

A D D E N D U M N O . 1

to the

CONTRACT DOCUMENTS

FOR

MAGNOLIA BEACH FIRE STATION PROJECT

FOR

CALHOUN COUNTY, TX

873 MARGIE TEWMEY RD #1
PORT LAVACA, TEXAS

TEXAS GENERAL LAND OFFICE

GLO CDBG MIT-MOD CONTRACT NO. 24-065-152-F011

FEMA PROJECT NO. DR-4485-0067

March 12, 2026



Prepared by:

G&W Engineers, Inc.

205 West Live Oak
Port Lavaca, Texas 77979
(361) 552-4509



Clarifications to the original Contract Documents, Contract Drawings and/or Specifications have been deemed necessary, and in certain cases, revisions to the original Contract Documents, Contract Drawings and/or Specifications are required. If discrepancies and/or inconsistencies exist between these specified revisions and the original Contract Documents, Contract Drawings and/or Specifications, said Addendum No. 1 shall govern.

1. A pre-bid meeting was held Thursday, February 26, 2026 at 10:00 AM. The pre-bid meeting minutes and sign-in sheet are attached hereto.
2. The attached questions from CivCastUSA.com and emailed questions with their respective answers shall be considered final and incorporated into the Contract Documents. As noted in the documents, it was the BIDDER responsibility to provide a complete bid and ask any questions necessary within the questions period.
3. Certain portions of this project are tax exempt as applicable by tax laws and a certificate can be supplied to awarded contractor.
4. Forms required with proposal as part of the bid package will be acceptable with signature using electronic signature.
5. Submission of a bid with any clarifications, stipulations, exceptions shall **not** be considered, accepted or incorporated into the contract as a condition for award, contract or commitment to be able to perform the work.
6. The bid deadline and bid opening date shall remain unchanged.
7. The cornerstone is to be procured and delivered to project by Owner. Contractor to coordinate and/or work with Owner to conduct a “Cornerstone Placement Ceremony”.
8. ALL exterior components of the building itself are to have shop drawing and submittals provided after award/contract which have attached the proper TDI evaluation report paperwork included within the submittal. Failure to include the TDI evaluation report for all items will result in an automatic rejected submittal without further review.
9. Required inspections related to the building alone and more specifically related to windstorm shall be as outlined on the attachment to this addendum. Contractor required to give adequate notice to Engineer to allow for scheduling of the inspection. The Owner’s Engineer will perform Windstorm Inspections and submit all required paperwork to the Texas Department of Insurance. Repetitive Failed inspections (more than 1) and subsequent re-inspections shall be paid for by Contractor in the form of retainage permanent retention in the amount of costs incurred for such inspection(s). The Engineer will keep costs associated with repetitive failed inspections separately invoiced from the general engineering costs and provide a detailed breakdown of manhour and billing rates associated with the failed inspection.

CONSTRUCTION PLANS

REMOVE: C9.2, S1.0, S1.1, A1.1, A1.2, A1.3, A1.4, A1.7, A1.8 & A1.9
REPLACE with: C9.2, S1.0, S1.1, A1.1, A1.2, A1.3, A1.4, A1.7, A1.8 & A1.9;
Rev. 1 (All signed and sealed on 03.12.26)

EXPLANATION: C9.2 – Corrected Notes, Table and Detail 9.
S1.0 – Corrected dimensions and revised/added notes.
S1.1 – Corrected dimensions and added note.
A1.1 – Revised General Notes
A1.2 – Revised Door “D” note.
A1.3 – Revised Insulation Notes
A1.4 - Added note for blind requirements.
A1.7 – Modified Notes and updated call outs.
A1.8 – Modified Notes and updated call outs.
A1.9 – Updated call outs.

CONTRACT DOCUMENTS

REMOVE: Bid
REPLACE with: Revised Bid
EXPLANATION: Clarifications and Additional Bid Items added to base bid as appropriate.

TECHNICAL SPECIFICATIONS

REMOVE: Section 01210 – Allowances
REPLACE with: Revised Section 01210 - Allowances
EXPLANATION: 1.3 B: Added: Item 2. Contingency
And
3.3 A: Revised Items 1- 48 to: Items 1-50

REMOVE: Section 01340 – Shop Drawings, Product Data and Samples
REPLACE with: Revised Section 01340 - Shop Drawings, Product Data and Samples Allowances
EXPLANATION: General Updates and inclusion of TDI specific language.

REMOVE: Section 01410 - Inspection, Testing and Guarantee
REPLACE with: Revised Section 01410 - Inspection, Testing and Guarantee
EXPLANATION: General Updates and inclusion of specific testing requirements.

REMOVE: Section 02111 – Clearing, Rough Grading, Compaction and Finish Grading
REPLACE with: Revised Section 02111 – Clearing, Rough Grading, Compaction and Finish Grading
EXPLANATION: Inclusion of referenced sections for Testing.

REMOVE: Section 02220 - Structural Earthwork
REPLACE with: Revised Section 02220 - Structural Earthwork
EXPLANATION: Inclusions of referenced sections for Testing

REMOVE: Section 10800 - Miscellaneous Specialties
REPLACE with: Revised Section 10800 - Miscellaneous Specialties
EXPLANATION: General Updates including plan specific updates

REMOVE: Section 13121 - Pre-Engineered Metal Buildings
REPLACE with: Revised Section 13121 - Pre-Engineered Metal Buildings
EXPLANATION: General Updates including plan specific updates

REMOVE: Section 15400 - Plumbing Fixtures and Equipment
REPLACE with: Revised Section 15400 - Plumbing Fixtures and Equipment
EXPLANATION: Modification of materials choice by Engineer

ADD: Section 04248 – Brick Veneer Masonry System
EXPLANATION: Inadvertently left out of the specifications for the project.

PRE-BID CONFERENCE SIGN IN SHEET

Bid No. 2025.10 - Magnolia Beach Fire Station Project – GLO CDBG MIT-MOD Contact No. 24-065-152-F011 - FEMA Project No. DR-4485-0067

February 26, 2026

10:00 a.m.

Please Print

	Company Name	Representative	Email Address	Phone No.
1.	G+N ENG	SCOTT MASON	Smason@gweengineers.com	361-552-4509
2.	"	ZACH ROACH	"	"
3.	"	ANTHONY GOHLKE	"	"
4.	CAMACHO DEMOLITION	BILL ALDRICH	BILL@CAMACHODEMOLITION.COM	361-442-5776
5.	DURNELL COMPANIES DEMOLITION	BEAU DURNELL	BEAU@DURNELLCOMPANIES.COM	361-563-6782
6.	UES	Ken Faxon	kfaxon@teamues.com	361-244-0426
7.	VICTORIA A/C	BRANDON SAPPINGTON T.J. MOONEY	brandonsappington@victoriair.com tjmooney@	(361) 550-6258 (361) 571-7366
8.	Cor-Metal Contractors	Darren Downs, ARTURO Perez, Richard Rowe	ddowns@cormetafinc.com	361-482-8179
9.	Skookum Electric	Zac Riels	Zac@skookumelectric.com	361.571.5053
10.	Weaver + Jacobs	Noble Brosch	nbrosch@weaverandjacobs.com	361.649.1993
11.	Jason Schneider WTSS	Jason Schneider	jschneider@whitetrashservices.com	361-649-5391
12.	JEFF KRESTA CONSTRUCTION	JEFF KRESTA	jkresta@mercercoustco.com	361-771-5473

PRE-BID CONFERENCE SIGN IN SHEET

Bid No. 2025.10 - Magnolia Beach Fire Station Project – GLO CDBG MIT-MOD Contact No. 24-065-152-F011 - FEMA Project No. DR-4485-0067

February 26, 2026

10:00 a.m.

Please Print

	Company Name	Representative	Email Address	Phone No.
13.	R-NG Services	Robert Raaz	shorelinecypress@yahoo.com	361-676-7229
14.	Calver Companies	Michael Cain	Michael.Cain@calverco.com	361-576-0003
15.	Calhoun County	Demi Cabrera	demi.cabrera@calhouncounty.org	361-553-4613
16.	Calhoun County	Gracie Archer	gracie.archer@calhouncounty.org	361-553-4463
17.	Magnolia Beach VFD	John Mayne	magbeachvfd@gmail.com	361-484-5272
18.	Calhoun County	Vern Lyssy		361-212-9656
19.	Calhoun County	John Martinez		361-571-5980
20.	James D. Oliver	James D. Oliver	jd62oliver@gmail.com	(361)676-8259
21.	Harry Poe Sr.	Harry Poe Sr.	HPoEsr@yahoo.com	512-422-1590
22.	Michael Biggs	WPKR COUNTY	MBiggs5358@gmail.com	9365455353 361-970-2978
23.				
24.				

Magnolia Beach Fire Station Pre-Bid Meeting

Date: 02/26/26 10:00 am

Meeting Minutes:

- Opening and introduction of Engineer and County Personnel

Scott – Start of the explanation of Project and funding sources

Veronica – Explanation of Project and contractor requirements/sub-contractor requirements

- Labor Standards explanation

Scott – project specifics explanation stating with the bid documentation and spec book

- Bid opening date stated (03/24/26 2:00 pm.) including explanation of bid drop off and bid opening procedure
- Opened floor for question regarding the bidding procedure – no questions asked
- Explanation for bids that bid bonds are required and to submit 1 original, 1 paper copy and 1 digital copy on a flash drive / USB drive.
- Explanation of bid form required for a complete bid
- Explanation of bid schedule
- Explanation of # of bid items and reason for separation of interior & exterior items of water, sewer, electrical, etc.
- Further explanation of bid table and clarification of the total base bid section and the owners option section.
- Opened floor to questions about the bid table – no questions asked
- Explanation of bid acknowledgement and calendar day estimation
- Brief explanation of bidders qualification
- Explanation of recovered materials
- Explanation of section 3 documentations
- Explanation of in the instance of overlapping requirements the most stringent requirement takes priority.
- Opened floor for questions about the bid documentation – no questions asked

Vern – stated that all bidders will get the answers to all questions with the addendum

Scott – agrees to the statement

- Explanation that this is a grant project and about the payments from the grant, that the county is expedient on payments to grant funded projects.
- Started to discuss the plan set
- Clarification that the asphalt stated in the owners option is a two course chip seal

- Explanation that the building is in the 500-yr flood plain
- Explanation of general notes section and clarification that it is for the civil section
- Explanation of the demo plan, TxDOT driveway permits, and removal of existing trees
- Explanation of civil site plan including phasing note
- Explanation of the term “limited Interruptions”
- Explanation of grading and reasonable time to check forms in the case of inspection requests
- Explanation of drainage plan and the notes on the plan set
- Opened floor to questions about the civil plan section

Question - Will Undine be responsible for the meter and tap to the property, then the contractor will be in charge of the rest?

Scott – explanation of building foundations and beams

- Explanation of drainage plan and the notes on the plan set
- Explanation of mezzanine removable wall section and its uses
- Explanation of metal building of metal building notes the structural section of the plan set

Question - Please confirm the insulation requirements as the notes are different between plan sheets and specifications. The Call out of for Chicken wire seem antiquated, is that really what is wanted? The call out is for 6” bag-n-sag insulation when it is not the typical thickness.

- Explanation of doors, windows, and wall painting / lining
- Explanation of brick exterior and design choice and color
- Explanation of masonry and corner stone
- Explanation of the term “fixed” for appliances
- Explanation of the flood proofing measures – interior coating of the walls
- Explanation of mechanical plan sheets
- Explanation of BCI joist and AC conduits, AC bank shown on plan set
- Explanation of plumbing water and sewer sheets
- Explanation of backflow prevention systems and requirements
- Opened floor to questions – no questions asked
- Explanation of electrical plan sheets
- Explanation of electrical generator pad location, transformer location and removal of existing electrical pole

Question - Since this is a grant project will the payment go through something like Grant Works?

Scott – explanation of Fire Department transition from existing building to interim conditions while construction is progressing

County Fire dept. – would like to park trucks in the adjacent barn

Question - Who is responsible for material haul off and disposal?

Request for Information Response:

Below is the request for information submitted through Civcastusa.com:

Question #1:

Can you confirm Undine's meter/tap fee paid by Owner or paid by contractor? bid schedule Item 12 reads like Contractor is to carry this.

Answer: The meter and tap fee for the building will be paid for by the Owner, the County. The Bid Table, specifically Item 12, has been updated to clarify the wording. Please also reference Technical Specification No. 01015 section 04.

Question #2:

Is the Storm Water Grate Inlet required to be TX-DOT Certified?

Answer: The storm water grate inlet needs to be rated for H-20 loading as specified in sheet C9.1, detail 2.

Question #3:

Please provide clarification on who is to supply and install the Global Industrial fan and louver that is shown on A1.7. (Notes 1-4) Please provide clarification on who is to supply and install the Condenser stand shown in the electrical drawings. Please provide clarification on who is to supply and install the HVLS fans.

Answer: The statement "mounting to be furnished and installed by this contractor" is intended to mean that the type of mounting, structural reinforcement, anchoring and fastener requirements are to be provided by contractor in the shop drawing and submittal phase. It will be required that the supplier ensure that the systems are designed appropriately for the wind loads required of the project. The contracted contractor is required to procure/supply the equipment and then install the same to meet windstorm requirements. The condenser stand is to be built and installed by the contracted contractor. The HVLS fans are to be procured/supplied by the contracted contractor.

