



## PLANNING COMMISSION AGENDA

Thursday, February 13, 2020  
Morgan County Council Room  
6:30 pm

PUBLIC NOTICE is hereby given that the Morgan County Planning Commission will meet at the above time and date at the Morgan County Courthouse, Council Chambers; 48 West Young St., Morgan, Utah. The agenda is as follows:

1. Call to order – prayer
2. Pledge of Allegiance
3. Approval of agenda
4. Declaration of conflicts of interest
5. Public comment

### **Administrative Discussion:**

6. **Discussion/Decision – Lewandoski Pole Barn Conditional Use Permit:** A proposed conditional use permit for a pole barn located at 63363 West Ridges Circle in Morgan, Utah.
7. **Discussion/Decision – Mountain Green Armormax Conditional Use Permit:** A proposed conditional use permit for a commercial manufacturing facility located at 5649 W Old Highway Road in Mountain Green, Utah.
8. **Discussion/Decision – Frontier Estates Preliminary Plat:** A proposed four-lot subdivision preliminary plat located at the south end of Frontier Drive in Mountain Green, Utah.

### **Other:**

9. Business/Staff Questions.
10. Approval of January 23, 2020, Planning Commission minutes.
11. Adjourn.

## PLANNING COMMISSION MINUTES

Thursday, February 13, 2020  
Morgan County Council Room  
6:30 pm

Minutes of the Morgan County Planning Commission meeting at the above time and date at the Morgan County Courthouse, Council Chambers; 48 West Young St., Morgan, Utah.

### **Present PC Members:**

Member Sessions  
Member Little  
Member Wilson  
Member Stephens  
Chairman Ross  
Member Mayerle  
Member Bass

### **Staff:**

Lance Evans, Planning Director  
Haylie Hale, Planner I  
Bailey Smith, Transcriptionist

### **Public Attendance:**

See Sign-in Sheet

1. Call to order – prayer
2. Pledge of Allegiance
3. Approval of agenda

**Member Bass moved to approve the agenda. Second by Member Mayerle. The vote was unanimous. Motion carried.**

4. Declaration of conflicts of interest
5. Public Comment

Scott Granger from Mountain Green stated he opposes the Frontier Estates development. He stated he is worried that the residents in the neighborhood are not being notified, which puts them at risk. Why should we allow builders to build on a slide area? Because of the history of the area and previous landslide area they should err on the side of caution and protect the people that have invested in the community and live here.

Kim Blackburn owner of Innovative Structural Solutions talked about his business, Innovative Structural Solutions. They are starting to see a lot of people interested in building. He stated they have been working with the developer for the Armormax building and they see something good that will be minimal pollution and add jobs to the county.

Brian Burch from Mountain Green stated recent studies have proved that this is a high hazard area. FEMA stated the number one strategy to circumvent risk is avoidance. Avoidance is what needs to be done with this high hazard proposal. He asked the PC if after receiving all of this knowledge would they be comfortable with proceeding with this development if they lived in one of the existing homes on Frontier Drive or purchasing your new home in the proposed development. Please consider the rights and safety of the residents of Mountain Green when they consider this proposal.

Kathy Haws from Mountain Green stated the reason the PC was there is because their job can not be done by a computer or a robot. If it were just checking the boxes, we would not need human understanding or intuition. We have so many successes in the County and good things to celebrate. She quoted the county code on promoting health safety and welfare for the communities. They turned in over 100 signatures opposing the development. The citizens of the neighborhood have expressed concerns about both water issues and Geotech issues not to proceed with the development. The moratorium was not renewed even though it could have been and many think it should have been. According to the state as of today, they do

not have the capacity. They have not fixed their sanitary survey issues. According to county code 8-12-26 even though at preliminary they are not required to prove water, the planning commission can review if they have sufficient supply of culinary and secondary to the subdivision. They are asking that they help the new businesses, which they are excited about but it is not fair to them or anyone else that they represent they have water when they do not. They would ask that they use their authority to protect the health safety and welfare of the people of the county.

Ayla Granger from Mountain Green stated from a human to a human her backyard was sliding and no one told them before they bought their land. She feels as a community they can say they would not want their friend or neighbor to buy that land. They would all have to live with the consequence if something happens. She suggested putting a moratorium on the land to protect it for the time being. Thank you for letting them have the opportunity to say something.

#### **Administrative Discussion:**

- 6. Discussion/Decision – Lewandoski Pole Barn Conditional Use Permit:** A proposed conditional use permit for a pole barn located at 63363 West Ridges Circle in Morgan, Utah.

Evans presented the application for a conditional use permit for a pole barn. They would like to build a barn that is outside the building envelope. The plat note allows for a CUP to be approved by the county council for development to be built outside of the envelope. The FLUM shows it as agricultural. The ARC approved the barn. We have approved three other conditional use permits in the Ridges. Staff recommends approval with standard conditions.

Chair Ross stated the plat has open space requirements contained in the lots. So in this particular case, there are plat notes that say you need a CUP that has to be approved by the CC. Member Sessions asked since it is a PRUD and open space was taken into consideration that it remains the same. Should they put the note that the owner maintains the open space on the lot? Evans clarified that it would say that they would have to compensate for the barn being built to maintain the square footage of open space in the buildable area. Member Stephens stated he was under the understanding that they had to maintain the open space according to the plat. Chair Ross stated it is not a development agreement so the plat allows for a little leeway on where they can build if they apply.

**Member Bass moved to recommend to the County Council to approve the Lewandoski Conditional Use Permit request to construct an agricultural barn outside the building envelope of Lot 7 of the Ridges PRUD Subdivision, application #20.002 subject to the findings and conditions listed in the February 13, 2020 staff report, and as modified by the conditions and findings below:**

- 1. Maintain the same open space area requirements on the lot.*

**Second by Member Sessions. The vote was unanimous. Motion carried.**

- 7. Discussion/Decision – Mountain Green Armormax Conditional Use Permit:** A proposed conditional use permit for a commercial manufacturing facility located at 5649 W Old Highway Road in Mountain Green, Utah.

