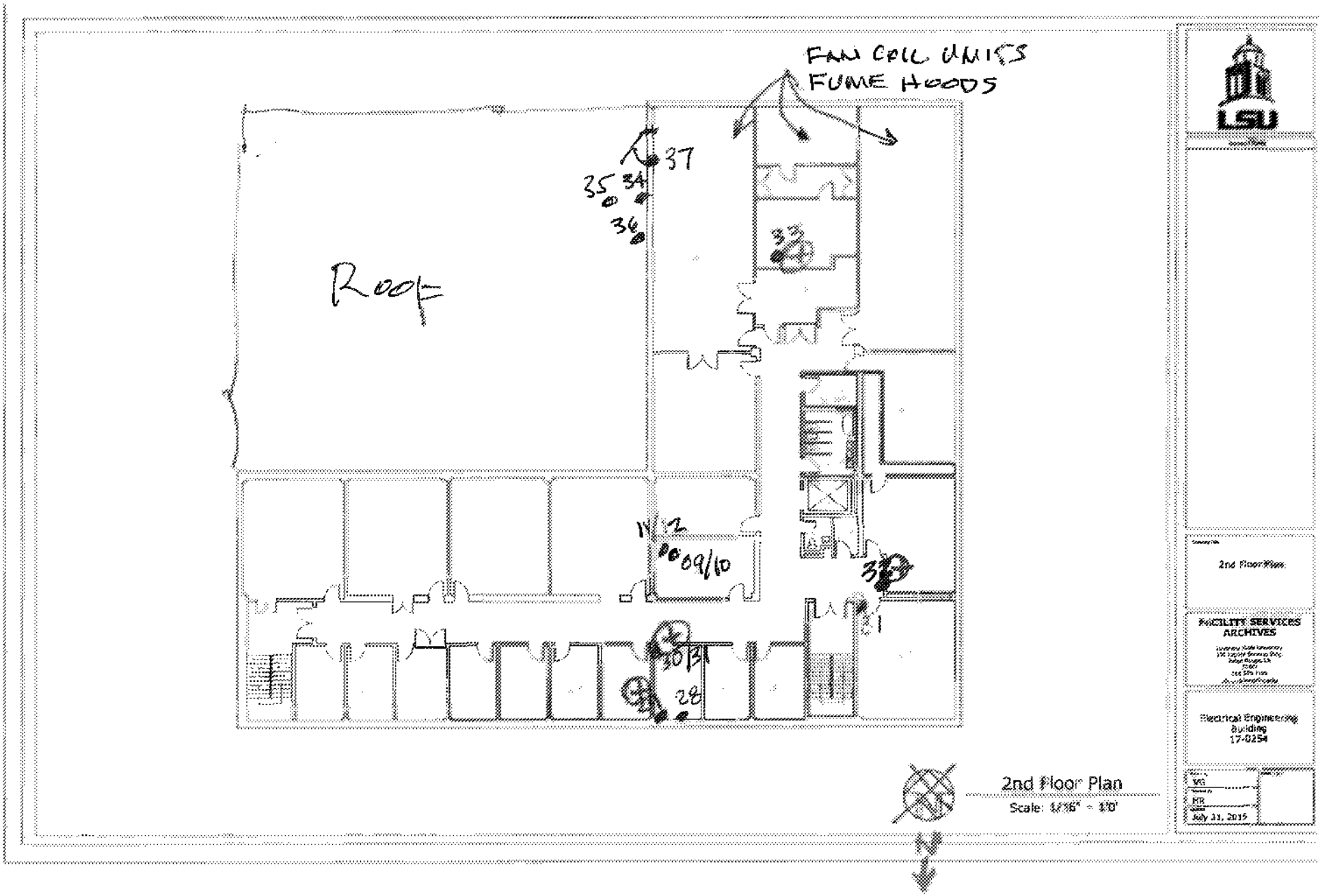
1st Floor Plan
Scale: 1/16" = 1'0"

FACILITY SERVICES ARCHIVES

Electrical Engineering Building
17-0254

EXT. SAMPLES FOR:
S1 1/2A (Saturday)

NEWER HVAC & PIPING

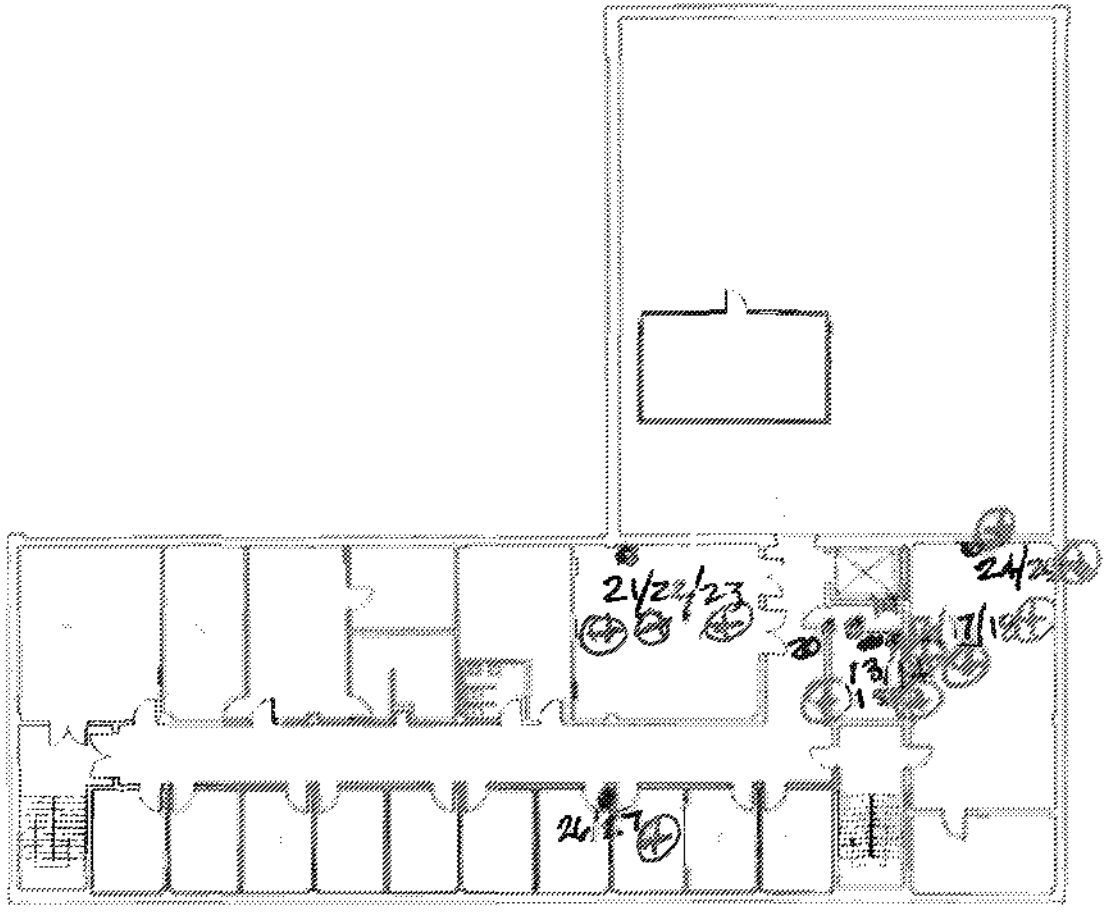


2nd Floor Plan
Scale: 1/16" = 1'0"

FACILITY SERVICES ARCHIVES

Electrical Engineering Building
17-0254

July 31, 2015



3rd Floor Plan

Scale: 1/16" = 1'0"

3rd Floor Plan

FACILITY SERVICES
ARCHIVES

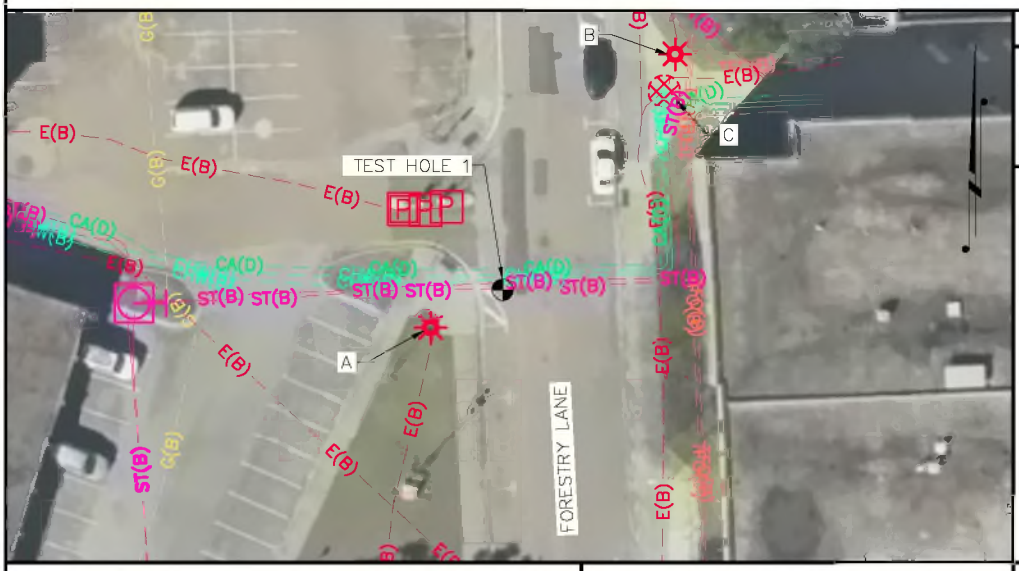
APPENDIX B

SUB-SURFACE UTILITY ENGINEERING (SUE) QLA TEST HOLE REPORTS

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	1
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	10–30–2024
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694577.6	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3329332.96	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.18'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	26.9'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	24.72'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	8"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70001
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

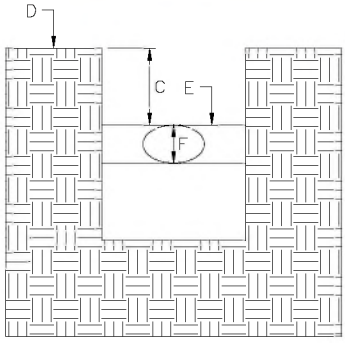
A.	LIGHT POLE: 34.2'
B.	LIGHT POLE: 80.6'
C.	ELECTRIC MANHOLE: 71.8'

TEST HOLE PHOTO

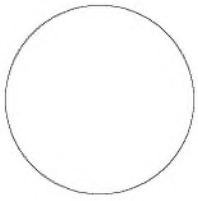
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38–02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:41:41 -06'00'

TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	2
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	10/30/2024
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694579.18	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3329333.02	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.14'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	26.95'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	24.81'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	8"	O.	ELEVATION INFO:	NAD83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70002
I.	UTILITY CONDITION:	GOOD			

SWING TIES: DESCRIPTION & DISTANCE

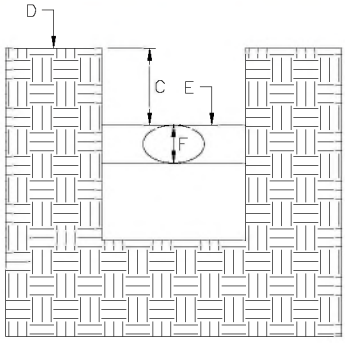
A.	LIGHT POLE: 34.7'
B.	LIGHT POLE: 79.4'
C.	ELECTRIC MANHOLE: 70.6'

TEST HOLE PHOTO

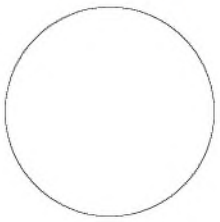
LEGEND:

G(B)	GAS UTILITY LINE QUALITY LEVEL B
ST(B)	STEAM WATER UTILITY LINE QUALITY LEVEL B
CA(D)	COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
E(B)	ELECTRIC UTILITY LINE QUALITY LEVEL B
FW(B)	FIRE WATER UTILITY LINE QUALITY LEVEL B
TFO(B)	TELEPHONE FIBER OPTIC QUALITY LEVEL B
W(D)	WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
UNK(B)	UNKNOWN UTILITY QUALITY LEVEL B
CHW(B)	CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:42:27 -06'00'

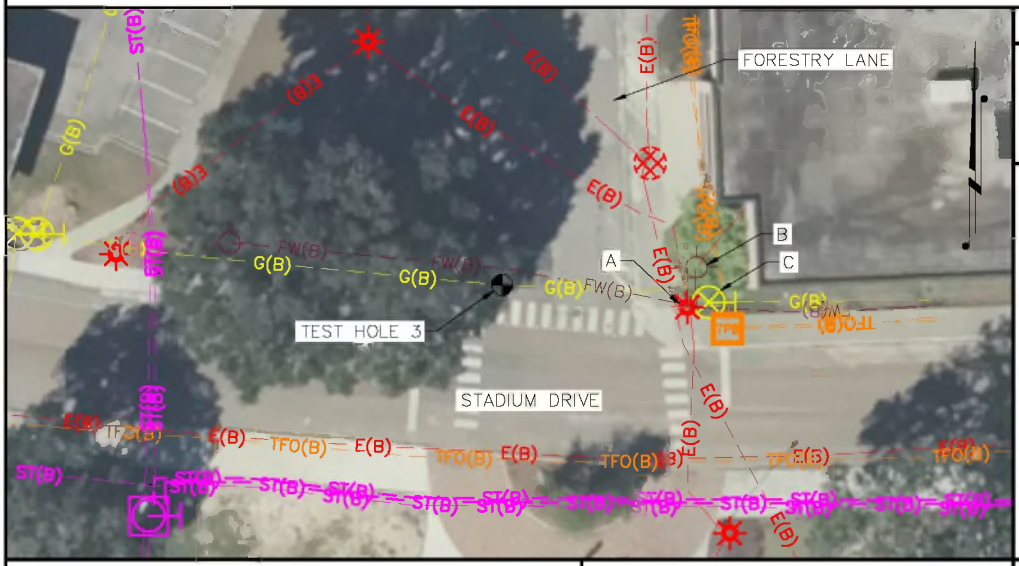
TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
160 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	3
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	GAS MAIN
LOCATION:	EAST BATON ROUGE PARISH	DATE:	10–30–2024
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694424.65	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3329336.97	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.3'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	29.34'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	27.04'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70003
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

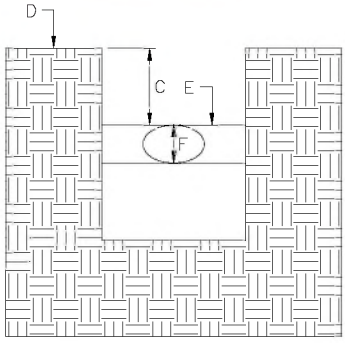
A.	LIGHT POLE: 56.7'
B.	FIRE HYDRANT: 58.6'
C.	GAS VALVE: 61.3'

TEST HOLE PHOTO

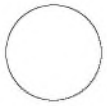
LEGEND:

G(B)	GAS UTILITY LINE QUALITY LEVEL B
ST(B)	STEAM WATER UTILITY LINE QUALITY LEVEL B
CA(D)	COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
E(B)	ELECTRIC UTILITY LINE QUALITY LEVEL B
FW(B)	FIRE WATER UTILITY LINE QUALITY LEVEL B
TFO(B)	TELEPHONE FIBER OPTIC QUALITY LEVEL B
W(D)	WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
UNK(B)	UNKNOWN UTILITY QUALITY LEVEL B
CHW(B)	CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38–02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:43:21 -06'00'

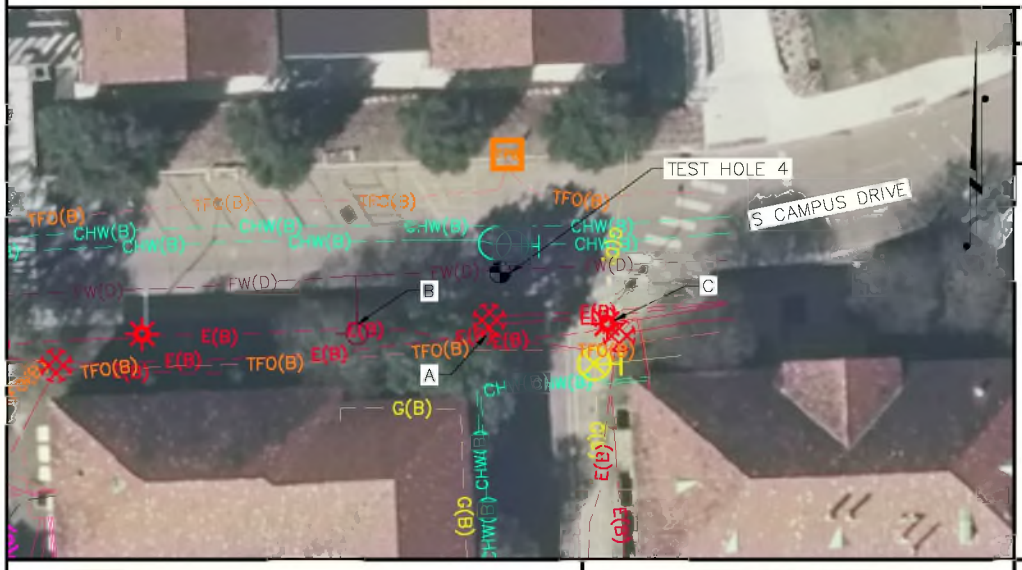
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	4
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	FIRE WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	10–31–2024
CLIENT NAME:	FORTE & TABLADA		

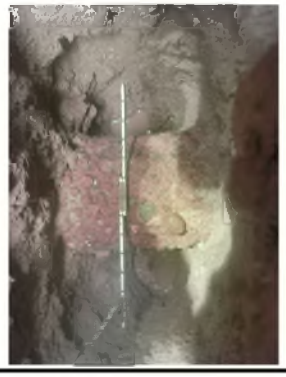
A.	NORTHING:	694970.03	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3329322.31	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.62'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	32.83'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	30.21'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	6"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	CAST IRON	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70004
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

A.	ELECTRIC MANHOLE: 36.7'
B.	FIRE HYDRANT: 40.6'
C.	LIGHT POLE: 30.9'

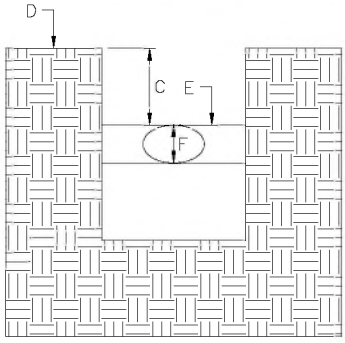
TEST HOLE PHOTO



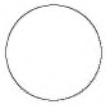
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38–02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:43:59 -06'00'

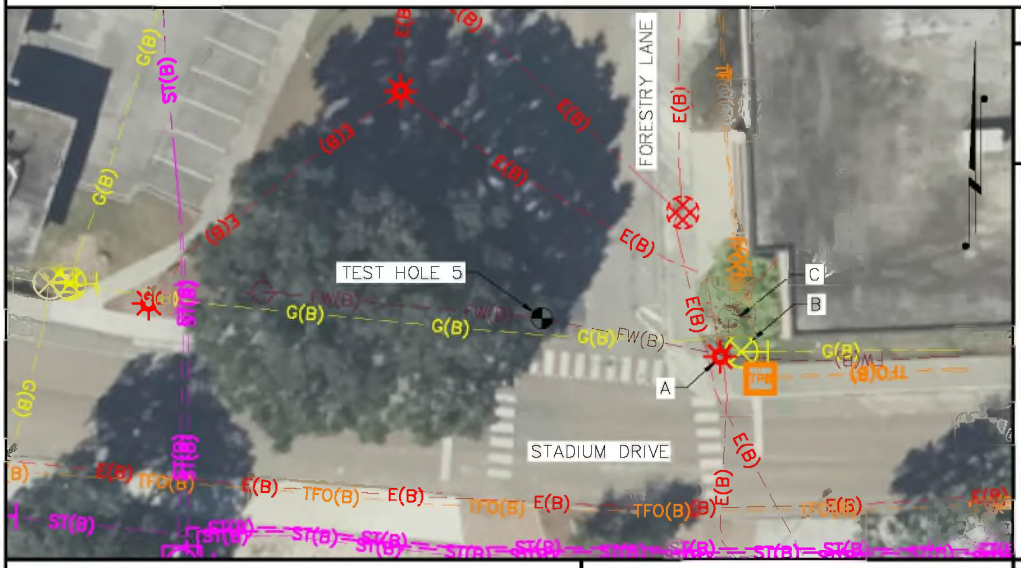
TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	5
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	FIRE WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11–1–2024
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694428.88	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3329338.87	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	3.16'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	29.29'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	26.13'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	6"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70005
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

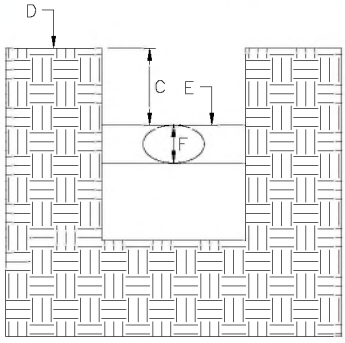
A.	LIGHT POLE: 47.4'
B.	GAS VALVE: 52.4'
C.	FIRE HYDRANT: 48.6'

TEST HOLE PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

NOTES:

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2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38–02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2024.12.11 13:44:37 -06'00'

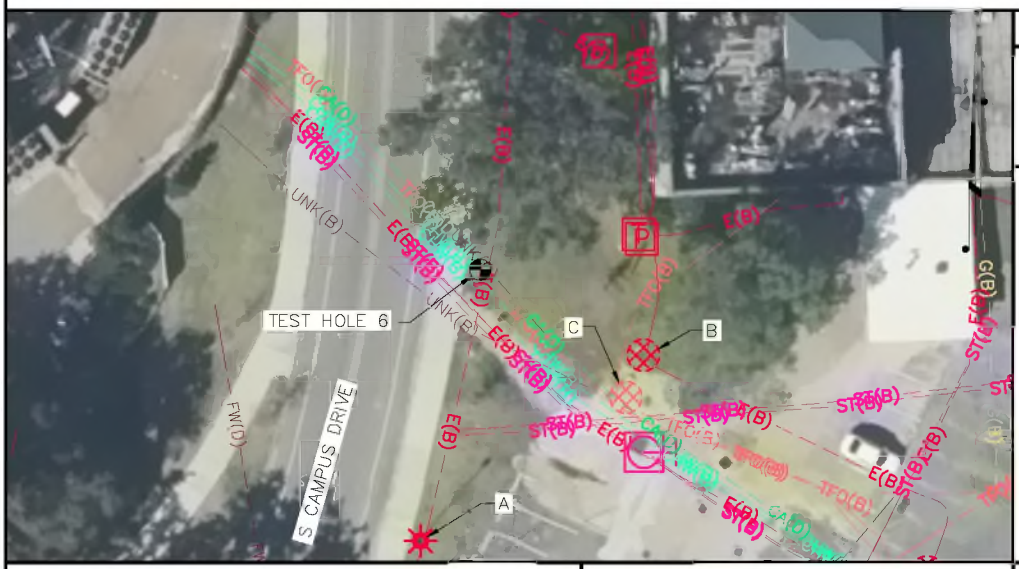
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	6
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	COMMUNICATION DUCT BANK
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11–1–2024
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694755.65	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3328926.76	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.37'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	27.19'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	22.82'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4–4.5" PVC PIPES	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	PVC	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	WHITE	Q.	POINT NO.:	70006
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

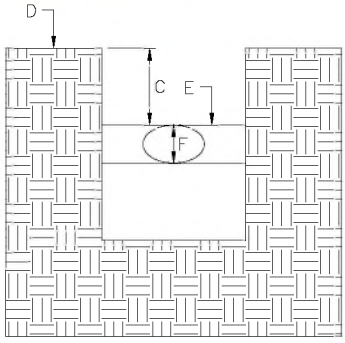
A.	LIGHT POLE: 72.1'
B.	ELECTRIC MANHOLE: 47.6'
C.	TELEPHONE MANHOLE: 50.0'

TEST HOLE PHOTO

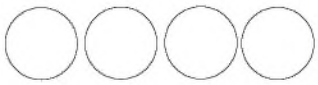
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.
3. DEPTH SHOWN FROM CENTER OF DUCT BANK.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38–02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:45:21 -06'00'

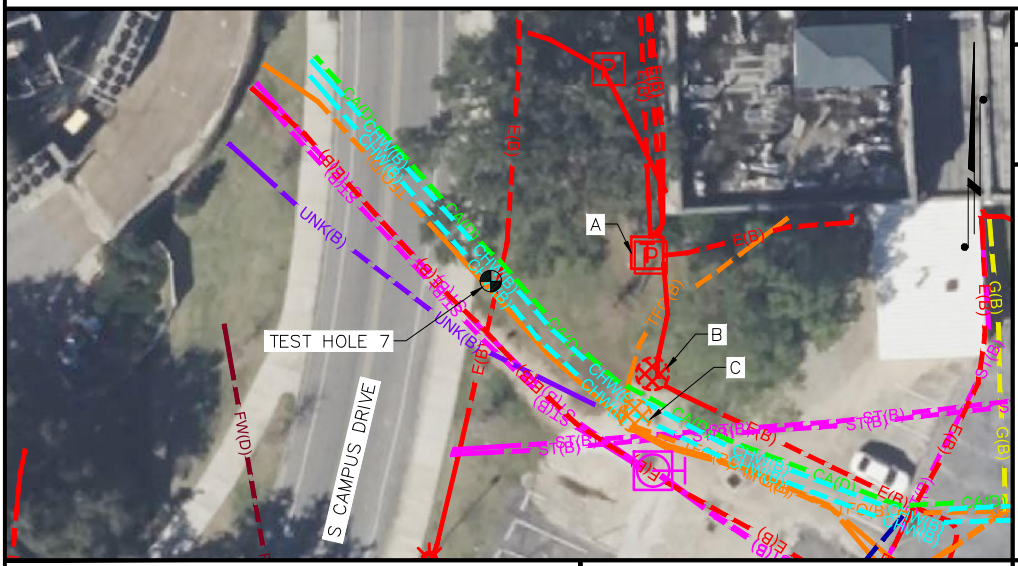
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	7
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11–4–2024
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694757.52	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3328927.18	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	5.42'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	27.16'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	21.74'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	20"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BROWN	Q.	POINT NO.:	70007
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

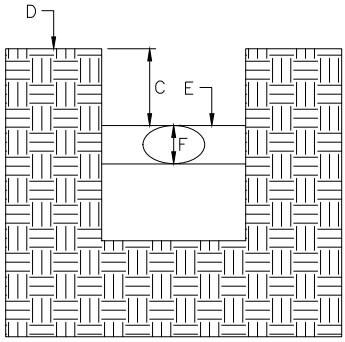
A.	ELECTRICAL XFMR BOX: 37.6'
B.	ELECTRIC MANHOLE: 48.5'
C.	TELEPHONE MANHOLE: 51.3'

TEST HOLE PHOTO

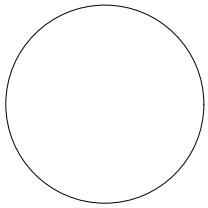
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38–02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 14:00:17 -06'00'

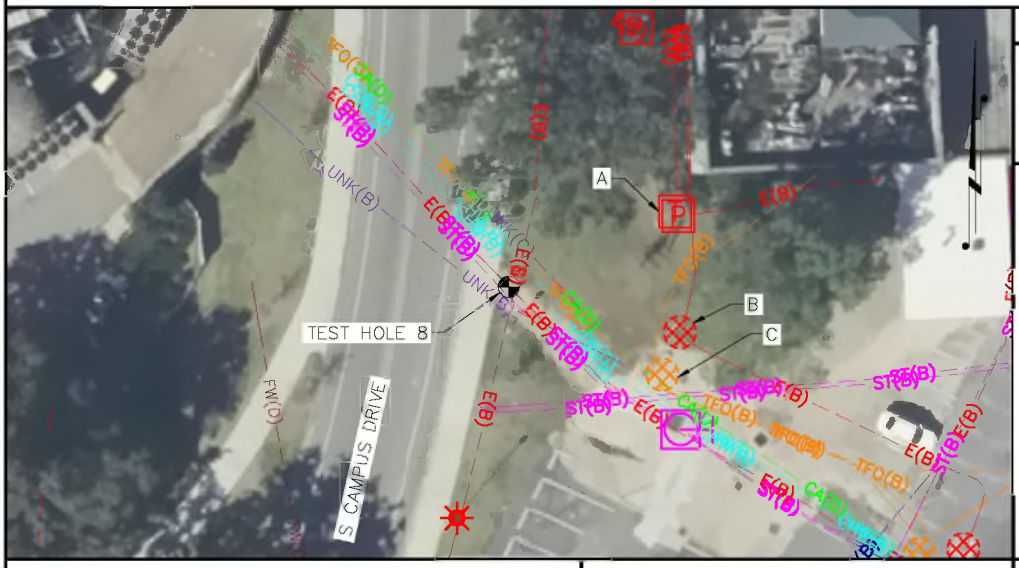
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	8
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/4/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694745.23	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3328924.68	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.66'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	26.64'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	21.98'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	8"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70008
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

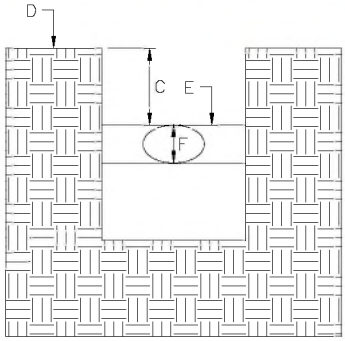
A.	ELECTRICAL XFMR BOX: 43.9'
B.	ELECTRIC MANHOLE: 46.2'
C.	TELEPHONE MANHOLE: 46.1'

TEST HOLE PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:46:38 -06'00'