Question #4:

Would you please post the pre-bid meeting attendees list?

Answer: The pre-bid meeting attendees list is attached in Addendum No. 1.

Question #5:

Our Pre Engineer Building Fabricator using (MBS) has a concern that there is not enough space for the wind bracing on the south elevation of the building and this may require the building height to be increased by 1' or 2' of the doors may need to be 12' wide giving room between the doors for the wind brace column. Can you please confirm if building height can be modified if necessary?

Answer: The structural engineer of record has indicated that a solution should be able to be achieved without major modifications. These concerns he believes can be resolved within the shop drawing and submittal phase with conversations between EOR and PEMB Engineer. No changes have been made to the door sizes or eave heights.

Below are requests for information asked at the Pre-Bid Meeting:

Question #6:

Will Undine be responsible for the meter and tap to the property, then the contractor will be in charge of the rest?

Answer: Yes, the County will be responsible for getting Undine to install the meter/box and tap, then the contractor will be responsible for all remaining potable water infrastructure. Please also reference Technical Specification No. 01015 section 04.

Question #7:

Please confirm the insulation requirements as the notes are different between plan sheets and specifications. The Call out of for Chicken wire seem antiquated, is that really what is wanted? The call out is for 6" bag-n-sag insulation when it is not the typical thickness.

Answer: Insulation requirements for the metal building and interior build out have been updated in the notes on A1.1 as well as the applicable technical specification.

Question #8:

Since this is a grant project will the payment go through something like Grant Works?

Answer: Yes, the County's Grant Administrator is KSBR, LLC in which all pay applications will first come to Engineer, then Engineer, if approved, will provide to Grant Admin for their review. If pay application is acceptable to both Engineer and Grant Admin, it will then be sent to Owner for approval and subsequent payment.

Question #9:

Who is responsible for material haul off and disposal?

Answer: The notes on the plans state that the contractor will be responsible for material after demolition with the exception of owner coordination for the removal of "Useful Items" and the asphalt and base material is to be loaded into County trucks for removal and disposal. See "Contractor Note" and "Demolition General Notes" on Sheet C3.

Below are requests for information emailed to the engineer:

Question #10:

For bid bond purposes, do you have a budget cost for the project? Is that something that can be sent out?

Answer: The estimated costs for the project are listed on CivCastUSA. In reference to bid bonds, the bid bond should be for 5% of the greatest amount bid.

Question #11:

After reviewing the plans subcontractors have not found true clarifications on the TDI requirements. Project location is on the coast, and the drawings do state UL rated Class 90 for the roof but not sure if that is correct. Additionally, the plans calls for the roof to be R-Panel “exposed fastener” but to be compliant with any TDI requirements we will be needing to bid the job as a standing seam. Is that something you feel you could agree and address?

Answer: The TDI wind design requirements have been moved from Sheet A1.1 on the plans to Sheet S1.0. They are also included within Technical Specification 13121, section 2 “Design Loads”. We have modified the roof and side paneling to be PBR Panels and there are options available through TDI website with product evaluations that meet the requirements of the project with the exposed fasteners. It will be up to the PEMB engineer to specify the proper fasteners, fastener spacing to meet the requirements of the design criteria.

Question #12:

For Masonry wainscot around the building, I do not see a specification section. Are there particular requirements for brick that the owner wants?

Answer: Technical specification 04248 – Brick Veneer Masonry System has been included within the Addendum.

Question #13:

For the overhead coiling doors on sheet A1.2, will there be a spec section for them?

Answer: The garage doors are specified in the plans to be a sectional door. The specifications can be found on the applicable detail calling out the brand and model number or equal. The door specified will have to meet the requirements of TDI.

Question #14:

Are the residential appliances to be bought out by owner or part of the bidders proposal?

Answer: Sheet A1.6 lists the appliances for the project that are to be supplied and installed in this contract. The “” indicates three (3) types of items that are not included within this contract and not installed by contractor. They are still shown on the actual plan(s) for continuity of the design.*

Question #15:
What are the plumbing specs?

Answer: Please reference Technical Specification No. 15400 and as noted on the plans P1.0 – P1.3

Question #16:
What are the low voltage specs/

Answer: Low voltage is referenced in Technical Specification 15500 in which all necessary items associated with the 24-volt system are to be in the construction. Also, reference Electrical sheets E1.0 – E8.0.

Question #17:
Can an alternative to the rolling bay doors be used? More specifically the FF30 from Door Engineering?

Answer: Only Or Equivalent would be considered and those options can be discussed and sorted through during the submittal process. No alternates will be /reviewed processed for any portion of the project during the bidding process.

Question #18:
Can Red Dot buildings be used as a supplier for the pre-engineered metal building?

Answer: As long as the supplier meets all the requirements in the specifications it is allowable.

Question #19:
After review, it was the opinion of the reviewer that to install a properly functioning flood barrier that would perform as tested, the structure itself would need to be made of concrete or CMU block. That wood and metal framed building cannot be properly flood proofed. The question is if this has been considered when designing this building?

Answer: We have confirmed with Sherwin Williams that the coating system we have specified is applicable and still available. We have designed the structure as it was intended and no changes to the design are proposed to the flood proofing system. We have consulted briefly of the years with the specified product manufacturer for the covers and systems. Should there be any issues arise from this, it can be discussed and, if warranted, addressed during the submittal process via a change order.

Question #20:
Does the plan include a Vehicle Exhaust Removal System or has the general contractor been selected yet and is the contact able to be provided?

*Answer:
The general contractor has yet to be selected. There are provisions in the plans for vehicle exhausts which includes mechanical fans and louvers, which allow the proper amount of air exchanges into the garage area.*

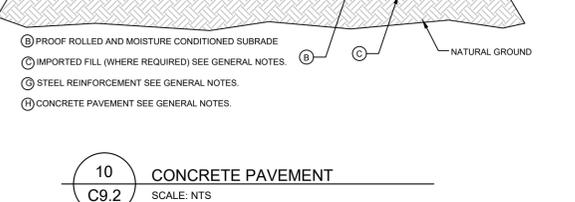
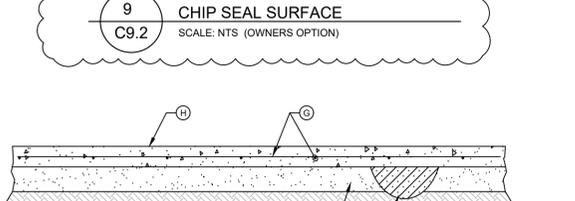
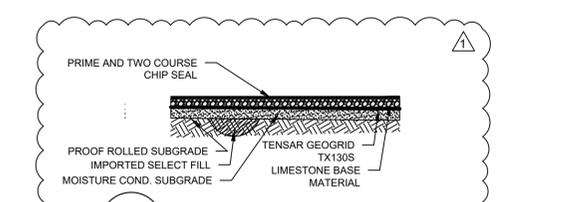
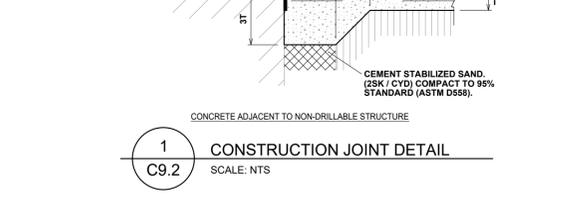
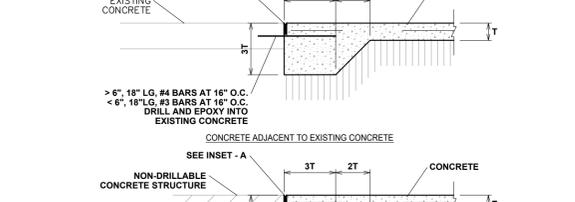
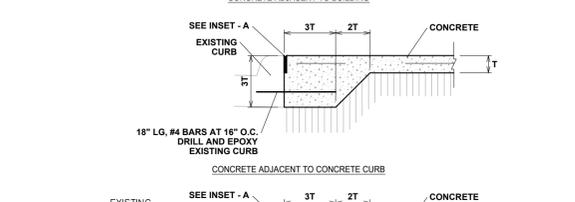
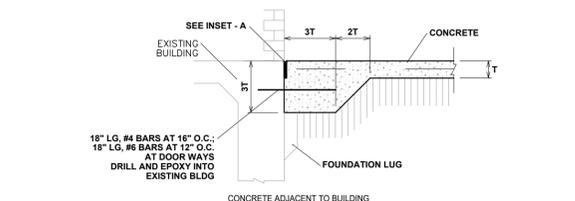
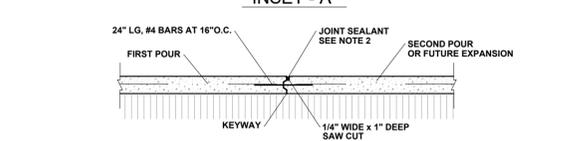
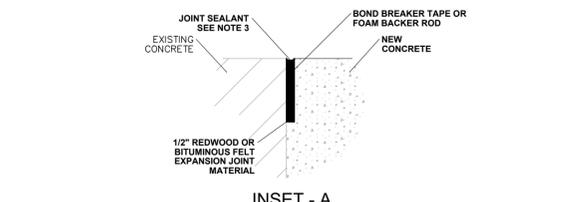
Typical Windstorm Inspections:

- Concrete Reinforcing in Grade Beams & Slabs – Check form sizes, number of reinforcing bars, size & spacing.
- Drill Footings – General inspections and measurements.
- Structural Steel, Check steel dimensions and supplier documentation.
- Exterior walls and shear walls inspection – check for type, attachment, clips and completion per plans.
- Roof Framing/Truss Installation – Check supplier documentation and truss installation per plans.
- Skylights – If applicable installed per the plans.
- Roofing – Inspecting roof according to plans including trim and fasteners and spacing.
- Doors & Windows – Inspect installation according to TDI requirements for components and cladding.
- Siding – Inspect materials and fasteners/ fastening pattern.
- Masonry & Accessories – Inspect materials and ties and rebar/reinforcing.
- Roof top mechanical equipment – Check anchorage, check materials and fasteners.
- Windborne Debris Protection – Inspect installation and material meet windstorm requirements if applicable.

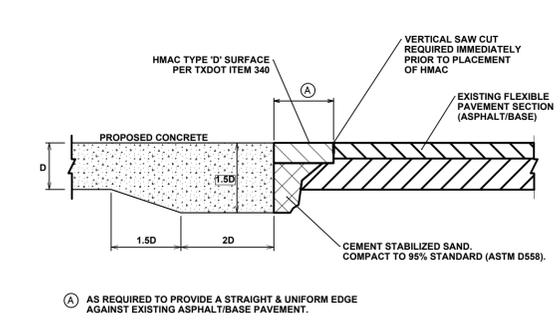
Note – Special Inspections such as weld inspections and testing, post-anchor inspections and testing, etc shall be per the International Building Code (IBC) 2018 requirements and costs associated and procurement shall be as specified in the applicable Technical Specification section.

CONSTRUCTION JOINT GENERAL NOTES

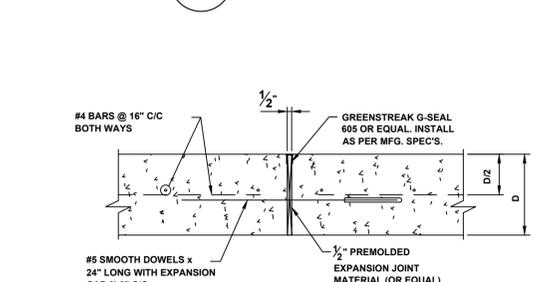
- CONSTRUCTION JOINTS ARE REQUIRED AT ANY LOCATION WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE PAVEMENT OR STRUCTURES. THIS INCLUDES BUILDINGS, PARKING LOTS, SIDEWALKS, PATIOS, CURBS, INLETS, MANHOLES, HEADWALLS, LIGHT POLES, ETC. AND APPLIES TO CONCRETE THAT WAS PLACED EARLIER DURING THE PROJECT AND CONCRETE THAT WAS EXISTING PRIOR TO THE START OF THIS PROJECT.
- CONSTRUCTION JOINTS WITHIN NEW PAVEMENT SHOULD BE PLANNED TO COINCIDE WITH EXPANSION JOINT LOCATIONS. WHEN THIS IS NOT FEASIBLE, THEN A KEYWAY STYLE CONSTRUCTION JOINT SHALL BE UTILIZED. THE LOCATION OF THE KEYWAY CONSTRUCTION JOINT SHALL COINCIDE WITH THE LOCATION OF A PLANNED CONSTRUCTION JOINT.
- CONSTRUCTION JOINT SHALL BE SEALED WITH SONNEBORN BUILDING PRODUCT, SONOLASTIC 3L-1; NON-PRIMING, ONE-PART, SELF LEVELING POLYURETHANE SEALANT OR APPROVED EQUAL. JOINT CLEANING AND PREPARATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



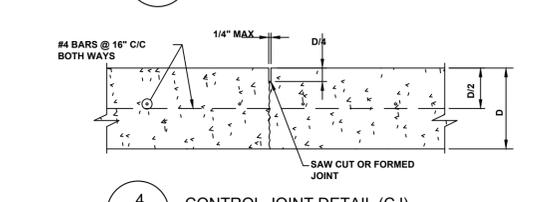
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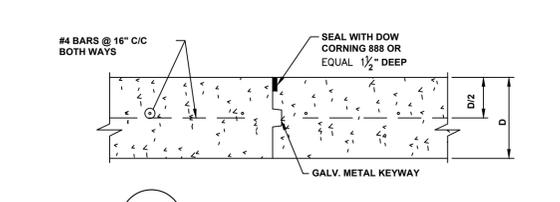
2 PAVEMENT PATCH
SCALE: NTS