Evans presented the application for a conditional use permit for a commercial manufacturing facility in Mountain Green. They are proposing an 18,000 square foot structure and a 14,000 square foot accessory building. Driveway access would be from Old Highway Road that is 850 feet long. They have ample parking and there is a landscaping plan. They are proposing to use Innovative Solutions products with a stucco finish on it so that there is a mix of colors and variations. There is some offset with different elements. It is a structure that will have a good façade for the highway. The project is in a Light Manufacturing zone district. The CUP is for the machining elements of the business. They have future

plans to develop the rest of the site. Staff feels it will be a good addition and meets all of the code requirements. The standard conditions are that it follows all current codes, it will be outside of the floodplain, and that prior to any other development on the site they will go through the subdivision process. There need to be a few conditions to address the water issue. The applicant submitted a will serve from Highlands Water Company. The condition is that Highlands Water Company receives an operating permit from the Division of Drinking Water for the Johnson well site and that the flow rates be sufficient to serve the facility.

Chair Ross stated they have a pending ordinance for architectural standards in the zones. How does that affect this? Evans stated it is pretty close to the standards. They have a landscaping plan that has sufficient trees. It meets the intent of it. The pending ordinance will apply but they meet that intent. Evans stated he does not think they need a condition of approval. Chair Ross asked what the point is of doing a CUP if the land is not subdivided. Evans stated they have talked with the property owners and developers and they have an overall concept plan but they would like to start with this building. Developing this much land is a challenging process. We allow in our process for them to do it a little at a time. It allows the opportunity to see the site plan and propose any conditions that would need to address the potential impacts.

Member Bass asked how tall the building would be. Evans stated that according to the elevation, the top of the wall will be 29 feet from the ground level. Member Wilson asked if they could reiterate what is required for water. Evans stated they are looking at whether the proposed water source is a viable option and the proposed conditions are to make sure that the developer and the owner understand that the Building Department will not issue a permit until the well is up and running. Member Wilson asked when they would start construction if the CUP is approved. Evans stated they would have to ask the applicant that. The conditional use allows them to look at additional requirements. Member Stephens asked if the Johnson well is up and running. Evans stated they have not received an operating permit. Member Bass asked how long is the conditional use permit good for if it is approved. Evans stated he would have to double-check the code. Member Sessions asked the PC for their opinion on whether to hold them to the pending ordinance. Member Mayerle stated that the pending ordinance states that the stucco can only be used as secondary material.

Val poll, representing the applicant, stated they understand that they have to go through the subdivision process and are looking forward to the future. As far as the architectural standards there will be about 4 feet of rock and then stucco above that. They support staff's recommendations for the conditions. Chair Ross asked when they would start building. Poll stated they would start as soon as the operating permit is obtained. Chair Ross asked if the well would service the lower area. Poll stated the building would use less than most homes as they only have two bathrooms, a sink, and an occasional use shower. Chair Ross asked about the pending ordinance. Evans stated according to code the requirement for a CUP is, they have a year to make positive action. Member Bass stated they should hold the applicant to the pending ordinance. Chair Ross asked the applicant if they would uphold the pending ordinance. The applicant stated one month is not unreasonable to wait. Two months would be harder. Evans stated he is not comfortable with saying it will be done in a month.

**Member Sessions moved to approve the Armormax Conditional Use permit for the purpose of a metal manufacturing and automobile modification use, file #20.010, subject to the findings and conditions listed in the February 13, 2020 staff report, and as modified by the conditions below:**

1. *That Highlands Water Company receives an operating permit from the State of Utah Division of Drinking Water for the Johnson Well Site.*
2. *That Highlands Water Company demonstrates, through capacity tests, verified by Utah State Division of Drinking Water and the County Engineer to provide sufficient source capacity and determine to be sufficient showing a safe yield and capacity to the proposed CUP in addition to all the current service requirements.*
3. *That the building complies with the pending ordinance for commercial architectural standards.*

**Second by Member Stephens. The vote was unanimous. Motion carried.**

**8. Discussion/Decision – Frontier Estates Preliminary Plat:** A proposed four-lot subdivision preliminary plat located at the south end of Frontier Drive in Mountain Green, Utah.

Evans presented the preliminary plat application for Frontier Estates Subdivision. The zoning is RR-1 with RR-10 to the East. The Future Land Use Map and General Plan designate this area Village Low Density. Which are half-acre lots which are a high-level standard and further to the west it is rural residential which are one-acre lots? Staff has looked through the code and addressed the elements that are required. They are proposing four lots. The property to the south would not be part of the development. They are proposing to have the building envelopes be the only location for any type of activity. There are 8 plat notes discussing how the elements and any development is contained in the building envelope.

Evans explained that through the concept plan application the planning commission directed the applicant to do the Geologic Hazards work prior to the preliminary plat. The applicant included the study and findings in the application. The Engineer, Geologist, and the State Geologic Survey reviewed the study. The recommendations that came from that are the plat notes listed. They are that the project is in a geologic hazards area, it is prone to slides, and setbacks are required to be 25 feet back from the slide area. They would not be able to do anything in the non-buildable areas of the property. They would require that any scarps and geologic hazards areas would be identified by a geologist on-site. Any work to the bed or banks of the streams within twice the bankfull up to a maximum of 30 feet on either side of that embankment elevation will require stream alteration permit. If the site grade were raised by more than 4 ft. it would require additional stability analysis.