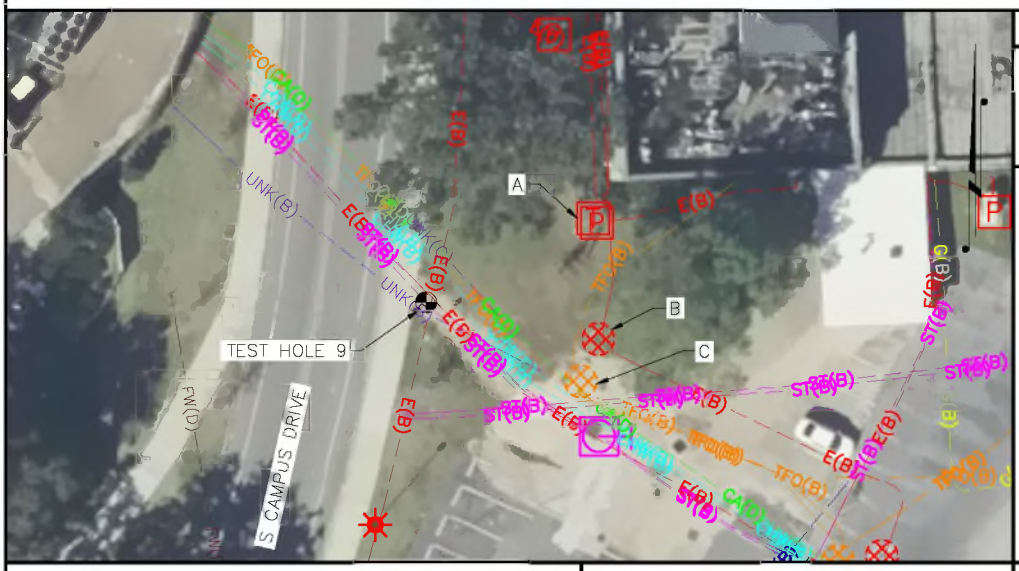
TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	9
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/4/24
CLIENT NAME:	FORTE & TABLADA		

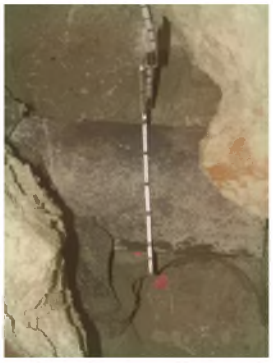
A.	NORTHING:	694742.98	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3328924.42	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.93'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	26.46'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	21.53'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	RUST	Q.	POINT NO.:	70009
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

A.	ELECTRICAL XFMR BOX: 45.5'
B.	ELECTRIC MANHOLE: 46.9'
C.	TELEPHONE MANHOLE: 46.3'

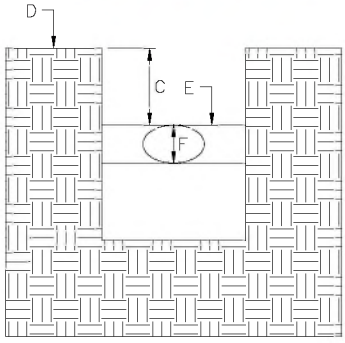
TEST HOLE PHOTO



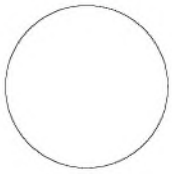
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:47:16 -06'00'

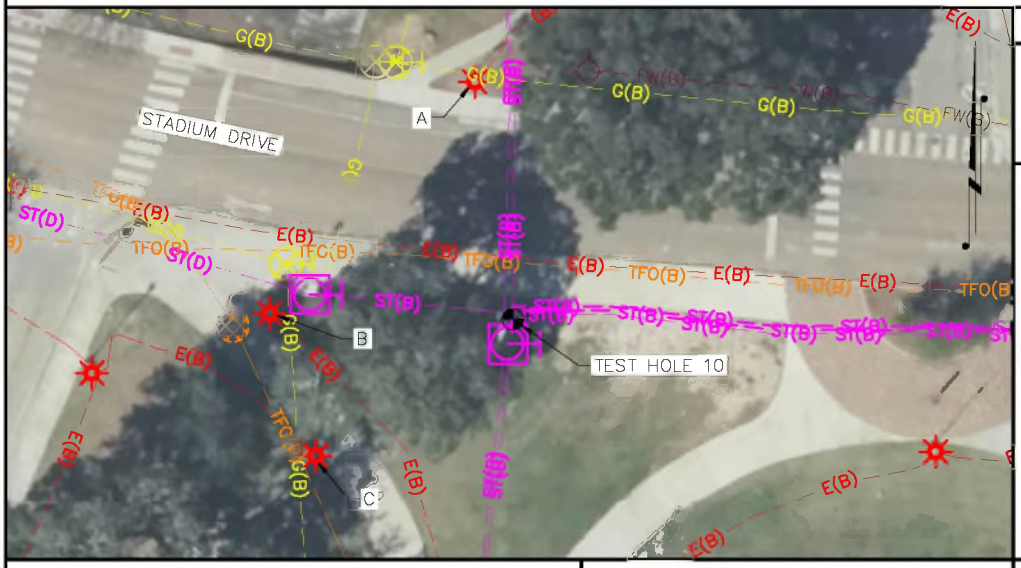
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	10
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/14/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694371.03	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329246.37	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	3.92'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.83'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	YES
E.	ELEV. AT TOP OF UTILITY:	24.91'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	8"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70018
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

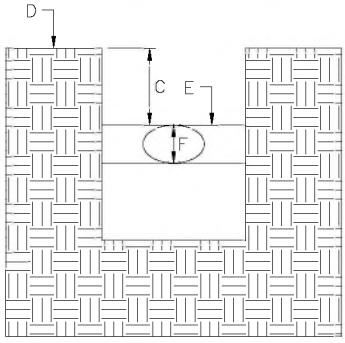
A.	LIGHT POLE: 62.1'
B.	LIGHT POLE: 63.0'
C.	LIGHT POLE: 61.3'

TEST HOLE PHOTO

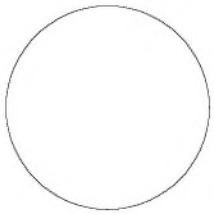
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:47:53 -06'00'

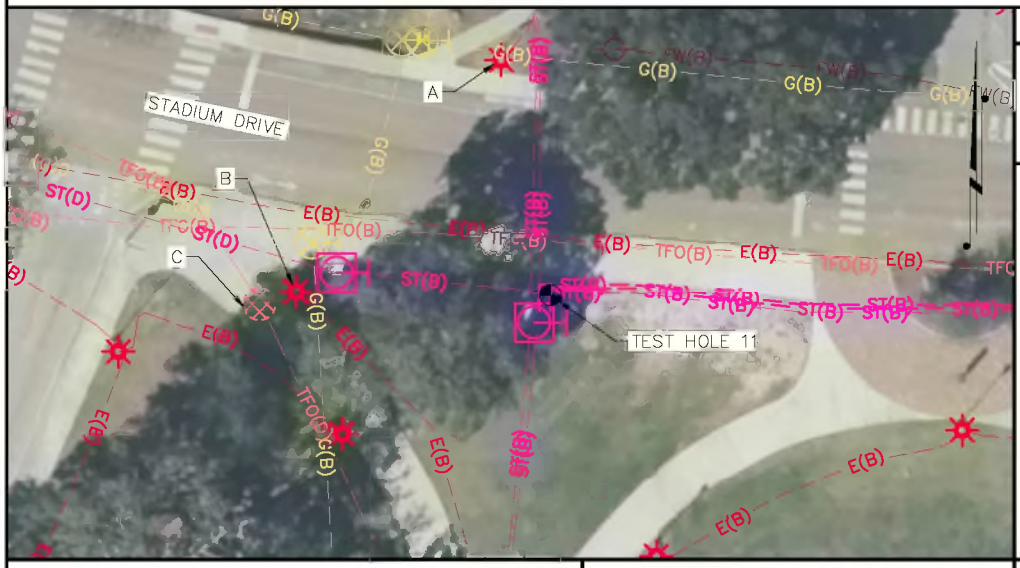
TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
160 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	11
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/14/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694371.69	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329249.17	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.06'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.82'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	YES
E.	ELEV. AT TOP OF UTILITY:	24.76'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70019
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

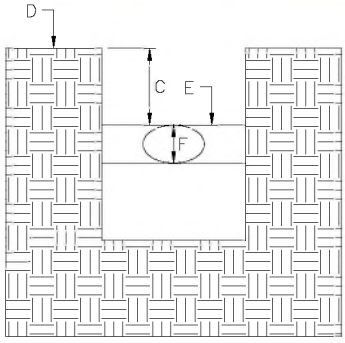
A.	LIGHT POLE: 62.5'
B.	LIGHT POLE: 66.0'
C.	TELEPHONE MANHOLE: 75.6'

TEST HOLE PHOTO

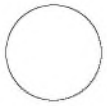
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:48:44 -06'00'

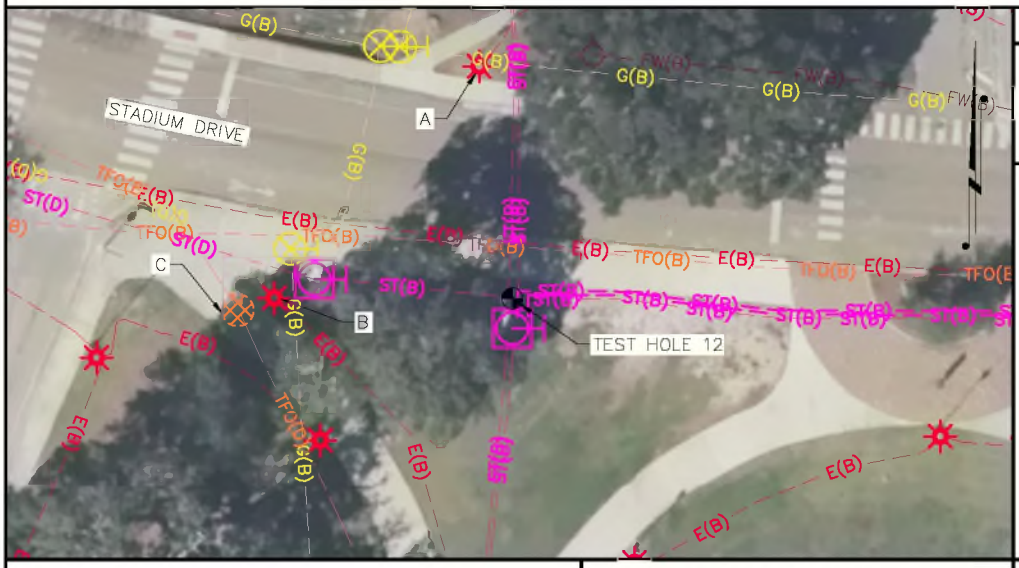
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	12
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/14/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694372.43	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329244.99	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.69'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.91'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	26.22'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	3"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	INSULATED STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	WHITE	Q.	POINT NO.:	70017
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

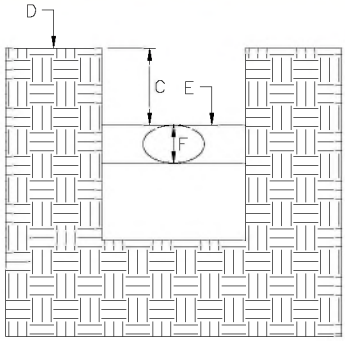
A.	LIGHT POLE: 61.2'
B.	LIGHT POLE: 61.2'
C.	TELEPHONE MANHOLE: 70.8'

TEST HOLE PHOTO

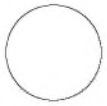
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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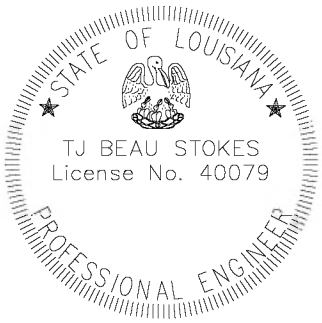


I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:49:41 -06'00'

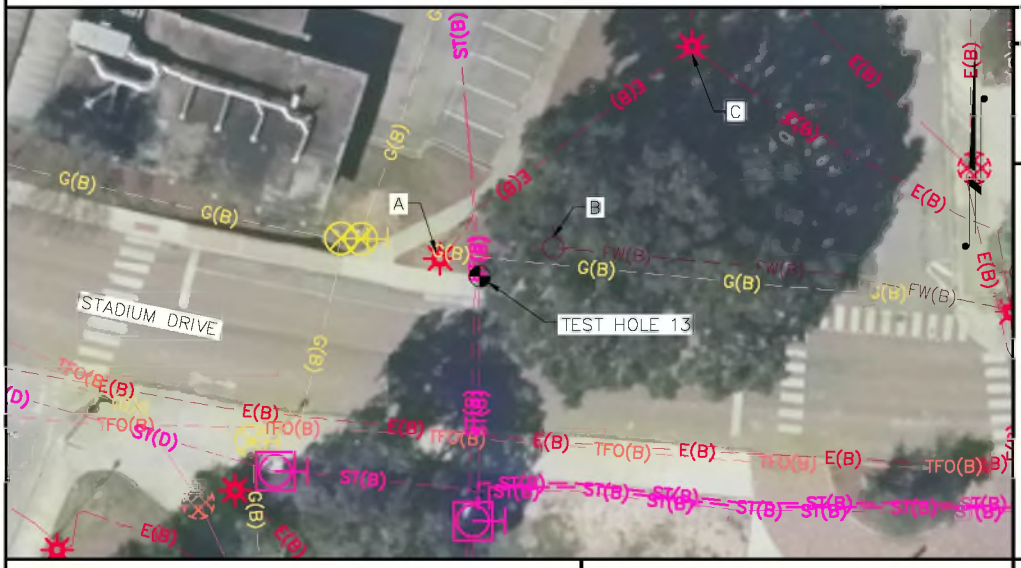
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	13
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/14/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694428.18	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329246.75	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.8'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.97'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	24.17'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	8"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70016
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

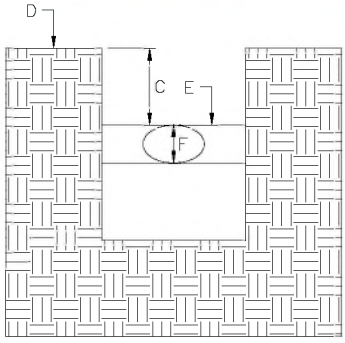
A.	LIGHT POLE: 11.3'
B.	FIRE HYDRANT: 20.5'
C.	LIGHT POLE: 81.2'

TEST HOLE PHOTO

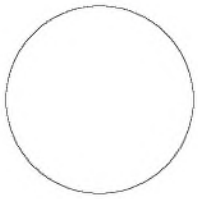
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:50:18 -06'00'

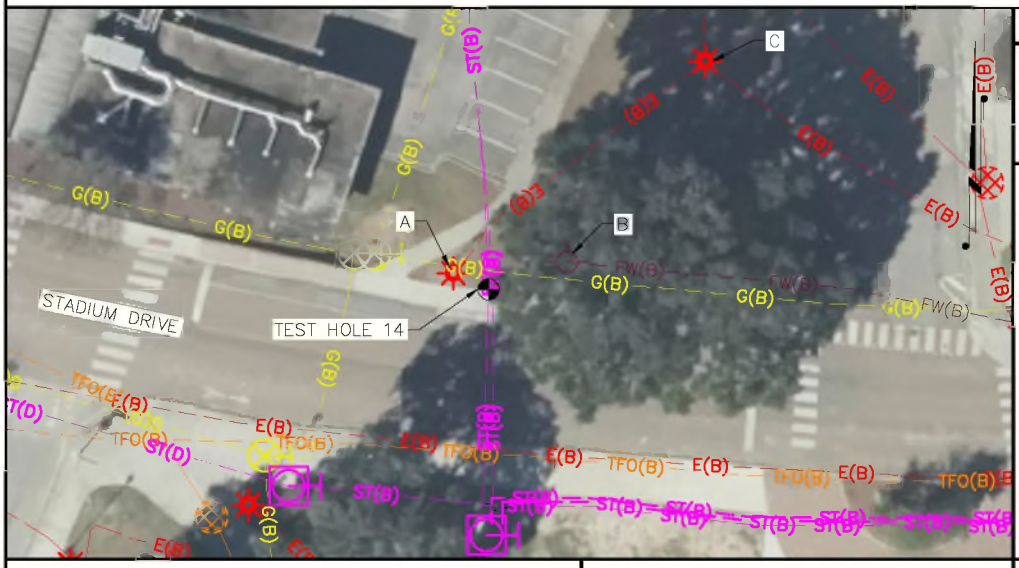
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	14
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/14/24
CLIENT NAME:	FORTE & TABLADA		

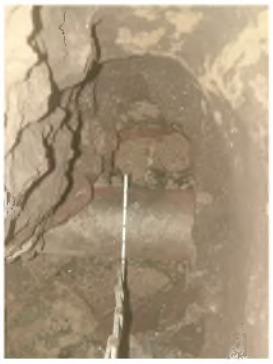
A.	NORTHING:	694428.56	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329245.53	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	5.11'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	29'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	23.89'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70015
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

A.	LIGHT POLE: 9.7'
B.	FIRE HYDRANT: 21.8'
C.	LIGHT POLE: 81.5'

TEST HOLE PHOTO



LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
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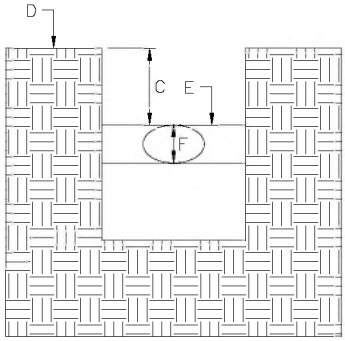
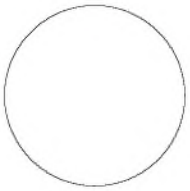
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2024.12.11 13:50:54 -06'00'

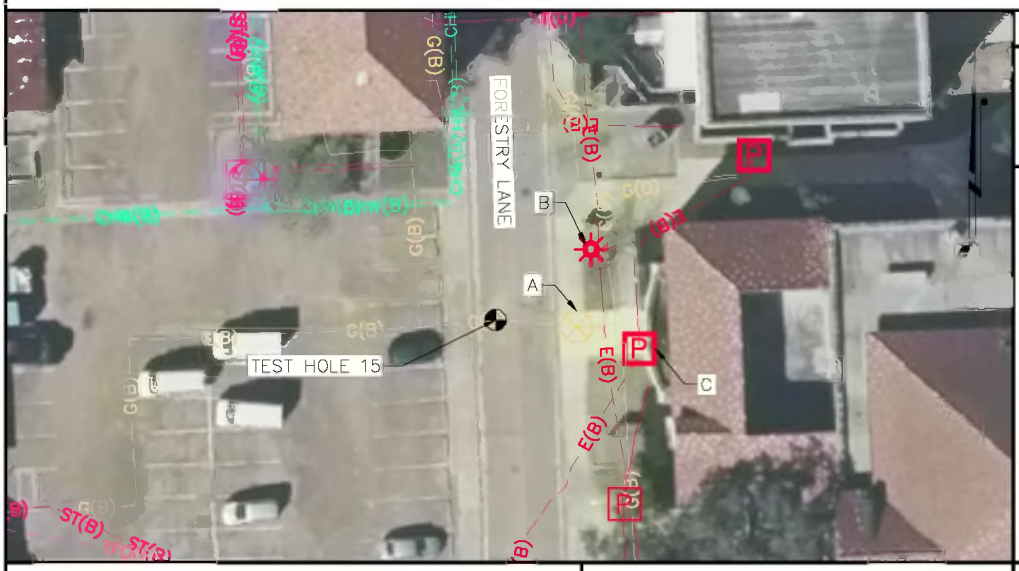
TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	15
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	GAS MAIN
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/15/24
CLIENT NAME:	FORTE & TABLADA		

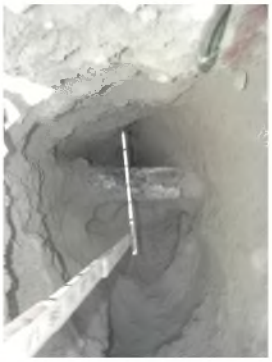
A.	NORTHING:	694757.92	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3329332.61	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	1.81'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.93'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	27.12'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	2"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70020
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

A.	GAS VALVE: 20.8'
B.	LIGHT POLE: 30.9'
C.	ELECTRIC VAULT: 37.5'

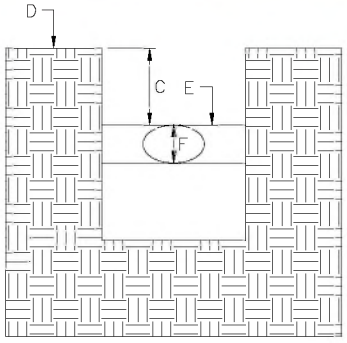
TEST HOLE PHOTO



LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

NOTES:

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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:51:28 -06'00'

TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
160 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	16
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	GAS MAIN
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/15/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694433.91	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329240.78	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.72'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.97'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	26.25'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70014
I.	UTILITY CONDITION:	GOOD			

SWING TIES: DESCRIPTION & DISTANCE

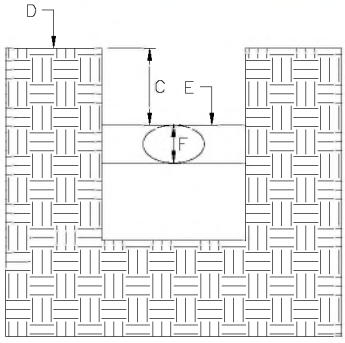
A.	LIGHT POLE: 4.5'
B.	FIRE HYDRANT: 25.9'
C.	GAS VALVE: 25.5'

TEST HOLE PHOTO

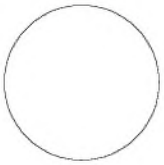
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:52:10 -06'00'

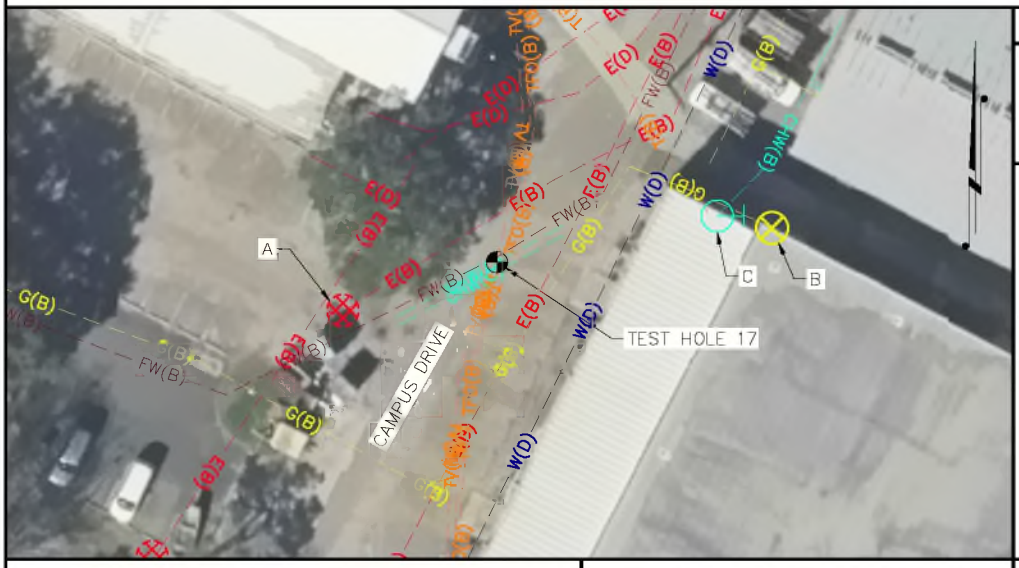
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	17
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/25/24
CLIENT NAME:	FORTE & TABLADA		

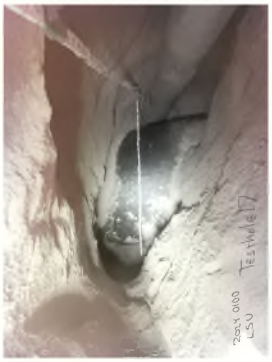
A.	NORTHING:	693970.81	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3328510.76	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	3.83'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	21.88'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	18.05'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	18"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70012
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

A.	ELECTRICAL MANHOLE: 41.7'
B.	GAS METER: 72.3'
C.	CHILLED WATER VALVE: 59.0'

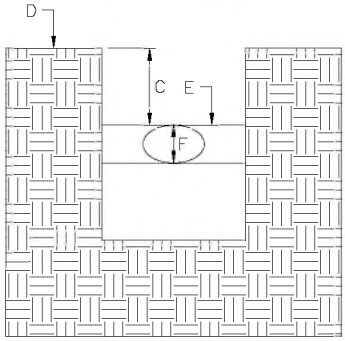
TEST HOLE PHOTO



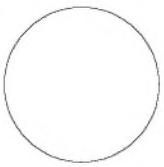
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



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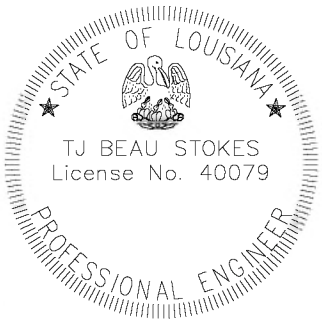


I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:52:45 -06'00'

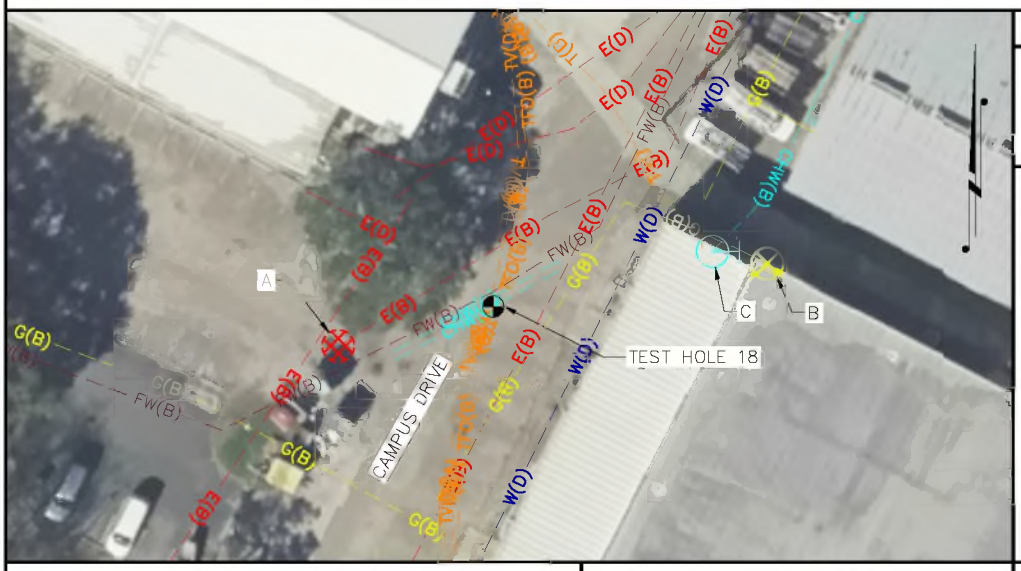
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	18
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/25/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	693968.45	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3328511.04	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	3.82'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	21.89'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	18.07'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	18"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	70011
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

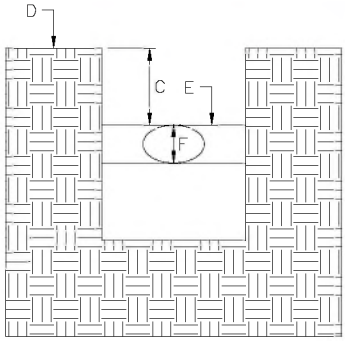
A.	ELECTRICAL MANHOLE: 41.6'
B.	GAS METER: 72.2'
C.	CHILLED WATER VALVE: 58.8'

TEST HOLE PHOTO

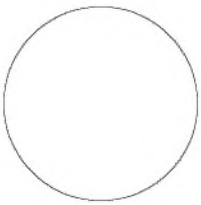
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

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TJ Stokes

Digitally signed by TJ Stokes
Date: 2024.12.11 13:53:15 -06'00'

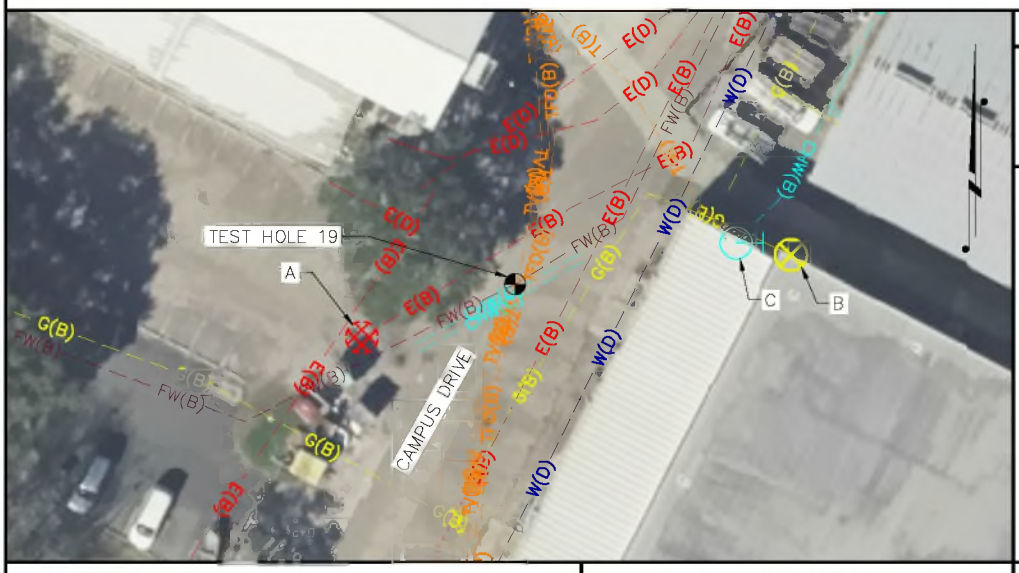
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	19
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	FIRE WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	11/25/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	693972.08	J.	SURFACE TYPE:	ASPHALT
B.	EASTING:	3328510.52	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.64'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	21.83'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	17.19'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	10"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	PVC	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLUE	Q.	POINT NO.:	70013
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