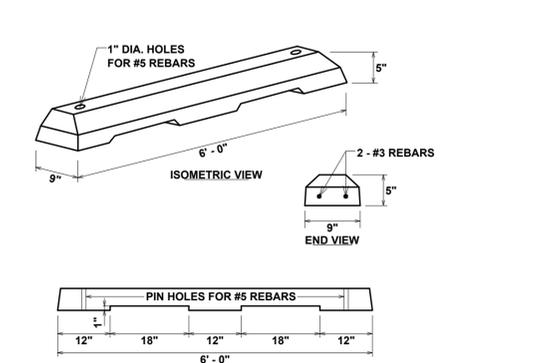
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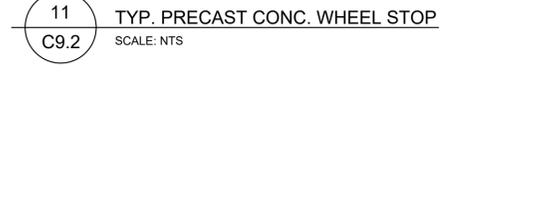
4 CONTROL JOINT DETAIL (CJ)
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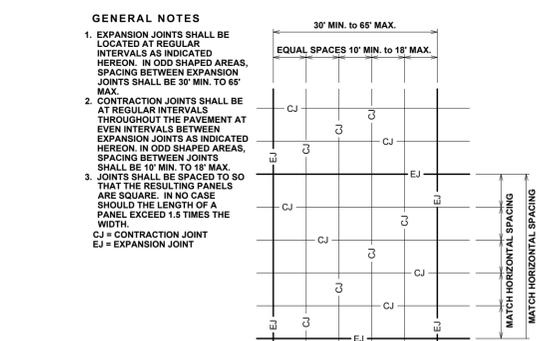
5 CONSTRUCTION JOINT DETAIL
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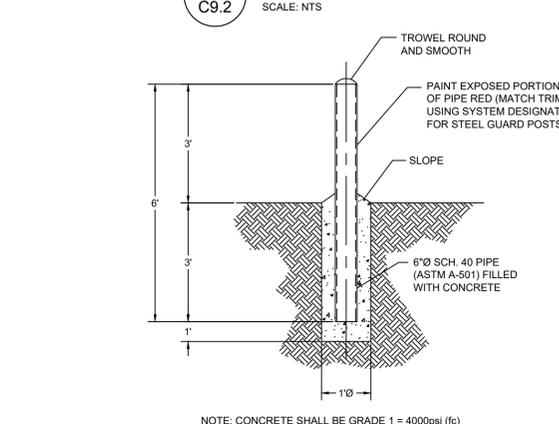
11 TYP. PRECAST CONC. WHEEL STOP
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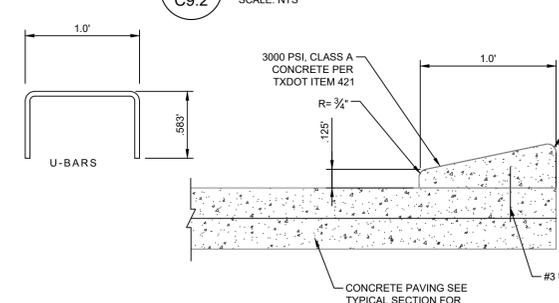
12 CURB & GUTTER SECTION
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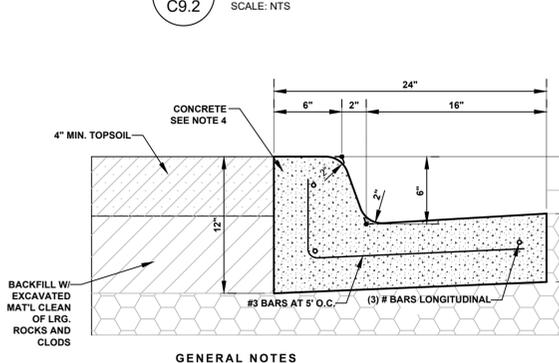
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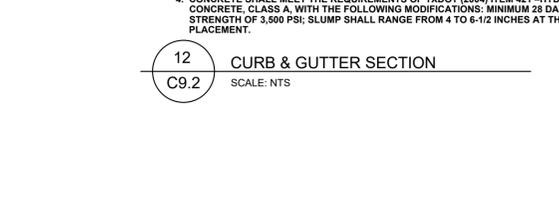
7 BOLLARD DETAIL
SCALE: NTS



8 TYP. 0.33' ROLL CURB DETAIL
SCALE: NTS



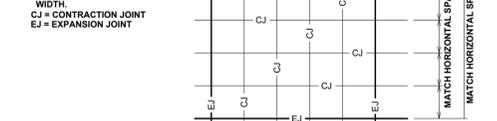
12 CURB & GUTTER SECTION
SCALE: NTS



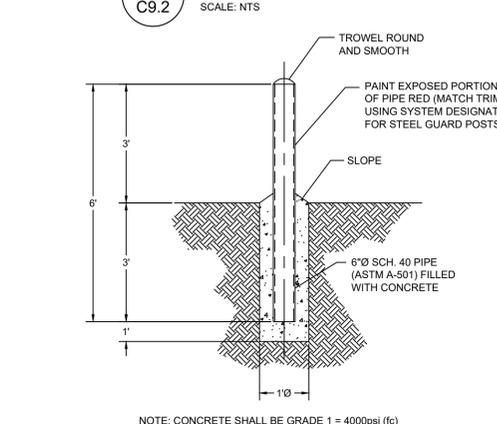
13 ROLL CURB DETAIL
SCALE: NTS

GENERAL NOTES

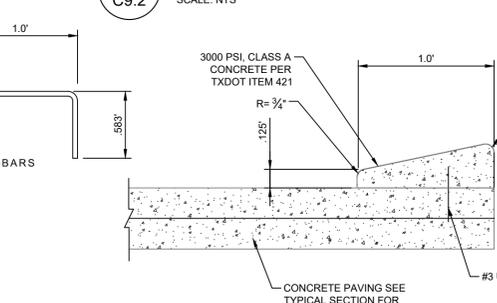
- EXPANSION JOINTS SHALL BE LOCATED AT REGULAR INTERVALS AS INDICATED HEREON. IN ODD SHAPED AREAS, SPACING BETWEEN EXPANSION JOINTS SHALL BE 30' MIN. TO 65' MAX.
- CONTRACTION JOINTS SHALL BE AT REGULAR INTERVALS THROUGHOUT THE PAVEMENT AT EVEN INTERVALS BETWEEN EXPANSION JOINTS AS INDICATED HEREON. IN ODD SHAPED AREAS, SPACING BETWEEN JOINTS SHALL BE 10' MIN. TO 18' MAX.
- JOINTS SHALL BE SPACED TO SO THAT THE RESULTING PANELS ARE SQUARE. IN NO CASE SHOULD THE LENGTH OF A PANEL EXCEED 1.5 TIMES THE WIDTH.
CJ = CONTRACTION JOINT
EJ = EXPANSION JOINT



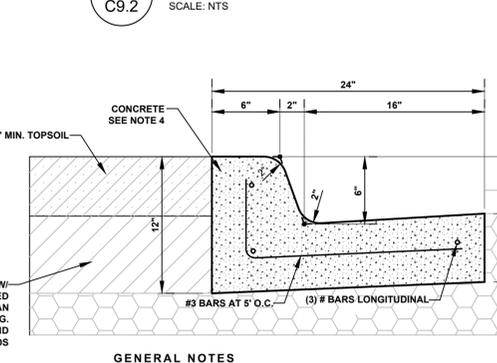
6 CONTROL JOINT LAYOUT
SCALE: NTS



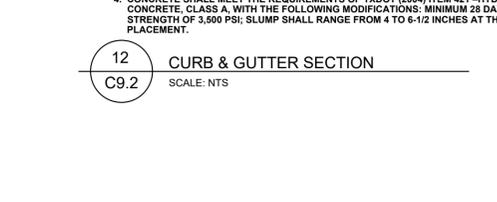
7 BOLLARD DETAIL
SCALE: NTS



8 TYP. 0.33' ROLL CURB DETAIL
SCALE: NTS



12 CURB & GUTTER SECTION
SCALE: NTS



13 ROLL CURB DETAIL
SCALE: NTS

PREP AND SUBGRADE

- STRIP AND REMOVE ALL VEGETATION, LOOSE TOPSOIL, TREES AND ROOTS WITHIN THE CONSTRUCTION AREA FOR A DEPTH OF AT LEAST SIX(6) INCHES, OR UNTIL BOTTOM OF EXISTING TOPSOIL LAYER IS REACHED. REMOVE ALL STUMPS, ROOTS, ECT. TO A DEPTH OF AT LEAST ONE(1) FOOT BELOW THE EXISTING GROUND SURFACE.
- SUBGRADE PREPARATION: PRIOR TO PLACEMENT OF IMPORTED FILL, SCARIFY THE AREAS TO BE FILLED TO A MINIMUM DEPTH OF 9-INCHES TO BOND THE EXISTING & NEW MATERIALS. IMPORTED FILL MATERIALS, WHEN REQUIRED TO ACHIEVE FINAL SUBGRADE ELEVATION, SHALL BE CHOSEN THAT EXHIBIT SIMILAR CLASSIFICATION AND PHYSICAL PROPERTIES AS THE ON SITE SOILS. SAMPLES OF THE FILL MATERIAL SHALL BE MADE AVAILABLE TO THE OWNER'S TESTING LABORATORY 7 DAYS PRIOR TO PLACEMENT. SUBGRADE FILL, WHETHER IMPORTED OR EXCAVATED ON-SITE, SHALL BE PLACED IN 6" LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY (ASTM D698) AT A MOISTURE CONTENT WITHIN BETWEEN -2% DRY & +2% WET OF OPTIMUM.
- ONCE FINAL SUBGRADE ELEVATION HAS BEEN ACHIEVED, THE EXPOSED SUBGRADE SHALL BE PROOF-ROLLED WITH A PIECE OF EARTHWORK EQUIPMENT (MOTORIZED SCRAPER OR DUMP TRUCK WEIGHING AT LEAST 20 TONS) TO DETECT SOFT OR LOOSE ZONES OF MATERIAL. REMOVE ANY OBJECTIONABLE MATERIAL DETECTED BY THE PROOF ROLLING & REPLACE WITH COMPACTED FILL AS DESCRIBED IN NOTE 2 ABOVE.
- LIME STABILIZED SUBGRADE (TOP SIX (6) INCHES) SHALL BE STABILIZED IN ACCORDANCE WITH THE FOLLOWING:
 - SUBGRADE SOILS SHALL BE TREATED WITH LIME IN ACCORDANCE WITH TXDOT (2004) ITEM 260, OR MOST CURRENT. AFTER PROPER MIXING, THE TREATED SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR (ASTM D-698) AT A MOISTURE CONTENT BETWEEN OPTIMUM AND +3% OF OPTIMUM.
 - THE APPLICATION RATE FOR THE LIME IS ESTIMATED TO BE 6% BY DRY WEIGHT. THIS PERCENTAGE IS TYPICALLY EQUIVALENT TO ABOUT 30 LBS/SYD OF LIME PER 6" STABILIZED DEPTH. THE APPLICATION RATE FOR THE LIME SHALL BE VERIFIED BY THE OWNER'S TESTING LABORATORY AFTER THE FINAL GRADE HAS BEEN ACHIEVED AND ADJUSTMENTS IN THE APPLICATION RATE MAY BE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL ALLOW 96 HOURS FOR THIS TESTING TO BE PERFORMED.
 - TRAFFIC SHALL BE KEPT OFF OF THE TREATED SUBGRADE FOR 7 DAYS TO FACILITATE CURING. THE STABILIZED SUBGRADE IS NOT SUITABLE FOR HEAVY CONSTRUCTION TRAFFIC PRIOR TO PAVING.
- GEGRID: TENSAR TX1305 TRIAXIAL GEOGRID SHALL BE USED AS RECOMMENDED TO PROVIDE ADDITIONAL STRUCTURAL SUPPORT TO FLEXIBLE BASE MATERIALS. GEOGRID SHALL BE PLACED BELOW THE FLEXIBLE BASE COURSE PER THE MANUFACTURER'S RECOMMENDATIONS AT THE INTERFACE BETWEEN THE FLEXIBLE BASE AND PROPERLY PREPARED (AND TREATED IF REQUIRED) SUBGRADE.

BASE MATERIAL:

- LIMESTONE PAVING SHALL BE CRUSHED LIMESTONE TYPE A, GRADE 2 PER TXDOT (2014) ITEM 247. COMPACT TO 95% STANDARD PROCTOR DENSITY (ASTM D698).

TWO COURSE SURFACE:

- PRIME SHALL MEET THE REQUIREMENTS OF TXDOT (2014) ITEM 310 OR MOST CURRENT; MC-30 AEP OR APPROVED EQUAL.