Evans stated the County Engineer reviewed the plat and stated the plat notes need to be followed and the cross-sections need to be shown. The addition of stormwater be shown conceptually and some changes to what those standards are. The current phase would have to show 110 feet. The other issue is the water company and its capacity. Highlands Water has met the requirement for a service agreement that states they will serve the property. In the agreement they referenced the Johnson well site being part of the capacity. A condition was added that they receive the operating permit and to show if they have the capacity. Evans stated with the concerns of the public it is a difficult situation. There has been a significant impact on the Trappers Pointe Subdivision and the homes there. That is why they have done all of the geologic hazard testing done.

One other condition of approval that needs to be added is that the grade control structures are installed to prevent erosion as directed by the State Engineer's office. Chair Ross read the portion of code that they have to follow. Member Bass asked if it met the code. Member Stephens asked if there were geologic surveys done on the areas that had mudslides. Evans stated he believed so. Member Stephens stated the list from the Engineer is not complete. Evans stated those items could be done before the final plat. Member Sessions stated the final plat goes straight to the County Council. Member Stephens asked about the other two lots. Evans stated they would not be part of the subdivision application. Member Bass asked if they would have the same issue with the two lots on the other side of the road. Evans stated the issues are at the scarp lines and the steeper slope on the west side.

Member Sessions asked if all owners needed to be applicants or does it just need to be one. Evans stated the applicant has provided to staff that they are the majority owner and have control. Member Sessions asked what the red dotted line means. Evans stated he understood that it is the 25-foot setback. Member Sessions stated that according to the code 8-12-43J they could not have remnant parts of the parcel the entire parcel has to be included in the map boundary description. They would need to do a bona fide agricultural subdivision that would separate off the main parcel as agricultural land leaving the boundary of the subdivision in place. She feels it needs to be done prior to preliminary. She mentioned that there was no plat note regarding fill restrictions. Evans stated they had submitted an initial document that had additional plat notes. Member Sessions clarified that if they want to put fill in they would have to do a new Geotech. Evans stated that a geologist said that dirt weighs more than a home does, so when they dig out a basement they are taking a load off the ground.

Member Wilson asked what makes the ground unstable. Evans stated he is not a geologist but soil types and water do. Member Wilson asked what happens in a heavy water year could the escarpment

change. Evans stated that it could. Evans stated the geologist recommended moving any development 25 feet away from the scarping. Member Wilson asked if the 25 feet is sufficient. Evans stated he did not know, the geologist said yes it would be. Member Wilson asked if there is any information on movement over the years from other subdivisions. Evans stated he believes Trappers Pointe does. Member Wilson asked what kind of liability would it create for the county. Council Member McConnell stated there would be zero liability.

Member Mayerle asked about the plat note not allowing landscaping but they can put a road in that same area. He feels that it is in violation of the plat note. Member Sessions stated the geohazards ordinance says slope stability cannot be contingent on uncontrollable factors such as limiting landscaping and irrigation yet the plat note is requiring them to limit it. Chair Ross asked who recommended the plat note. Member Sessions stated the Engineer and geologist. Evans stated he had spoken with the Geologist and was told that it is a controllable factor and that's what the code requires.

Kirk Smith stated they agree with staff's recommendations to approve it. He addressed Member Mayerle's concern with the setback line. He stated you could not do anything west of the dashed line. Member Mayerle stated it does not matter what part of the line they are on the road goes through that line. That is an area that is identified by the plat note that they will not disturb that area. Kirk stated that the Geologist knew where the road was going and they know that it will be developed with compacted soil and will be secure. Bart Smith stated the best thing you can do in a suspect area is to put a drain in. It would stabilize the area more than leaving it natural. He stated the gulley is not a scarp. The scarp is along the backside of the four lots.

The applicant asked if the bona fide agricultural subdivision can be added as a condition of approval or are they going to postpone until that is done. Chair Ross stated it could potentially be a condition but they would need to discuss it first. Bart Smith asked if they are ok with the water. If you read the geology report, it did take into account the groundwater in the study. Chair Ross asked the applicant if they could speak about the movement in Trapper's Pointe. Bart Smith stated initially the County Engineer required a retention pond that had a pipe going into the gulley. The contractor that was driving over it crushed the pipe. The water-saturated that area causing the slide. They took the pipe out and hauled in compacted fill as per the state engineer's specs creating a buttress. As everything settled in some of those moved enough. He does not think anyone has checked it for years or if any residents can show anything in their yards since that happened. He also does not know if there has been enough ground movement. He built a home and put helical piers in. He added that had the pipe not been crushed they would not have that problem.

Chair Ross suggested going over the code to check off whether they have a complete application. Vicinity map complies. The certified boundary survey will require modifications. The preliminary plat complies but requires revision. Chair Ross asked if the new study had a different conclusion than the 2006 study. Evans stated he did not review the 2006 study but the state geologists stated it complies with the new ordinance. The phasing plan should have been included in the preliminary plat so this is a 4-lot subdivision.

**Member Bass moved to postpone the application to the March 12<sup>th</sup> PC meeting. To get more answers on the plat and from the engineer. Second by Member Mayerle.**

Member Stephens asked what the list would be. Chair Ross read some of the items they had listed that they needed clarification. Member Mayerle asked for more interpretation on the topic Member Sessions brought up about the Geohazards ordinance. Evans stated he has received clarification on that which he can include.

**The vote was unanimous. Motion carried**

**Other:**

#### 9. Business/Staff Questions.

Evans stated they have hired for the planner I position. Her name is Haylie Hale. No other items to discuss. Chair Ross asked what the summer looked like. He knows there are some codes to clean up and commercial design standards ordinance. Evans stated there would be a draft next meeting. Member Bass asked about the fencing ordinance. Evans stated it went to the council but there were only three members

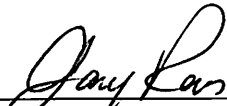
present so it has to go back. Member Sessions asked about the General Plan. Evans stated staff has been a little short-staffed and trying to keep things going on with the active permits. In the next month, it will be better. Chair Ross asked if they could get the new property rights ombudsman to come up to go over the basics of the website. Evans stated he would invite him.