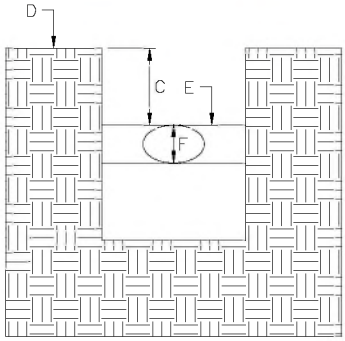
A.	ELECTRICAL MANHOLE: 42.2'
B.	GAS METER: 72.2'
C.	CHILLED WATER VALVE: 58.5'

TEST HOLE PHOTO

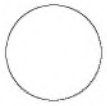
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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STATE OF LOUISIANA
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TJ Stokes

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Date: 2024.12.11 13:53:47 -06'00'

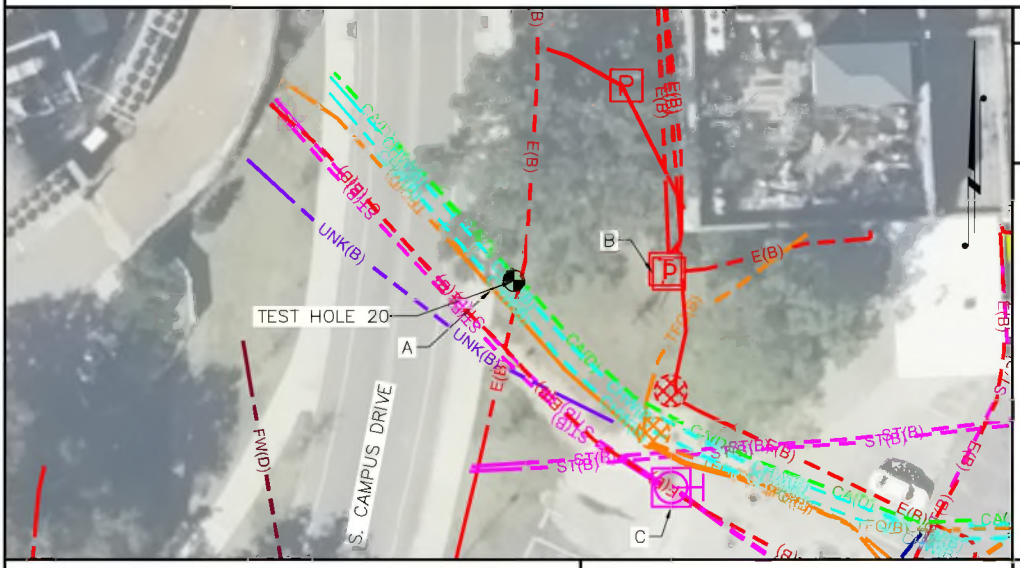
TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
160 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	20
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/18/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694761.82	J.	SURFACE TYPE:	GRASS/DIRT/ROCK
B.	EASTING:	3328928.41	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	5.30'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	27.11'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	21.81'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	24"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BROWN	Q.	POINT NO.:	60001
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

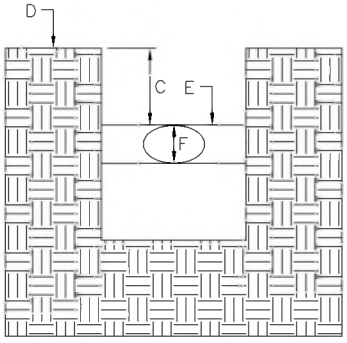
A.	EDGE OF PAVEMENT: 6.5'
B.	ELECTRIC JUNCTION BOX: 40.5'
C.	STEAM VALVE: 67.5'

TEST HOLE PHOTO

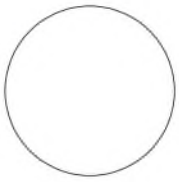
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 12:38:25 -06'00'

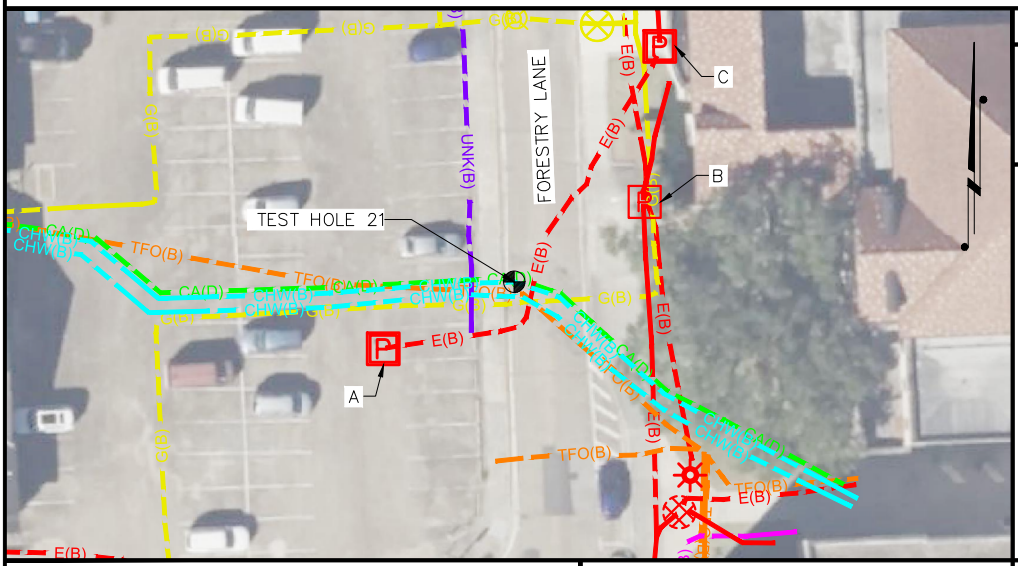
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	21
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/19/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694689.19	J.	SURFACE TYPE:	ASPHALT/DIRT/CLAY
B.	EASTING:	3329332.06	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.28'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	27.62'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	23.34'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	24"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BROWN	Q.	POINT NO.:	60042
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

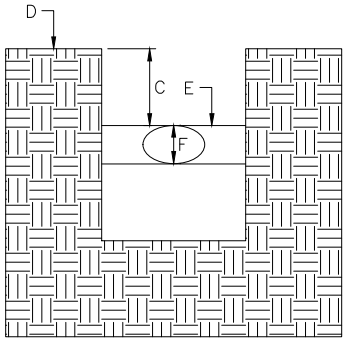
A.	ELECTRIC VAULT: 38.2'
B.	ELECTRIC JUNCTION BOX: 39.9'
C.	ELECTRIC VAULT: 72.1'

TEST HOLE PHOTO

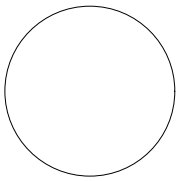
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 12:39:50 -06'00'

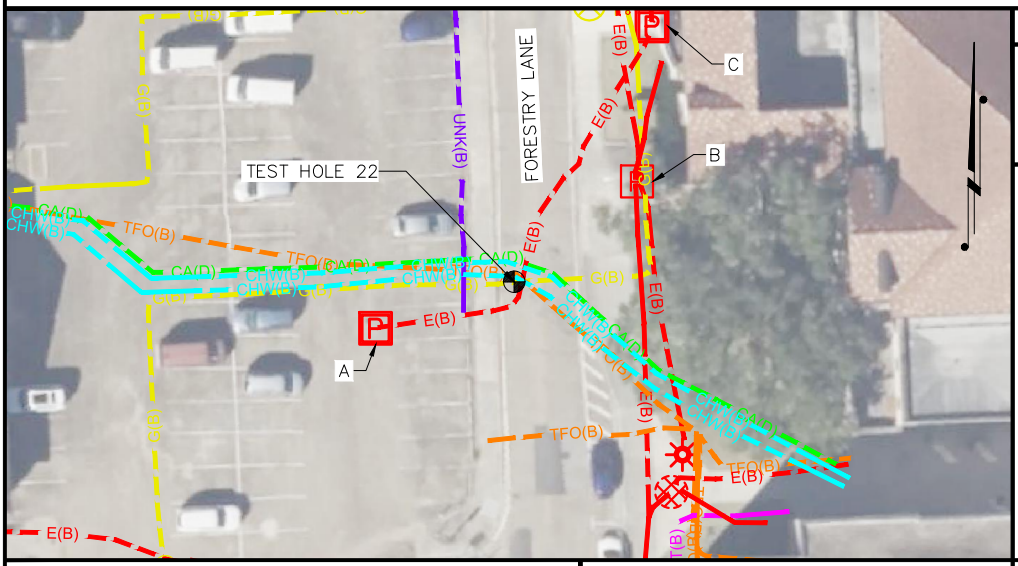
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	22
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	GAS MAIN
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/19/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694683.94	J.	SURFACE TYPE:	ASPHALT/DIRT/CLAY
B.	EASTING:	3329334.07	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.46'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	27.70'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	25.24'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	2"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	YELLOW	Q.	POINT NO.:	60045
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

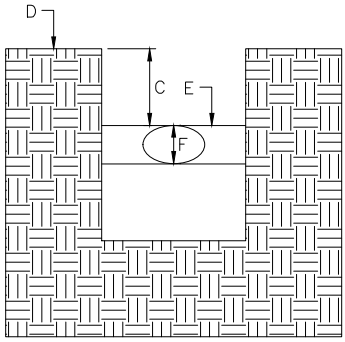
A.	ELECTRIC VAULT: 38.0'
B.	ELECTRIC JUNCTION BOX: 41.3'
C.	ELECTRIC VAULT: 75.7'

TEST HOLE PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 10:06:22 -06'00'

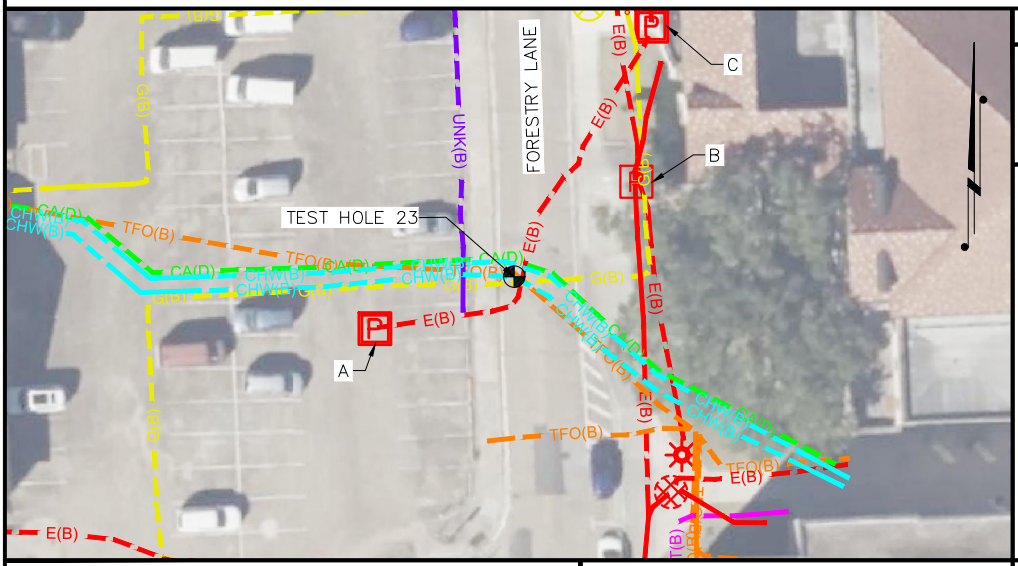
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	23
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/19/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694685.33	J.	SURFACE TYPE:	ASPHALT/DIRT/CLAY
B.	EASTING:	3329334.20	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	4.53'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	27.76'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	23.23'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	20"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BROWN	Q.	POINT NO.:	60044
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

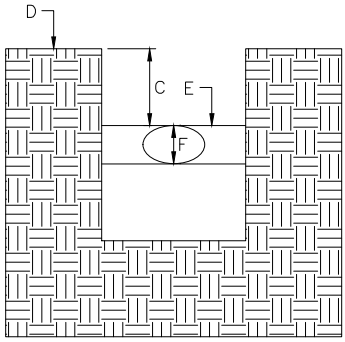
A.	ELECTRIC VAULT: 38.6'
B.	ELECTRIC JUNCTION BOX: 40.3'
C.	ELECTRIC VAULT: 74.4'

TEST HOLE PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

NOTES:

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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

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TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 10:09:09 -06'00'

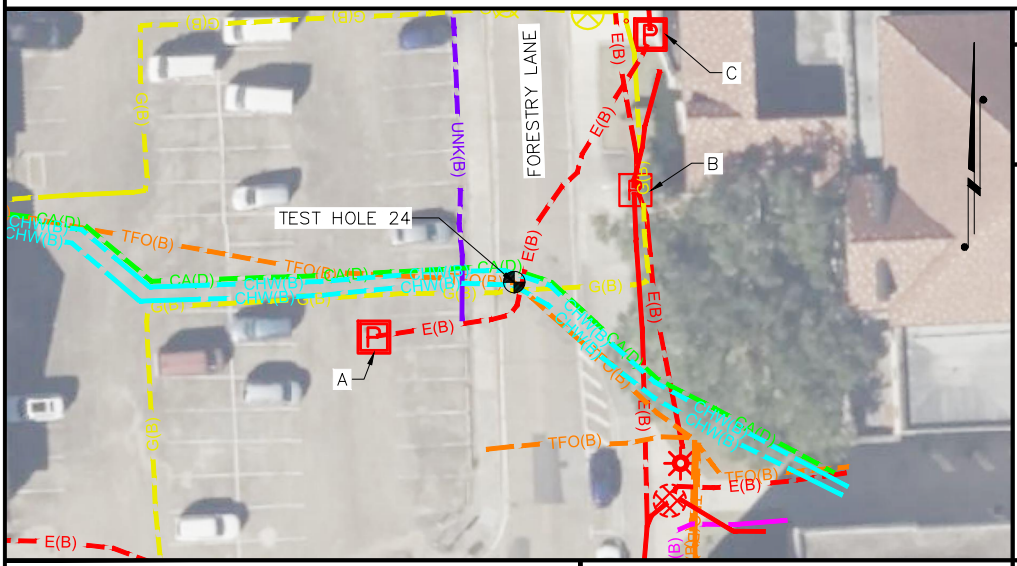
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	24
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	COMMUNICATION DUCT BANK
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/19/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694686.06	J.	SURFACE TYPE:	ASPHALT/DIRT/CLAY
B.	EASTING:	3329334.50	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	3.32'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	2"
D.	ELEVATION OF MARK PLACED FOR SURVEY:	27.76'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	24.44'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4–4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	PVC	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	WHITE	Q.	POINT NO.:	60043
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

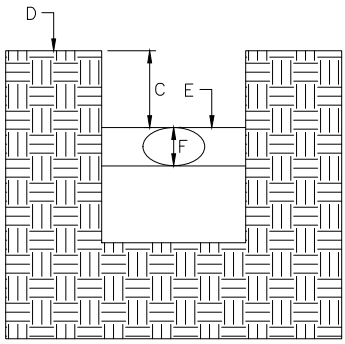
A.	ELECTRIC VAULT: 39.2'
B.	ELECTRIC JUNCTION BOX: 39.7'
C.	ELECTRIC VAULT: 73.6'

TEST HOLE PHOTO

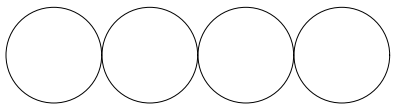
LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



NOTES:

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2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38–02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 10:12:57 -06'00'

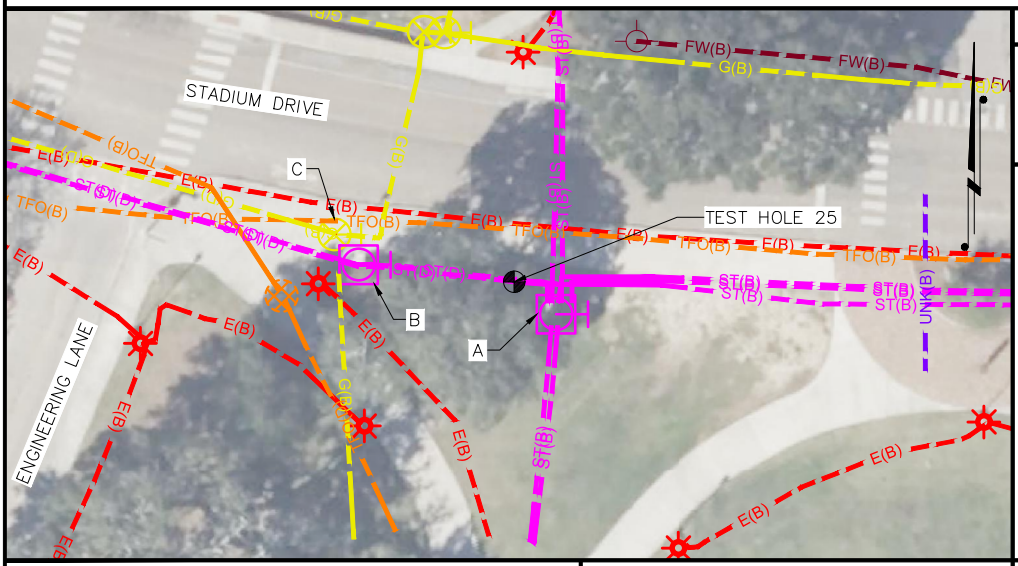
TJ B. STOKES, P.E. LA 40079 DATE

T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	25
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/20/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694373.04	J.	SURFACE TYPE:	GRASS/DIRT/SAND
B.	EASTING:	3329234.08	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.58'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.71'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	26.13'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	60049
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

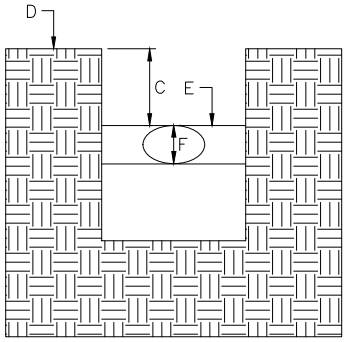
A.	STEAM VALVE: 13.8'
B.	STEAM VALVE: 40.8'
C.	GAS VALVE: 48.4'

TEST HOLE PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

NOTES:

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STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes

Digitally signed by TJ Stokes
Date: 2025.01.09 10:15:48 -06'00'

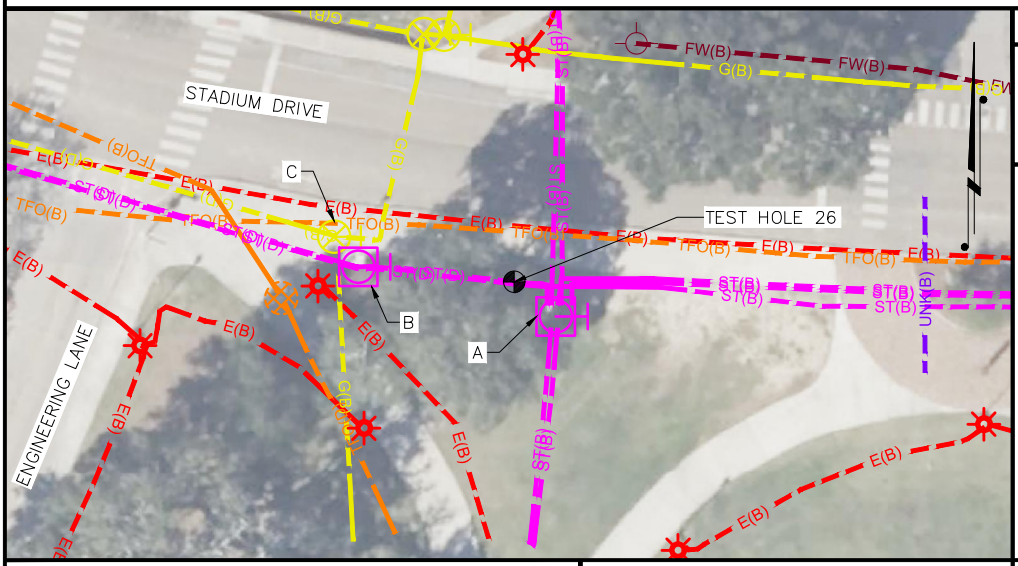
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	26
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/20/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694373.56	J.	SURFACE TYPE:	GRASS/DIRT/SAND
B.	EASTING:	3329234.11	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.58'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.67'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	26.09'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	3"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	60050
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

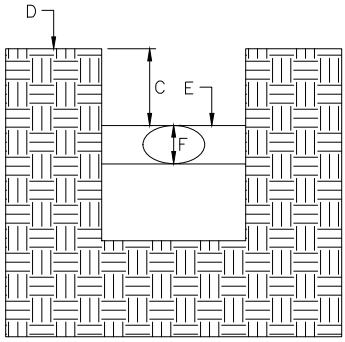
A.	STEAM VALVE: 14.1'
B.	STEAM VALVE: 40.8'
C.	GAS VALVE: 48.3'

TEST HOLE PHOTO

LEGEND:

G(B)	GAS UTILITY LINE QUALITY LEVEL B
ST(B)	STEAM WATER UTILITY LINE QUALITY LEVEL B
CA(D)	COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
E(B)	ELECTRIC UTILITY LINE QUALITY LEVEL B
FW(B)	FIRE WATER UTILITY LINE QUALITY LEVEL B
TFO(B)	TELEPHONE FIBER OPTIC QUALITY LEVEL B
W(D)	WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
UNK(B)	UNKNOWN UTILITY QUALITY LEVEL B
CHW(B)	CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

NOTES:

1. DATA TYPICALLY ACQUIRED AT ONE POINT ON AN UNDERGROUND UTILITY FEATURE. THE HORIZONTAL AND VERTICAL LOCATION OF THIS REFERENCE POINT IS REPORTED TO ACCEPTABLE SURVEY TOLERANCES.
2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 10:27:29 -06'00'

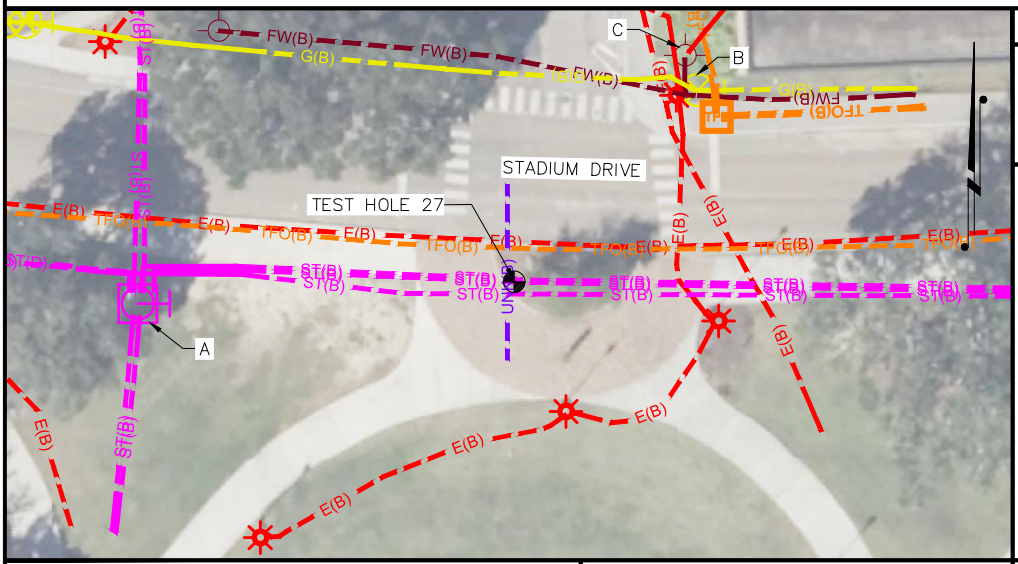
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	27
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/20/24
CLIENT NAME:	FORTE & TABLADA		

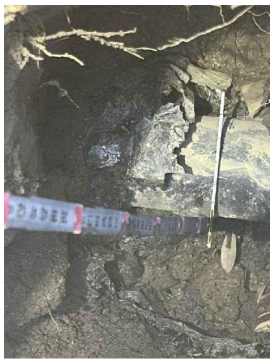
A.	NORTHING:	694370.27	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329342.95	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	5.51'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	30.71'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	25.20'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	4"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	60046
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

A.	STEAM VALVE: 98.2'
B.	GAS VALVE: 69.1'
C.	FIRE HYDRANT: 74.0'

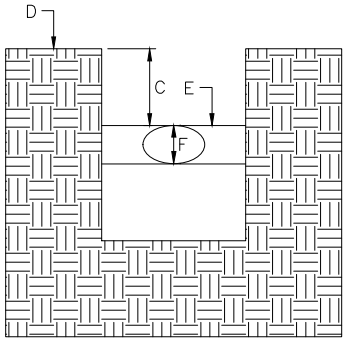
TEST HOLE PHOTO



LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

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TJ BEAU STOKES
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PROFESSIONAL ENGINEER

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TJ Stokes

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Date: 2025.01.09 10:36:31 -06'00'

TJ B. STOKES, P.E. LA 40079 DATE

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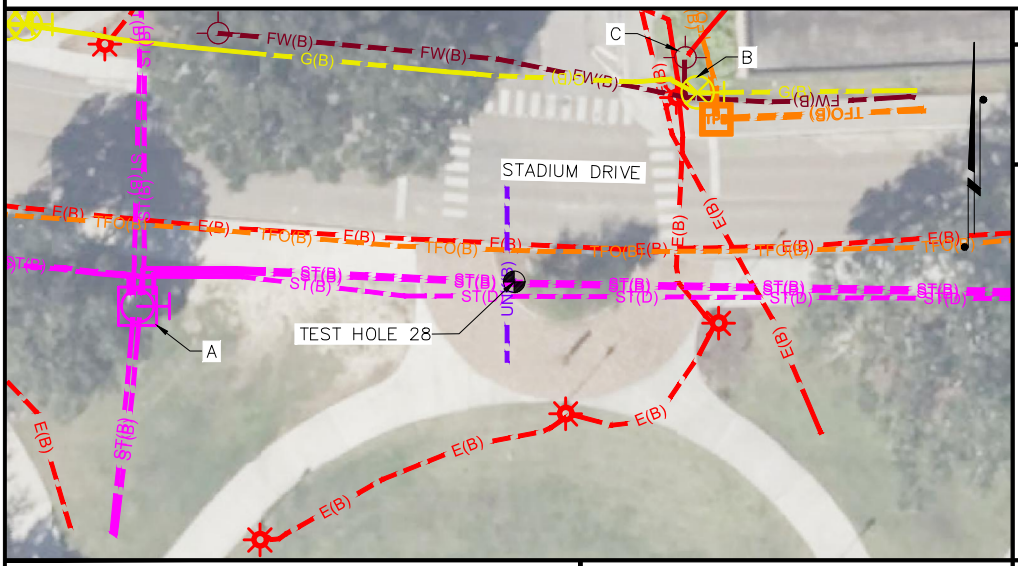
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	28
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	STEAM LINE
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/20/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694370.88	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329342.99	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	5.15'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	30.75'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	25.60'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	8"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	60047
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

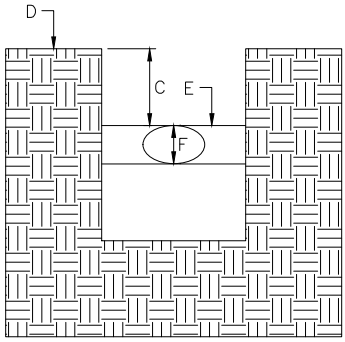
A.	STEAM VALVE: 98.2'
B.	GAS VALVE: 68.6'
C.	FIRE HYDRANT: 73.5'

TEST HOLE PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW

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2. ONLY UTILITY FEATURES SHOWN FOR DRAWING CLARITY.
3. SAME STEAM LINE AS THE ONE IDENTIFIED FROM TEST HOLE #10. INSULATION SHOWN IN PICTURE INCREASES DIAMETER TO 14".