- A TWO COURSE SURFACE SHALL MEET THE REQUIREMENTS OF TXDOT (2014) ITEM 340. ONE COURSE UNDERSEAL: AC-15P OR CRS-2P FIRST COURSE - 0.35 GAL/SY TYPE PB GR3 @ 1 CY PER 85 SY

CONCRETE SURFACE:

- CONCRETE SHALL MEET THE REQUIREMENTS OF TXDOT (2014) ITEM 421 -HYDRAULIC CEMENT CONCRETE, CLASS S, WITH THE FOLLOWING MODIFICATIONS: MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI; SLUMP SHALL RANGE FROM 4 INCHES TO 6-1/2 INCHES AT THE POINT OF PLACEMENT.

- STEEL REINFORCEMENT SHALL MEET THE REQUIREMENTS OF ASTM A615 AND GRADE 60. SEE CHART BELOW.

PAVEMENT PARAMETERS				
DESCRIPTION	SUBGRADE	BASE THICKNESS	PAVEMENT THICKNESS	REINFORCEMENT
SIDEWALK CONCRETE	6" LIME STABILIZED	N/A	4"	#3 BARS @ 18" O.C.B.W
MEDIUM DUTY CONCRETE	6" LIME STABILIZED	N/A	6"	#4 BARS @ 12" O.C.B.W
HEAVY DUTY CONCRETE	6" LIME STABILIZED	N/A	8"	#5 BARS @ 12" O.C.B.W
TWO COURSE CHIP SEAL (OWNERS OPTION)	6" COMPACTED SUBGRADE - MOIST. CONDITIONED WITH GEOGRID	10"	N/A	GEOGRID

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1801 7th St., Suite 260 Bay City Texas 77414 (979) 323-7100

REV. DATE DESCRIPTION BY

03/12/26 FOR ADDENDUM NO. 1 ZLR SPM

10/31/25 FOR BIDDING ZLR SPM

BY CHK.

MAGNOLIA BEACH FIRE STATION

CALHOUN COUNTY, TEXAS

GLO-CDBG-MIT-MOD

CIVIL DRAWINGS

STANDARD DETAILS

PROJECT NO. 5310.022B

SCALE: AS NTD.

DWN. BY: SPM

CHK. BY: SPM

DATE: 10/31/25

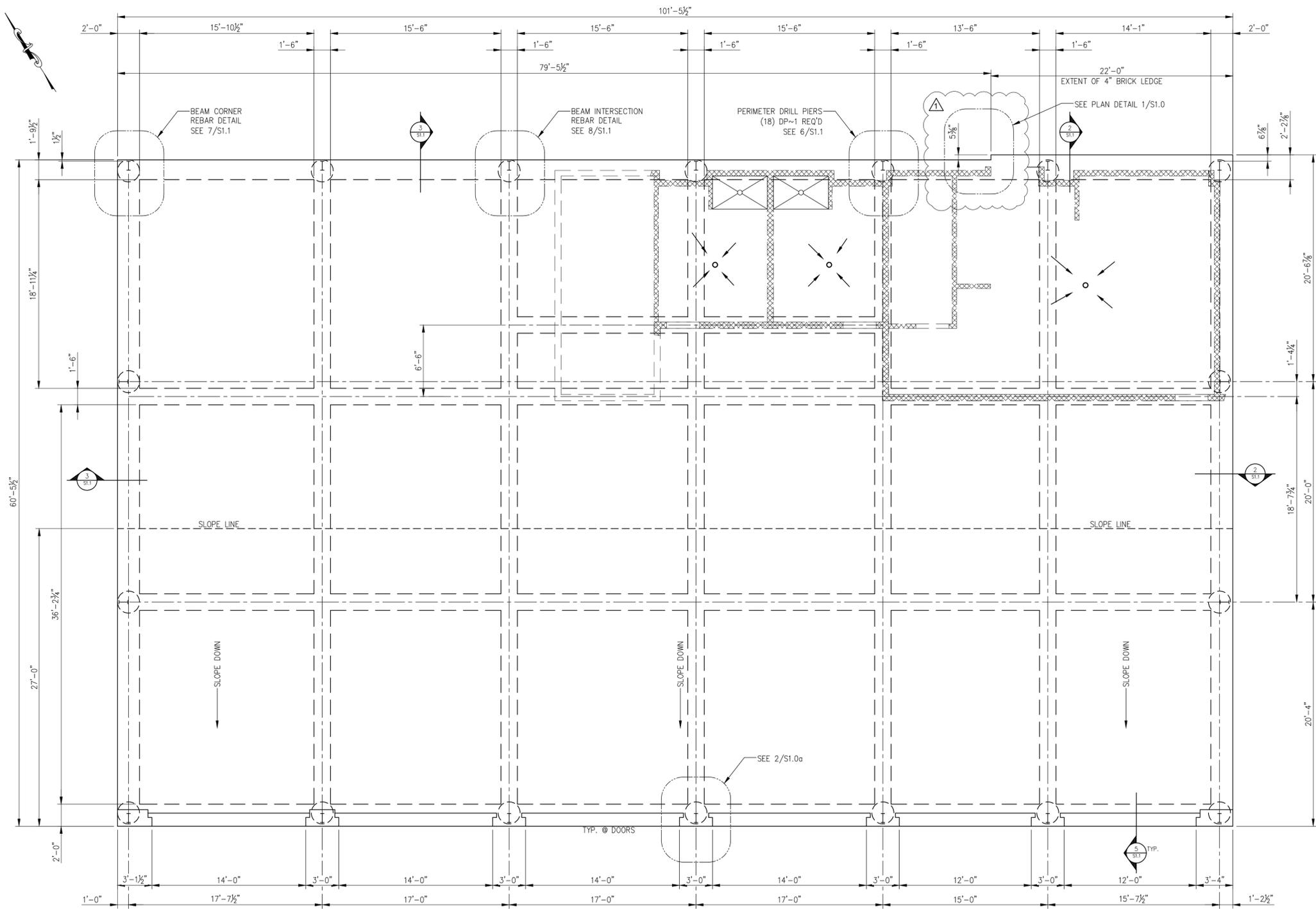
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STATE OF TEXAS

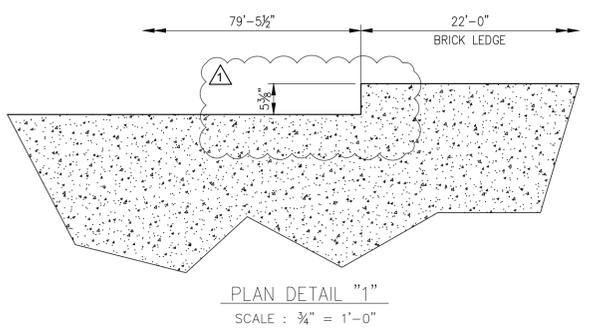
SCOTT P. MASON

127893

PROFESSIONAL ENGINEER



1
S1.0 FOUNDATION PLAN
SCALE: 3/16" = 1'-0"



CONCRETE NOTES:

1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ACI STANDARD "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.
2. ALL CONCRETE SHALL HAVE A 4000 PSI COMPRESSIVE STRENGTH IN 28 DAYS.
3. ALL REINFORCING STEEL SHALL BE LAPPED 50 BAR DIAMETERS UNLESS OTHERWISE NOTED.
4. ALL REINFORCING BARS SHALL BE ASTM A-615, GRADE 60 UNLESS OTHERWISE NOTED.
5. ALL BENDING OF REINFORCING STEEL SHALL BE "COLD BENT".
6. ALL EXPOSED EXTERIOR CONCRETE EDGES SHALL BE CHAMFERED 3/4" INCHES X 45 DEGREES.
7. ALL EMBEDMENTS SHALL BE IN PLACE PRIOR TO PLACEMENT OF CONCRETE.
8. ALL STEEL CONCRETE EMBEDMENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
9. CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 DAYS IN ACCORDANCE WITH ACI 302.
10. DESIGN IS IN ACCORDANCE WITH ULTIMATE STRENGTH PROCEDURES AND ACI 318, LATEST EDITION.
11. ALL REINFORCING BARS SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS, CHAIRS, OR STIRRUPS SHALL BE PROVIDED BY THE CONTRACTOR TO SUPPORT ALL BARS.
12. ALL BENDS AND HOOKS SHALL BE AS DETAILED IN THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE, LATEST EDITION.
13. CONTRACTOR SHALL VERIFY PLACEMENT, DIMENSIONS, AND LOCATION OF ALL EMBEDDED ITEMS AS REQUIRED BY ALL TRADES BEFORE CONCRETE IS PLACED.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BY MEASUREMENTS AT THE JOB SITE AND SHALL TAKE ANY AND ALL OTHER MEASUREMENTS NECESSARY TO VERIFY THE DRAWINGS AND TO PERFORM HIS WORK PROPERLY.
15. THE CONTRACTOR SHALL BEAR THE TOTAL RESPONSIBILITY FOR THE SAFETY OF THE EXISTING ADJOINING STRUCTURES AND FOR ANY METHODS REQUIRED TO ENSURE THAT SAFETY.

GEOTECHNICAL NOTES

1. GEOTECHNICAL STUDY PREPARED BY PROFESSIONAL SERVICE INDUSTRIES, INC., (0312-2056-R1), DATED MAY 18, 2020, SHALL BE USED FOR SITE PREPARATION, SELECTION AND PLACEMENT OF FILL, AND FOUNDATION CONSTRUCTION.
2. BUILDING PAD SUBGRADE SHALL BE PREPARED WITH A MINIMUM OF 4 FEET OF STRUCTURAL FILL THAT IS PROPERLY PREPARED, COMPACTED, AND MOISTURE CONDITIONED. BUILDING PAD SHALL EXTEND HORIZONTALLY A MINIMUM OF 5 FEET BEYOND THE EDGE OF THE SLAB AREA. DESIGN PVR: 1 INCH.
3. IN LIEU OF UNDERCUT AND REPLACE METHOD OPTION AS DESCRIBED IN THE GEOTECHNICAL REPORT ON PAGE 9, SECTION 3.3.1.1, THE CONTRACTOR MAY UTILIZE THE RECONDITIONING METHOD OPTION AS DESCRIBED IN THE GEOTECHNICAL REPORT ON PAGE 10, SECTION 3.3.1.2.
4. CONSTRUCTION AREAS SHALL BE STRIPPED OF VEGETATION AND ROOT STRUCTURES, AND THE EXPOSED SUBGRADE SHALL BE PROOF ROLLED WITH APPROPRIATE CONSTRUCTION EQUIPMENT WEIGHING AT LEAST 20 TONS. IF WEAK OR SOFT AREAS OR OBSERVED DURING PROOF ROLLING OPERATIONS, THE SOIL IN THE SUBJECT AREA SHALL BE REMOVED TO EXPOSE COMPETENT SUBGRADE SOILS IN BOTH HORIZONTAL AND VERTICAL LIMITS. SUBGRADE AREAS SHALL BE MOISTURE ADJUSTED TO WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT. THE MOISTURE CONDITIONED SUBGRADE SHALL THEN BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D698.
5. SELECT FILL SHALL CONSIST OF LEAN CLAY OR SANDY LEAN CLAY, FREE OF ROOTS, ORGANICS, AND DELETERIOUS MATERIALS. SELECT FILL SHALL HAVE AT LEAST 50% PASSING THE NO. 200 SIEVE AND HAVE A PI BETWEEN 8 AND 15. REPRESENTATIVE SAMPLES OF THE FILL MATERIALS SHALL BE TESTED TO CONFIRM THEIR MATERIAL CHARACTERISTICS PRIOR TO FILLING OPERATIONS.
6. STRUCTURAL FILL SHOULD BE PLACED ON PREPARED SURFACES IN LIFTS NOT TO EXCEED 8 INCHES LOOSE MEASURE, WITH COMPACTED THICKNESS NOT TO EXCEED 6 INCHES. ALL STRUCTURAL FILL SHOULD BE MOISTURE CONDITIONED TO BETWEEN 1% DRY AND 3% WET OF OPTIMUM MOISTURE CONTENT, AND THEN COMPACTED TO AT LEAST 9% OF MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D698.
7. ELEVATION OF GROUND SURFACE ADJACENT TO THE FOUNDATION SHOULD BE A MINIMUM OF AT LEAST 6 INCHES BELOW FINISHED FLOOR.
8. THE SLOPE OF THE GROUND SURFACE AWAY FROM THE STRUCTURE SHOULD BE A MINIMUM OF 5% FOR A DISTANCE OF AT LEAST 10 FEET UNLESS STIPULATED BY CIVIL PLANS.
9. GUTTER DOWNSPOUTS SHOULD EXTEND AT LEAST 3 FEET FROM THE FACE OF THE BUILDING.
10. A GEOTECHNICAL FIRM MUST BE RETAINED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT TO PROVIDE SOIL TESTING SERVICES DURING GRADING AND CONSTRUCTION ACTIVITIES. THIS IS TO OBSERVE COMPLIANCE WITH THE PLAN SPECIFICATIONS, GEOTECHNICAL RECOMMENDATIONS, AND TO ALLOW DESIGN CHANGES IF SUBSURFACE CONDITIONS DIFFER FROM THOSE ANTICIPATED BEFORE CONSTRUCTION.