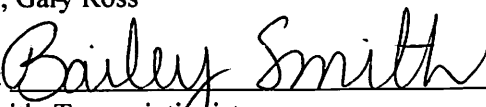
10. Approval of January 23, 2020, Planning Commission minutes.

**Member Sessions moved to approve January 23, 2020, Planning Commission Minutes. Second by Member Mayerle. The vote was unanimous. Motion carried.**

11. Adjourn.

**Member Stephens moved to adjourn. Second by Member Bass. The vote was unanimous. Motion carried**

Approved:  Date: 2-27-20  
Chairman, Gary Ross

ATTEST:  Date: 2-27-20  
Bailey Smith, Transcriptionist  
Planning and Development Services

SIGN IN SHEET  
MORGAN COUNTY PLANNING COMMISSION  
Morgan County Council Room  
Thursday, February 13, 2020

1. Kelly Foundy	21. _____
2. Tina Kelley	22. _____
3. Steve Rollings	23. _____
4. BRUCE WOOD	24. _____
5. KATHRYN WOOD	25. _____
6. Shelley Rollings	26. _____
7. Carolyn Wilson	27. _____
8. Ayla Branger	28. _____
9. Rich Hostil	29. _____
10. Jany Parker	30. _____
11. Russ Sheridan	31. _____
12. Wade Warner	32. _____
13. Jodee Warner	33. _____
14. Ed Anderson	34. _____
15. Kathy Haw	35. _____
16. _____	36. _____
17. _____	37. _____
18. _____	38. _____
19. _____	39. _____
20. _____	40. _____



# INNOVATIVE STRUCTURAL SOLUTIONS



- **80% less tied rebar**
- **50% less concrete**
- **Effect R value of 38**
- **Faster Build Time**
- **Fewer Trades**
- **At Least 50% Lighter**

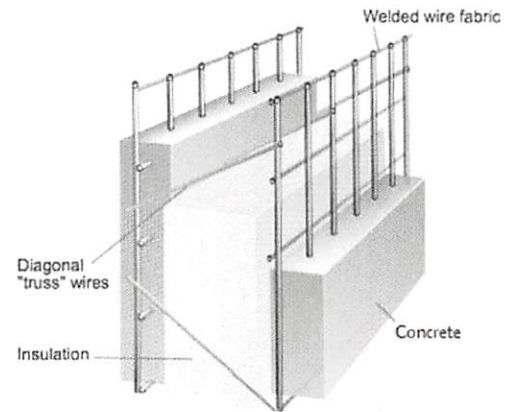
- **Smaller Footings/Cranes**
- **Taller Walls**

**Innstruct  
Structural  
Insulated Tilt  
System**



Innovative Structural Solutions (INNSTRUCT)  
RE: Tilt-up Insulated Panel System (TIPS)

**PATENT  
PENDING**



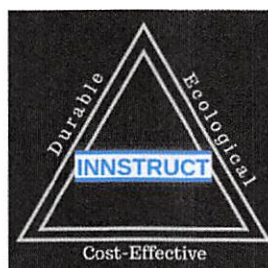
At Innovative Structural Solutions (Innstruct) we have developed a process that utilizes our Innstruct Structural Concrete Insulated Panel (SCIP) to create the **Tilt-up Insulated Panel System (TIPS)** as the primary structural and insulating member in conventional tilt construction.

The unique construction of our Innstruct SCIP, featuring 9 ga. diagonal truss wires, 11 ga. face mesh with 2" x 2" squares, and 4" of expanded polystyrene, requires only 4" of concrete to be used in an 8" insulated tilt panel. The system reduces the amount of added tied in place rebar by more than 80% and concrete material by 48% or greater depending on panel composition. The 4" of EPS in ISITS, when combined with the concrete shell, provides an effective R38 wall. The use of our diagonal truss wire is what allows TIPS to reduce concrete and rebar material to create a panel that is at a minimum 48% lighter and significantly stronger than conventionally constructed tilt panels. The reduced weight and additional strength allow for panels of up to 70' in height and will significantly reduce crane and footing sizing. Also, there will be a significant labor savings and increase in production given the speed at which the TIPS panel assemblies can be constructed when compared to conventional tied in place rebar and insulation systems.

Our strength claims are validated by structural data that was recorded during testing completed by Utah State University's "smash lab", and overseen by Mark McGuire Ph.D, who is also a Tilt Concrete Association board member. This data has been confirmed and combined with findings by Forsgren Engineering, our consulting engineers, using their SCIA finite element software. Additionally, Dayton Superior has reviewed and engineered ISITS panels for pick points, bracing and embed plates. All testing groups confirm that it is the lightest and strongest panel, and a "game changer" in tilt construction.

By using the Tilt-up Insulated Panel System (TIPS), a lighter, stronger, and more cost-effective panel, and consequently building, can be constructed while still using totally conventional methods with no additional equipment or trades. These factors translate into increased profitability for builders and developers, as well as decreased operating costs for end users.

Please access our website at <http://www.innstruct.com>. To review all of the testing on Innstruct Panel and the traditional ways that we have used the product.





# INNOVATIVE STRUCTURAL SOLUTIONS

## "ISS"

### 3-D PANEL SYSTEM

[www.lnnstruct.com](http://www.lnnstruct.com)

**STRONGER THAN BLOCK**

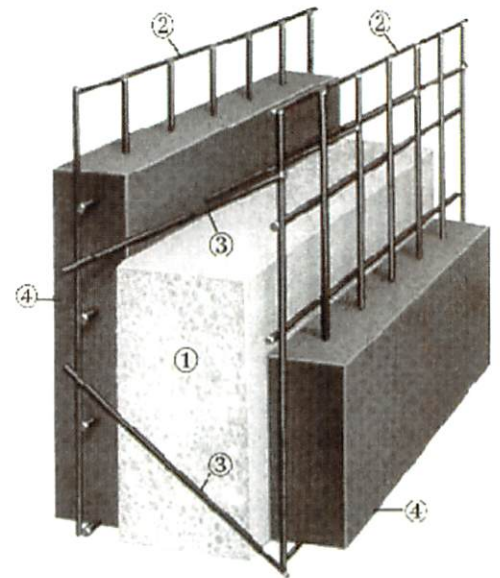
**MORE VERSATILE THAN WOOD  
OR METAL FRAME**

**FASTER CONSTRUCTION TIME THAN  
ANY OF THEM**

#### Changing Construction Methods-Worldwide

##### **ISS 3-D Panel system**

The components of the 3-D System are environmentally "Green" and will assist any project in "LEED" certification. Its extraordinary design, flexibility, ease of installation, versatility of application and astonishing strength are changing the way the construction industry sees the future.