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

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TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 12:41:41 -06'00'

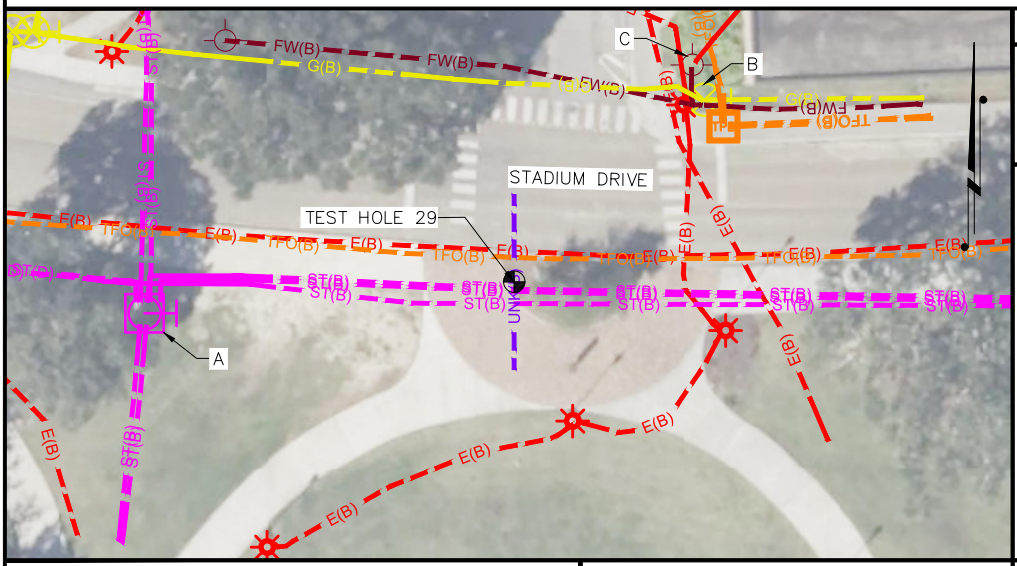
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

TEST HOLE DATA SHEET

TBS PROJECT #:	2024.0100	TEST HOLE #:	29
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	UNKNOWN
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/20/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694372.78	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329341.14	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	2.24'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	30.91'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	28.67'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	2"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BLACK	Q.	POINT NO.:	60048
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

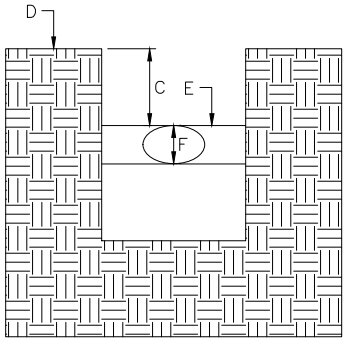
A.	STEAM VALVE: 96.5'
B.	GAS VALVE: 68.6'
C.	FIRE HYDRANT: 73.1'

TEST HOLE PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
- FW(B) — FIRE WATER UTILITY LINE QUALITY LEVEL B
- TFO(B) — TELEPHONE FIBER OPTIC QUALITY LEVEL B
- W(D) — WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
- UNK(B) — UNKNOWN UTILITY QUALITY LEVEL B
- CHW(B) — CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



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STATE OF LOUISIANA
TJ BEAU STOKES
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I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 10:46:55 -06'00'

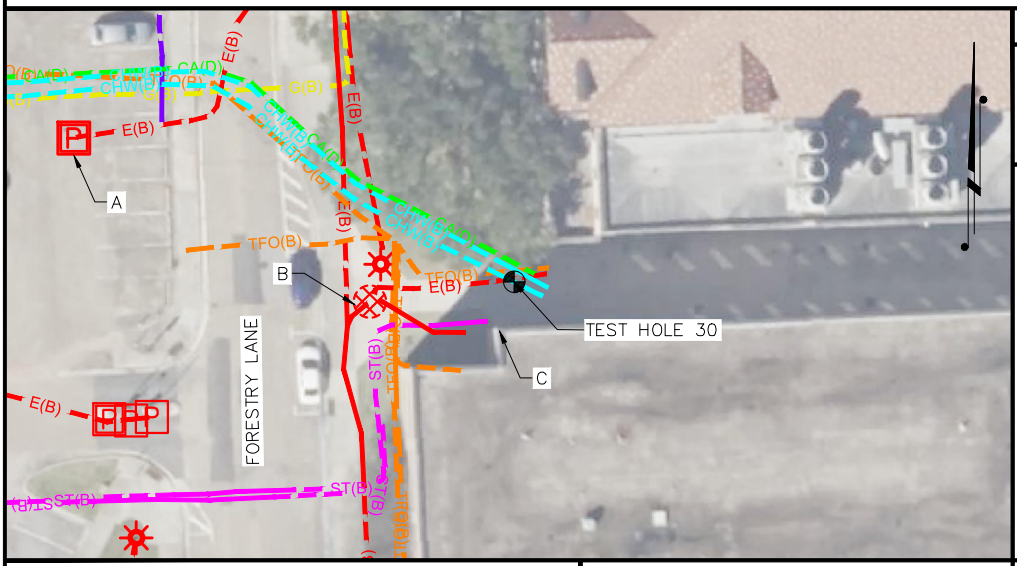
TJ B. STOKES, P.E. LA 40079 DATE

TBS T. BAKER SMITH
180 Greenbrier Blvd.
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

PROBE LOCATION DATA SHEET

TBS PROJECT #:	2024.0100	PROBE LOCATION:	30
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/23/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694634.34	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329412.60	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	3.06'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.86'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	25.80'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	20"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BROWN	Q.	POINT NO.:	60040
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

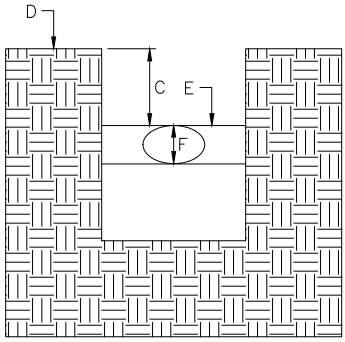
A.	ELECTRIC VAULT: 120.5'
B.	ELECTRIC MANHOLE: 38.0'
C.	CORNER OF BUILDING: 13.9'

PHOTO

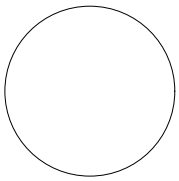
LEGEND:

G(B)	GAS UTILITY LINE QUALITY LEVEL B
ST(B)	STEAM WATER UTILITY LINE QUALITY LEVEL B
CA(D)	COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
E(B)	ELECTRIC UTILITY LINE QUALITY LEVEL B
FW(B)	FIRE WATER UTILITY LINE QUALITY LEVEL B
TFO(B)	TELEPHONE FIBER OPTIC QUALITY LEVEL B
W(D)	WATER UTILITY LINE UNDER GROUND QUALITY LEVEL D
UNK(B)	UNKNOWN UTILITY QUALITY LEVEL B
CHW(B)	CHILLED WATER UTILITY LINE QUALITY LEVEL B

TEST HOLE PROFILE



CROSS SECTION VIEW



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3. UTILITY NOT EXPOSED PER CLIENT REQUEST, HOWEVER QUALITY LEVEL B DESIGNATION WAS VERIFIED VIA HAND PROBING.

STATE OF LOUISIANA
TJ BEAU STOKES
License No. 40079
PROFESSIONAL ENGINEER

I CERTIFY THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS IS IN ACCORDANCE WITH CI/ASCE STANDARD 38-02.

TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 12:42:57 -06'00'

TJ B. STOKES, P.E. LA 40079 DATE

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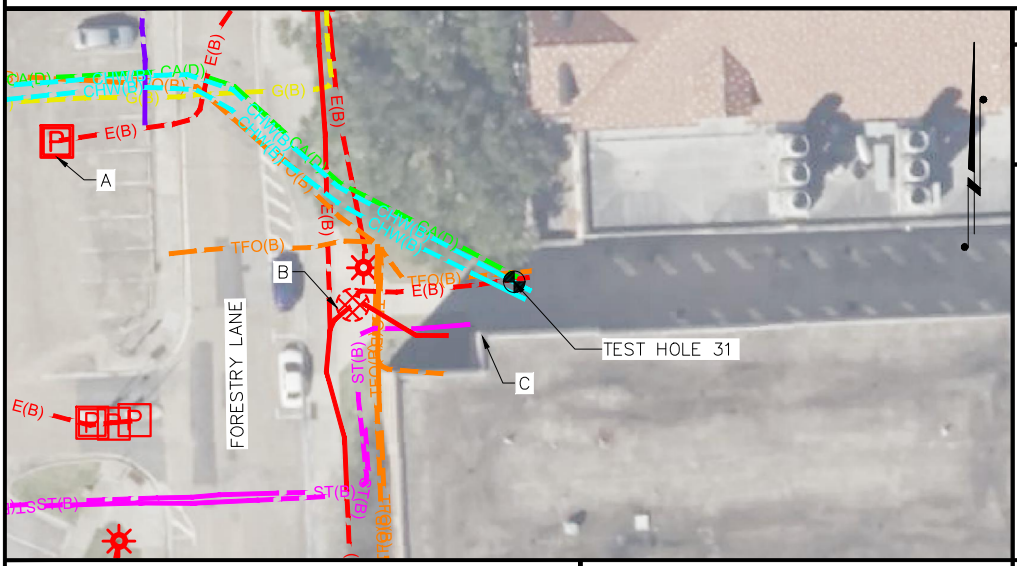
Covington, LA 70433
(985)302-0730 - tbsmith.com
LA Eng Firm #: EF.0003388

PROBE LOCATION DATA SHEET

TBS PROJECT #:	2024.0100	PROBE LOCATION:	31
NAME:	STRATEGIC CAPITAL PLAN – DEFERRED MAINTENENCE FOR INFRASTRUCTURE, RENOVATIONS, AND STREETS, LOUISIANA STATE UNIVERSITY	UTILITY OWNER:	LSU
		UTILITY TYPE:	CHILLED WATER
LOCATION:	EAST BATON ROUGE PARISH	DATE:	12/23/24
CLIENT NAME:	FORTE & TABLADA		

A.	NORTHING:	694635.21	J.	SURFACE TYPE:	GRASS/DIRT
B.	EASTING:	3329417.08	K.	SURFACE CONDITION:	GOOD
C.	COVER TO TOP OF UTILITY:	3.20'	L.	THICKNESS OF PAVEMENT BASE, ETC.:	N/A
D.	ELEVATION OF MARK PLACED FOR SURVEY:	28.74'	M.	DOES UTILITY CHANGE DIRECTION IN THE HOLE:	NO
E.	ELEV. AT TOP OF UTILITY:	25.54'	N.	COORDINATES INFO.:	LA SOUTH
F.	WIDTH/DIAMETER OF UTILITY:	24"	O.	ELEVATION INFO:	NAD 83
G.	MATERIAL OF UTILITY:	STEEL	P.	BENCHMARK:	PROJECT CONTROL
H.	COLOR OF UTILITY:	BROWN	Q.	POINT NO.:	60041
I.	UTILITY CONDITION:	GOOD			



SWING TIES: DESCRIPTION & DISTANCE

A.	ELECTRIC VAULT: 124.6'
B.	ELECTRIC MANHOLE: 42.0'
C.	CORNER OF BUILDING: 16.4'

PHOTO

LEGEND:

- G(B) — GAS UTILITY LINE QUALITY LEVEL B
- ST(B) — STEAM WATER UTILITY LINE QUALITY LEVEL B
- CA(D) — COMPRESSED AIR UTILITY LINE QUALITY LEVEL D
- E(B) — ELECTRIC UTILITY LINE QUALITY LEVEL B
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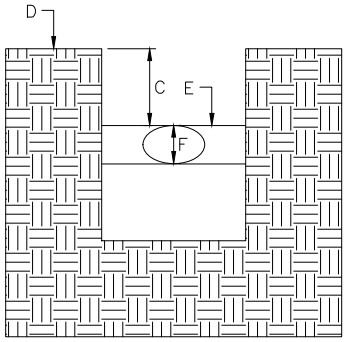
TEST HOLE PROFILE



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STATE OF LOUISIANA
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PROFESSIONAL ENGINEER

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TJ Stokes
Digitally signed by TJ Stokes
Date: 2025.01.09 12:44:01 -06'00'

TJ B. STOKES, P.E. LA 40079 DATE

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LA Eng Firm #: EF.0003388

APPENDIX C

GEOTECHNICAL REPORT

Subsurface Exploration and Geotechnical Engineering Report

Strategic Capital Plan Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University - Baton Rouge, Louisiana
State Project No. 19-601-21-01 BS No. F.19002 3
F&T Project No. 231326
Pre ier File No. 24-0396

Prepared for

Forte & Tablada, Inc.
910 Interline Avenue
Baton Rouge, Louisiana 0 09

Attention **Mr. Boyd Holmes, P.E.**
Group Leader Transportation-Bridge Off-Syste

Prepared by

Premier Geotech and Testing, LLC
9434 Interline Avenue
Baton Rouge, Louisiana 0 09
22 -416-0 00
.pre iergeotesting.co

Ryan illia son, P. .
Geotec nical Project ngineer

STATE OF LOUISIANA
MICHAEL J. JUNEAU, JR.
License No. 37242
PROFESSIONAL ENGINEER

Digitally signed by MICHAEL J. JUNEAU JR., P.E., MBA
Date: 2025.02.06 08:20:57 -06'00'

Mi e Juneau, P. ., MBA
President

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INTRODUCTION

Pre ier Geotec and Testing, LLC Pre ier is pleased to present t is Subsurface ploration and Geotec nical ngineering Report for t e Strategic Capital Plan Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University State Project No. 19-601-21-01 BS No. F.19002 3 . Our services ere perfor ed in general accordance it t e e ecuted agree ent bet een Pre ier and Forte and Tablada, Inc., aut ori ed by Mr. Boyd ol es on Nove ber 1 , 2024.

PROJECT DESCRIPTION

T is p ase of t e Strategic Capital Plan ill consist of t e re abilitation of e isting road ays Forestry Lane, S Stadiu Drive and t e design and construction of a ne road ay e tending Field ouse Drive along t e e isting align ent fro S Stadiu Drive to Sout uad Drive. T e proposed ne road ay e tension ill consist of a ne t o-lane street it bi e lanes, side al s, lig ting, seating and landscaping and includes t e replace ent of an e isting culvert over a drainage ditc near S uad Drive. T e proposed ne culvert construction includes t ree 3 reinforced concrete bo culverts easuring feet ig by feet ide by feet long. T e proposed project site is located on t e ca pus of Louisiana State University in Baton Rouge, Louisiana.

Pre ier drilled and sa pled seven soil borings to dept s ranging fro appro i ately eig t to t enty-five 2 feet belo t e e isting top of pave ent grade on or nearby t e e isting road ay. T e borings ere sa pled at 2-foot intervals to 10 feet and t ereafter at -foot intervals to boring ter ination dept . Sa pling as co pleted using t in- alled S elby tubes and or split spoon sa plers in general accordance it ASTM procedures. See t e Test Location Plan in t e Appendi for soil boring locations.

Additionally, Pri er obtained cores of t e e isting pave ent and base course at 6 locations along nearby t e S Stadiu and Forestry Lane corridors.

T e geotec nical reco endations presented in t is report are based on t e available project infor ation at t e ti e of t is report and t e subsurface aterials infor ation obtained fro t e subsurface e ploration perfor ed for t e project as described erein. If any of t e infor ation included in t is report is incorrect, please infor Pre ier in riting so t at e a end t e reco endations presented in t is report if appropriate and if desired by t e Client. Pre ier ill not be responsible for t e i ple entation of its reco endations en it is not notified of c anges in t e project.

SITE CONDITIONS

Subsurface Conditions

T e e isting asp alt pave ent t ic ness at t e soil borings and additional core locations as easured to range fro appro i ately four 3 to eig t inc es t ic , underlain by a soil

ce ent and or li estone base ranging fro appro i ately t o 2 to t irteen 13 inc es t ic . At soil boring P-2, concrete as encountered beneat t e asp alt earing course. See t e table belo for detail.

Soil Boring/Core	Location	Wearing Coarse, Thickness (inches)	Apparent Base Type, Thickness (inches)
P-1	*Field ouse Dr. tension*	*Asp alt,*	*Li estone, 2*
P-2	*Forestry Ln. S. Ca pus Dr.*	*Asp alt, 4*	*Soil Ce ent,*
P-3	*Forestry Ln.*	*Asp alt, 4*	*Soil Ce ent, 13*
P-4	*Forestry Ln.*	*Asp alt, 4*	*Soil Ce ent, 6*
P-	*S. Stadiu Dr. Forestry Ln.*	*Asp alt,*	*Soil Ce ent,*
P-6	*S. Stadiu Dr. ngineering Ln.*	*Asp alt,*	*Soil Ce ent,*
C-1	*Par ing Lot*	*Asp alt,*	*Soil Subgrade*
C-2	*Par ing Lot*	*Asp alt,*	*Soil Subgrade*
C-3	*Par ing Lot*	*Asp alt,*	*Soil Subgrade*
C-4	*Par ing Lot*	*Li estone, 2*	*Soil Subgrade*
C-	*Par ing Lot*	*Asp alt, 3*	*Soil Subgrade*
C-6	*S. Stadiu Dr.*	*Asp alt, 3*	*Soil Ce ent*

According to t e Baton Rouge 30 60 Minute Geologic uadrangle publis ed by t e Louisiana Geological Survey in 2000 , t e project area enco passes t o differing surficial geologies. Soil borings B-1 and P-1 are located on relatively softer, olocene age bac s a p deposits typically fat clays, so e silt ile soil borings P-2 t roug P-6 are located on relatively stiffer, Pleistocene age deposits surficial silt underlain by clay .

Subsurface conditions in Pre ier s soil borings generally atc t e surface geology referenced above. Beneat t e ground surface pave ent section at B-1 and P-1, t e encountered subsurface soils generally consisting of up to 2 feet of clay fill underlain by soft to ediu stiff fat clay to boring ter ination dept . A layer of silt as encountered in boring B-1 at a dept of 13 feet. Belo t e pave ent section, soil borings P-2 t roug P-6 encountered ediu to stiff clays it silt layers. P-4 and P-6 encountered surficial silt layers varying fro 1 to 3 feet in t ic ness.

T e above subsurface description is of a generali ed nature to ig lig t t e ajor subsurface stratification features and aterial c aracteristics. T e boring tables included in t e Appendi s ould be revie ed for specific infor ation at individual boring locations. T ese records include soil descriptions, stratifications, and laboratory test data. T e stratifications s o n on t e boring tables are appro i ate and represent t e conditions at t e actual boring locations only. Variations ay occur and s ould be e pected bet een test locations. T e stratifications represent t e appro i ate boundary bet een subsurface aterials and t e actual transition ay be gradual. Sa ples not altered by laboratory testing ill be retained for a period of t irty 30 days fro t e date on t is report and t en ill be discarded.

Groundwater Conditions

Free ground ater as encountered at a dept of about t irteen 13 feet belo e isting site grade in boring B-1 at t e ti e of our field e ploration. o ever, it s ould be noted t at ground ater level fluctuations ay occur due to seasonal and cli atic variations, alteration of drainage patterns, land usage, and ground cover, and could affect e cavation activities. e reco end t e Contractor deter ine t e actual ground ater levels at t e ti e construction activities begin.

CULVERT RECOMMENDATIONS

Allowable Soil Bearing Pressure

Our culvert reco endations are presented in t is section. e ainly considered t e subsurface soil conditions encountered soil boring B-1 perfor ed near t e e isting culvert as ell as our e perience it si ilar soil conditions and t e provided assu ed design re uire ents to develop t e reco endations discussed erein.

Based on the subsurface soil conditions encountered in our test boring location (B-1) and as discussed with the project design team, the proposed culverts may be designed for a net allowable bearing pressure as listed in the table below.

Boring Number	Allowable Bearing Pressure (psf)	Approximate Bearing Depth Below Existing Ground (feet)	Recommended Bedding Material Thickness (inches)	Culvert Size/Type
B-1	*1, 00*	*6 l. 13. 1 to 13.*	*12*	*3 - Bo*

T e culvert e cavations s ould be observed by a representative of Pre ier prior to place ent in order to assess t e condition of t e subsurface aterials is consistent it t e aterials discussed in t is report. Soft or loose soil ones encountered at t e botto of t e e cavations s ould be re oved and replaced it properly co pacted structural fill as directed by t e Geotec nical ngineer.

After opening, e cavations s ould be observed, and t e culvert bedding aterial discussed in t e follo ing section s ould be placed as uic ly as possible to avoid e posure of t e subsurface aterial to etting and drying. Surface run-off ater s ould be drained a ay fro t e e cavation and not be allo ed to pond. T e culvert bedding s ould be placed during t e sa e day t e e cavation is ade. If it is re uired t at foundation e cavations be left open for ore t an one day, t ey s ould be protected to reduce evaporation or entry of oisture.

Culvert Bedding and Backfill Recommendations

Based on t e subsurface soils encountered in our soil borings, Pre ier reco ends a geote tile bedding syste under t e proposed culvert crossing consisting of one 1 layer of geofabric laid upon t e e posed stable subgrade overlaid by a geogrid B 1200 or e uivalent overlaid by 12-inc es of co pacted 610 li estone bedding aterial. T e geofabric placed on t e stable subgrade s ould e tend up t e trenc alls and e tend lay at least t o 2 feet on top of t e co pacted 610 li estone base to create a burrito rap effect. Please refer to t e table in t e r r r *section for anticipated culvert invert elevation. All geote tile fabric and grid installations ust follo t e anufacturer s reco endations.*

Bedding and initial bac fill aterial s all be placed in accordance it Section 26 and Section 01.0 .3 using Type A bac fill aterial, respectively, of t e latest edition of t e Louisiana Standard Specifications for Road and Bridges LSSRB . Separating course granular bac fill fro fine granular bac fill and separating granular bac fill fro natural aterials in t e trenc sides and botto s it geote tile fabric ill prevent i ing and igration, ence abating settle ent.

Bedding aterial s ould co prise of crus ed li estone or RPCC and eet t e re uire ents under Section 1003.10 in t e latest edition of t e LSSRB anual. Initial bac fill aterial s all eet t e re uire ents for Type A aterial as stated in Section 01.0 .1 in t e latest edition of t e LSSRB. Bot aterials ust be certified and approved by t e Geotec nical ngineer prior to its use.

T e bedding and bac fill aterial s all be deposited in lifts of eig t inc es of loose aterial. ac lift s all be co pacted and certified by t e Geotec nical ngineer or a representative prior to place ent of ot er lifts. T e passing criteria s all be 9 of t e a i u dry density as deter ined by ASTM D-69 , Standard Test Met ods for Laboratory Co paction C aracteristics of Soil Using Standard ffort 12,400 ft-lbf ft3 600 N- 3 , and a oisture content bet een - t o 2 percentages of t e opti u oisture content. In-place field density tests s ould be perfor ed at a fre uency of not less t an t ree 3 tests per lift or one 1 test per 0 linear feet, ic ever is greater, as t is aterial is being placed and co pacted in order to ensure t at t e re uired density is ac ieved. Since t ese testing services are it in Pre ier s scope of activities, e urge t at our fir be retained to assist during t e eart or p ase of t is project.

T e above co paction and bac fill re uire ents are for areas under and or it in five feet fro any e isting infrastructure, edge of road ays or ot er traffic ays, and structures. For

areas outside and a ay fro t e afore entioned infrastructure, t e contractor s ould ac ieve no less t an 90 of t e a i u dry density as deter ined by ASTM D-69 for bac fill aterials.

PAVEMENT RECOMMENDATIONS

Pavement Sections

Actual anticipated traffic type and fre uency ere not no n at t e ti e of t is report. o ever, based on e perience it t e LSU Ca pus and assu ptions fro t e IT Trip Generation t edition University College IT Code 0 , Pre ier assu ed an average t o- ay daily traffic ADT of 1,000 ve icles, T e ADT is assu ed to consist of 93 passenger ve icles F A Class 1, 2 and 3 , 4 delivery truc traffic F A Class 4, , and 6 , and 3 se i-truc traffic F VA Class , 9, and 10 . Pre ier assu ed pave ent-related design para eters t at are considered typical for t e e isting soil types at t e project site.

Belo are project specific design para eters used to develop t e reco ended pave ent sections using Pave press soft are and our discussion it t e design tea

Design Parameters:

Design Period	*20 years*
Reliability	
Deviation	*0.4 Fle ible 0.3 Rigid*
Initial Serviceability	*4.2*
Ter inal Serviceability	*2.0*

Pavement Structure and Sub-Structure (Rigid):

Modulus of Rupture	*600 psi*
Modulus of Subgrade Reactions,	*110 psi in*
Drainage Coefficient	*1.0 Pave ent 0.9 Base*
Base Modulus	*21,000 psi Class II Base*
Slab Base Friction Coefficient	*1.1*

Pavement Structure and Sub-Structure (Flexible):

Resilient Modulus, MR	*,200 psi*
Drainage Coefficient	*1.0 Pave ent 0.9 Base*
Structural Coefficients	*0.44 Asp altic Concrete*
	0.14 Crus ed Stone Base

it t e afore entioned para eters, it is possible to use a typical standard pave ent section consisting of t e follo ing

USAGE	RIGID PAVEMENT (Concrete)	FLEXIBLE PAVEMENT (Asphalt)
Passenger Vehicle Drives & Parking (Completion Year 12,609 ESALs)	*N A* r d d r	*inc es of asp alt* over *inc es base course* over *Non oven geote tile fabric on proof rolled stable subgrade*
Pedestrian Sidewalk & Emergency Access (Fieldhouse Drive Extension)	*inc es of concrete* over *inc es base course* over *Non oven geote tile fabric on proof rolled stable subgrade*	*N A* R d r d d d d r r
* *See* d R d *section belo* ** *Mirafi 1 0N non oven geote tile or e uivalent*		

The flexible pavement section shown in the table above yields a structural number of 3.2, which is typical of asphalt sections for light commercial roads or suburban collector roadways that are designed to handle moderate traffic, occasional light commercial vehicles, and minimal truck traffic.

T e pave ent subgrade, subbase, base and pave ent s all be prepared in accordance it t e latest edition of t e Louisiana Standard Specifications for Road and Bridges LSSRB and t e reco endations provided in t is report. T e reco ended pave ent t ic nesses presented belo are considered typical and ini u for t e assu ed para eters for t is site. e understand t at budgetary considerations so eti es arrant t inner pave ent sections t an t ose presented erein. o ever, t e Client, t e O ner, and t e Project Designers s ould be a are t at t inner pave ent base sections ay result in increased aintenance costs and lo er t an anticipated pave ent life.

T e use of recycled crus ed concrete is an approved aggregate base alternative to crus ed stone. T e aggregate base s all eet t e re uire ents of t e latest edition of t e LSSRB, Sections 1003.3.3.1 and 1003.3.2.

T e subbase course s all be co pacted to at least 9 percent of its a i u dry density near t e opti u oisture content in accordance it ASTM D69 , Standard Test Met ods for Laboratory Co paction C aracteristics of Soil Using Standard ffort 12,400 ft-lbf ft3 600 N- 3 .

Pave ent aterials ay be placed after t e subgrade or structural fill as been properly proof rolled or co pacted, and fine-graded. T ese activities s all be acco plis ed follo ing t e LSSRB construction guidelines.

Proper finis ing of concrete pave ent re uires t e use of appropriate construction joints to reduce crac ing. Construction joints s all be designed in accordance it t e current Portland Ce ent Association and t e A erican Concrete Institute guidelines. Joints s ould be sealed to reduce t e potential for ater infiltration into t e supporting soils. T e design of steel reinforce ent s ould be in accordance it current accepted codes.

Asp altic concrete s ould eet t e re uire ents of Part V of t e latest edition of t e LSSRB. T e aggregate base s ould eet t e re uire ents of Sub-Section 1003.03.1 or 1003.03.2 of t e LSSRB. T e base and structural fill s ould be co pacted to at least 9 percent of t e a i u dry density near t e opti u oisture content in accordance it ASTM D69 .

ater s ould not be allo ed to pond be ind curbs and saturate t e base. In do n grade areas, t e granular base s all e tend t roug t e slope to provide an e it pat for any ater accu ulating under t e pave ent.

*Base and Sub-Base Recommendations

Crushed Stone/Recycled Concrete Aggregate Material

Properly graded crus ed stone or recycled crus ed concrete eeting t e re uire ents of Class II base and Sections 1003.03.1 and 1003.03.2 of t e LSSRB s ould be utili ed beneat t e pave ents ere specified in t e R d d *table presented in t is report. T e aggregate base aterial s ould be placed in accordance it LADOTD Section 302 and co pacted to at least 9 percent of t e a i u dry density as deter ined by ASTM D69 using a s oot pad roller. Place ent and co paction of t e aggregate aterial s ould be near opti u oisture.*

<u>It s ould be noted t at alt oug a ce ent treated base ay be ade uate to support t e anticipated traffic loads, Pre ier does not reco end t is practice due to particulate atter concerns on LSU s Ca pus and t e relatively confined or area.</u>

EARTHWORK RECOMMENDATIONS

Site Preparation

Silty soils were encountered in the upper two (2) feet of borings P-4 and P-6. *T erefore, caution s ould be used en perfor ing construction activities as t is type of soil can beco e unstable, especially during t e etter portions of t e year or en e posed to construction traffic. T erefore, over e cavation and replace ent it properly co pacted structural fill aterial of t ese near surface silty soils it in t e road ay align ents, e tending to at least 1 foot be ind t e bac of curb, s ould be anticipated to pass a proof-roll.*

Pre ier reco ends t at all e isting slabs, pave ents, base course, topsoil, stu ps, vegetation, roots, soft, organic, or unsuitable soils in t e construction areas be stripped in its entirety fro t e site and eit er asted or stoc piled for later use in non-structural areas. After stripping operations are co pleted, and prior to any fill place ent, proof rolling of t e subgrade is re uired as discussed later in t is report. It s ould also be noted t at it is not unusual for topsoil t ic ness to vary fro t e values stated in t is report in t e open field. Oftenti es, topsoil can be deeper in lo -lying areas, ere erosion, ind and precipitation can deposit t is aterial. For esti ating purposes, Pre ier anticipates an average stripping dept of appro i ately 6- to -inc es, but t is s all be verified by t e Contractor s prior to bidding and construction. T ere ay be areas of t e site t at re uire additional, or possibly less stripping for t e reasons discussed above. **A representative of Premier or the design team should determine and document the depth of removal at the time of construction.**

The in-situ soils encountered at this project site may undergo a significant loss of stability when construction activities are performed during wetter portions of the year. *Pre ier anticipates t at t e soils in t e project area can beco e easily disturbed if subjected to conventional rubber tire or narro trac -type e uip ent and e cessive oisture. Soils t at beco e disturbed ould need to be e cavated and replaced o ever, t is re edial e cavation ay e pose progressively etter soils it dept , t us co pounding t e proble condition. T us, a nor al approac to subgrade preparation ay not be possible. Appropriate ide-trac e uip ent selection s ould aid in ini i ing potential disturbance. In addition, and for t ese reasons, it ill be advantageous to perfor eart or and foundation construction activities during dry eat er.*

Proof Rolling

After stripping to t e proposed subgrade level as re uired, t e proposed footprint, e tending to atleast one 1 foot of bac of curb or edge of pave ent, areas s ould be proof-rolled it a 20-2 -ton, alf-loaded tande a le du p truc or si ilar eavy rubber-tired ve icle typically it an a ial load greater t an nine 9 tons and observed by a representative fro Pre ier. Soils t at are observed to rut or deflect greater t an one 1 inc under t e oving load s ould be undercut and replaced it properly co pacted structural fill aterial or rendered stable by using a co bination of li e fly as iln dust. T e proof-rolling and undercutting activities s ould be itnessed by a representative of Pre ier and s ould be perfor ed during a period of dry eat er. Care s ould be ta en during construction activities not to allo e cessive drying or etting of e posed soils. T e subgrade soils s ould be scarified and co pacted to at least 9 of t e aterials Standard Proctor a i u dry density, in general accordance it ASTM procedures, to a dept of at least t elve 12 inc es belo e isting subgrade.