METAL BUILDING NOTES:

1. THE PRE-ENGINEERED METAL BUILDING SHALL BE OF THE SINGLE SLOPE, CLEAR SPAN, WITH FLUSH GIRTS. THE ROOF SLOPE SHALL BE 1:12. ALL STRUCTURAL SHAPES, FRAMING, PLATES, ETC. SHALL BE GALVANIZED. ROOF AND WALL COVERINGS SHALL BE "PBR-PANEL", FACTORY PAINTED GALVALUME. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION. METAL BUILDING MANUFACTURER SHALL SUBMIT DRAWINGS WITH CALCULATED LOADS FOR THE BUILDING TO THE ENGINEER FOR EVALUATION AND APPROVAL PRIOR TO ANY CONSTRUCTION. CALCULATED LOADS MAY REQUIRE MODIFICATIONS TO THE FOUNDATION DESIGN AS SHOWN ON THE DRAWINGS.
2. WIND DESIGN CRITERIA:
CODES: IBC 2018, ASCE 7-16
WIND SPEED: 160 MPH
RISK CATEGORY: IV - ESSENTIAL FACILITY
WIND EXPOSURE CATEGORY: C
INTERNAL PRESSURE COEFFICIENT: +/-0.18
REGION: INLAND 1 (WINDBORN DEBRIS PROTECTION REQUIRED FOR ALL EXTERIOR OPENINGS)



Ch K

March 12, 2026

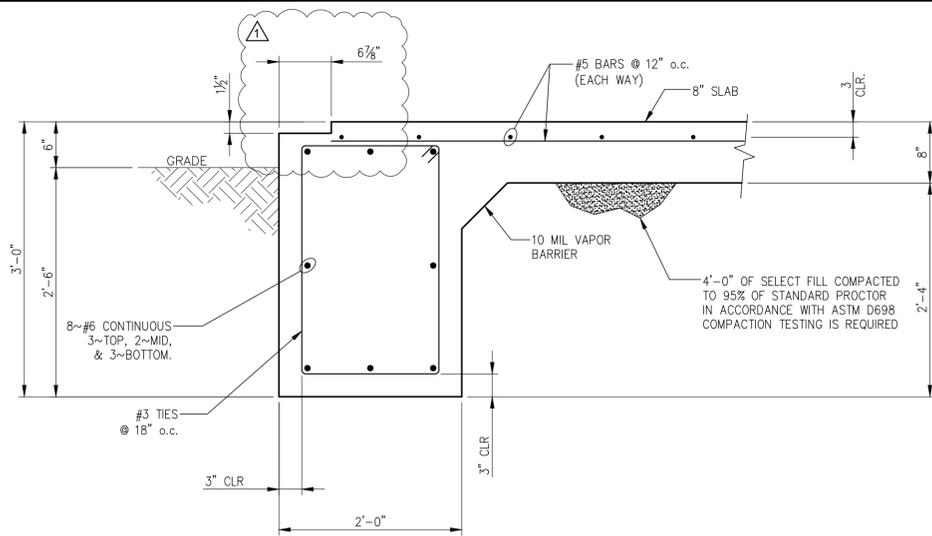
PROJECT NO.	5310.022B
SCALE:	AS NOTED
DWN. BY:	JRP
CHK. BY:	CK
DATE:	11/03/25
SHT. NO.	S1.0

REVISION	DATE	DESCRIPTION
1	03/12/26	FOR ADDENDUM NO 1
2	11/03/25	FOR BIDDING

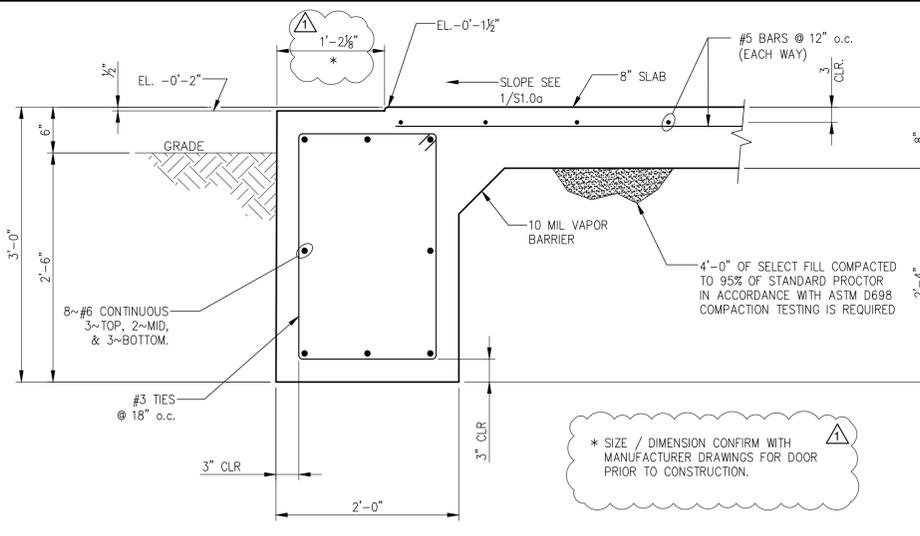
PLANNING	ZLR	CK
SURVEYING	ZLR	CK
ENGINEERING	REV.	CHK.

MAGNOLIA BEACH FIRE STATION
CALHOUN COUNTY, TEXAS
GLO-CDBG-MIT-MOD
FOUNDATION PLAN

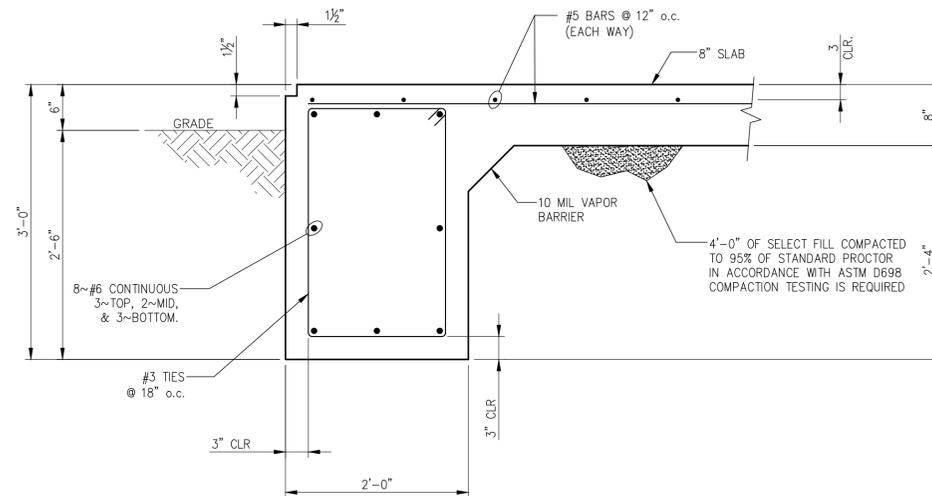
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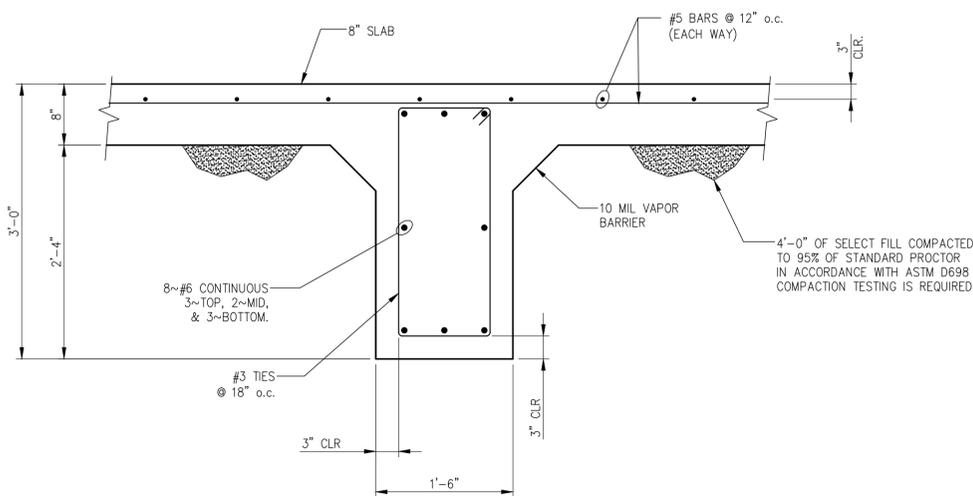
2 SECTION @ PERIMETER BEAM
S1.1 SCALE : 1" = 1'-0"



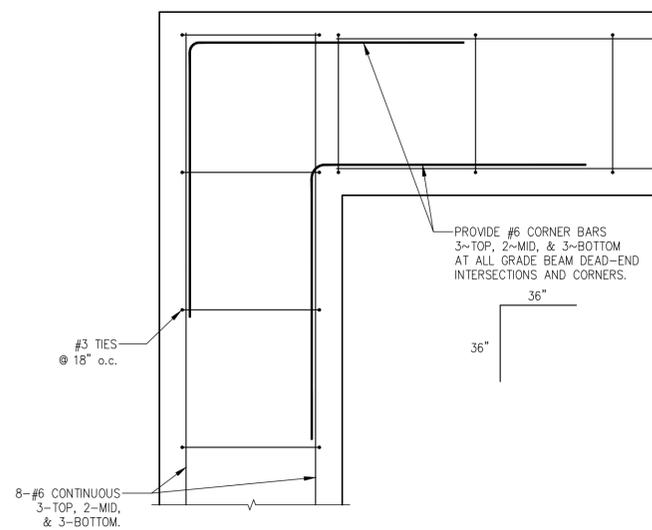
5 SECTION @ GARAGE DOORS
S1.1 SCALE : 1" = 1'-0"



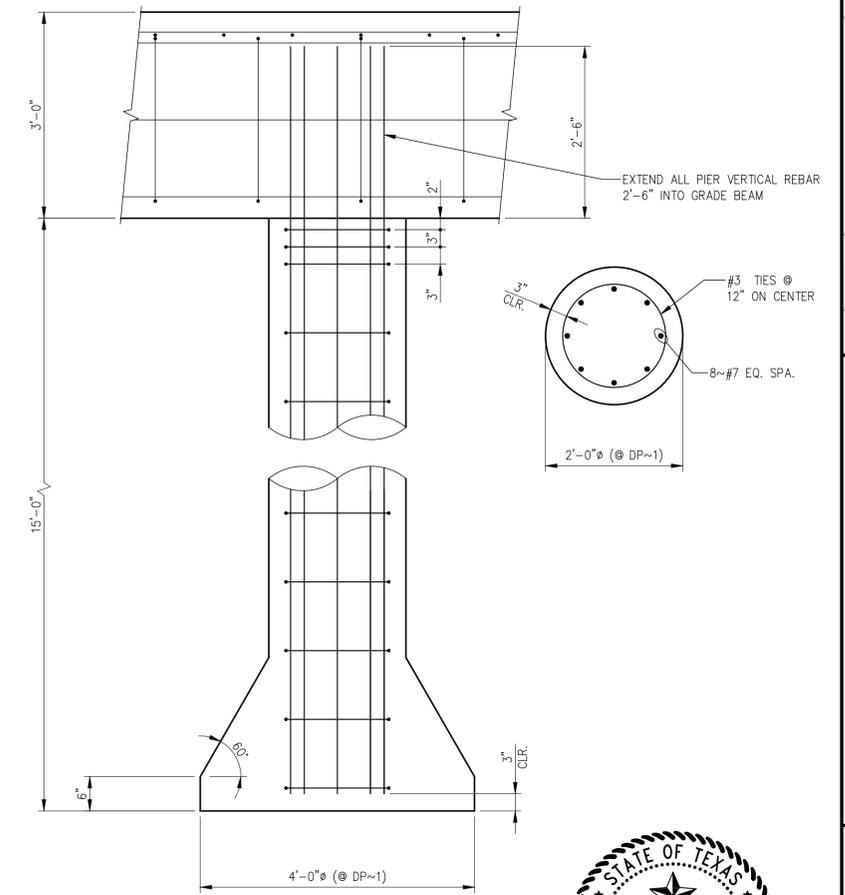
3 SECTION @ PERIMETER BEAM
S1.1 SCALE : 1" = 1'-0"



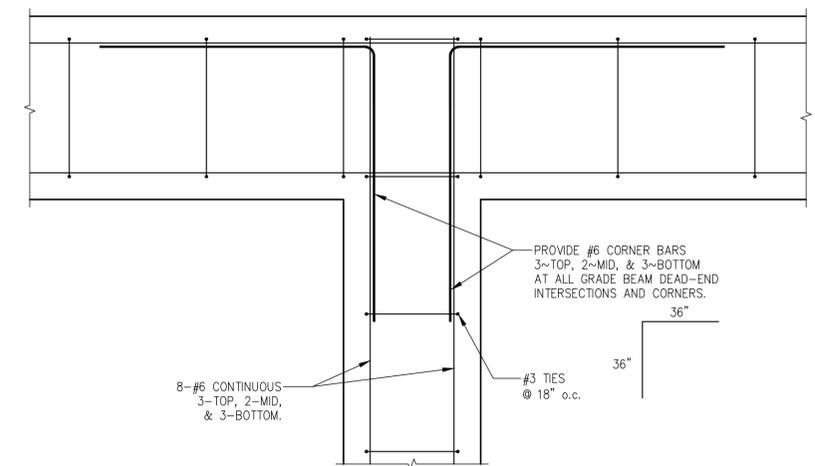
4 SECTION @ INTERIOR BEAM
S1.1 SCALE : 1" = 1'-0"



7 TYP. BEAM CORNER REBAR DETAIL
S1.1 SCALE : 1" = 1'-0"



6 DRILL PIER ~ DP~1
S1.1 SCALE : 3/4" = 1'-0" (AS NOTED)



8 TYP. BEAM INTERSECTION REBAR DETAIL
S1.1 SCALE : 1" = 1'-0"



Ch K
March 12, 2026

PROJECT NO. 5310.022B	SCALE: AS NTD.	DWN. BY: JRP	DATE: 11/03/25
CHK. BY: CK	SHT. NO. S1.1	REVISIONS	DESCRIPTION
03/12/26 FOR ADDENDUM NO 1	ZLR CK		
11/03/25 FOR BIDDING	ZLR CK		
	REV.	DATE	BY
			CHK.