The 3-D Panel "System" is exceptionally rigid and comprised of:

- ① **Modified Expanded Polystyrene Core - 1 lb. Density**
- ② **Two Outer Layers of 2" x 2" Welded Wire Mesh - 11 ga.**
- ③ **Galvanized Truss Wires Pierce the Core and are Welded to the Outer Mesh Layers - 9 ga.**
- ④ **Field-Applied Shotcrete - Minimum 2,500 psi**

Developed in 1962 by EVG of Austria and manufactured by Innovative Structural Solutions, located in Morgan, Utah. The 3-D Panels are produced to exacting tolerances using patented high-speed machinery. The Panels' light weight yields dramatic advantages in lower shipping costs, easy job-site handling, rapid erection/installation, and finishes limited only by your imagination.



# ISS 3-D PANEL SYSTEM

## A System So Flexible, It Stretches The Imagination!

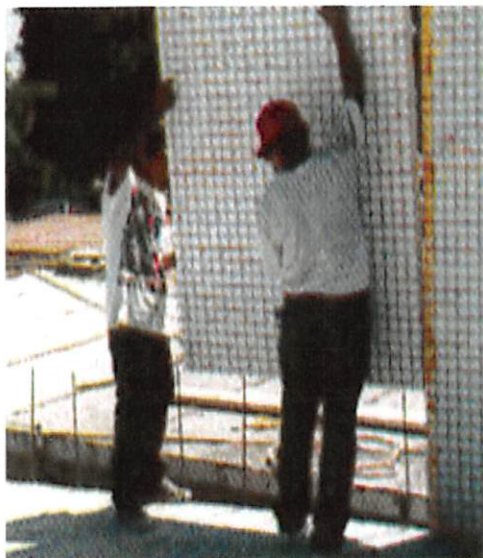
### Time and Money

#### 3-D Panels Save Both

Each 3-D panel is lightweight (a 4'x 8' panel weighs just 48 lbs.), thus easily handled and installed. Walls can go up in hours, entire buildings, even multi-storied, in just weeks, even with non-specialized labor. Placed over slab-embedded steel dowels, 3-D panels are fastened to one another and seams and corners are reinforced with wire mesh. Window and door openings are quickly cut to accommodate any type frame material. The space between the core and wire mesh allows for rapid placement and routing of electrical and plumbing. Field-applied, wet or dry shotcreting to the recommended thickness produces a monolithic concrete structure that accepts any type of interior and exterior surface texture treatment.

#### Tests. Man's and Mother Nature's

In test after rigorous test, involving extraordinary forces and conditions, ISS 3-D panels have excelled.\*\* Results of wind-load and load-bearing tests are startling, meaning that the ISS 3-D panel system is



adaptable to virtually any structural requirement or climatic/environmental/seismic condition.

Mother Nature has provided the severest of tests to the panel system. A home built with ISS 3-D panels in Homestead, Florida survived the fury of a hurricane with no structural damage; a two-story research complex, built with 3-D panels in the Mojave Desert, withstood California's worst earthquake in 40 years (7.4 Richter) with zero structural effects.

#### Benefits For Everyone- Engineers Architects, Contractors, Owners.

Greater Design Flexibility- panels 4' wide by any length (in 8 inch increments) and adapt easily to curved/arched design applications. Reduced Heavy Equipment on Job Sites- handling/installation requires little equipment and reduces manpower needs.



Fewer Specialized Trades Required- the need for framing, masonry, insulation and drywall trades will be reduced or eliminated.

Simplified Utility Installation- easy routing of electrical and plumbing.

Reduced Construction Time- It is not uncommon for workers to erect the shell of a 2,500 sq. ft. structure in less than a day.

Greater Structural Integrity- this produces a continuously reinforced, insulated wall with extraordinary strength-to-weight ratios.

Early Completion=Early Occupancy- This can mean a lower total capital investment and a quicker return on investment.

Excellent Thermal/Sound Barrier- modified expanded polystyrene core meets all VA,FHA and HUD thermal requirements; double shell configuration minimizes sound

Lower Maintenance Costs- a concrete structure minimizing long-term maintenance costs. Environmentally Intelligent- made from recycled steel; polystyrene core that does not contain CFCs\*, System does not deplete our forests