Surficial fat clays are anticipated to be encountered ile ac ieving co paction or passing a proof-roll, <u>especially in t e vicinity of soil borings B-1 and P-1</u>. T erefore, replacing t is aterial it a lo plasticity co pacted soil or a dense positively drained graded crus ed stone concrete ay be re uired. Alternatively, li e-treat ent of t e ig ly plastic clay can be acco plis ed to

reduce t e plasticity inde , i prove or ability, pro ote drying, and reduce s rin s ell potential. A representative of Pre ier s Geotec nical ngineer s ould observe t e subgrade soils, perfor plasticity inde tests, and esti ate t e appro i ate e tent of t e e posed fat clays. If it is desirable to odify t e fat clays it a co ercially available Class C fly as or li e product, Pre ier reco ends t e actual application percent be deter ined by conducting a laboratory Class C fly as or li e series test. T e Geotec nical ngineer s representative s ould observe t e re ediation procedures for co pliance it t e project plans and specifications.

Clay Fill Material and Placement

After subgrade preparation, and proof rolling and observation ave been co pleted, fill place ent re uired to obtain t e proposed road ay elevation ay begin. A representative of Pre ier s ould be on-site to observe, test, and docu ent all place ent of t e fill. If t e fill is too dry, ater s ould be unifor ly applied and t oroug ly i ed into t e soil by dis ing or scarifying. Close oisture content control ill be re uired to ac ieve t e reco ended degree of co paction. It s ould be noted t at ig plasticity clays are typically ore difficult to co pact and ac ieve t e opti u oisture content during t e place ent of fill. T e follo ing table details t e reco ended specifications for fill place ent, testing, etc.

Fill Material Testing Specifications

SPECIFICATION	REQUIREMENT
Lift Thickness	*Ma i u -inc loose lifts en co pacted it large eavy co paction e uip ent Ma i u 6-inc loose lifts en co pacted it lig t eig t co paction e uip ent t inner lifts ay be re uired in confined locations*
Density	*Mini u of 9 percent of a i u dry density as defined by ASTM D 69 at all locations and dept s.*
Moisture	*2 percent of opti u oisture as defined by ASTM D 69 for co esive soils. For co esionless soils it greater t an 12 percent passing t e US Standard No. 200 sieve, 3 of opti u oisture as defined above. Moisture re uire ent is aived for co esionless soils it less t an 12 percent passing t e No. 200 sieve.*
Density Testing Frequency	*One test per 2, 00 sf in pave ent areas it a ini u of 3 tests per lift. One test per 200 feet of trenc bac fill and or culvert bedding it ini u of 4 tests per lift, or as re uired by local govern ent agencies.*

Structural Clay Fill

Structural clay fill aterials used to ac ieve t e proposed road elevation s ould be free of organics or ot er deleterious aterials and ave a a i u particle si e of less t an t ree 3 inc es. Structural clay fill soils are defined as aving a li uid li it LL less t an forty 40 and plasticity inde PI bet een t elve 12 and t enty-t o 22 and plots belo t e A-line on t e plasticity c art, or as accepted by t e Geotec nical ngineer of Record.

Utility Trench Backfill

* cavation for utility trenc es s all be perfor ed in accordance it OS A regulations as stated in 29 CFR Part 1926. It s ould be noted t at utility trenc e cavations ave t e potential to degrade t e properties of adjacent fill aterials. Utility trenc alls t at are allo ed to ove laterally can lead to reduced bearing capacity and increased settle ent of adjacent structural ele ents and overlying slabs.*

Backfill for utility/culvert trenches is as important as the original subgrade preparation or structural fill placed to support either a foundation or slab. Therefore, it is imperative that the backfill for utility trenches be placed to meet the project specifications for the structural fill for this project. *If on-site soils are placed as trenc bac fill, t e bac fill for t e utility trenc es s ould be placed in four 4 to si 6 inc loose lifts and co pacted to a ini u of 9 of t e a i u dry density ac ieved by t e Standard Proctor test. T e bac fill soil s ould be oisture conditioned to be it in 2 of t e opti u oisture content as deter ined by t e Standard Proctor test. Up to four 4 inc es of bedding aterial placed directly under t e pipes or conduits placed in t e utility trenc can be co pacted to t e 90 co paction criteria it respect to t e Standard Proctor. Bac fill of utility trenc es s ould not be perfor ed it ater standing in t e trenc . If granular aterial is used for t e bac fill of t e utility trenc , t e granular aterial s ould ave a gradation t at ill filter protect t e bac fill aterial fro t e adjacent soils. If t is gradation is not available, a geosynt etic non- oven filter fabric s ould be used to reduce t e potential for t e igration of fines into t e bac fill aterial. Granular bac fill aterial s all be co pacted to eet t e above co paction criteria. T e clean granular bac fill aterial s ould be co pacted to ac ieve a relative density greater t an or as specified by t e Geotec nical ngineer for t e specific aterial used.*

Excavations

In Federal Register, Volu e 4, Nu ber 209 October 19 9 , t e United States Depart ent of Labor, Occupational Safety and ealt Ad inistration OS A a ended its "Construction Standards for cavations, 29 CFR, part 1926, Subpart P". T is docu ent as issued to better en ance t e safety of or ers entering trenc es or e cavations. It is andated by t is federal regulation t at e cavations, et er t ey be utility trenc es, base ent e cavation or footing e cavations, be constructed in accordance it t e ne OS A guidelines. It is Pre ier s understanding t at t ese regulations are being strictly enforced and if t ey are not closely follo ed, t e O ner and t e Contractor could be liable for substantial penalties.

T e Contractor is solely responsible for designing and constructing stable, te porary e cavations and s ould s ore, slope or benc t e sides of t e e cavations as re uired to aintain stability of bot t e e cavation sides and botto . T e Contractor's "responsible person", as defined in 29 CFR Part 1926, s ould evaluate t e soil e posed in t e e cavations as part of t e Contractor's safety procedures. In no case s ould slope eig t, slope inclination or e cavation dept , including utility trenc e cavation dept , e ceed t ose specified in local, state and federal safety regulations.

Pre ier is providing t is infor ation solely as a service to our Client. Pre ier does not and ill not assu e responsibility for construction site safety or t e Contractor's or ot er parties co pliance it local, state and federal safety or ot er regulations.

Construction Considerations

Free ground ater as encountered at a dept of about t irteen 13 feet belo e isting pave ent at t e ti e of our field e ploration. T e ground ater, if encountered during construction of t e culvert, could present construction c allenges. T erefore, sloping or bracing s ould be anticipated to aintain all stability. Please note t at t e installing or it dra ing of steel s eet piling it a vibratory a er could adversely affect t e foundations of nearby structures resulting in foundation settle ent. If t ere are structures nearby t e proposed drainage pipe or culvert areas, e reco end deter ining t eir foundation types prior to t e installation of s eet piling. As an alternative to driven s eet pile, press-in- et ods s ould be considered for installation of s eet piles.

REPORT LIMITATIONS

T e concept of ris is an i portant aspect of t e geotec nical evaluation. T e pri ary reason for t is is t at t e analytical et ods used to develop geotec nical reco endations do not co prise an e act science. T e analytical tools ic Geotec nical ngineers use are generally e pirical and ust be used in conjunction it engineering judg ent and e perience. T erefore, t e solutions and reco endations presented in t e geotec nical evaluation s ould not be considered ris -free and, ore i portantly, are not a guarantee t at t e interaction bet een t e soils and t e proposed structure ill perfor as planned. T e engineering reco endations presented in t e preceding sections constitute Pre ier s professional esti ate of t ose easures t at are necessary for t e proposed structure s to perfor according to t e proposed design based on t e infor ation generated and referenced during t is evaluation, and Pre ier s e perience in or ing it t ose conditions.

T e reco endations sub itted in t is report are based on furnis ed project infor ation by t e design tea and t e subsurface infor ation obtained fro borings drilled by Pre ier. If t ere are any revisions to t e plans for t is project, or if deviations fro t e subsurface conditions noted in t is report are encountered during construction, Pre ier ust be notified i ediately to deter ine if c anges in t e foundation reco endations are re uired. If Pre ier is not

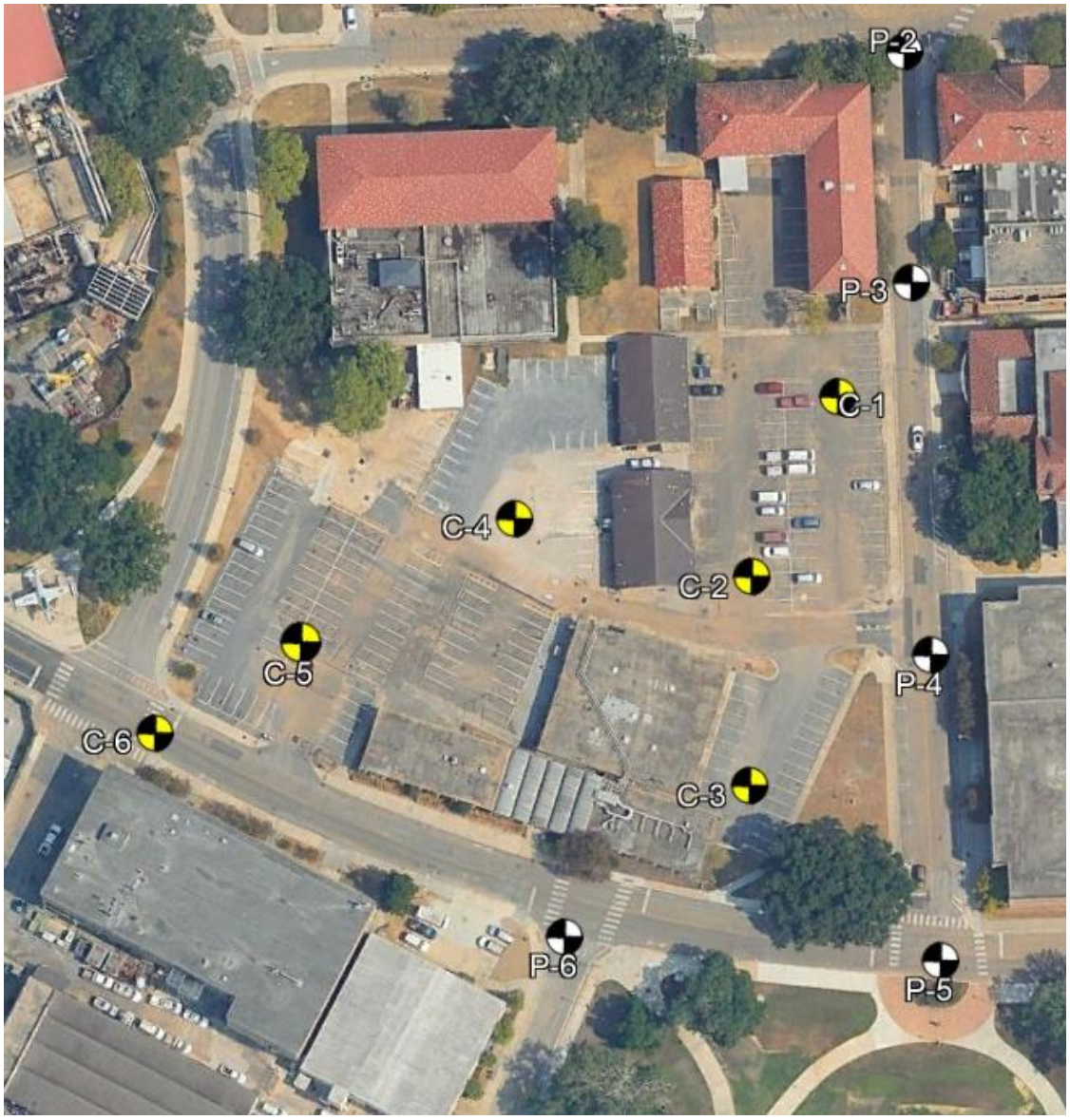
notified in riting of suc c anges, Pre ier ill not be responsible for t e i pact of t ose c anges on t e project.

T e Geotec nical ngineer arrants t at t e findings, reco endations, specifications, or professional advice contained erein ave been ade in accordance it generally accepted professional geotec nical engineering practices in t e local area. No ot er arranties are i plied or e pressed.

After t e plans and specifications are co plete, t e Geotec nical ngineer s ould be retained and provided t e opportunity to revie t e final design plans and specifications to c ec t at our geotec nical engineering reco endations ave been properly incorporated into t e design docu ents.

T e scope of Pre ier s services did not include any environ ental assess ent or investigation for t e presence or absence or a ardous or to ic aterials in t e soil, ground ater, or surface ater it in or beyond t e site studied. Any state ents in t is report regarding odors, staining of soils, or ot er unusual conditions observed are strictly for t e infor ation of our Client.

T is report and t e infor ation data provided ave been prepared for t e e clusive use of Forte and Tablada, Inc. and t eir design tea and contractor for t e specific application to t e FP&C LSU Strategic Capital Plan project located in Baton Rouge, Louisiana. T e infor ation and data obtained and prepared i.e., Instru ent of Service by Pre ier Geotec and Testing, LLC ay not be used or relied on by any ot er entity, no or at any point in t e future, it out t e e press, ritten consent fro Pre ier Geotec and Testing, LLC.



APPROXIMATE TEST LOCATION LEGEND

- Pavement Core Sample Only
- Culvert Soil Boring
- Pavement Soil Boring

N

PROPOSED LSU FP&C STRATEGIC CAPITAL PLAN
BATON ROUGE, LOUISIANA
PREMIER FILE NO.: 24-0396

Premier GEOTECH AND TESTING, LLC

TEST LOCATION PLAN

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Fill
	High plasticity clay
	Silt
	Low plasticity clay
	Paving
Misc. Symbols	
	Water table during drilling
■	Unconfined Shear Strength
Soil Samplers	
	Undisturbed thin wall Shelby tube
	Bulk sample taken from 6 in. auger

Notes:

1. Boring locations were located using handheld GPS technology.

2. These logs are subject to the limitations, conclusions, and recommendations in this report.

3. Results of tests conducted on samples recovered are reported on the logs.

PREMIER FILE# 24-0396

Premier GEOTECH AND TESTING, LLC

LOCATION: BATON ROUGE, LOUISIANA
COORDINATES: 30°24'27.16"N 91°10'56.71"W

SURFACE EL : EXISTING GRADE

DEPTH, FT	WATER LEVEL	SYMBOL	SAMPLES	BLOWS PER FOOT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	CLASSIFICATION: UNIT DRY WT, PCF	CLASSIFICATION: PASSING NO 200 SIEVE, %	CLASSIFICATION: WATER CONTENT, %	CLASSIFICATION: LIQUID LIMIT	CLASSIFICATION: PLASTIC LIMIT	CLASSIFICATION: PLASTICITY INDEX (PI)	SHEAR STRENGTH (TONS PER SQ FT)
0					FILL: Brown and Gray FAT CLAY (CH) with trash, glass and roots				28.4	69	24	45	
					Medium, Brown FAT CLAY (CH)	2.0	82.8		32.5				
					Medium, Gray FAT CLAY (CH)		79.0		38.0	102	24	78	
5					Gray and Brown FAT CLAY (CH)				43.3				
					Medium, Gray FAT CLAY (CH) with ferrous stains		71.9		48.0	87	28	59	
10													
	▽				Soft, Gray and Brown SANDY SILT (ML)	13.0	94.7		30.7				
15													
					Soft, Gray FAT CLAY (CH)	18.0	81.1		40.5	63	22	41	
20													
					Dark Gray LEAN CLAY (CL)	23.0			37.0				
25					Boring Terminated at 25 Feet	25.0							
30													
35													

SHEAR STRENGTH: □ Penetrometer ■ Unconfined ⟍ Torvane ● Triaxial △ Field Vane ▲ Miniature Vane
TONS PER SQ FT: 0.5 1 1.5 2 2.5

NOTES:

DRILLED DATE: 1/2/2025
DRILLER: PREMIER GEOTECH
LOGGER: W.W.
TOTAL DEPTH (Ft): 25
WATER LEVEL: 13'
BACKFILL: NATIVE SOIL CUTTINGS

LOG OF BORING B-1
FP&C LSU STRATEGIC CAPITAL PLAN

PLATE

PREMIER FILE# 24-0396

Premier GEOTECH AND TESTING, LLC

LOCATION: BATON ROUGE, LOUISIANA
COORDINATES: 30°24'39.26"N 91°10'46.14"W

SURFACE EL.: EXISTING GRADE

DEPTH, FT	WATER LEVEL	SYMBOL	SAMPLES	BLOWS PER FOOT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
0					5" ASPHALT	0.4						
					2" BASE	0.6						
					Dark Gray FAT CLAY (CH) with gravel				27.5			
					Medium, Dark Gray FAT CLAY (CH) with organics		76.7		46.3	82	24	58
					Gray FAT CLAY (CH)				48.8			
5					Medium, Gray FAT CLAY (CH)		70.4		51.1			
					Boring Terminated at 8 Feet	8.0						
10												
15												
20												
25												
30												
35												

SHEAR STRENGTH

□ Penetrometer ■ Unconfined
\ Torvane ● Triaxial
△ Field Vane ▲ Miniature Vane

TONS PER SQ FT
0.5 1 1.5 2 2.5

NOTES:
GROUNDWATER NOT ENCOUNTERED DURING DRILLING OPERATIONS

DRILLED DATE: 1/3/2025
DRILLER: PREMIER GEOTECH
LOGGER: W.W.
TOTAL DEPTH (Ft): 8
WATER LEVEL: NE
BACKFILL: NATIVE SOIL CUTTINGS

LOG OF BORING P-1
FP&C LSU STRATEGIC CAPITAL PLAN

PLATE

PREMIER FILE# 24-0396

Premier GEOTECH AND TESTING, LLC

LOCATION: BATON ROUGE, LOUISIANA
COORDINATES: 30°24'39.26"N 91°10'46.14"W

SURFACE EL : EXISTING GRADE

DEPTH, FT	WATER LEVEL	SYMBOL	SAMPLES	BLOWS PER FOOT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	CLASSIFICATION: UNIT DRY WT, PCF	CLASSIFICATION: PASSING NO 200 SIEVE, %	CLASSIFICATION: WATER CONTENT, %	CLASSIFICATION: LIQUID LIMIT	CLASSIFICATION: PLASTIC LIMIT	CLASSIFICATION: PLASTICITY INDEX (PI)	SHEAR STRENGTH (TONS PER SQ FT)
0			X		4" ASPHALT 8" BASE								
					Stiff, Brown and Gray LEAN CLAY (CL) with sand pockets	10	102.2		23.0	34	23	11	■ 1.5
					Brown and Gray SILT (ML)	20			19.6				
					Brown LEAN CLAY (CL)	40			19.6				
5													
					Medium, Brown LEAN CLAY (CL)		101.8		23.5	35	22	13	■ 1
					Boring Terminated at 8 Feet	80							
10													
15													
20													
25													
30													
35													

SHEAR STRENGTH: □ Penetrometer ■ Unconfined ⁄ Torvane ● Triaxial △ Field Vane ▲ Miniature Vane

NOTES:

DRILLED DATE: 1/30/2025
DRILLER: PREMIER GEOTECH
LOGGER: W.W.
TOTAL DEPTH (Ft): 8
WATER LEVEL:
BACKFILL: NATIVE SOIL CUTTINGS

LOG OF BORING P-2
FP&C LSU STRATEGIC CAPITAL PLAN

PLATE

PREMIER FILE# 24-0396

Premier GEOTECH AND TESTING, LLC

LOCATION: BATON ROUGE, LOUISIANA
COORDINATES: 30°24'37.83"N 91°10'46.09"W

SURFACE EL : EXISTING GRADE

DEPTH, FT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
0	4" ASPHALT	0.3						
	13" BASE							
	Brown LEAN CLAY (CL) with gravel	1.4			20.9			
	Medium, Brown and Tan LEAN CLAY (CL)		102.4		22.0	34	19	15
5	Brown and Tan LEAN CLAY (CL)				26.7			
	Brown and Tan LEAN CLAY (CL)				27.4			
	Boring Terminated at 8 Feet	8.0						
10								
15								
20								
25								
30								
35								

SHEAR STRENGTH

□ Penetrometer ■ Unconfined
\ Torvane ● Triaxial
△ Field Vane ▲ Miniature Vane

TONS PER SQ FT
0.5 1 1.5 2 2.5

■ 0.5

NOTES:
GROUNDWATER NOT ENCOUNTERED DURING DRILLING OPERATIONS

DRILLED DATE: 1/2/2025
DRILLER: PREMIER GEOTECH
LOGGER: W.W.
TOTAL DEPTH (Ft): 8
WATER LEVEL: NE
BACKFILL: NATIVE SOIL CUTTINGS

LOG OF BORING P-3
FP&C LSU STRATEGIC CAPITAL PLAN

PLATE

PREMIER FILE# 24-0396

Premier GEOTECH AND TESTING, LLC

LOCATION: BATON ROUGE, LOUISIANA
COORDINATES: 30°24'35.51"N 91°10'45.94"W

SURFACE EL : EXISTING GRADE

DEPTH, FT	WATER LEVEL	SYMBOL	SAMPLES	BLOWS PER FOOT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
0					4" ASPHALT	0.3						
					6" BASE	0.8						
					Gray SILT (ML)		103.0		17.8	28	23	5
					Gray SILT (ML) with clay				21.7			
					Gray and Black LEAN CLAY (CL)	4.0			27.4			
5					Gray LEAN CLAY (CL)				28.1			
					Boring Terminated at 8 Feet	8.0						
10												
15												
20												
25												
30												
35												

SHEAR STRENGTH

□ Penetrometer ■ Unconfined
\ Torvane ● Triaxial
△ Field Vane ▲ Miniature Vane

TONS PER SQ FT
0.5 1 1.5 2 2.5

NOTES:
GROUNDWATER NOT ENCOUNTERED DURING DRILLING OPERATIONS

DRILLED DATE: 1/2/2025
DRILLER: PREMIER GEOTECH
LOGGER: W.W.
TOTAL DEPTH (Ft): 8
WATER LEVEL: NE
BACKFILL: NATIVE SOIL CUTTINGS

LOG OF BORING P-4
FP&C LSU STRATEGIC CAPITAL PLAN

PLATE

PREMIER FILE# 24-0396

Premier GEOTECH AND TESTING, LLC

LOCATION: BATON ROUGE, LOUISIANA
COORDINATES: 30°24'33.61"N 91°10'45.88"W

SURFACE EL : EXISTING GRADE

DEPTH, FT	WATER LEVEL	SYMBOL	SAMPLES	BLOWS PER FOOT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	UNIT DRY WT, PCF	PASSING NO 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)
0			X		8" ASPHALT							
			X		5" BASE	0.7						
					Very Stiff, Brown FAT CLAY (CH) with silt	1.1	100.1		21.1	51	21	30
					Brown and Tan LEAN CLAY (CL)	2.0			21.2			
					Tan and Brown LEAN CLAY (CL)				19.6			
5					Tan and Brown LEAN CLAY (CL)				22.6			
					Boring Terminated at 8 Feet	8.0						
10												
15												
20												
25												
30												
35												

SHEAR STRENGTH

□ Penetrometer ■ Unconfined
\ Torvane ● Triaxial
△ Field Vane ▲ Miniature Vane

TONS PER SQ FT
0.5 1 1.5 2 2.5

NOTES:
GROUNDWATER NOT ENCOUNTERED DURING DRILLING OPERATIONS

DRILLED DATE: 1/2/2025
DRILLER: PREMIER GEOTECH
LOGGER: W.W.
TOTAL DEPTH (Ft): 8
WATER LEVEL: NE
BACKFILL: NATIVE SOIL CUTTINGS

LOG OF BORING P-5
FP&C LSU STRATEGIC CAPITAL PLAN

PLATE

PREMIER FILE# 24-0396

Premier GEOTECH AND TESTING, LLC

LOCATION: BATON ROUGE, LOUSIANA
COORDINATES: 30°24'33.75"N 91°10'48.59"W

SURFACE EL : EXISTING GRADE

DEPTH, FT	WATER LEVEL	SYMBOL	SAMPLES	BLOWS PER FOOT	STRATUM DESCRIPTION	STRATUM DEPTH, FT	CLASSIFICATION: UNIT DRY WT, PCF	CLASSIFICATION: PASSING NO 200 SIEVE, %	CLASSIFICATION: WATER CONTENT, %	CLASSIFICATION: LIQUID LIMIT	CLASSIFICATION: PLASTIC LIMIT	CLASSIFICATION: PLASTICITY INDEX (PI)	SHEAR STRENGTH
0					7" ASPHALT	0.6							
					7" BASE	1.2							
					Gray SILT (ML) with clay	2.0			21.6	29	23	6	
					Gray LEAN CLAY (CL)				24.2				
5					Stiff, Gray and Brown LEAN CLAY (CL)		96.4		25.3	47	20	27	■
					Gray and Brown LEAN CLAY (CL)				24.4				
					Boring Terminated at 8 Feet	8.0							
10													
15													
20													
25													
30													
35													

SHEAR STRENGTH
□ Penetrometer ■ Unconfined
\ Torvane ● Triaxial
△ Field Vane ▲ Miniature Vane
TONS PER SQ FT
0.5 1 1.5 2 2.5

NOTES:
GROUNDWATER NOT ENCOUNTERED DURING DRILLING OPERATIONS

DRILLED DATE: 1/3/2025
DRILLER: PREMIER GEOTECH
LOGGER: W.W.
TOTAL DEPTH (Ft): 8
WATER LEVEL: NE
BACKFILL: NATIVE SOIL CUTTINGS

LOG OF BORING P-6
FP&C LSU STRATEGIC CAPITAL PLAN

PLATE

APPENDIX D

USACE PCN NWP PERMIT APPLICATION, WETLANDS REPORT, & THREATENED & ENDANGERED SPECIES REPORT

Boyd Holmes

From: Olivia Barry <olivia.barry@c-ka.com>
Sent: Thursday, February 6, 2025 11:06 AM
To: CEMVNRegulatoryApplication@usace.army.mil
Cc: Andrew Knight; Boyd Holmes
Subject: OCZ, East Baton Rouge Parish, LA - Forte & Tablada, Inc. - Deferred Maintenance for Infrastructure, Renovations, and Streets Project
Attachments: 20250206_F&T_ PCN_Final.pdf

Olivia Barry, PWS
Environmental Scientist

CK Associates
Environmental Consultants

8591 United Plaza Boulevard
Suite 300
Baton Rouge, LA 70809
225-755-1000 Office
225-923-6464 Direct
337-852-7346 Mobile
Web: www.c-ka.com

Boyd Holmes

From: Olivia Barry <olivia.barry@c-ka.com>
Sent: Tuesday, February 1 , 2025 1:1 PM
To: Boyd Holmes
Cc: Andrew Knight
Subject: F : MVN-2025-0011 -CP Forte & Tablada Inc, Louisiana State niversity Maintenance for Infrastructure, Renovations, and Streets, Bayou Fountain - East Baton Rouge

Hi Boyd,

Just an FYI that the LSU permit application has been assigned to a permit analyst with USACE – see below. I will follow up with them in a couple weeks once they have had a chance to review the application to see if they have any questions or information needs.

Thanks,

Olivia Barry, PWS
Environmental Scientist

CK ASSOCIATES
Environmental Consultants

8591 United Plaza Boulevard
Suite 300
Baton Rouge, LA 70809
225-755-1000 Office
225-923-6464 Direct
337-852-7346 Mobile
Web: www.c-ka.com

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rom Broome, ri tina M USARM M USA ri tina.M.Broome u ace.arm .mil
Sent ue da , ebruar 18, 2025 10:15 AM
o Olivia Barr olivia.barr c-ka.com
c Abbott, at arine B USA at arine.Abbott u ace.arm .mil aut ier, eil USARM M USA eil. . aut ier u ace.arm .mil Broome, ri tina M USARM M USA ri tina.M.Broome u ace.arm .mil
S ect M -2025-00117- P orte ablada nc, Loui iana State Univer it Maintenance or n ra tructure, Renovation , and Street , Ba ou ountain - a t Baton Rouge

Good morning, Olivia,

The US Army Corps of Engineers, New Orleans District, Regulatory Division, Central Evaluation Branch (CEMVN-RGC) received the permit application, on behalf of Forte & Tablada Inc, for the Louisiana State University Maintenance for Infrastructure, Renovations, and Streets, Bayou Fountain in East Baton Rouge Parish.

Your Permit Application Information is as follows:

File Number: MVN-2025-00117-CP
Project Manager: Katharine Abbott, (504) 862-2542

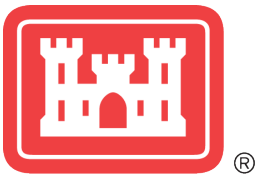
While your permit application is being processed, any questions you may have should be directed to your project manager, Katharine Abbott, who may be reached at the above telephone number or by the email listed above, as I have copied her on this notification.

Please allow a couple of weeks for the permit application to be in-processed before status inquiry.

Also, please note that this is not your permit, just acknowledgement that your application has been received.

Best Regards,
Christina M Broome

Environmental Protection Assistant
Central Evaluation Branch
Regulatory Division
U.S. Army Corps of Engineers (New Orleans District)
Direct Line: 504-862-1316



Could you read this email? Font size 14pt with most sans serif fonts is found to be the most legible. Think accessible!

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CK ASSOCIATES
Environmental Consultants

C-K ASSOCIATES, LLC
8591 UNITED PLAZA BLVD
SUITE 300
BATON ROUGE, LA 70809
PHONE (225) 755-1000
FAX (225) 751-2010
www.c-ka.com

THE WOODLANDS, TX
PHONE (281) 397-9016

LAKE CHARLES, LA
PHONE (337) 625-6577

SHREVEPORT, LA
PHONE (318) 797-8636

February 6, 2025

US Army Corps of Engineers
New Orleans District
Regulatory Division
Central Evaluation Section
7400 Leake Avenue
New Orleans, Louisiana 70118
Attn: Mr. Neil Gauthier

Re: Pre-Construction Notification – Nationwide Permit 14
Forte & Tablada, Inc.
Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University
Project No. 19-601-21-01 / WBS No. F.19002535
CK Project No. PJ000858

Dear Mr. Gauthier:

CK Associates (CK), on behalf of Forte & Tablada, Inc. (F&T), submits the attached Pre-Construction Notification (PCN) and associated project figures for review and authorization under a Nationwide Permit 14 – Linear Transportation Projects for the proposed Deferred Maintenance for Infrastructure, Renovations, and Streets project at Louisiana State University. The proposed activity will involve the construction of a new road and associated infrastructure, including a box culvert crossing of Bayou Fountain within the LSU campus in Baton Rouge, East Baton Rouge Parish, Louisiana (Figure 1). A Waters of the US (WOTUS) delineation was completed for the proposed project area and has been included for review.