MAGNOLIA BEACH FIRE STATION
CALHOUN COUNTY, TEXAS
GLO-CDBG-MIT-MOD
FOUNDATION SECTIONS & DETAILS

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ROOM FINISH SCHEDULE						
ROOM No.	DESCRIPTION	WALL	FLOOR	CEILING *	TRIM	REMARKS
		PAINTED PLYWOOD GYP. WALLBOARD TYPE X GYP. WALLBOARD TYPE X, W/MOISTURE/MOLD RESIST. TEXTURE/PAINT SEMI-GLOSS FINISH	SEALED/STAINED-SEE NOTE MMA ACRYLIC-SEE NOTE VINYL TILE PAINTED PLYWOOD GYP. BOARD UNFINISHED SUSPENDED PANELS PAINT & TEXTURE OPEN TO STRUCT. RUBBER COVE BASE 6" RUBBER COVE BASE			
100	KITCHEN	•	•		•	8'-8" CLNG. HT.
101	PANTRY	•	•		•	8'-8" CLNG. HT.
102	RESTROOM	•	•		•	8'-0" CLNG. HT.
103	RESTROOM	•	•		•	8'-0" CLNG. HT.
104	SUPPLY ROOM	•	•		•	8'-0" CLNG. HT.
105	GARAGE AREA	•	•		•	**
106	MEZZANINE STORAGE	•	•		•	8'-0" CLNG. HT.
107	MEZZANINE STORAGE	•	•		•	42" WALL N,S,W
108	A/C	•	•		•	8'-0" CLNG. HT.

(*) DIMENSIONS TO BE VERIFIED WITH FINAL METAL BUILDING MANUFACTURER'S SHOP DRAWINGS.

(**) SEE A/S1.2 FOR PART OF NORTH AND EAST WALLS.

DRY WALL NOTES

- WHERE STUDS EXTEND FROM FLOOR TO THE STRUCTURE ON A HORIZONTAL LINE NOT EXCEEDING 12'-0" @ F.F. PROVIDE A HORIZONTAL STUD RUNNER ATTACHED AT EACH STUD. BACK-BRACE THE VERTICAL STUDS @ EVERY OTHER STUD OR @ 4'-0" O.C. MAX.
- ALL GYPSUM BOARD SHALL BE FIRE RATED "TYPE X".
- ALL GYPSUM BOARD IN ROOMS 100, 102 & 103 SHALL BE MOISTURE/MOLD RESISTANT.
- STAGGER JOINTS AT ALL DOUBLE LAYERS OF GYPSUM BOARD.

FLOORING NOTES

- "MMA" SHALL BE METHYL METHACRYLATE CRYL-A-FLEX SYSTEM OR EQUAL AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
- PLYWOOD FLOORING MATERIAL SHALL BE ADVANTEC TONGUE AND GROOVE 3/4" THICKNESS OR APPROVED EQUAL UNLESS OTHERWISE NOTED.

GENERAL ACCESSIBILITY NOTES

- MINIMUM CLEAR WIDTH OF ACCESSIBLE ROUTE TO BE 36".
- RUNNING SLOPE SHALL NOT EXCEED 1:12. (CROSS SLOPE SHALL NOT EXCEED 1:48).
- 1/4" TO 1/2" CHANGES IN LEVEL REQUIRE EDGE TO BE BEVELED WITH A SLOPE NO GREATER THAN 1:2.
- THE HIGHEST OPERABLE PART OF CONTROLS, DISPENSERS, RECEPTACLES AND OTHER OPERABLE EQUIPMENT SHALL BE PLACED NO HIGHER THAN 48" AND NO LOWER THAN 15" ABOVE FINISHED FLOOR. THESE REQUIREMENTS SHALL APPLY TO CONTROLS AND OPERATING MECHANISMS WHICH ARE EXPECTED TO BE OPERATED BY OCCUPANTS, VISITORS, OR OTHER USERS OF A BUILDING OF FACILITY AND MAY INCLUDE, BUT ARE NOT LIMITED TO, THERMOSTATS, LIGHT SWITCHES, ALARM ACTIVATING DEVICES, VENTILATORS AND ELECTRICAL OUTLETS.
- PROVIDE SOLID BLOCKING AT ALL WALL MOUNTED ACCESSORIES AND/OR EQUIPMENT

GENERAL NOTES

- NOTE NOT USED
- NOTE NOT USED
- PRE ENGINEERED METAL BUILDING ROOF SHALL BE INSULATED WITH R-11 METAL BUILDING INSULATION AS STANDARD INSULATION PROVIDED BY PEMB MANUFACTURER. ALL OF THE NORTH, WEST, SOUTH AND EAST WALLS SHALL BE INSULATED WITH R-5 METAL BUILDING INSULATION AS STANDARD INSULATION PROVIDED BY PEMB MANUFACTURER. REFERENCE TECHNICAL SPECIFICATION 13121 FOR SPECIFICS.

- DIMENSIONS ARE TO FACE OF FINISHED WALL SURFACE UNLESS NOTED OTHERWISE.
- SIGNS SHALL MEET THE APPLICABLE REQUIREMENTS OF TEXAS ACCESSIBILITY STANDARDS SECTION 216 AND 703.

a. PROVIDE SIGNS WITH RAISED LETTERS AND BRAILLE FOR PERMANENT ROOMS INCLUDING KITCHEN, PANTRY, RESTROOM (102), RESTROOM (103), AND STORAGE. INSTALL TACTILE CHARACTERS ON SIGNS 48 INCHES AND 60 INCHES MAXIMUM ABOVE FINISH FLOOR. AT DOOR INSTALL TACTILE CHARACTER SIGN ALONGSIDE THE DOOR AT THE LATCH SIDE; AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE TACTILE SIGN SHALL BE INSTALLED ON THE RIGHT SIDE.



b. PROVIDE MEANS OF EGRESS SIGNS WITH RAISED LETTERS AND BRAILLE INCLUDING EXIT DOORS, DIRECTIONAL SIGNS. INSTALL TACTILE CHARACTERS ON SIGNS 48 INCHES AND 60 INCHES MAXIMUM ABOVE FINISH FLOOR. AT DOORS INSTALL TACTILE CHARACTER SIGN ALONGSIDE THE DOOR AT THE LATCH SIDE; AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE TACTILE SIGN SHALL BE INSTALLED ON THE RIGHT SIDE.



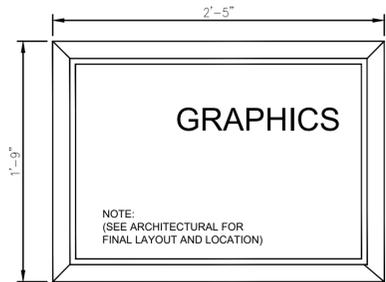
c. PROVIDE EXTERIOR SIGNS INCLUDING ACCESSIBLE PARKING SPACE, ACCESSIBLE ENTRANCE. PROVIDE SIGNS WITH RAISED LETTERS AND BRAILLE FOR THE ACCESSIBLE ENTRANCE AND ACCESSIBLE ENTRANCE DIRECTION SIGNS. PROVIDE EXTERIOR SIGN AT VAN ACCESSIBLE PARKING SPACE. INCLUDE THE INTERNATIONAL SIGN FOR ACCESSIBILITY. SIGN SHALL BE 60 INCHES ABOVE GROUND SURFACE TO BOTTOM OF SIGN.



- REFER TO MECHANICAL DRAWING FOR THE TYPE AND MODEL No. OF A/C UNIT AND EXHAUST FAN.
- REFER TO PLUMBING DRAWINGS FOR LOCATIONS OF ALL WATER AND SEWER LINE RUNS.
- REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL COMPONENT LOCATION AND INSTALLATION DETAILS.
- ANY CHANGES OR REVISIONS TO THESE PLANS MUST BE SUBMITTED FOR REVIEW AND/OR APPROVAL PRIOR TO IMPLEMENTATION.
- CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ENGINEER IMMEDIATELY OF ANY DISCREPANCY, ERROR OR OMISSION DISCOVERED ON THESE PLANS OR IN THE FIELD.
- ALL WORK SHALL BE ACCOMPLISHED ACCORDING TO THE INTERNATIONAL BUILDING CODE 2018 EDITION, AND ALL REVISIONS THEREOF, AS WELL AS ALL OTHER APPLICABLE LOCAL AND STATE BUILDING CODES.
- ALL PAINT, COLORS, ETC. SHALL BE SELECTED BY OWNER.
- ALL ADA COMPLIANT ROOMS SHALL FULLY COMPLY WITH THE MOST CURRENT ADA REGULATIONS INCLUDING BUT NOT NECESSARILY LIMITED TO DOORS AND DOOR HARDWARE, HARDWARE HEIGHTS, COUNTERS, DOOR CLEAR SPACE, THRESHOLDS, RESTROOM FIXTURES AND ACCESSORIES. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING NECESSARY SHOP DRAWINGS AND SUBMITTALS TO THE OWNER'S REPRESENTATIVE PRIOR TO ORDERING MATERIALS.

GENERAL NOTES (CONTINUED)

- THE FOLLOWING PLAN DEPICT SEVERAL OF THE MOST COMMON ELEMENTS OF THE 2012 TEXAS ACCESSIBILITY STANDARDS, AND ARE PROVIDED FOR QUICK REFERENCE ONLY. EACH SHEET MAY NOT CONTAIN ALL THE NECESSARY INFORMATION FOR EACH SECTION DEPICTED OR MAY REFERENCE SPECIFIC SUBSECTION FOR FURTHER EXPLANATION.
- IT IS RECOMMENDED THAT THE GENERAL CONTRACTOR KEEP A COPY OF THE 2012 TEXAS ACCESSIBILITY STANDARDS AT THE JOB SITE (OR IN A READILY ACCESSIBLE LOCATION) FOR THE USE BY ALL PARTIES INVOLVED IN THE CONSTRUCTION PROCESS



SUBMIT SHOP DRAWINGS AFTER RECEIVING NECESSARY INFORMATION

6 ID PLAQUE
A1.7 SCALE : 1 1/2" = 1'-0"

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G & W ENGINEERS, INC.

ENGINEERING SURVEYING PLANNING

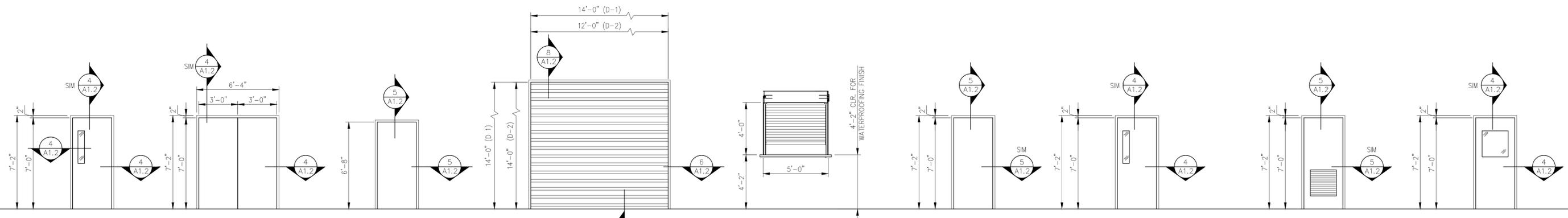
205 W. Live Oak St. Port Lavaca, Texas 77979 (361)562-4509

1801 7th St., Suite 260 Bay City Texas 77414 (979) 323-7100

MAGNOLIA BEACH FIRE STATION
CALHOUN COUNTY, TEXAS
GLO-CDBG-MIT-MOD
GENERAL NOTES

SCOTT P. MASON
127893
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.	5310.022B
SCALE:	AS NTD.
DWN. BY:	JRP
CHK. BY:	SPM
DATE:	10/31/25
SHT. NO.	A1.1