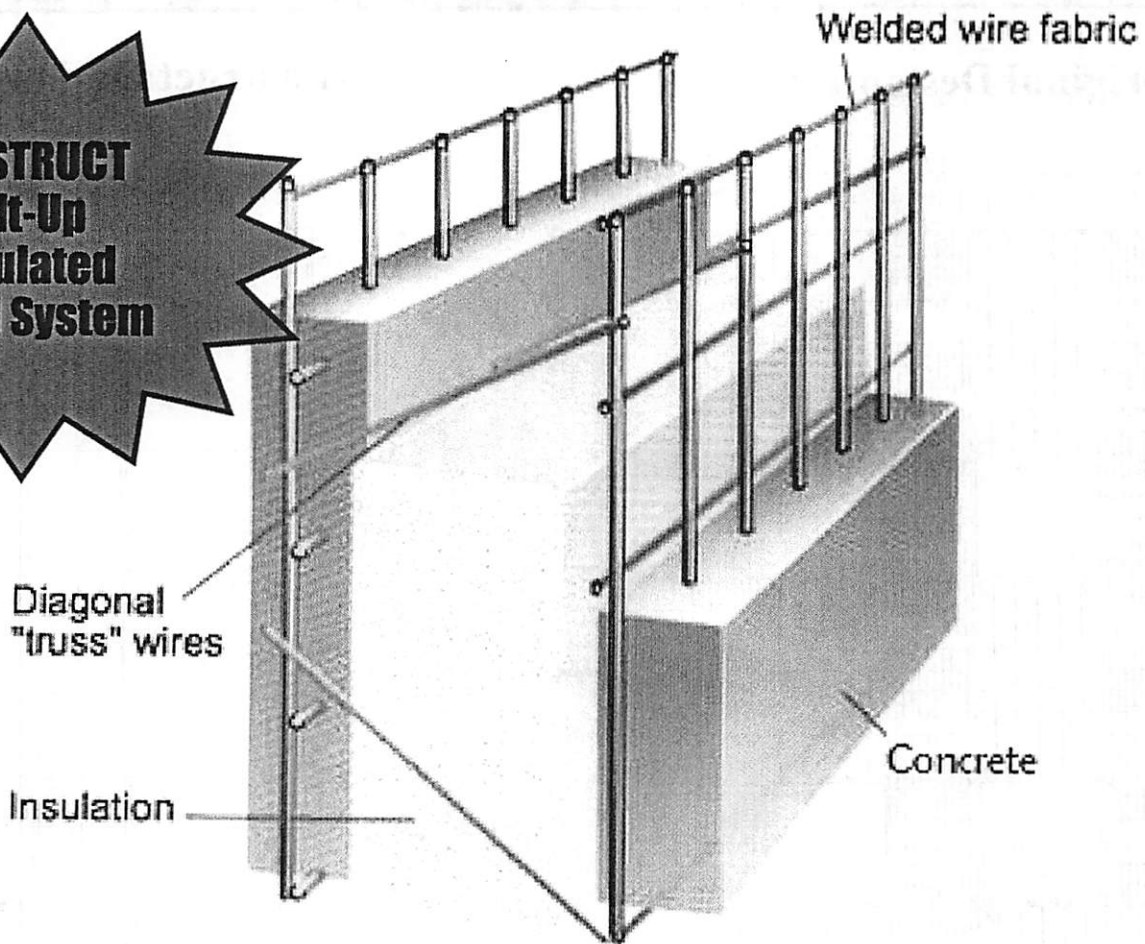
Limitless Applications- The ISS 3-D Panel system is being used in construction projects of virtually every type around the world, incl.: Commercial Office Buildings, Schools Upscale Homes, Fire Stations, Mfg. Facilities, Assisted Living Cntrs., Correctional Facilities, Sound Walls, Low-Cost Housing Projects, Municipal structures, Fire Walls, Condominium Developments

\*The material used in the core of 3-D Panels contains no ozone-damaging chlorofluorocarbons (CFC's) either in the manufacturing process or end product; it is recyclable and may be safely incinerated.

\*\*Full test results and data are available upon request.

# INNOVATIVE STRUCTURAL SOLUTIONS

## **INNSTRUCT Tilt-Up Insulated Panel System**



- **80% less tied rebar**
- **50% less concrete**
- **Effect R value of 38**
- **Faster Build Time**
- **Fewer Trades**

- **At least 50% lighter**
- **Smaller Footings/Cranes**
- **Taller Walls**
- **More Profit**

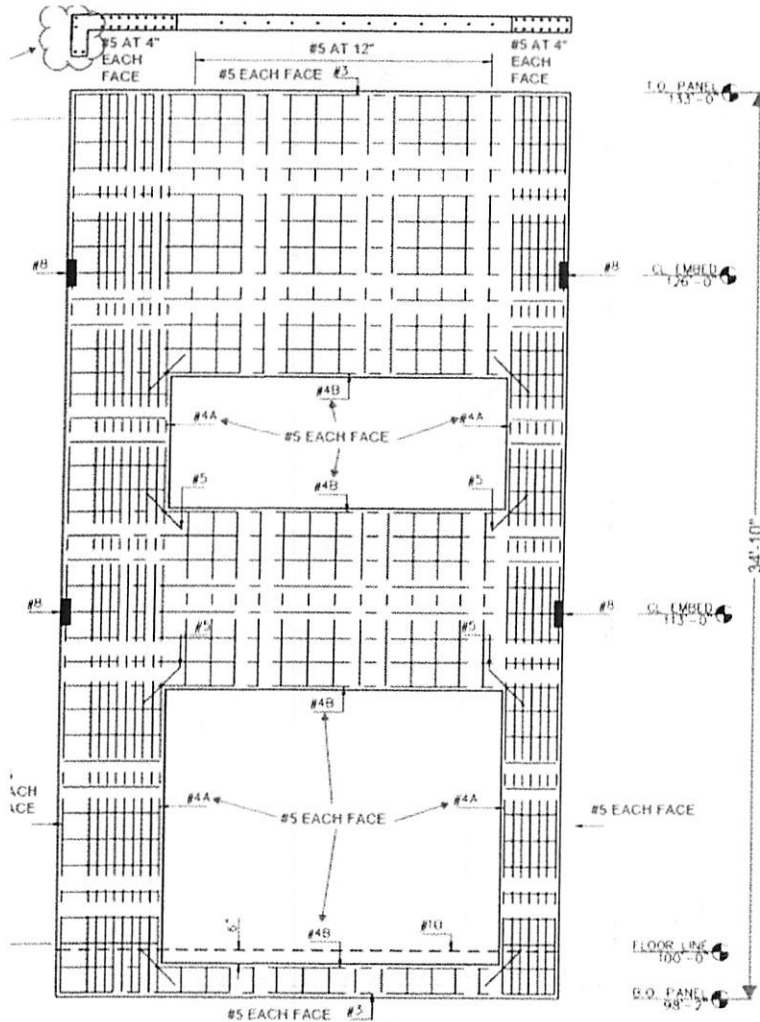
Visit [www.innstruct.com](http://www.innstruct.com)  
for more details