No wetland impacts are anticipated during the proposed project. The proposed project will result in 0.06 acres of temporary and 0.04 acres of permanent impacts to potential non-wetland WOTUS. The proposed impacts for the project are included in Figure 2.

The proposed project is a single and complete linear project that will not result in loss of WOTUS greater than 1/10-acre or require discharge of dredged or fill material in a special aquatic site. No Regional Conditions are triggering the submittal of this PCN. Compliance with NWP General Condition (GC) 18 – Endangered Species for activities that might affect species proposed for listing under the Endangered Species Act (ESA) is the reason this PCN is being submitted.

To assist in the evaluation of this project, the following supporting documents are included for review with the application:

- ENG Form 6082
- Project Drawings (Site Location Map, Plan Views, Typical Cross Sections, etc.)
- Jurisdictional Determination Request Form 6247 and WOTUS Delineation Report

Please review all enclosed information for completeness. If you or any members of your staff have any questions regarding the project of the information presented, please contact me at (225) 755-1000 or olivia.barry@c-ka.com.

Sincerely,
CK Associates

Olivia Barry, PWS
Environmental Scientist

Andrew Knight
Ecological Program Manager

Enclosed: As Referenced Above

Print Form | Save As

U.S. Army Corps of Engineers (USACE)

NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

For use of this form, see 33 CFR 330; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires: 2027-10-31

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.

Principal Purpose Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.

Disclosure Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at . Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (*see sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First - Boyd Middle - Last - Holmes	First - Olivia Middle - Last - Barry
Company - Forte & Tablada, Inc.	Company - CK Associates
Company Title - Sr. Project Manager	E-mail Address - olivia.barry@c-ka.com
E-mail Address - bholmes@forteandtablada.com	
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
Address- 9107 Interline Avenue	Address- 8591 United Plaza Blvd, Suite 300
City - Baton Rouge State - LA ZIP - 70809 Country - USA	City - Baton Rouge State - LA ZIP - 70809 Country - USA
7. APPLICANT'S PHONE NOs. with AREA CODE	**10. AGENT'S PHONE NOs. with AREA CODE**
a. Residence b. Business (225) 927-9321 c. Fax d. Mobile (225) 936-6619	a. Residence b. Business (225) 963-6464 c. Fax d. Mobile (337) 852-7346

STATEMENT OF AUTHORIZATION

11. I hereby authorize, CK Associates to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

A. Boyd Holmes — SIGNATURE OF APPLICANT

02/05/2025 — DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Print Form | Save As

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

13. NAME OF WATERBODY, IF KNOWN (*if applicable*)
Bayou Fountain

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)
Nicholson Drive Extension

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)

Latitude	°N	Longitude	°W
30.407812°		-91.182288°	

City:	State:	ZIP:
Baton Rouge	LA	70803

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

State Tax Parcel ID: 2383357

Municipality:

Section	Township	Range
56	07 South	01 West

17. DIRECTIONS TO THE SITE
Starting from New Orleans, LA, head west on I-10. Travel on I-10 for approximately 30 miles. Take Exit 177 toward E Hwy 30/Louisiana 30 W. Turn left onto E Hwy 30. Travel on E Hwy 30 approximately 22 miles. Turn right onto Nicholson Drive Extension (South Quad Drive). The project is located on the left, approximately 0.25 miles down this road,.

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE
Nationwide Permit 14 - Linear Transportation Projects

19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)
The proposed activity will involve the construction of a new road and associated infrastructure, including a box culvert crossing of Bayou Fountain within the LSU campus in Baton Rouge, East Baton Rouge Parish, Louisiana.

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)
No wetland impacts are anticipated during the proposed project, therefore no mitigation will be required.

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY (*Describe the reason or purpose of the project, see instructions*)
The purpose of the proposed project is to upgrade existing infrastructure to meet future accessibility needs and current code compliance.

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

Acres	Linear Feet	Cubic Yards Dredged or Discharged
Non-wetland Waters 0.1 acres		

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

23. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. (*see instructions*)
N/A

24. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and/or the loss of greater than 3/100-acre of stream bed and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) and/or paragraph (d) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.
No wetland impacts are anticipated during the proposed project, therefore no compensatory mitigation will be required.

Print Form | Save As

25. Is any portion of the nationwide permit activity already complete? ☐ Yes ☑ No If Yes, describe the completed work:

N/A

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (*see instructions*)

Based on a review of the USFWS Information for Planning and Consultation tool, no critical habitat is present within the proposed site. The following listed (or proposed for listing) species were listed as potential to be present within the project area: tricolored bat, alligator snapping turtle, and monarch butterfly. Potential suitable habitat is present within the project area for the alligator snapping turtle and the tricolored bat. No suitable habitat is found within the project area for the monarch butterfly, thus the project is not expected to impact this species.

27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (*see instructions*)

The proposed project will impact an existing road, bridge, walking path, and maintained roadsides. Although no adverse impacts to cultural or historic resources are anticipated, the applicant will coordinate with a cultural resources professional if needed following review by the archaeologist or SHPO.

28. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

N/A Water body not identified as a Scenic River.

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? ☐ Yes ☑ No

If "yes", please provide the date your request was submitted to the Corps district:

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

N/A

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
A Boyd Ad	02/05/2025	Olivia R Barry	2/6/2025

The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

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Instructions for Preparing a
Department of the Army
Nationwide Permit (NWP) Pre-Construction Notification (PCN)

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g.,a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands and/or of Greater Than 3/100-Acre of Stream Bed When Pre-Construction Notification is Required. Paragraphs (c) and (d) of NWP general condition 23 require compensatory mitigation at a minimum one-for-one replacement ratio for all wetland losses that exceed 1/10-acre and/or for all losses of stream bed that exceed 3/100-acre, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre and/or for losses of stream bed that exceed 3/100-acre, or provide an explanation of why the district engineer should not require wetland and/or stream compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit .

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

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Block 30. Other Information Required For Nationwide Permit Pre-Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

* NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
* NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
* NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
* NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification.
* NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
* NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
* NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
* NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

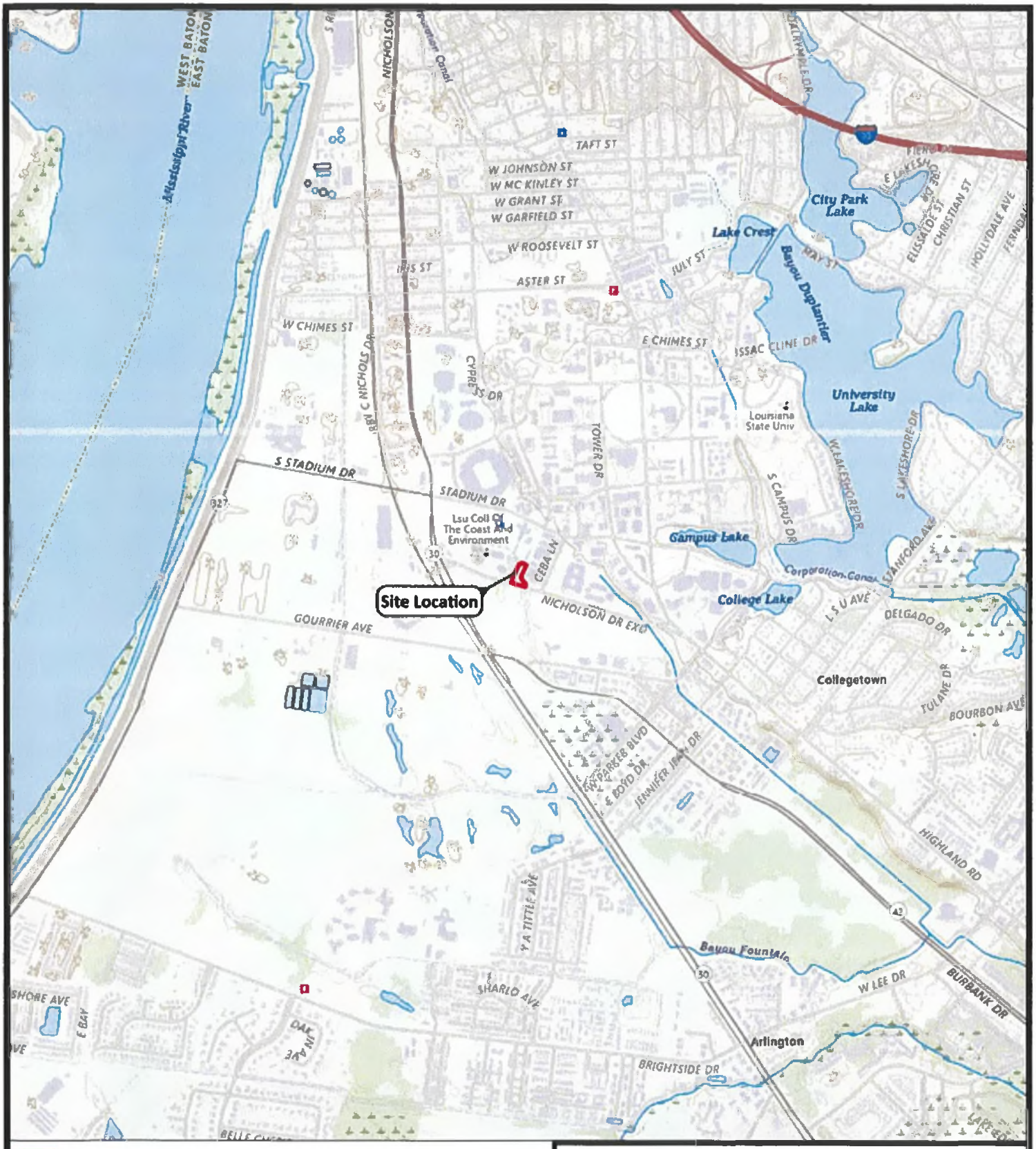
DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.



Forte & Tablada, Inc.
Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Vicinity Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	APS	Checked:	OPB
Date:	01/27/2025	Approved:	TTH
Dwg. No.:	PJ000858		Figure 1

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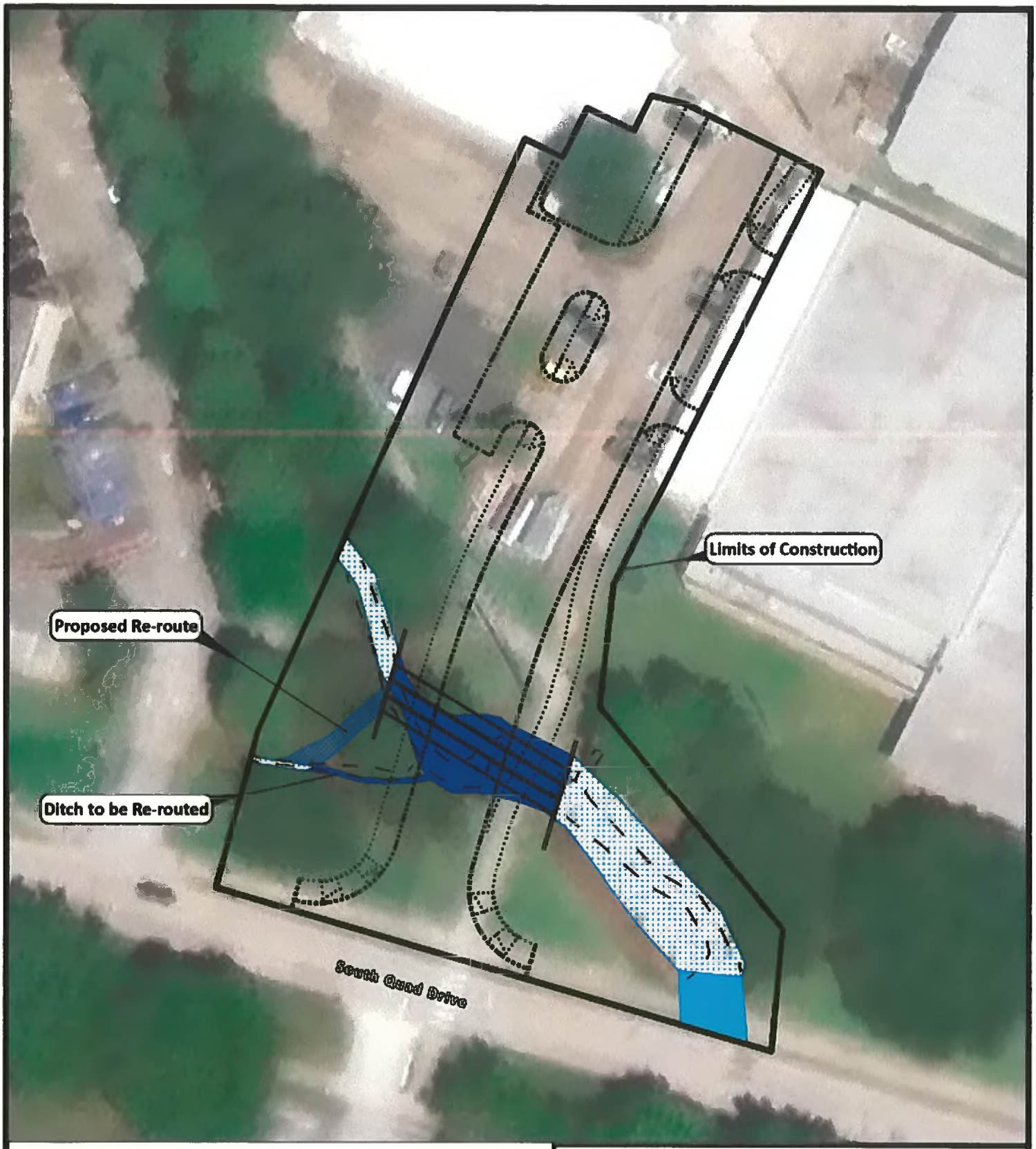

Work Area (0.98 Acres)

Impacts to Potential Waters of the U.S.

- Non-wetland Waters Not to be Impacted by Proposed Project (0.01 Acres)
- Non-wetland Waters Permanent Impacts (0.04 Acres)
- Non-wetland Waters Temporary Impacts (0.06 Acres)
- Proposed Re-route Non-wetland Waters

N

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0 50

Feet

ESRI World Imagery

esri

Forte & Tablada, Inc.
Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

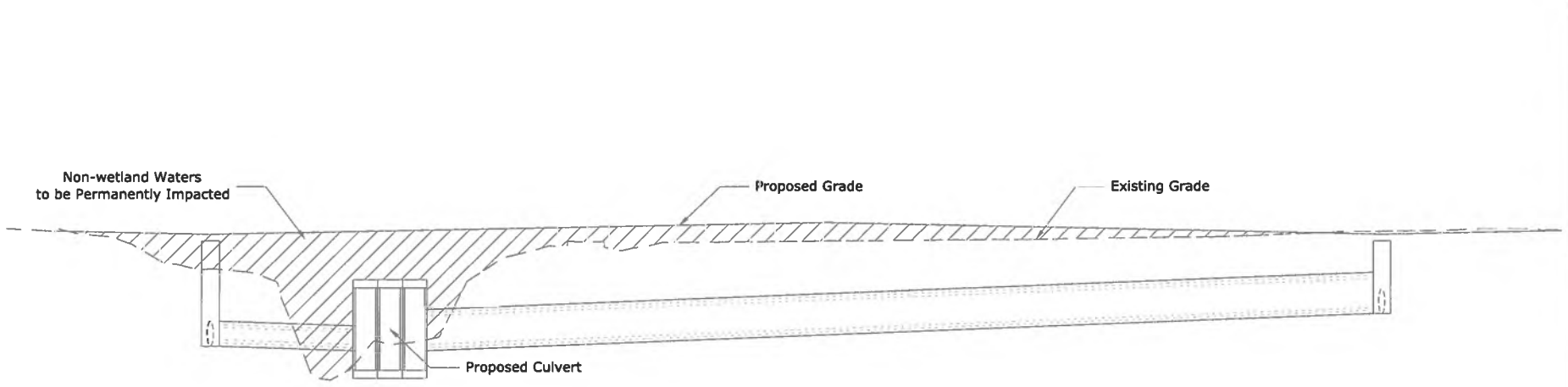
Plan View

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	APS	Checked:	OPB
Date:	01/27/2025	Approved:	TTH
Dwg. No.:	PJ000858		Figure 2

P:\Mapping\PJ000858\PJ000858.aprx



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Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Cross Section

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	APS	Checked:	OPB
Date:	01/27/2025	Approved:	TTH
Dwg. No.:	PJ000858-03		Figure 3

Reference: Client-provided drawing "Civil Plan/Profile - Fieldhouse Drive Ext." C04.07. For permitting purposes only.

p:\Mapping\PJ000858\PJ000858-03 Figure 3 Cross Section.dwg 1/27/2025 - 11:46am

U.S. Army Corps of Engineers (USACE)

REQUEST FOR JURISDICTIONAL DETERMINATION (JD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires 2027-09-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that are or that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary, however, if the information is not provided there may be some delay in processing your request. Failure to provide this information will not result in an adverse action.
System of Record Notice (SORN): The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website:
http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ca.aspx

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. To (*District Name*): USACE New Orleans District

2. I am requesting a JD on property located at (*Street Address*): Nicholson Drive Ext, Louisiana State University

City/Township/Parish: Baton Rouge County: East Baton Rouge State: Louisiana

Acreage of Parcel/Review Area for JD: 0.98 acre

Section: 56 Township: 07S Range: 01W

Latitude (*decimal degrees*): 30.407812 ° Longitude (*decimal degrees*): -91.182288 °

(*For linear projects, please include the center point of the proposed alignment.*)

3. Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

4. ☐ I currently own this property. ☐ I plan to purchase this property.

☒ I am an agent/consultant acting on behalf of the requester.

☐ Other (*provide explanation*):

5. Reason for request: (*check as many as applicable*)

- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
- ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- ☒ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
- ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
- ☒ A Corps JD is required in order to obtain my local/state authorization.
- ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
- ☐ I believe that the site may be comprised entirely of dry land.
- ☐ Other *(provide details below)*:

6. Type of determination being requested:

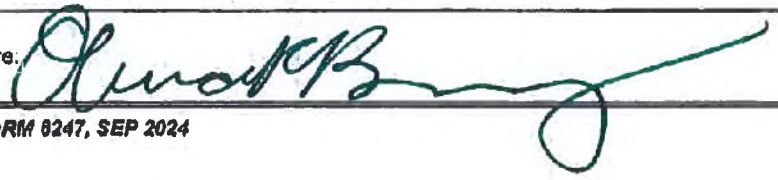
- ☐ I am requesting an approved JD.
- ☒ I am requesting a preliminary JD.
- ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
- ☐ I am requesting a verification of an aquatic resources delineation but I am not requesting a JD.
- ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

7. Typed or Printed Name: Olivia Barry | Daytime Phone No.: 337-852-7346

Company Name: CK Associates | Email Address: olivia.barry@c-ka.com

Address: 8591 United Plaza Blvd, Suite 300, Baton Rouge, Louisiana 70809

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

Signature:  | Date: 2025-02-06

Nationwide Permit 14 - Linear Transportation Projects
Effective Date: February 25, 2022; Expiration Date: March 14, 2026
(NWP Final Notice, 86 FR 73522)

Nationwide Permit 14 - Linear Transportation Projects. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, driveways, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge of dredged or fill material in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges of dredged or fill material for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

2021 Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. **Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain

low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. **Removal of Temporary Structures and Fills.** Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. **Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. **Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. **Wild and Scenic Rivers.** (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. **Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. **Endangered Species.** (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal

applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. **Migratory Birds and Bald and Golden Eagles.** The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and

available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. **Historic Properties.** (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. **Discovery of Previously Unknown Remains and Artifacts.** Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. **Designated Critical Resource Waters.** Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. **Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream

rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan

may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may

be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. **Safety of Impoundment Structures.** To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. **Water Quality.** (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state,

Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1⁄3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

_____
(Transferee)

_____
(Date)

30. **Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. **Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. **Pre-Construction Notification.** (a) *Timing*. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification*: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no

more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification*: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination*: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile

transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

2021 District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

2021 Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

2021 Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which

remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This

term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic

characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or

improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a "water of the United States." If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

ADDITIONAL INFORMATION

Information about the U.S. Army Corps of Engineers Regulatory Program, including nationwide permits, may also be accessed at

http://www.swt.usace.army.mil/Missions/Regulatory.aspx or
http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx

Forte & Tablada, Inc.

Wetland Findings Report

Strategic Capital Plan
Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Project No. 19-601-21-01
WBS No. F.19002535
East Baton Rouge, Louisiana

January 2025

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1.0 INTRODUCTION

CK Associates (CK) was retained by Forte & Tablada, Inc. to perform a Waters of the US (WOTUS) delineation for the proposed Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University project. The purpose of this report is to identify areas that may have potentially jurisdictional WOTUS, including wetlands, as defined in the 1987 Corps of Engineers Wetland Delineation Manual[1] and associated Regional Supplements[2].

The approximately 0.98-acre site is located in Baton Rouge, East Baton Rouge Parish, Louisiana on Nicholson Drive Extension, centered at latitude 30.407812° and longitude -91.182288° (**Figure 1**). At the time of the delineation, the project area was observed to include a sidewalk, a parking lot, a bridge, a perennial stream, and a roadside ditch. Bayou Fountain runs northwest to southeast through the southern portion of the work area and is bordered on either side by maintained lawns with few trees. The north portion of the work area primarily consisted of developed land containing a parking lot and sidewalk.

WOTUS are regulated by the US Army Corps of Engineers (USACE) for dredge (i.e., excavation) and fill activities and are defined as the territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to jurisdictional waters (33 CFR 328.3).

Wetlands are classified as special aquatic sites and are defined as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions". For an area to be classified as a wetland, hydrophytic vegetation, hydric soils, and wetland hydrology indicators must be present and are described in the 1987 Corps of Engineers Wetland Delineation Manual and associated Regional Supplements.

2.0 METHODS

Prior to conducting the WOTUS delineation, CK reviewed US Geological Survey (USGS) Topographic Map, the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the NRCS National Hydric Soils List, the US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map, the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL), and The Louisiana Statewide Lidar Project Light Detection and Ranging (LiDAR) Digital Elevation Models (DEM) to obtain information regarding the site.

Ms. Olivia Barry and Ms. Meredith Owens of CK visited the site on December 12, 2024 to determine the extent of potential WOTUS, including wetlands. The delineation followed routine onsite field procedures as outlined by the USACE[1,2]. Observations of soils, vegetation, and hydrology were documented at data points (DP) established within the dominant plant communities and are included in **Appendix A**. Potential wetlands and WOTUS, and DP locations were mapped with a Trimble® TDC600® Differential Global Positioning System (DGPS) utilizing real-time corrections. Digital

[1] U.S. Army Corps of Engineers [USACE] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Vicksburg, MS: US Army Engineer Waterways Experiment Station.

[2] U.S. Army Corps of Engineers [USACE]. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: US Army Engineer Research and Development Center.

photographs were taken of the soil profile and surrounding vegetation at each DP and of significant features throughout the property and are included as **Appendix B**.

3.0 RESULTS

The site was mapped using a combination of desktop literature review and on-site field investigation. At the time of the delineation, the project area was observed to include a sidewalk, a parking lot, a bridge, a perennial stream, and a roadside ditch. Bayou Fountain runs northwest to southeast through the southern portion of the work area and is bordered on either side by maintained lawns with few trees. The north portion of the work area primarily consisted of developed land containing a parking lot and sidewalk.

3.1 Literature Review

The following is a description of each of the resources listed in Section 2.0 that were reviewed prior to the on-site field investigation.

3.1.1 USGS Topographic Map

The USGS 7.5-Minute series topographic quadrangle map depicts the elevation of the site as approximately 20 feet above mean sea level. A water feature is depicted crossing through the project area. The USGS topographic map is included as **Figure 2**.

3.1.2 USDA NRCS Web Soil Survey

Per the USDA-NRCS Web Soil Survey[3] for East Baton Rouge Parish, Louisiana published September 5, 2024, the following mapped soil units are depicted within the site. Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The USDA-NRCS Web Soil Survey map is included as **Figure 3**.

Map Unit Symbol	Map Unit Name	Landform	Hydric Soil Rating (%)*
ShA	Sharkey clay, 0 to 1 percent slopes, rarely flooded, deltaic plain	Meander scars on flood plains, backswamps on flood plains, natural levees	90%
UrA	Urban land	None specified	0%

* The hydric soil rating indicates the percentage of the map unit that meets the criteria for hydric soils.

[3] NRCS. 2024. Web Soil Survey. US Department of Agriculture, Natural Resources Conservation Service, Soil Survey Staff. <http://websoilsurvey.nrcs.usda.gov/app/>.

3.1.3 USFWS National Wetlands Inventory

The USFWS NWI uses the Cowardin system to classify wetland and non-wetland features by landscape position, vegetation cover, and hydrologic regime. The NWI data for Louisiana, published May 17, 2024, depicts a riverine (R5UBFx: Riverine Unknown Perennial Unconsolidated Bottom Semipermanently Flooded Excavated) feature crossing the site. The NWI data is included as **Figure 4**.

3.1.4 FEMA National Flood Hazard Dataset

CK reviewed the FEMA-NFHL dataset which references Flood Insurance Rate Maps (FIRMS). This dataset defines Zone X as low risk areas outside the 0.2-percent annual chance floodplain, Shaded (light-purple) Zone X as moderate-risk areas within the 0.2-percent annual chance floodplain, Yellow Zone X as areas with reduced flood risk due to levee, and Zone AE (purple) as high-risk areas with a 1% annual chance flood hazard where base flood elevations are provided.

The site is depicted to contain 95% Zone AE: 1% Annual Chance Flood Hazard and 5% Yellow Zone X: Area with Reduced Risk due to Levee. The FEMA-NFHL dataset is included as **Figure 5**.

3.1.5 LiDAR Digital Elevation Model

CK reviewed DEM derived from LiDAR elevation data to identify lower elevation and/or potential ponding areas within the site. The data indicates elevation ranges from approximately 4.25-9.5 meters across the site. The highest elevations are observed along roadways and in parking lots. The lowest elevation corresponds to Bayou Fountain running through the central portion of the site. The DEM map is included as **Figure 6**.

3.2 Field Investigation

Ms. Olivia Barry and Ms. Meredith Owens of CK visited the site on December 12, 2024 to determine the extent of potential WOTUS, including wetlands. Following routine onsite field procedures as outlined above, one DP was collected on sight. The DP was determined to be collected within a non-wetland area. See **Appendix A** for attached wetland determination forms documenting observed soils, vegetation, and hydrology at the DP.

Potential non-wetland WOTUS identified on the site consist of approximately 0.117 acres of perennial stream and 0.003 acres of ephemeral water features. The perennial stream within the project area was identified as Bayou Fountain and the ephemeral water feature was identified as an unnamed tributary.

See **Figures 7 and 8** for the location and extent of potential non-wetland WOTUS within the site. A full description of mapped on-site habitat classifications, sizes, and locations can be provided upon request.

4.0 CONCLUSIONS

Based on field observations, the site lacks the presence of wetlands but does contain 0.043 acres of potential non-wetlands WOTUS, including 0.117 acres of stream and 0.003 acres of man-made ditches and their associated culverts (**Figure 7**). Reported acreages in the field investigation are influenced by the accuracy of the DGPS unit utilizing real-time corrections and ESRI® ArcGIS Pro Version 3.4 drafting software.

The USACE under the authority of the Clean Water Act (CWA), Section 404 and the Rivers and Harbor Act (RHA), Section 10 has the responsibility to make the final determination of the location and extent of jurisdictional wetlands and navigable waters within the project area, respectively. This report represents the opinion of the investigators and should be considered preliminary until final concurrence is obtained from the New Orleans District USACE office.

5.0 GENERAL PERMITTING DISCUSSION

Section 404 of the CWA regulates the discharge of dredge and fill materials into WOTUS. WOTUS include territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to jurisdictional waters (33 CFR 328.3). Activities which are normally regulated under Section 404 include the placement of fill for construction of roadways; residential, commercial, or industrial structures; and the construction of water retention ponds along tributaries. The US Environmental Protection Agency (EPA) and the USACE jointly administer the Section 404 program.

A Section 404 permit is required prior to dredge or fill materials being discharged into WOTUS. Depending on project scale, design, and impact acreage, Section 404 permit requirements may require a habitat analysis, alternative site analysis, project justification, plans to avoid and minimize impacts, and a proposed mitigation plan. Conditions of a Section 404 permit may include compensatory mitigation, streamside buffers, and stormwater management plans. Evaluation of compensatory mitigation for impacts to wetlands and non-wetland WOTUS varies by district. A Section 404 permit may take 6 to 24 months to be issued by the USACE depending on the level of project complexity, additional information required, and agency workloads.