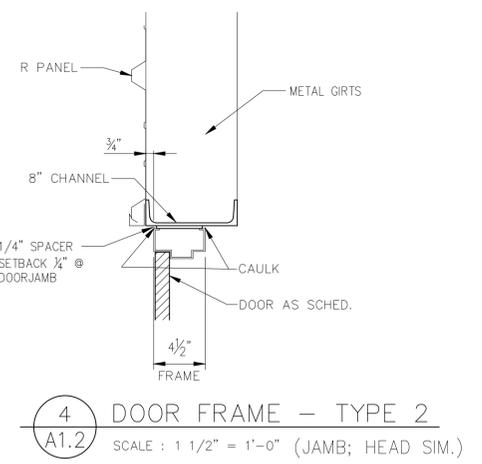


- A** METAL DOOR WITH SOLID URETHANE CORE, w/ 6"x30" IMPACT RESISTANT GLASS (w/ THRESHOLD SEE DETAIL "9/A1.2")
A-1 4'-0"x 7'-0"x 1 3/4"
- B** METAL DOOR w/ ASTRAGAL STRIP & FRAME SOLID URETHANE CORE (w/ THRESHOLD SEE DETAIL "9/A1.2")
B-1 6'-0"x 7'-0"x 1 3/4"
- C** SOLID CORE WOOD DOOR WITH WOOD FRAME AND WALL MOUNTED DOOR STOP
C-1 3'-0"x 6'-8"x 1 3/4"
- D** SECTIONAL STEEL DOOR WITH SINGLE PHASE, 120V, ELECTRIC MOTORIZED DOOR OPENER THAT IS PROGRAMMABLE WITH OPTIONAL BLUETOOTH FUNCTION
D-1 14'-0"x 14'-0"
D-2 14'-0"x 12'-0"
- D** COOKSON MODEL ESC10 (OR APPROVED EQUAL) ROLLING COUNTER DOOR
D-3 5'-0"x 4'-0"
- E** SOLID CORE WOOD DOOR WITH WOOD FRAME (w/THRESHOLD SEE DETAIL "10/A1.2")
E-1 3'-0"x 7'-0"x 1 3/4"
- F** METAL DOOR WITH SOLID URETHANE CORE, w/ 6"x30" IMPACT RESISTANT GLASS (w/ THRESHOLD SEE DETAIL "9/A1.2")
F-1 3'-0"x 7'-0"x 1 3/4"
- G** SOLID CORE WOOD DOOR WITH WOOD FRAME AND CONCRETE MOUNTED DOOR STOP w/24"x24" GRILLE
G-1 3'-0"x 7'-0"x 1 3/4"
- H** SOLID CORE WOOD DOOR WITH WOOD FRAME WITH 24"x24" IMPACT RESISTANT GLASS (w/THRESHOLD SEE DETAIL "10/A1.2")
H-1 4'-0"x 7'-0"x 1 3/4"

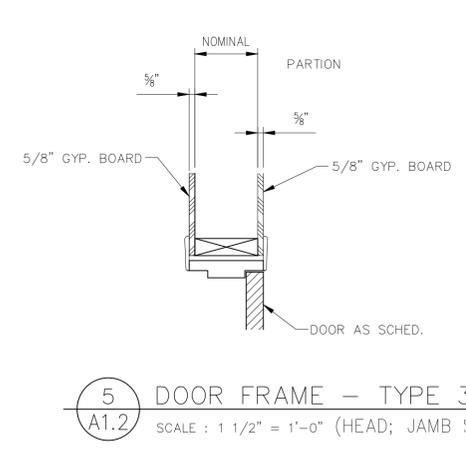
1 AMARR 2402 (OR APPROVED EQUAL) WIND LOAD CONFIGURATION IMPACT RATED SECTIONAL STEEL DOOR WITH SINGLE PHASE, 120V, ELECTRIC MOTORIZED DOOR OPENER THAT IS PROGRAMMABLE WITH OPTIONAL BLUETOOTH FUNCTION
D-1 14'-0"x 14'-0"
D-2 14'-0"x 12'-0"

1 DOOR SCHEDULE
A1.2 SCALE : 1/4" = 1'-0"

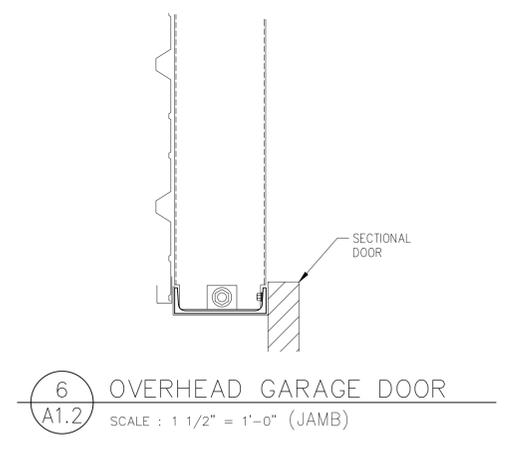
GENERAL NOTE
ALL METAL DOORS AND FRAMES SHALL BE GALVANIZED AND RECEIVE EXTERIOR GRADE PAINT COATING SYSTEM. ALL METAL DOORS AND FRAMES SHALL MEET WIND DESIGN CRITERIA AS INDICATED IN IN THE GENERAL NOTES ON SHEET A1.1 NOTE #1.
ALL WOOD DOORS TO RECEIVE EXTERIOR GRADE PAINT COATING SYSTEM.
COLOR SELECTED BY OWNER FOR ALL DOORS.



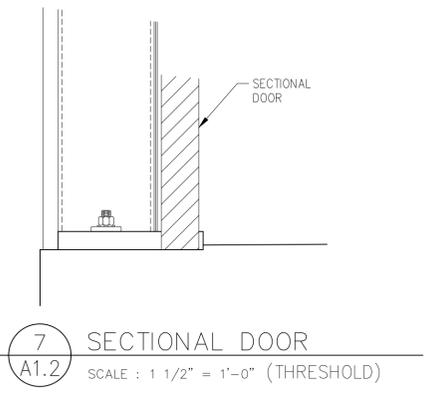
4 DOOR FRAME - TYPE 2
A1.2 SCALE : 1 1/2" = 1'-0" (JAMB; HEAD SIM.)



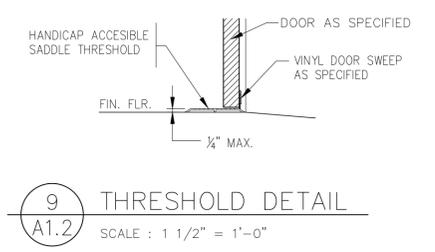
5 DOOR FRAME - TYPE 3
A1.2 SCALE : 1 1/2" = 1'-0" (HEAD; JAMB SIM.)



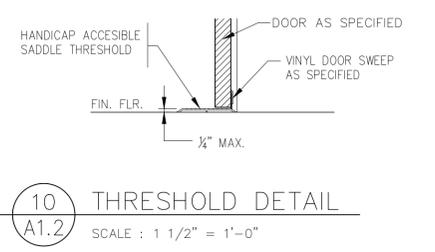
6 OVERHEAD GARAGE DOOR
A1.2 SCALE : 1 1/2" = 1'-0" (JAMB)



7 SECTIONAL DOOR
A1.2 SCALE : 1 1/2" = 1'-0" (THRESHOLD)



9 THRESHOLD DETAIL
A1.2 SCALE : 1 1/2" = 1'-0"



10 THRESHOLD DETAIL
A1.2 SCALE : 1 1/2" = 1'-0"

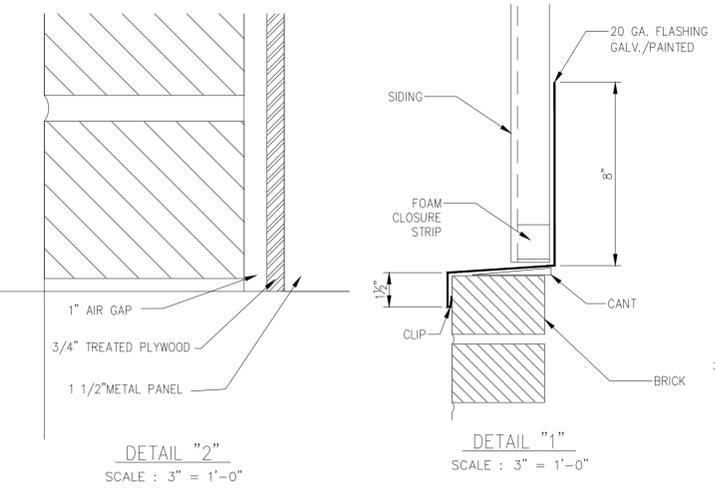
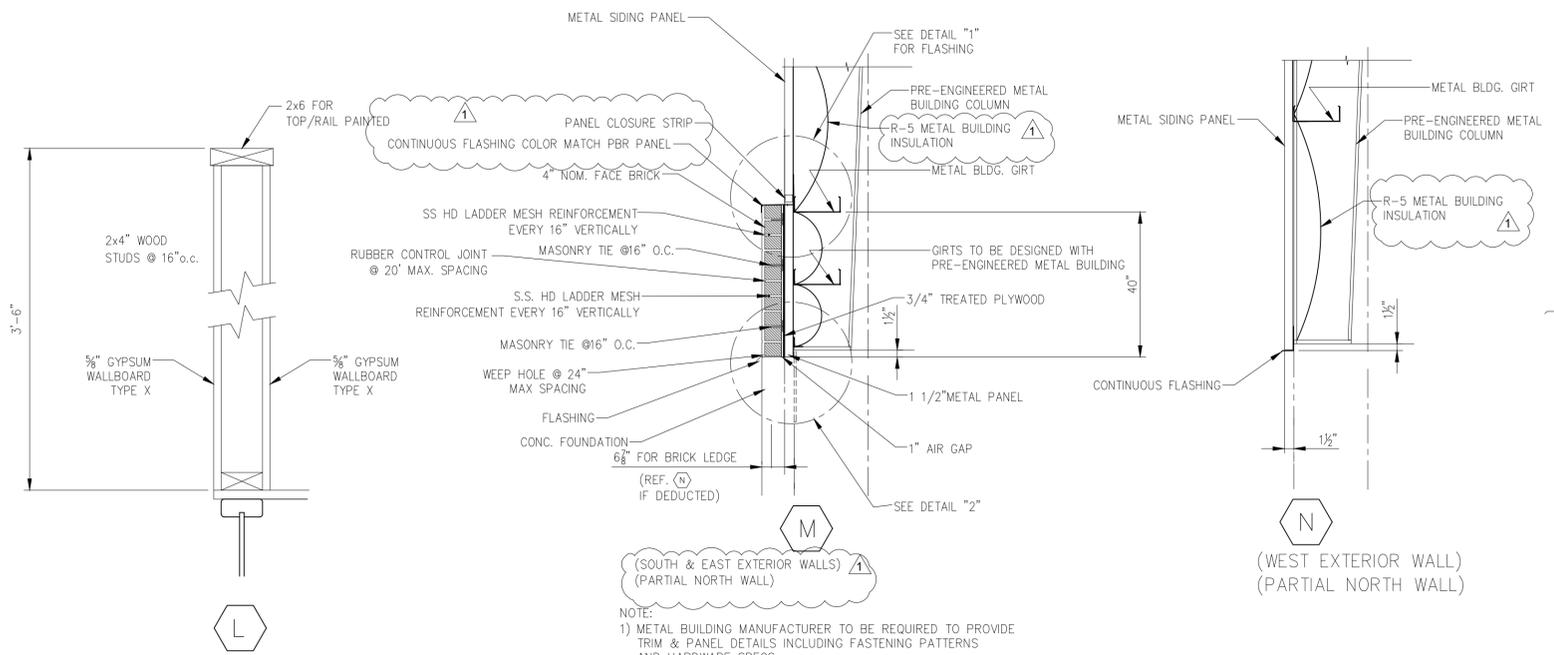
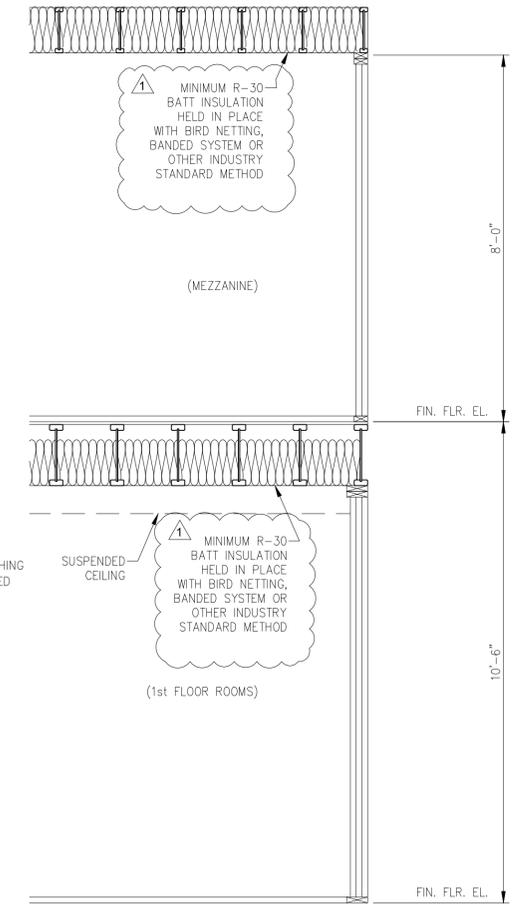
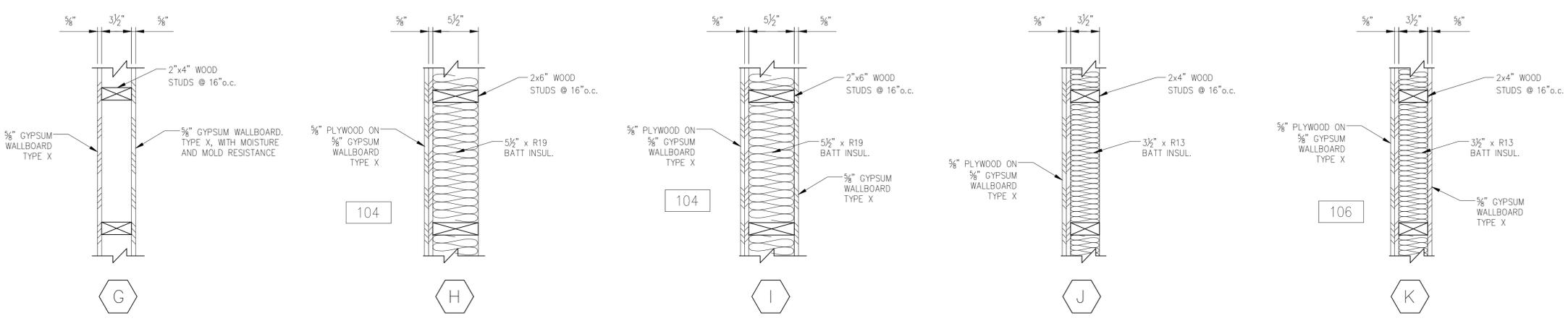
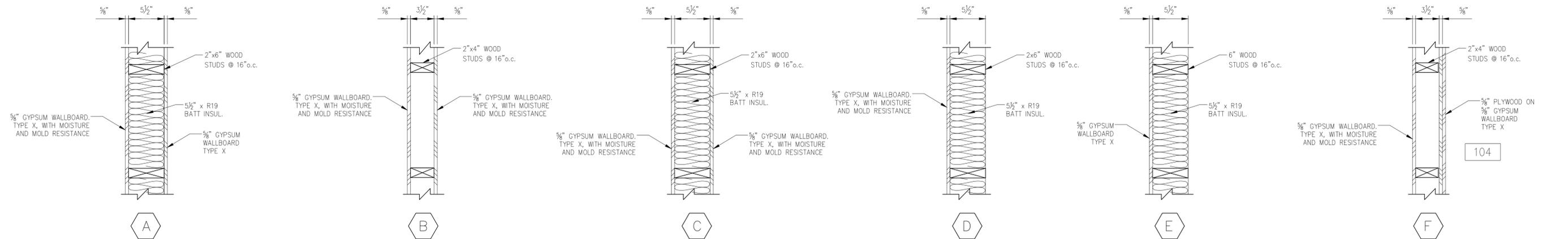
REV.	DATE	DESCRIPTION	BY	CHK.
1	03/12/26	FOR ADDENDUM NO 1	ZLR	SPM
2	10/31/25	FOR BIDDING	ZLR	SPM