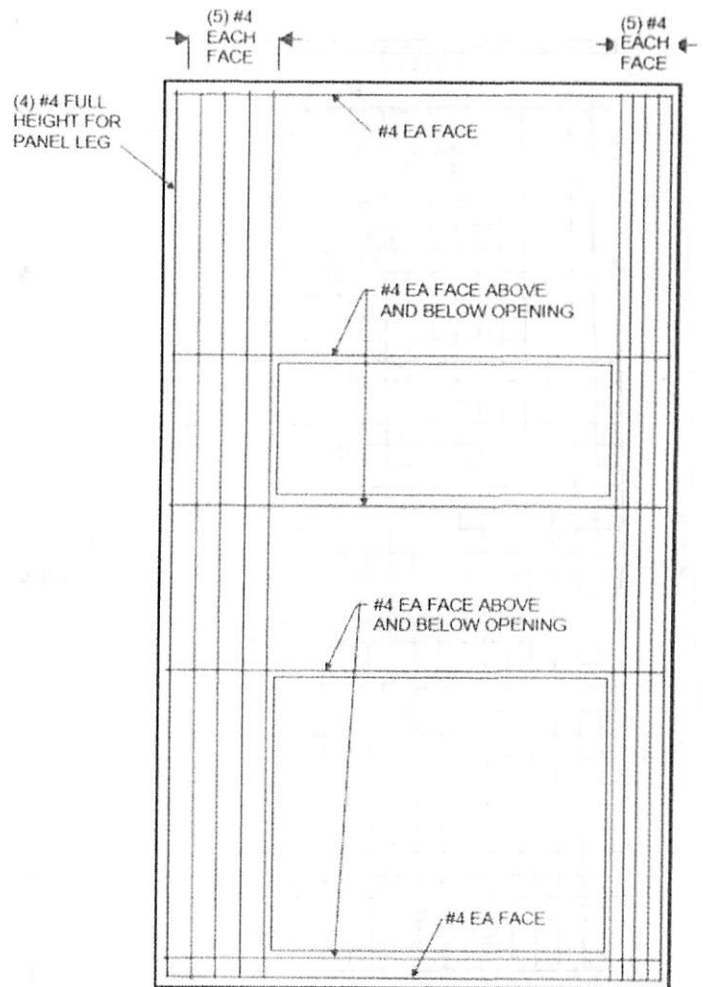


Design Comparison Summary											
Description		Original Design				Innstruct Design				Innstruct/Orig.	Reduced
Concrete	Panel B (ft <sup>3</sup> /yd <sup>3</sup> )	336.3	ft <sup>3</sup>	12.5	yd <sup>3</sup>	231.9	ft <sup>3</sup>	8.6	yd <sup>3</sup>	69%	31%
	Panel N (ft <sup>3</sup> /yd <sup>3</sup> )	445.0	ft <sup>3</sup>	16.5	yd <sup>3</sup>	306.9	ft <sup>3</sup>	11.4	yd <sup>3</sup>		
	Panel G (ft <sup>3</sup> /yd <sup>3</sup> )	312.1	ft <sup>3</sup>	11.6	yd <sup>3</sup>	215.3	ft <sup>3</sup>	8.0	yd <sup>3</sup>		
	Total (ft <sup>3</sup> /yd <sup>3</sup> )	1093.4	ft <sup>3</sup>	40.5	yd <sup>3</sup>	754.1	ft <sup>3</sup>	27.9	yd <sup>3</sup>		
Additional Reinf.	Panel B (in <sup>3</sup> /lbs)	10805.1	in <sup>3</sup>	3063.9	lbs	2989.9	in <sup>3</sup>	847.8	lbs	28%	72%
	Panel N (in <sup>3</sup> /lbs)	6115.1	in <sup>3</sup>	1734.0	lbs	889.6	in <sup>3</sup>	252.3	lbs	15%	85%
	Panel G (in <sup>3</sup> /lbs)	8233.3	in <sup>3</sup>	2334.7	lbs	2553.6	in <sup>3</sup>	724.1	lbs	31%	69%
	Total (in <sup>3</sup> )	25153.5	in <sup>3</sup>	7132.6	lbs	6433.1	in <sup>3</sup>	1824.2	lbs	26%	74%