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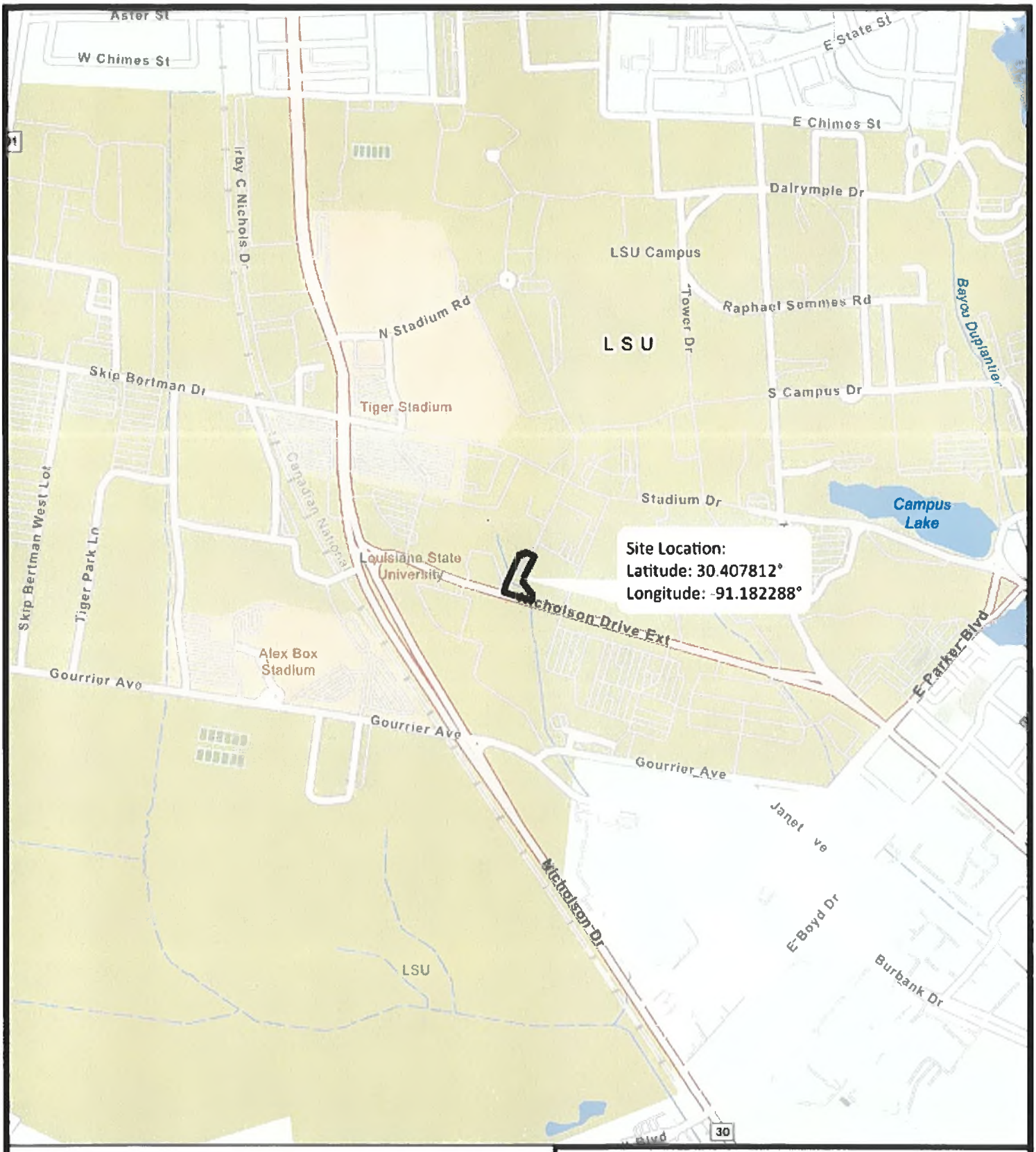
FIGURES



Work Area (0.98 Acres)

N

S

East Baton Rouge Parish

0 1,000

Feet

ESRI World Street Map

esri

P:\Mapping\PJ000858\PJ000858.aprx

Forte & Tablada, Inc.
Baton Rouge, Louisiana

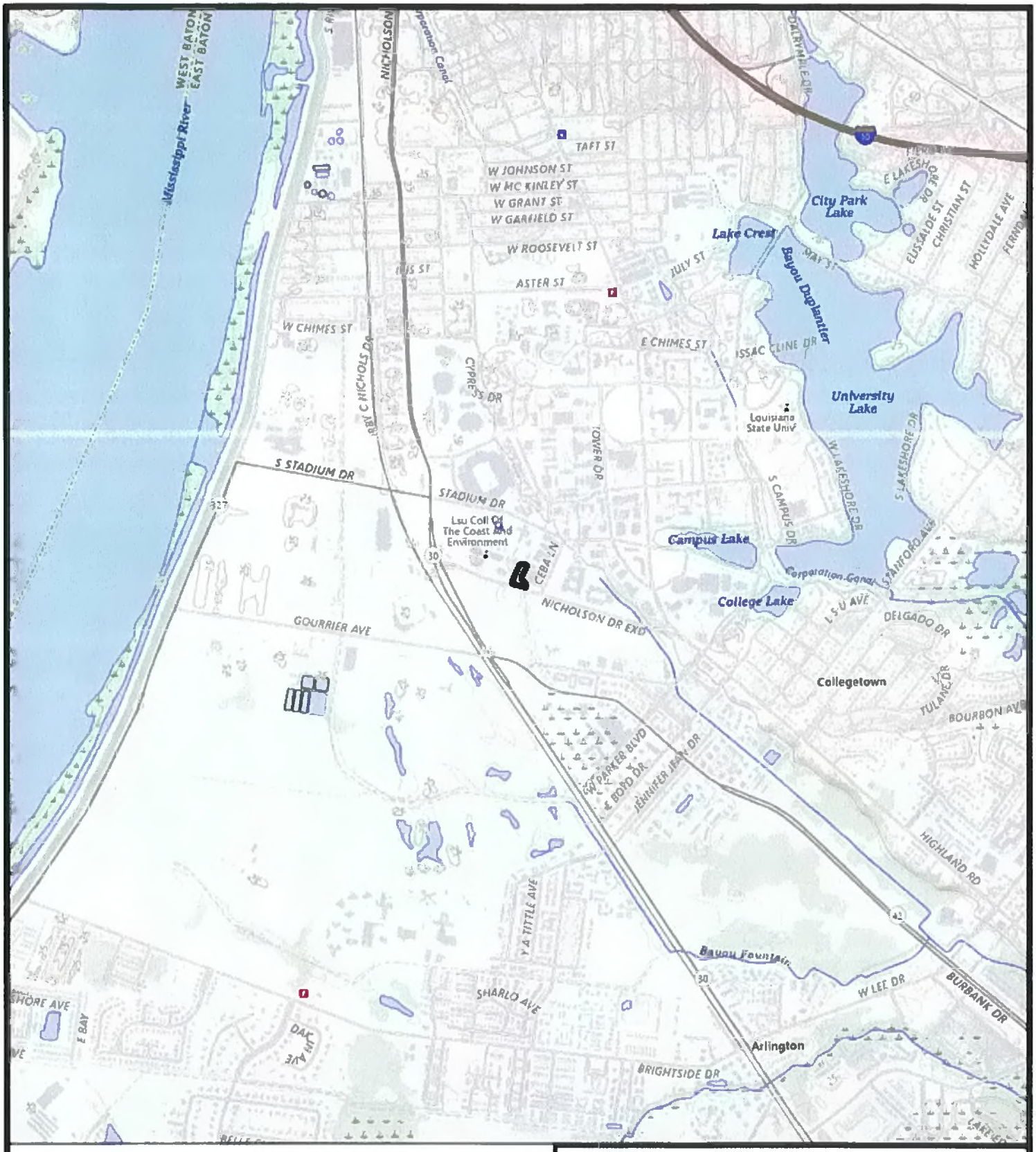
Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Site Location Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	TTH	Checked:	OPB
Date:	12/19/2024	Approved:	TTH
Dwg. No.:	PJ000858		Figure 1



Work Area (.98 Acres)

N

S

0 2,000

Feet

USGS TNM Topo Base Map

esri

Forte & Tablada, Inc.
Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

USGS Topographic Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	TTH	Checked:	MRO
Date:	12/19/2024	Approved:	TTH
Dwg. No.:	PJ000858		Figure 2

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Work Area (.98 Acres)

Soils Unit

ShA—Sharkey clay, 0 to 1 percent slopes, rarely flooded, deltaic plain

UrA—Urban land

N

S

0 50

Feet

NRCS Web Soil Survey 2024

ESRI World Imagery 09/29/2020

esri Partner Network Silver

Forte & Tablada, Inc.

Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

NRCS Soil Survey Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	TTH	Checked:	MRO
Date:	12/19/2024	Approved:	TTH
Dwg. No.:	PJ000858		Figure 3

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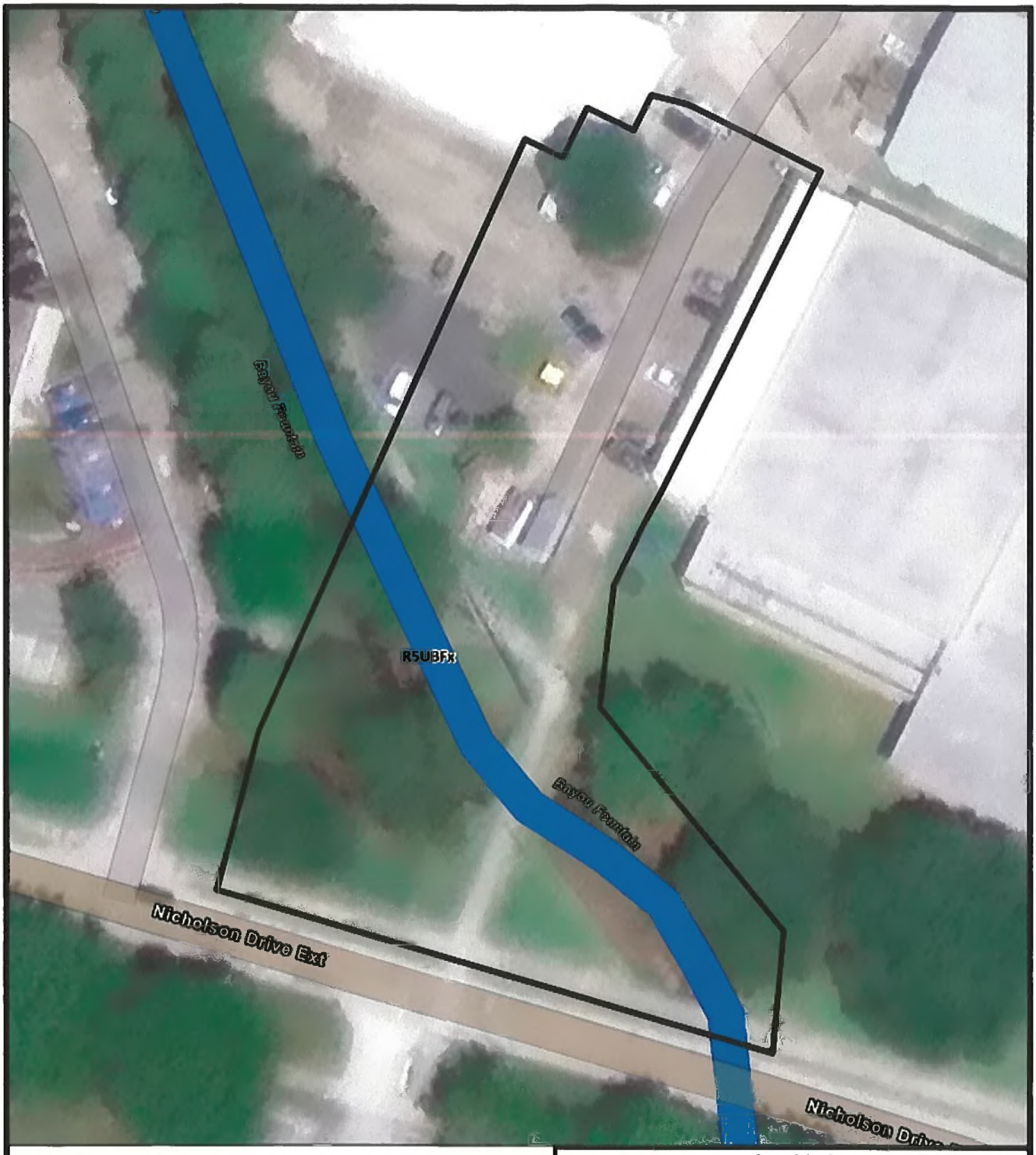

Work Area (.977 Acres)

National Wetlands Inventory

Riverine

N

S

0 50

Feet

USFWS NWI 2024

ESRI World Imagery 09/29/2020

esri

Forte & Tablada, Inc.

Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

USFWS National Wetlands Inventory Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	TTH	Checked:	MRO
Date:	12/19/2024	Approved:	TTH
Dwg. No.:	PJ000858		Figure 4

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Work Area (.98 Acres)

USA Flood Hazard Areas

1% Annual Chance Flood Hazard

Area with Reduced Risk Due to Levee

N

S

0 50

Feet

FEMA National Flood Hazard Layer
ESRI World Imagery 09/29/2020

esri Partner Network

Forte & Tablada, Inc.
Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

FEMA National Flood Hazard Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	TTH	Checked:	MRO
Date:	12/19/2024	Approved:	TTH
Dwg. No.:	PJ000858		

Figure 5

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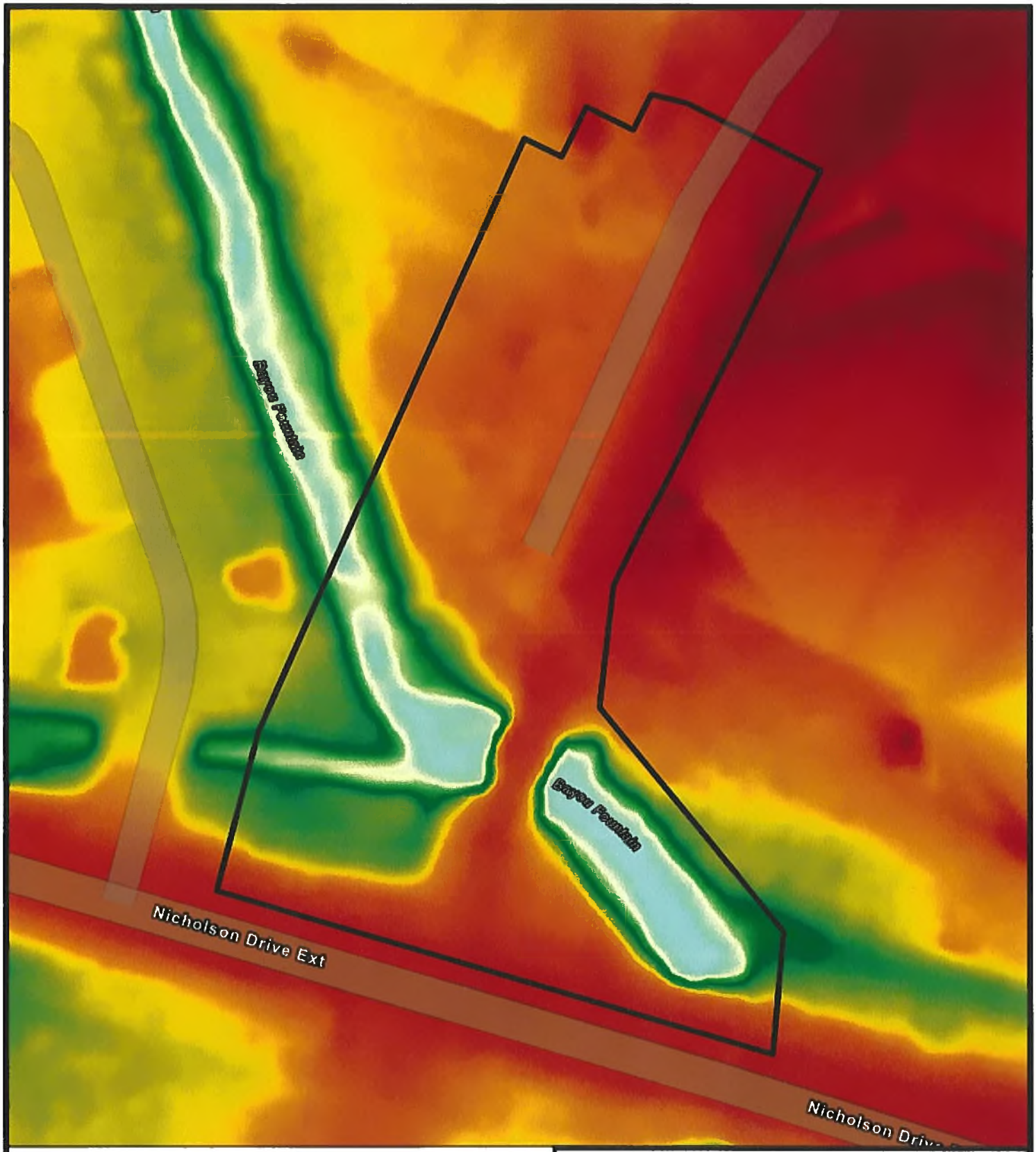

Work Area (.977 Acres)

Elevation (Meters)

9.5

4.25

N

S

0 50

Feet

ESRI Terrain

esri

Forte & Tablada, Inc.
Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

LiDAR DEM Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	TTH	Checked:	OPB
Date:	12/11/2024	Approved:	TTH
Dwg. No.:	PJ000858		

Figure 6

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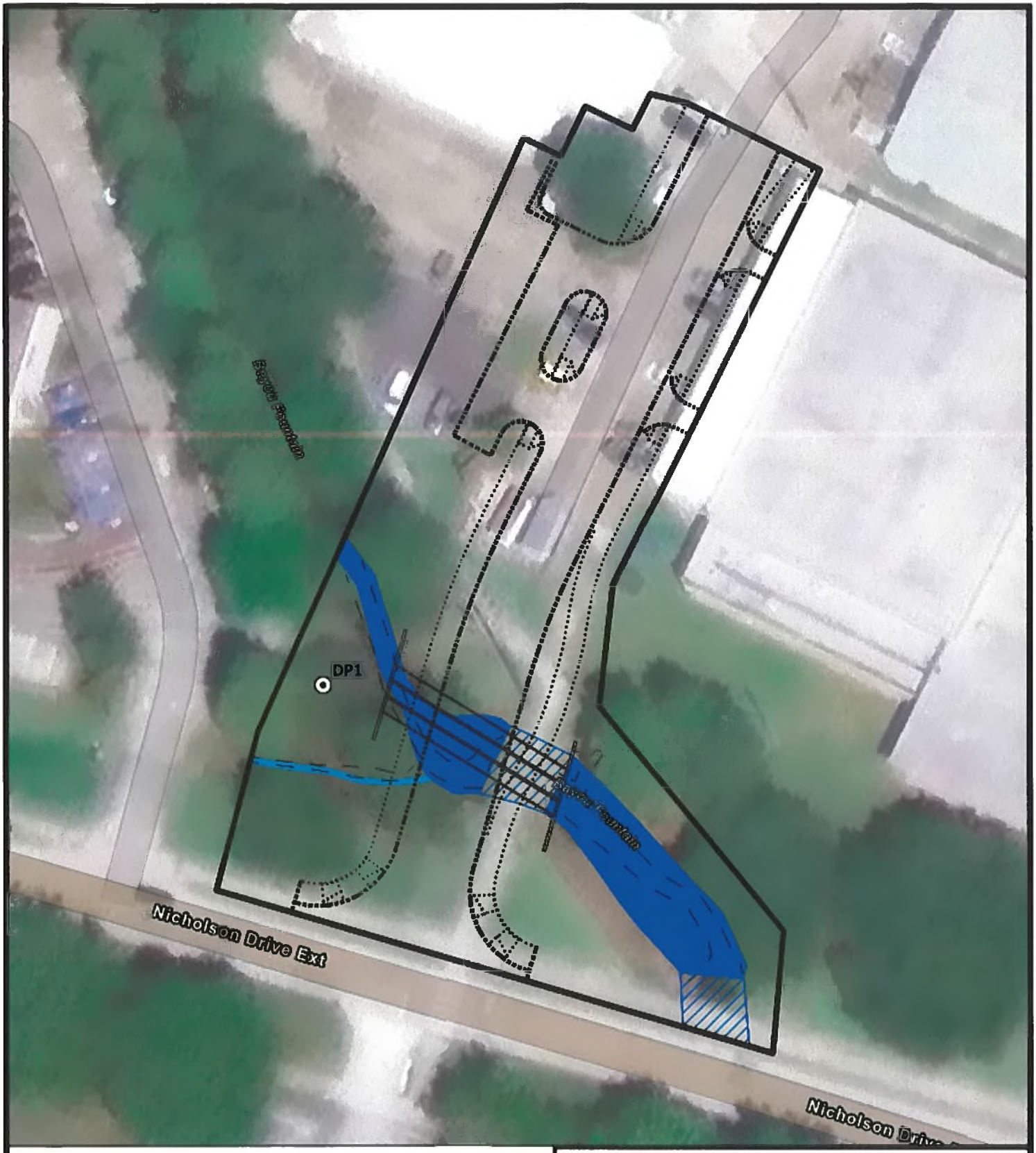

Data Point

Proposed Features

Structure

Roadway

Existing Ditch

Sidewalk

Survey Area (.98 Acres)

Potential Waters of the US

Culvert (0.028 acres)

Ephemeral (0.003 acres)

Perennial (0.086 acres)

N

S

0 50

Feet

ESRI World Imagery 09/29/2020

Forte & Tablada, Inc.
Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Potential Waters of the US Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	MRO	Checked:	OPB
Date:	12/17/2024	Approved:	TTH
Dwg. No.:	PJ000858		Figure 7

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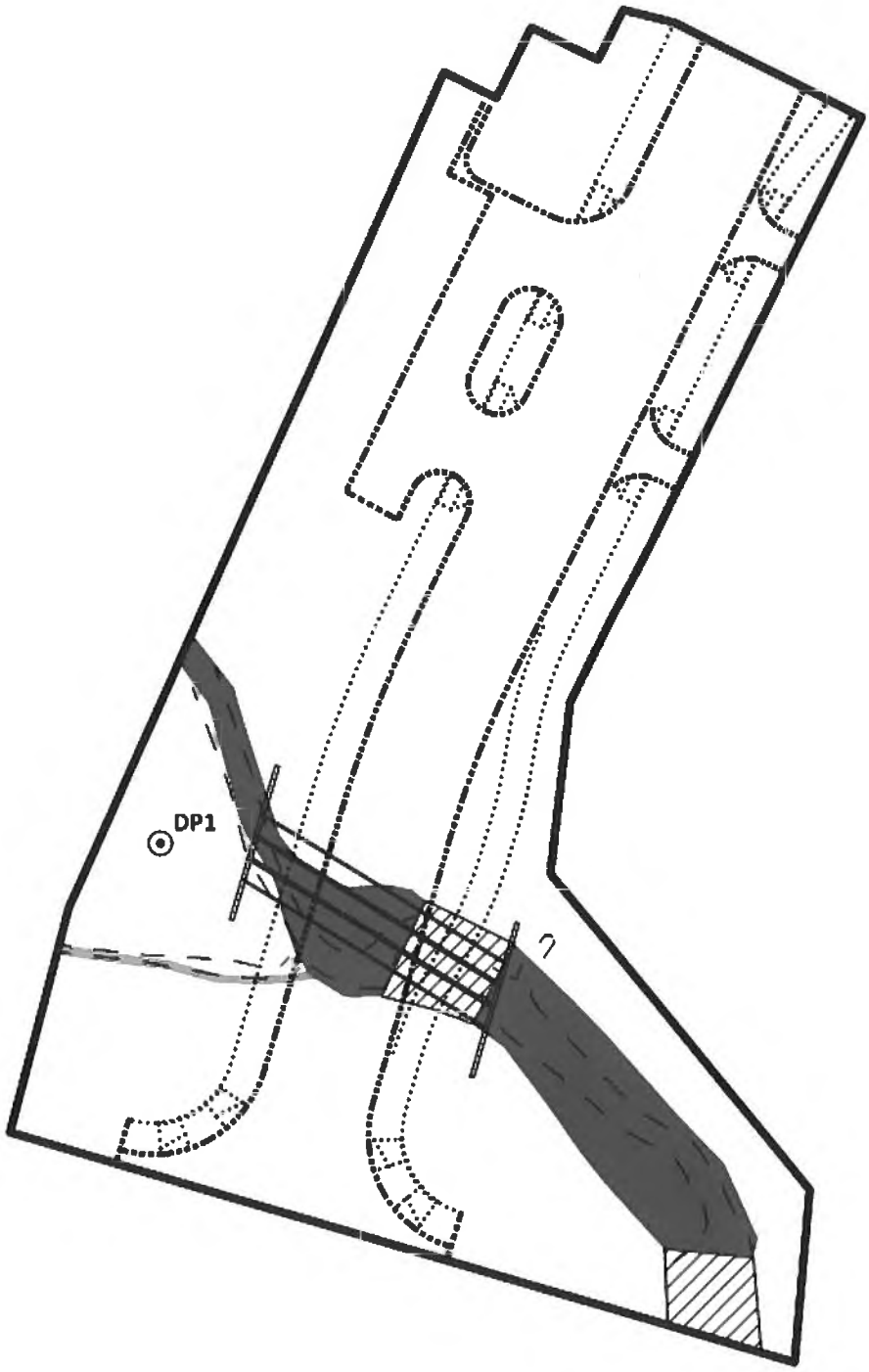

Data Point

Proposed Features

Structure

Roadway

Existing Ditch

Sidewalk

Survey Area (.98 Acres)

Potential Waters of the US

Culvert (0.028 acres)

Ephemeral (0.003 acres)

Perennial (0.086 acres)

N

S

0 50

Feet

ESRI World Imagery 09/29/2020

esri

Forte & Tablada, Inc.

Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Potential Waters of the US Map

Plan View

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	MRO	Checked:	OPB
Date:	12/17/2024	Approved:	TTH
Dwg. No.:	PJ000858		Figure 8

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APPENDICES

APPENDIX A
WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University City/County: Baton Rouge/East Baton Rouge County Sampling Date: 2024-12-12

Applicant/Owner: Forte & Tablada, Inc. State: Louisiana Sampling Point: DP1

Investigator(s): Olivia Barry & Meredith Owens Section, Township, Range: T07S R01W 56

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): O 131A Lat: 30.407733 Long: -91.182544 Datum: WGS 84

Soil Map Unit Name: ShA - Sharkey clay, 0 to 1 percent slopes, rarely flooded, deltaic plain NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Maintained landscape

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DP1

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Lagerstroemia indica	30	✔	UPL
2. Taxodium distichum	10	✔	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cover: 20.00	20% of total cover: 8.00		

Sapling/Shrub Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 30 ft r)			
1. Cynodon dactylon	70	✔	FACU
2. Dichanthelium commutatum	5		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 = Total Cover		
50% of total cover: 37.50	20% of total cover: 15.00		

Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	70	x 4 =	280
UPL species	30	x 5 =	150
Column Totals:	115 (A)		455 (B)

Prevalence Index = B/A = 3.95

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 4	10YR 3/2	100					Clay Loam	Restricted due to compaction
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Mari (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Compaction

Depth (inches): 4

Hydric Soil Present? Yes ____ No ✓

Remarks:

APPENDIX B
SITE PHOTOGRAPHS

Photo 1: View from DP1 facing north.

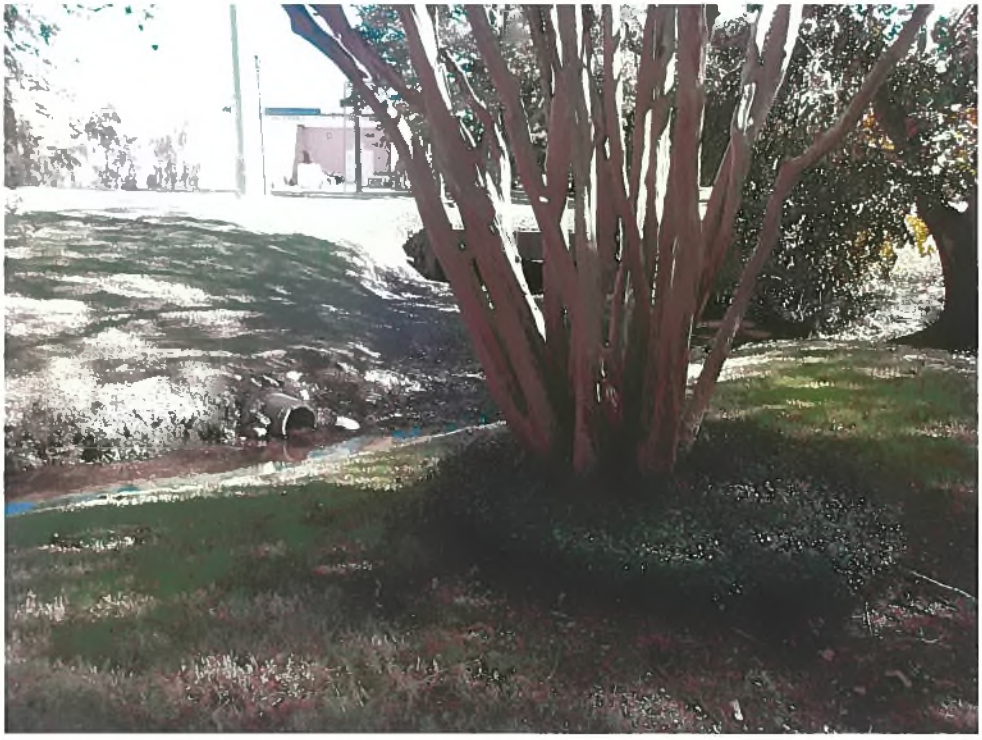

Photo 2: View from DP1 facing east.

Photo 3: View from DP1 facing south.

Photo 4: View from DP1 facing west.

Photo 5: View of DP1 soil profile.

Photo 6: Photo of intermittent stream facing east at 30.407643°, -91.182538°.

Photo 7: Photo of perennial stream facing north at 30.407866°, -91.182527°.

Photo 8: Photo of perennial stream facing southeast at 30.407866°, -91.182527°.

Photo 9: Photo of perennial stream facing northwest at 30.407485°, -91.182115°.

Photo 10: Photo of perennial stream flowing under Nicholson Drive Extension facing southeast at 30.407485°,-91.182115°.

Photo 11: Photo of culverts under walkway facing east at 30.407677°, -91.182326°

Photo 12: Photo of culverts under walkway facing east at 30.407677°, -91.182326°.

Photo 13: Photo of culverts under walkway facing west at 30.407641°, -91.18226°.

Photo 14: Photo of culverts under walkway facing west at 30.407641°, -91.18226°.

Photo 15: Representative photo taken at 30.408198°, -91.182242° of built up land located in the northern part of the site.

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FAX (318) 798-0478

January 13, 2024

Forte & Tablada, Inc.
9107 Interline Avenue
Baton Rouge, Louisiana 70809
Attn: Mr. Boyd Holmes, P.E.

Re: Listed Species Assessment Report
Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University
Project No. 19-601-21-01 / WBS No. F.19002535
CK Associates Project No. PJ000858

Dear Mr. Holmes:

CK Associates, LLC (CK) is pleased to submit this listed species assessment report for the above-referenced site. This report summarizes our findings and recommendations for the site.