## Original Design Example



## Innstruct Design Example



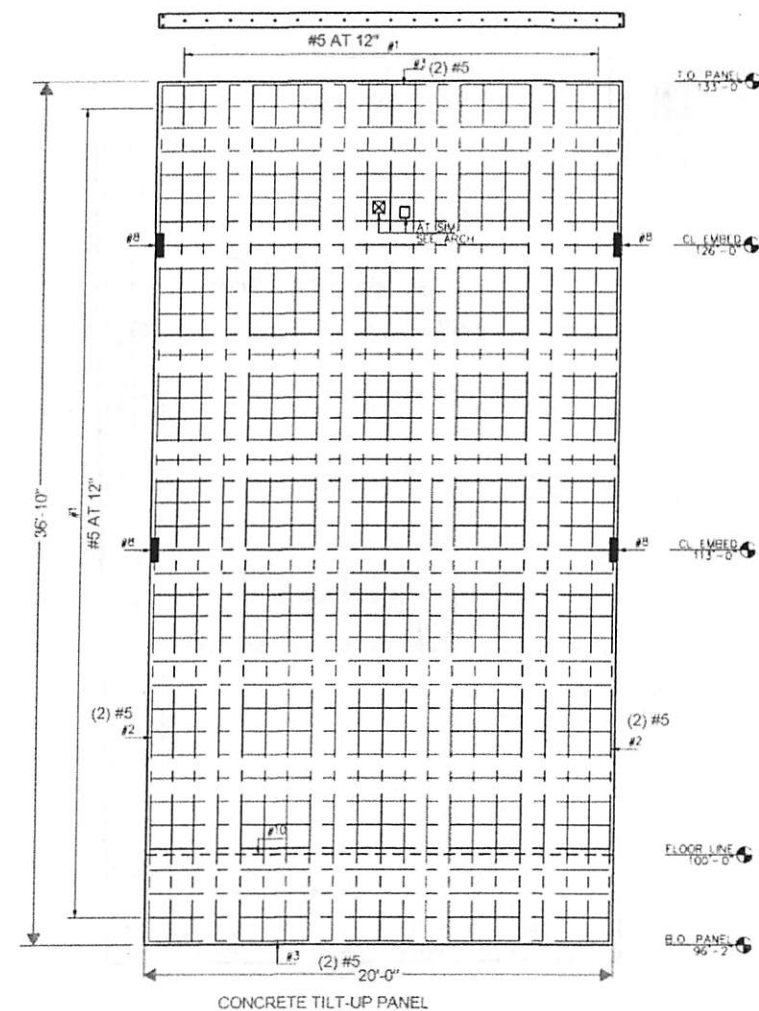
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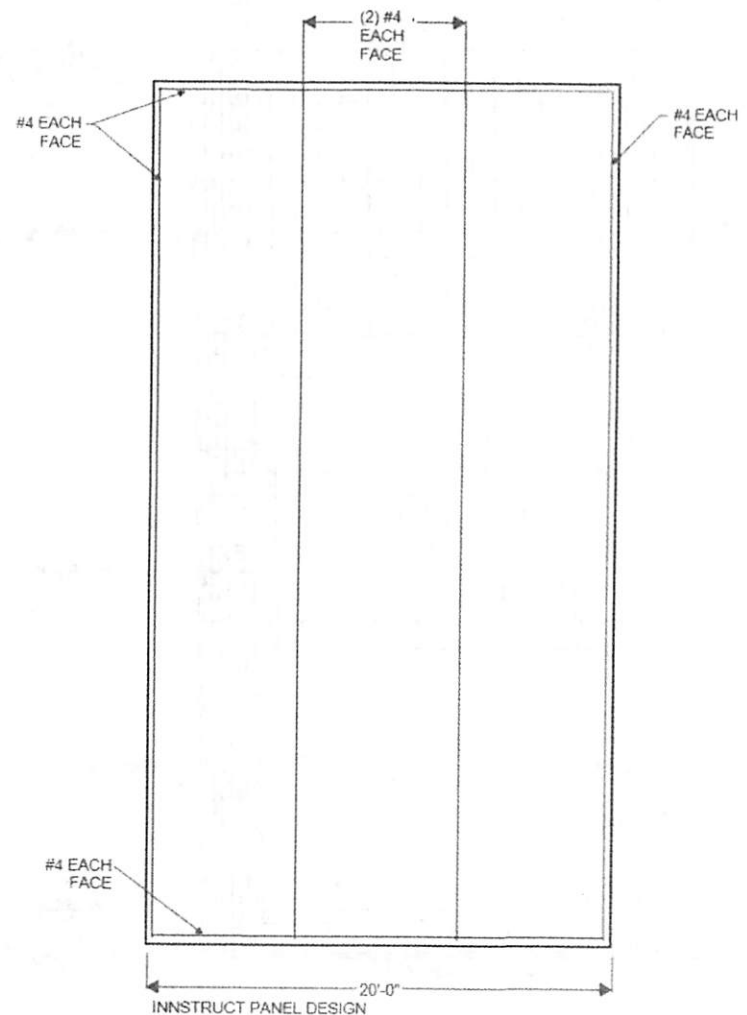
to get more information and see more detailed examples

Design Comparison Summary											
Description		Original Design				Innstruct Design				Innstruct/Orig.	Reduced
Concrete	Panel B (ft <sup>3</sup> /yd <sup>3</sup> )	336.3	ft <sup>3</sup>	12.5	yd <sup>3</sup>	231.9	ft <sup>3</sup>	8.6	yd <sup>3</sup>	69%	31%
	Panel N (ft <sup>3</sup> /yd <sup>3</sup> )	445.0	ft <sup>3</sup>	16.5	yd <sup>3</sup>	306.9	ft <sup>3</sup>	11.4	yd <sup>3</sup>		
	Panel G (ft <sup>3</sup> /yd <sup>3</sup> )	312.1	ft <sup>3</sup>	11.6	yd <sup>3</sup>	215.3	ft <sup>3</sup>	8.0	yd <sup>3</sup>		
	Total (ft <sup>3</sup> /yd <sup>3</sup> )	1093.4	ft <sup>3</sup>	40.5	yd <sup>3</sup>	754.1	ft <sup>3</sup>	27.9	yd <sup>3</sup>		
Additional Reinf.	Panel B (in <sup>3</sup> /lbs)	10805.1	in <sup>3</sup>	3063.9	lbs	2989.9	in <sup>3</sup>	847.8	lbs	28%	72%
	Panel N (in <sup>3</sup> /lbs)	6115.1	in <sup>3</sup>	1734.0	lbs	889.6	in <sup>3</sup>	252.3	lbs	15%	85%
	Panel G (in <sup>3</sup> /lbs)	8233.3	in <sup>3</sup>	2334.7	lbs	2553.6	in <sup>3</sup>	724.1	lbs	31%	69%
	Total (in <sup>3</sup> )	25153.5	in <sup>3</sup>	7132.6	lbs	6433.1	in <sup>3</sup>	1824.2	lbs	26%	74%

## Original Design Example



## Innstruct Design Example



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