The proposed Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University project site is located on approximately 0.98 acres in Baton Rouge, East Baton Rouge Parish, Louisiana on Nicholson Drive Extension, centered at latitude 30.407812° and longitude -91.182288° (**Figure 1**). Ms. Olivia Barry and Ms. Meredith Owens of CK conducted site reconnaissance on December 12, 2024. During the reconnaissance, the site was observed for the presence/absence of suitable habitats for protected species and presence of individuals. At the time of the delineation, the project area was observed to include a sidewalk, a parking lot, a bridge, a perennial stream, and a roadside ditch. Bayou Fountain runs northwest to southeast through the southern portion of the work area and is bordered on either side by maintained lawns with few trees. The north portion of the work area primarily consisted of developed land, including a parking lot and sidewalk.

PRELIMINARY THREATENED AND ENDANGERED SPECIES DETERMINATION

Congress passed the Endangered Species Act (ESA) in 1973. The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the US Fish and Wildlife Service (USFWS) and the Commerce Department's National Marine Fisheries Service (NMFS). The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife.

Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range and "threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

Although bald eagles have recovered and were removed from the List of Endangered and Threatened Species as of August 8, 2007, bald eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA). The USFWS developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance," which is prohibited by the BGEPA.

CK utilized the USFWS Information for Planning and Consultation (IPaC) project planning tool to identify federally protected and threatened and endangered species and critical habitat in East Baton Rouge Parish, Louisiana. A shapefile of the project boundary was uploaded to the IPaC to identify federally protected threatened and/or endangered species in the resulting IPaC resource list (see attached) for the site. No critical habitats were identified by the USFWS within the site. A summary of the species identified by the USFWS is provided in the table below.

Species		Conservation Status	Potential to Occur in Project Area	
Common Name	**Scientific Name**	**Federal**	**Habitat***	**Species**
MAMMALS				
Tricolored Bat	*Perimyotis subflavus*	Proposed Endangered	Yes	Yes - Not observed
BIRDS				
Bald Eagle	*Haliaeetus leucocephalus*	Delisted; BGEPA**	No	No
REPTILES				
Alligator Snapping Turtle	*Macrochelys temminckii*	Proposed Threatened	Yes	Yes - Not observed
INSECTS				
Monarch Butterfly	*Danaus plexippus*	Proposed Threatened	No	No

*See species conclusions below for specific potential habitat identified on site.
**Bald and Golden Eagle Protection Act

Species/Habitat Description

Tricolored Bat

Description: The tricolored bat (TCB) is a small insectivorous bat distinguished by its unique tricolored fur, often appearing yellowish to orange. The TCB was once common throughout its wide range across the eastern and central United States and portions of southern Canada, Mexico, and Central America.

Habitat: During the winter, TCBs are often found in caves and abandoned mines. In the southern US where caves are sparse, TCBs can be found roosting in road-associated culverts, bridges, cavities in live trees, live and dead leaf clusters, and/or Spanish moss where they exhibit shorter torpor bouts and forage during warm nights.

During the spring, summer, and fall, TCBs can be found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures. Suitable TCB summer habitat may also include some adjacent and interspersed non-forested habitats such as, emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes linear features such as fencerows, riparian forests, and other wooded corridors. TCBs will roost in a variety of tree species, especially oaks (*Quercus spp.*), and often select roosts in tall, large diameter trees, but will roost in smaller diameter trees when potential roost substrate is present (e.g., 4-inch). TCBs commonly roost in the mid to upper canopy of trees although males will occasionally roost in dead leaves at lower heights (e.g., < 16 feet from the ground) and females will occasionally roost in Spanish moss of understory trees. TCBs seem to prefer foraging along forested edges of larger forest openings, along edges of riparian areas, and over water and avoid foraging in dense, unbroken forests, and narrow road cuts through forests. TCBs also roost in man-made structures, such as bridges and culverts, and occasionally in barns or the underside of open-sided shelters (e.g., porches, pavilions); therefore, these structures should also be considered potential summer habitat.

TCBs face extinction due primarily to the range-wide impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. White-nose syndrome has caused estimated declines of more than 90 percent in affected TCB colonies.

Conclusion: Based on our knowledge and site reconnaissance, it is CK's opinion that suitable habitat for the TCB may be present within the site. Suitable habitat for TCBs was identified within the project boundary and includes man-made structures (e.g., culverts and bridge) and live and dead leaf clusters.

The TCB is currently a proposed endangered species and is not yet listed under the ESA. Prior to impacting the habitats listed above within the site, protocols outlined in the USFWS *Northern Long-eared Bat and Tricolored Bat Voluntary Environmental Review Process for Development Projects*, published October 2024, should be used to ensure compliance with the ESA. Protocols include evaluation of the final project design or scope using the TCB determination key, followed by coordination with the local USFWS field office to determine if minimum conservation measures will be applicable for activities within the site, such as seasonal activity avoidance. CK recommends that the IPaC website is regularly referenced throughout all stages of construction to stay updated on the listing of the TCB.

Bald Eagle

Description: Distinguished by a white head and white tail feathers, bald eagles are powerful, brown birds that can weigh up to 14 pounds and have a wingspan of eight feet. Male eagles are smaller than females, weighing approximately 10 pounds with a wingspan of six feet. Juvenile bald eagles are mostly dark drown until year four or five when they develop the characteristic white head and are sometimes confused with golden eagles.

Habitat: Bald eagles live near rivers, lakes, and marshes where they can find fish, their staple food. Bald eagles will also feed on waterfowl, turtles, rabbits, snakes, other small animals, and carrion. Bald eagles require a good food base, perching areas, and nesting sites. Wintering and nesting activity occurs mainly near large freshwater impoundments with standing timber located in or around the water. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering, however, bald eagles are also known to forage away from their preferred aquatic habitats to utilize available prey such as birds and small mammals. Bald eagles primarily nest in the tops of cypress trees or other aquatic tree species near open water. The nests are usually constructed of large sticks and are used for several years, with the birds adding nest material every year. Bald eagle nests are large, commonly measuring six feet in diameter and weighing hundreds of pounds. Because of the large size of bald eagle nests and their typical location in tall trees, one of the most reliable ways to identify nest platforms is by conducting aerial surveys.

Conclusions: No bald eagles were observed in or within the project boundary and there were no nests observed during site reconnaissance. A stream, Bayou Fountain, crosses through the site, but is likely not large enough to support foraging.

Based on our knowledge and observations, it is CK's opinion that suitable foraging and suitable nesting habitat is not present within the project site. It is CK's opinion that bald eagles would not be impacted by the proposed project.

Alligator Snapping Turtle

Description: The alligator snapping turtle is the largest freshwater turtle in North America with adult males typically weighing between 155 and 175 pounds and females being much smaller. They are named for their large, powerful jaws and shells that resemble the rough, ridged skin of an alligator. Alligator snapping turtles are highly aquatic and secretive, emerging from water only for nesting or basking (uncommon), making it difficult to observe in the wild. The alligator snapping turtle is native to the US and is known to occur within 14 different states including Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Missouri, Mississippi, Oklahoma, Tennessee, and Texas.

Habitat: Alligator snapping turtles reside in freshwater and periodically in brackish systems. They are generally found in large rivers and major tributaries; however, they are also found in a variety of small streams, bayous, canals, swamps, lakes, reservoirs, and ponds. Typically, only adult females will venture onto open land during nesting season.

Conclusion: Based on our knowledge and site reconnaissance, it is CK's opinion that suitable habitat for the alligator snapping turtle is potentially located within the project boundary, but presence is not likely. Suitable habitat is limited to the largest waterbody located within the site, Bayou Fountain, which is a shallow fast-moving stream.

The alligator snapping turtle is currently a proposed threatened species and is not yet listed under the ESA. CK recommends that the IPaC website is regularly referenced throughout all stages of construction to stay updated on the listing of the alligator snapping turtle.

Monarch Butterfly

Description: Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots present on the upper side of the wings. Adult monarchs are sexually dimorphic, with males having narrower wing venation and scent patches. The bright coloring of a monarch serves as a warning to predators that eating them can be toxic.

Habitat: Adult monarch butterflies feed on the nectar of flowering plants found in prairies, meadows, grasslands, and along roadsides, but breed only where milkweeds (*Asclepias spp.*) are found. Milkweed is known as the obligate host plant of the monarch butterfly and is necessary for their reproduction. During the breeding season, monarchs lay their eggs on their milkweed host plant and larvae emerge after two to five days. Larvae develop over a period of nine to 18 days, feeding on milkweed, and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging six to 14 days later as an adult butterfly.

There are multiple generations of monarchs produced during the breeding season as they migrate long distances north and south, with majority of the population occurring along a migratory flyway corridor through the central United States. Most adult butterflies will live approximately two to five weeks, but overwintering adults enter reproductive diapause (suspended reproduction) and can live six to nine months. The primary threat to the monarch butterfly is habitat loss and climate change.

Conclusions: Based on our knowledge and observations, it is CK's opinion that suitable habitat for the monarch butterfly is not present in the project boundary.

The monarch butterfly is currently a proposed threatened species as of December 12, 2024 and is not yet listed under the ESA. Even though it is not likely that the monarch butterfly would be present within the site, CK recommends that the IPaC website is regularly referenced throughout all stages of construction to stay updated on the listing of the monarch butterfly.

CLOSING

Based on our knowledge, available resources concerning threatened and endangered species, and site reconnaissance, it is CK's opinion that proposed activities within the project site do have the potential to impact proposed threatened and/or endangered species not yet federally listed under the ESA. These species include the proposed endangered tricolored bat and the proposed threatened alligator snapping turtle.

The TCB is a proposed endangered species and not yet listed. Proposed endangered is defined by the USFWS as a species the USFWS has determined is in danger of extinction throughout all or a significant portion of its range and, as such, the USFWS has proposed a draft rule to list as endangered. **Proposed endangered species are not protected by the take prohibitions of section 9 until the rule to list is finalized.** Under section 7(a)(4) of the ESA, Federal agencies must confer with the USFWS if their action will jeopardize the continued existence of a proposed species. It is CK's opinion that the status of the TCB

should be monitored throughout project development. Prior to impacting the suitable habitats listed for the TCB within the site, CK recommends following protocols outlined in the *Northern Long-eared Bat and Tricolored Bat Voluntary Environmental Review Process for Development Projects*, published October 2024, to ensure compliance with the ESA.

The alligator snapping turtle is a proposed threatened species and not yet listed. Proposed threatened is defined by the USFWS as a species the USFWS has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and, as such, the USFWS has proposed a draft rule to list as threatened. **Proposed threatened species are not protected by the take prohibitions of section 9, consistent with any protective regulations finalized under section 4(d) of the ESA, until the rule to list is finalized.** Under section 7(a)(4) of the ESA, Federal agencies must confer with the USFWS if their action will jeopardize the continued existence of a proposed species. It is CK's opinion that the status of the alligator snapping turtle should be monitored throughout project development.

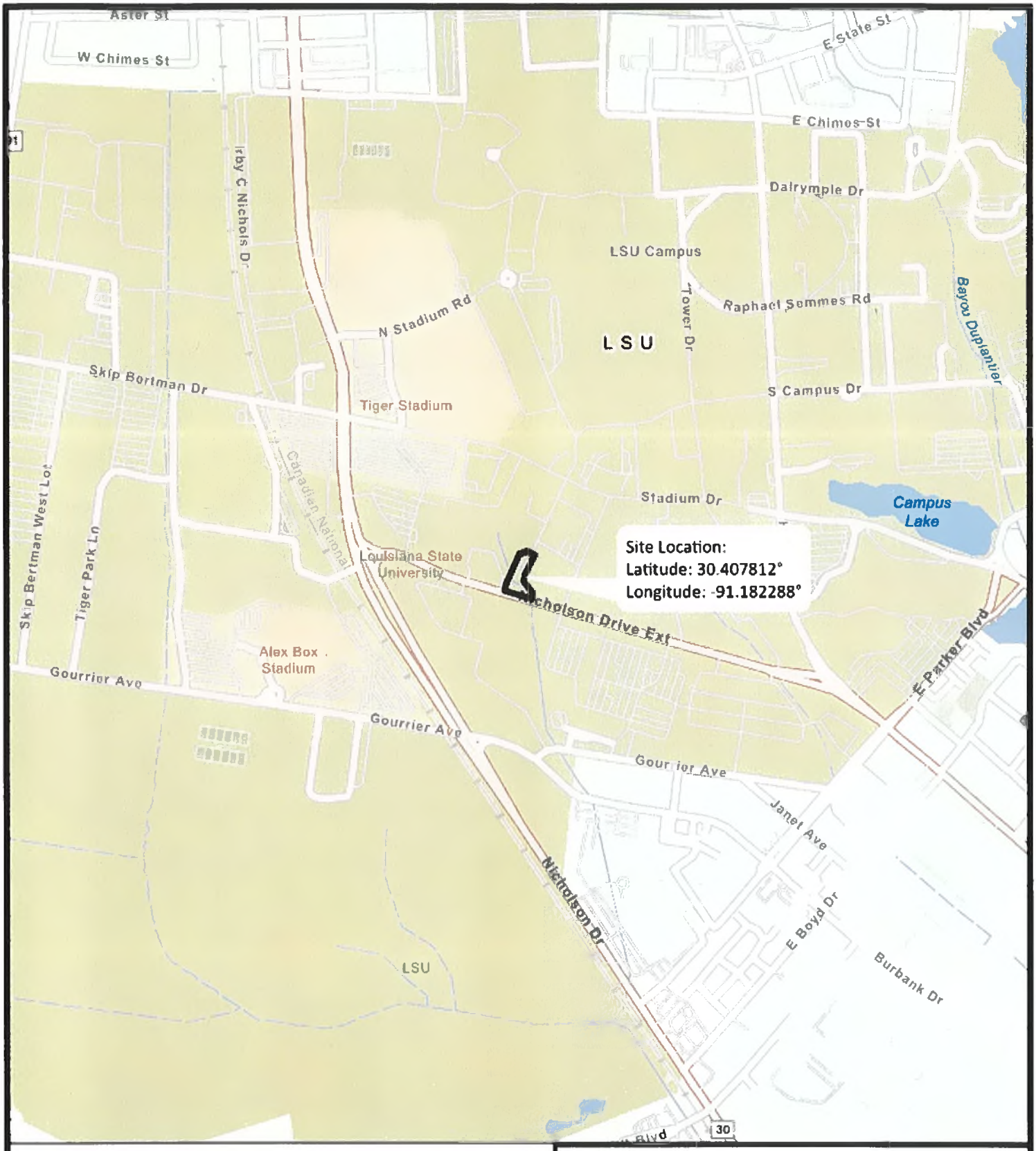
CK appreciates the opportunity to provide this review of threatened and endangered species for your project. Please contact Ms. Taylor Honigman at (225)-923-6457 or via email at taylor.honigman@c-ka.com if you have any questions concerning this report.

Respectfully,
CK Associates

Taylor Honigman
Environmental Scientist

Meredith Owens
Environmental Specialist

Attachments: **Figure 1 – Site Location Map**
USFWS Official Species List
Site Photographs



Work Area (0.98 Acres)

N

S

East Baton Rouge Parish

0 1,000

Feet

ESRI World Street Map

esri

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Forte & Tablada, Inc.
Baton Rouge, Louisiana

Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets, Louisiana State University

Site Location Map

East Baton Rouge Parish

CK Associates Environmental Consultants

Drawn:	TTH	Checked:	OPB
Date:	12/19/2024	Approved:	TTH
Dwg. No.:	PJ000858		Figure 1

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Louisiana Ecological Services Field Office
200 Dulles Drive
Lafayette, LA 70506
Phone: (337) 291-3100 Fax: (337) 291-3139

In Reply Refer To: 01/10/2025 22:47:17 UTC
Project Code: 2025-0030518
Project Name: Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and candidate species, as well as designated and proposed critical habitat that may occur within the boundary of your proposed project and may be affected by your proposed project. The Fish and Wildlife Service (Service) is providing this list under section 7 (c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Changes in this species list may occur due to new information from updated surveys, changes in species habitat, new listed species and other factors. Because of these possible changes, feel free to contact our office (337-291-3109) for more information or assistance regarding impacts to federally listed species. The Service recommends visiting the IPaC site or the Louisiana Ecological Services Field Office website (https://www.fws.gov/southeast/lafayette) at regular intervals during project planning and implementation for updated species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect Federally listed species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)).

Bald eagles have recovered and were removed from the List of Endangered and Threatened Species as of August 8, 2007. Although no longer listed, please be aware that bald eagles are

protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668 et seq.). The Service developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance", which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at: https://www.fws.gov/migratorybirds/pdf/management/nationalbaldeaglenanagementguidelines.pdf

Those guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. Onsite personnel should be informed of the possible presence of nesting bald eagles within the project boundary, and should identify, avoid, and immediately report any such nests to this office. If a bald eagle nest occurs or is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: https://www.fws.gov/southeast/our-services/eagle-technical-assistance/. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary. The Division of Migratory Birds for the Southeast Region of the Service (phone: 404/679-7051, e-mail: SEmigratorybirds@fws.gov) has the lead role in conducting any necessary consultation.

Activities that involve State-designated scenic streams and/or wetlands are regulated by the Louisiana Department of Wildlife and Fisheries and the U.S. Army Corps of Engineers, respectively. We, therefore, recommend that you contact those agencies to determine their interest in proposed projects in these areas.

Activities that would be located within a National Wildlife Refuge are regulated by the refuge staff. We, therefore, recommend that you contact them to determine their interest in proposed projects in these areas.

Additional information on Federal trust species in Louisiana can be obtained from the Louisiana Ecological Services website at: https://www.fws.gov/southeast/lafayette

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

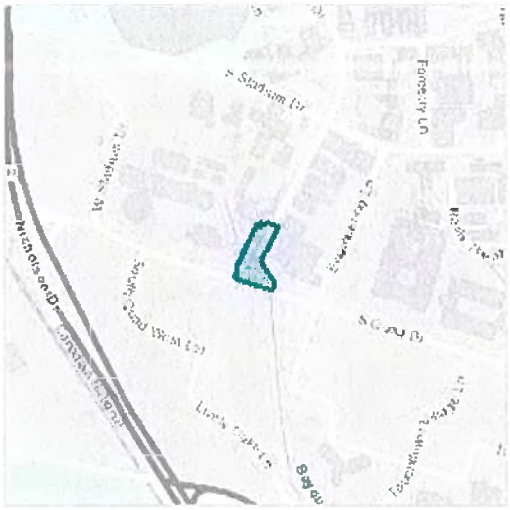
This species list is provided by:

Louisiana Ecological Services Field Office
200 Dulles Drive
Lafayette, LA 70506
(337) 291-3100

PROJECT SUMMARY

Project Code: 2025-0030518
Project Name: Strategic Capital Plan – Deferred Maintenance for Infrastructure, Renovations, and Streets
Project Type: Bridge - Replacement
Project Description: East Baton Rouge Parish
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.4078369,-91.18235830994892,14z



Counties: East Baton Rouge County, Louisiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

NAME	BREEDING SEASON
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

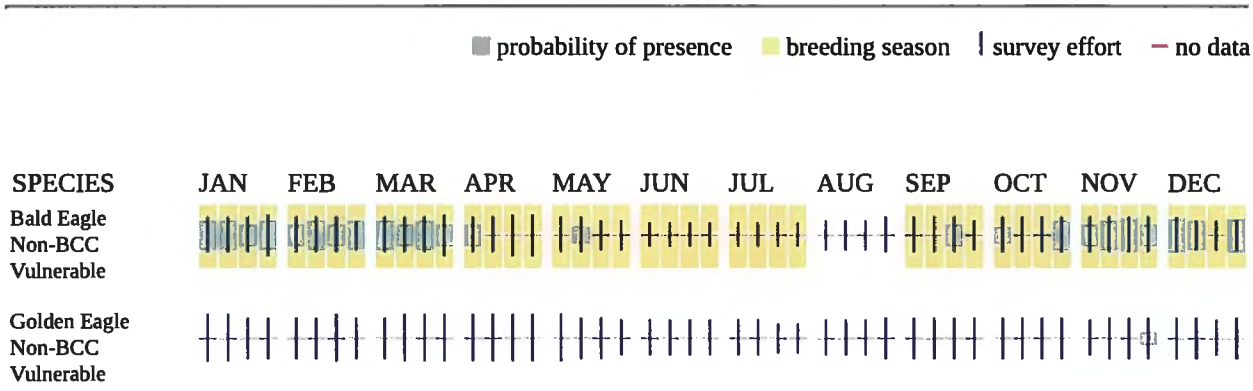
Probability of Presence (▪)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Cerulean Warbler *Setophaga cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 25 to Jul 20

NAME	BREEDING SEASON
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Le Conte's Sparrow *Ammospiza leconteii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9469	Breeds elsewhere
Least Tern *Sternula antillarum antillarum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11919	Breeds Apr 25 to Sep 5
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Little Blue Heron *Egretta caerulea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9477	Breeds Mar 10 to Oct 15
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere

NAME	BREEDING SEASON
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Swallow-tailed Kite *Elanoides forficatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

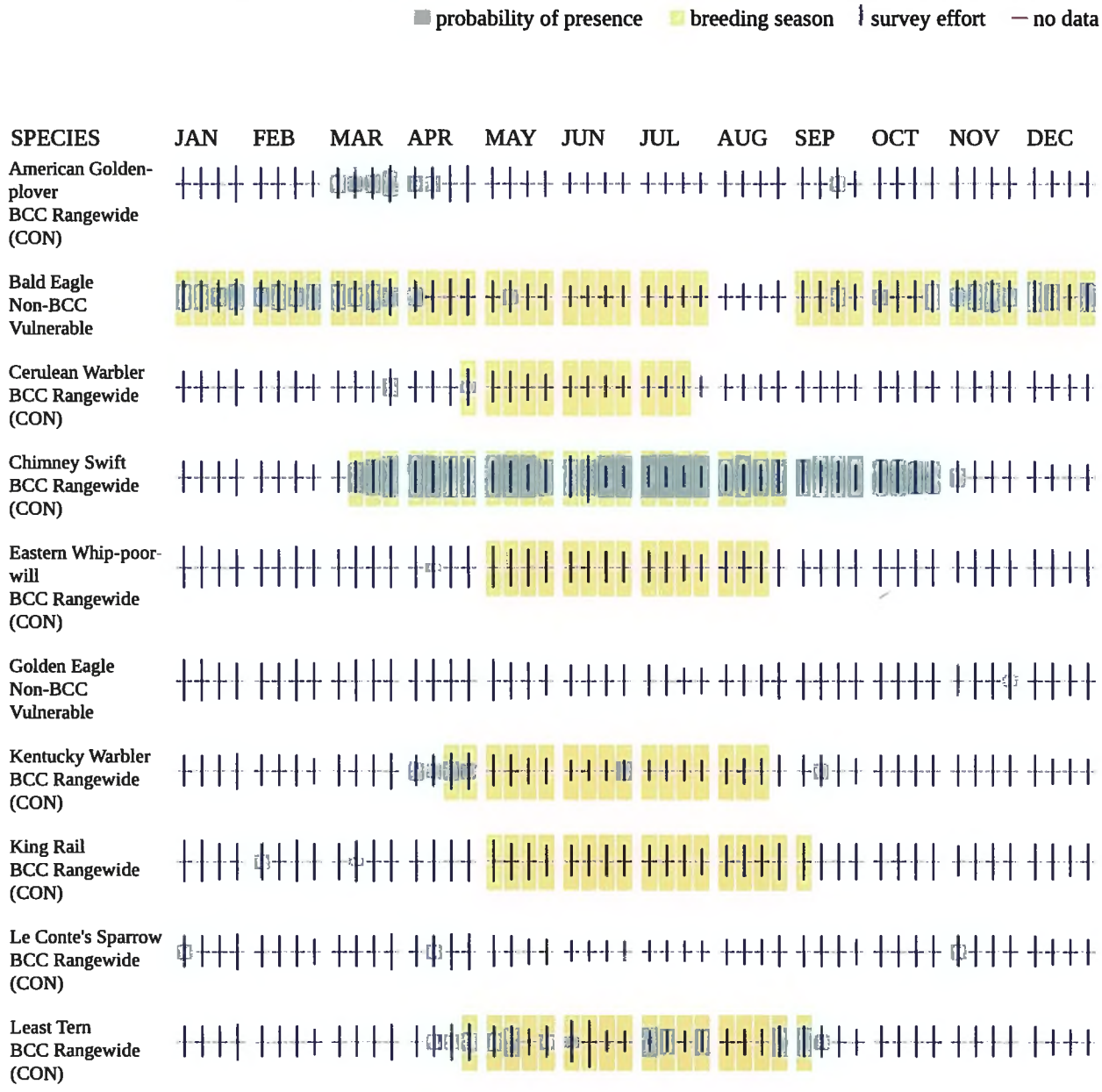
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

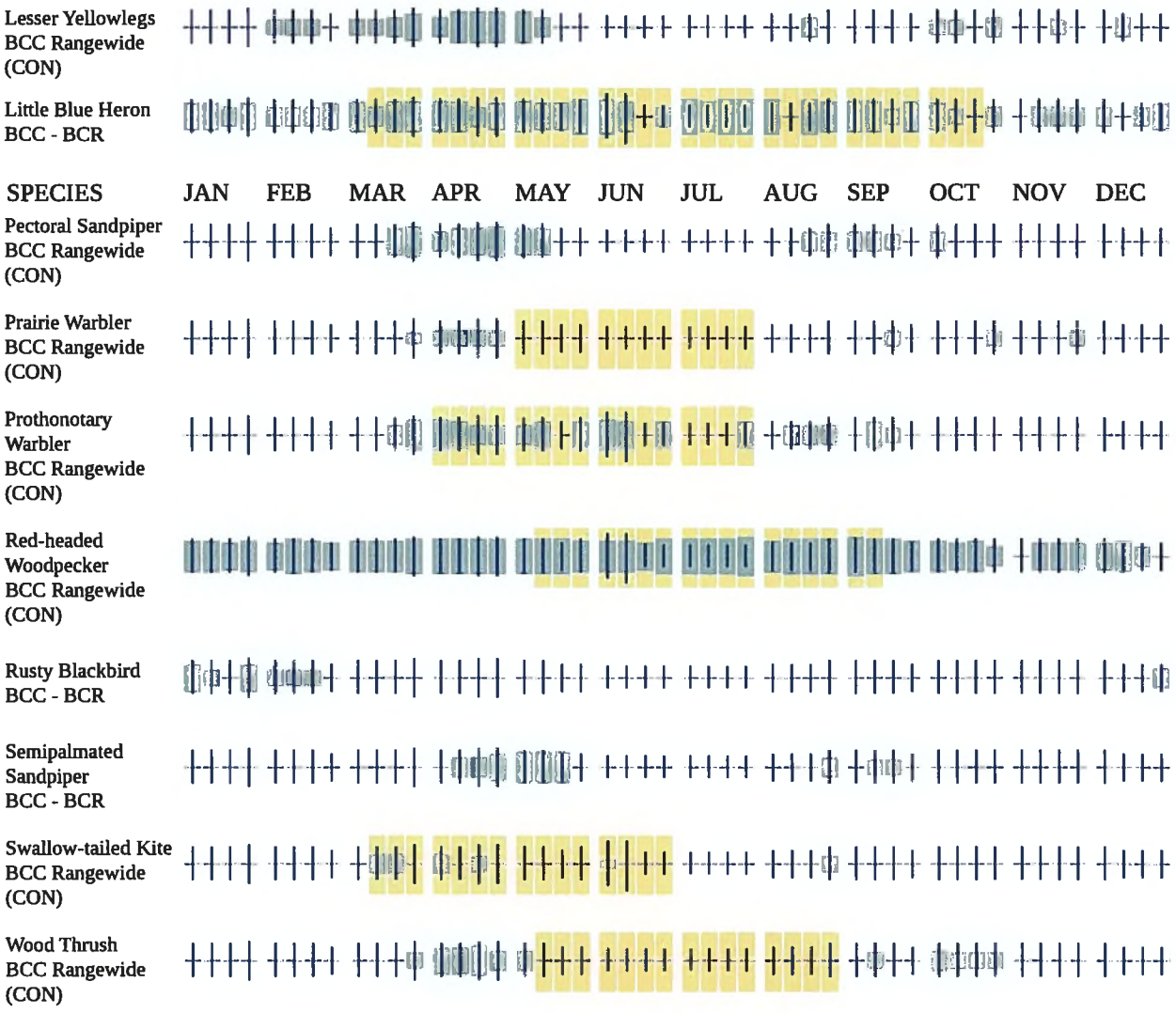
Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Taylor Honigman
Address: 8591 United Plaza Blvd
Address Line 2: Suite 300
City: Baton Rouge
State: LA
Zip: 70809
Email taylor.turner@c-ka.com
Phone: 2259236457

LEAD AGENCY CONTACT INFORMATION

Lead Agency: State of Louisiana

Photo 1: Photo of potential tricolored bat habitat. This is a representative photo of trees found within the PSA and was taken at 30.407733°, -91.182544°.

Photo 2: Photo of potential tricolored bat habitat. This is a representative photo of culverts found within the PSA facing southeast at 30.407485°,-91.182115°. .

Photo 3: Photo of potential alligator snapping turtle habitat facing southeast taken at 30.407866°, -91.182527°.

PJ000858_TE_20250113

Final Audit Report 2025-01-13

Created:	2025-01-13
By:	Taylor Turner (taylor.turner@c-ka.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA570dqHTpTbPa06hqqr3x9k5CmcamvMX3

"PJ000858_TE_20250113" History

Document created by Taylor Turner (taylor.turner@c-ka.com)
2025-01-13 - 5:02:15 PM GMT

Document emailed to Meredith Owens (meredith.owens@c-ka.com) for signature
2025-01-13 - 5:03:26 PM GMT

Email viewed by Meredith Owens (meredith.owens@c-ka.com)
2025-01-13 - 5:05:22 PM GMT

Document e-signed by Meredith Owens (meredith.owens@c-ka.com)
Signature Date: 2025-01-13 - 5:10:57 PM GMT - Time Source: server

Agreement completed.
2025-01-13 - 5:10:57 PM GMT