Texas Registered Engineering Firm P-04188
G & W ENGINEERS, INC.
ENGINEERING SURVEYING PLANNING
205 W. Live Oak St. Port Lavaca, Texas 77979 (361)562-4509
1801 7th St., Suite 280 Bay City Texas 77414 (979) 323-7100

**MAGNOLIA BEACH FIRE STATION
CALHOUN COUNTY, TEXAS
GLO-CDBG-MIT-MOD
DOOR SCHEDULE & DOOR FRAMES**

02-12-26
STATE OF TEXAS
SCOTT P. MASON
127893
LICENSED PROFESSIONAL ENGINEER

PROJECT NO. 5310.022B
SCALE: AS NOTED
DWN. BY: JRP
CHK. BY: SPM
DATE: 10/31/25
SHT. NO. A1.2



2 CEILING INSULATION
A1.3 SCALE : 1/2" = 1'-0"

NOTE:
1) METAL BUILDING MANUFACTURER TO BE REQUIRED TO PROVIDE TRIM & PANEL DETAILS INCLUDING FASTENING PATTERNS AND HARDWARE SPECS.
2) PLYWOOD TO BE ATTACHED TO THE METAL BUILDING SIDING AT 6" O.C. HORIZONTALLY AT GIRTS AND BOTTOM. SCREWS TO MEET ASTM C 954 EXCEPT WITH WAFER HEADS & REAMER WINGS, LENGTH AS RECOMMENDED BY MANUFACTURER, ATTACHED THROUGH GIRTS WITH A MINIMUM OF 3 THREADS THROUGH GIRT.

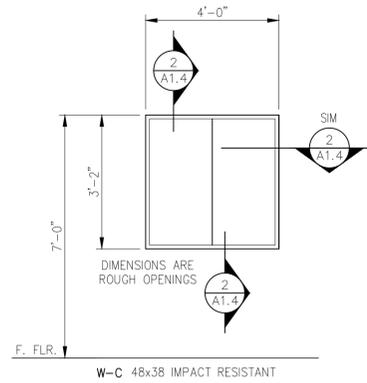
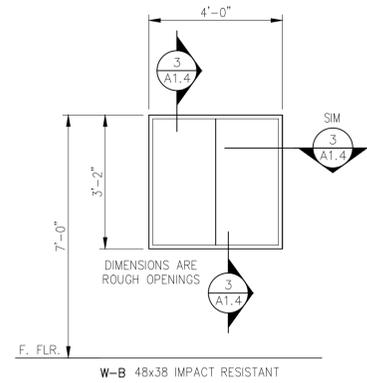
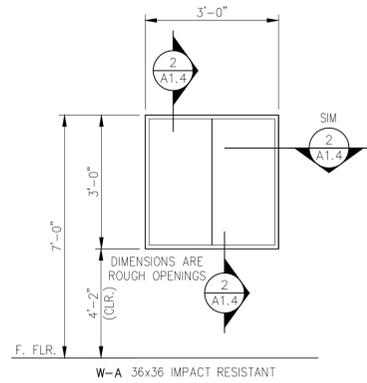
1 PARTITION TYPES
A1.3 SCALE : NTS

PROJECT NO.	5310.022B
SCALE:	AS NTD.
DWN. BY:	JRP
CHK. BY:	SPM
DATE:	10/31/25
SHT. NO.	A1.3

Texas Registered Engineering Firm P-04188
G & W ENGINEERS, INC.
 SURVEYING
 PLANNING
 ENGINEERING
 205 W. Live Oak St. Port Lavaca, Texas 77979 (361)562-4509
 1801 7th St., Suite 280 Bay City Texas 77414 (979) 323-7100

MAGNOLIA BEACH FIRE STATION
CALHOUN COUNTY, TEXAS
GLO-CDBG-MIT-MOD
PARTITION TYPES

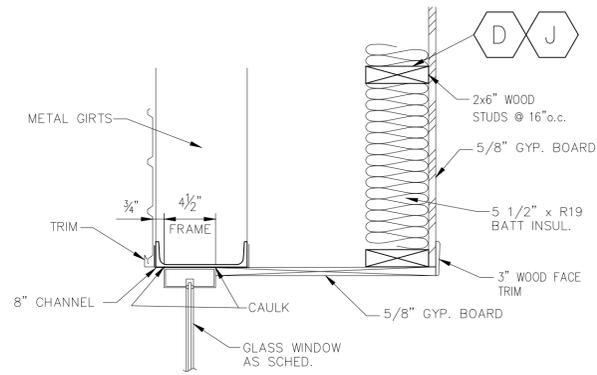
02-12-26
 STATE OF TEXAS
 SCOTT P. MASON
 127893
 LICENSED PROFESSIONAL ENGINEER



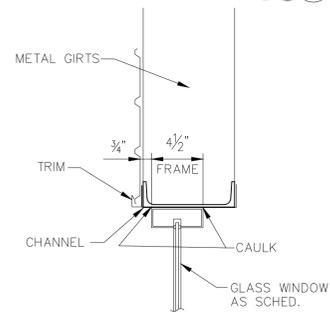
1 WINDOW SCHEDULE
 A1.4 SCALE : 1/4" = 1'-0"

GENERAL NOTE

- ALL WINDOWS SHALL BE JELD-WEN, PREMIUM ATLANTIC SERIES 8200 VINYL HORIZONTAL SLIDING WINDOWS, FIN AND FRAME INSTALLATION, IMPACT RESISTANT, SYSTEM 2, OR EQUAL. ALL WINDOWS SHALL MEET WIND DESIGN CRITERIA AS INDICATED IN THE GENERAL NOTES ON SHEET S1.0 NOTE #2.
- ALL WINDOWS ARE TO BE INSTALLED WITH SPRINGS WINDOW FASHIONS, SWF CONTRACT 1" ALUMINUM BLINDS - COLOR BRUSHED PEWTER - 756 OR APPROVED EQUAL.



2 WINDOW FRAME
 A1.4 SCALE : 1 1/2" = 1'-0" (HEAD & SILL; JAMB SIM.)



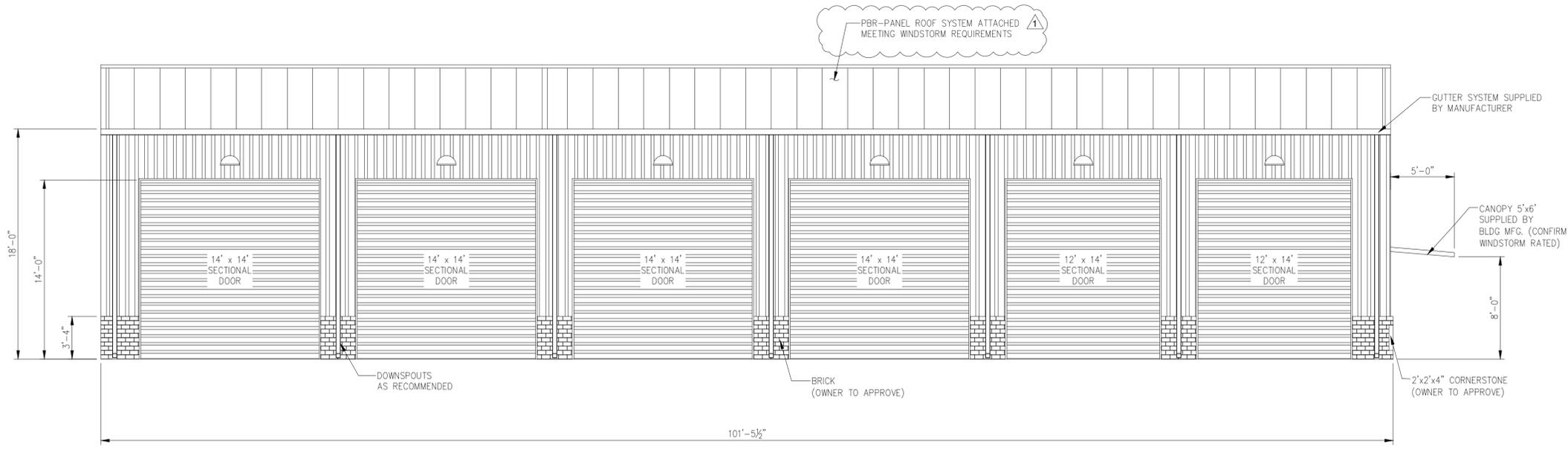
3 WINDOW FRAME
 A1.4 SCALE : 1 1/2" = 1'-0" (HEAD & SILL; JAMB SIM.)

PLANNING	03/12/26	FOR ADDENDUM NO 1	ZLR	SPM
ENGINEERING	10/31/25	FOR BIDDING	ZLR	SPM
REV.	DATE	DESCRIPTION	BY	CHK.

MAGNOLIA BEACH FIRE STATION
 CALHOUN COUNTY, TEXAS
 GLO-CDBG-MIT-MOD
 WINDOW SCHEDULE

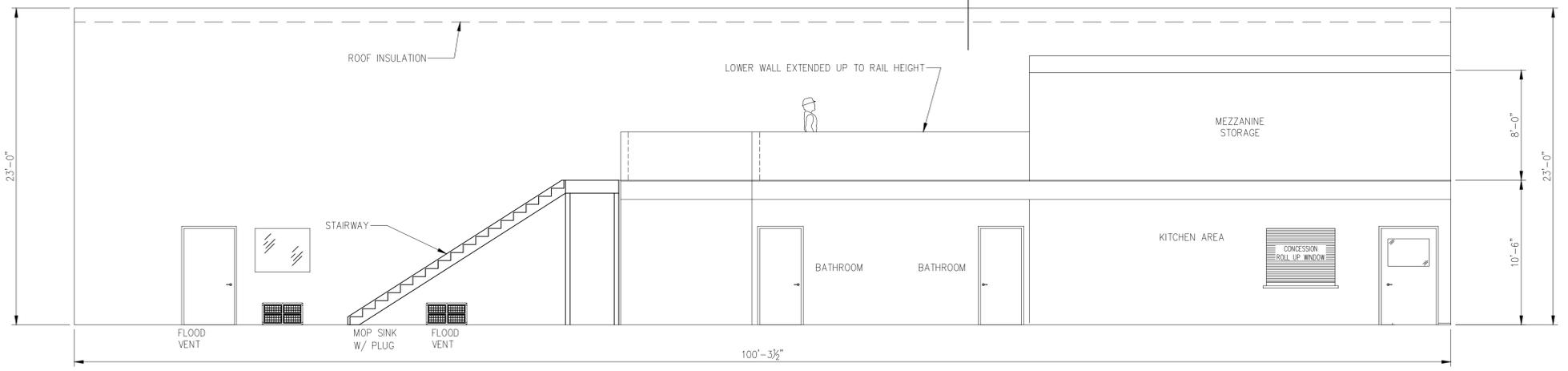


PROJECT NO.	5310.022B
SCALE:	AS NOTED.
DWN. BY:	JRP
CHK. BY:	SPM
DATE:	10/31/25
SHT. NO.	A1.4

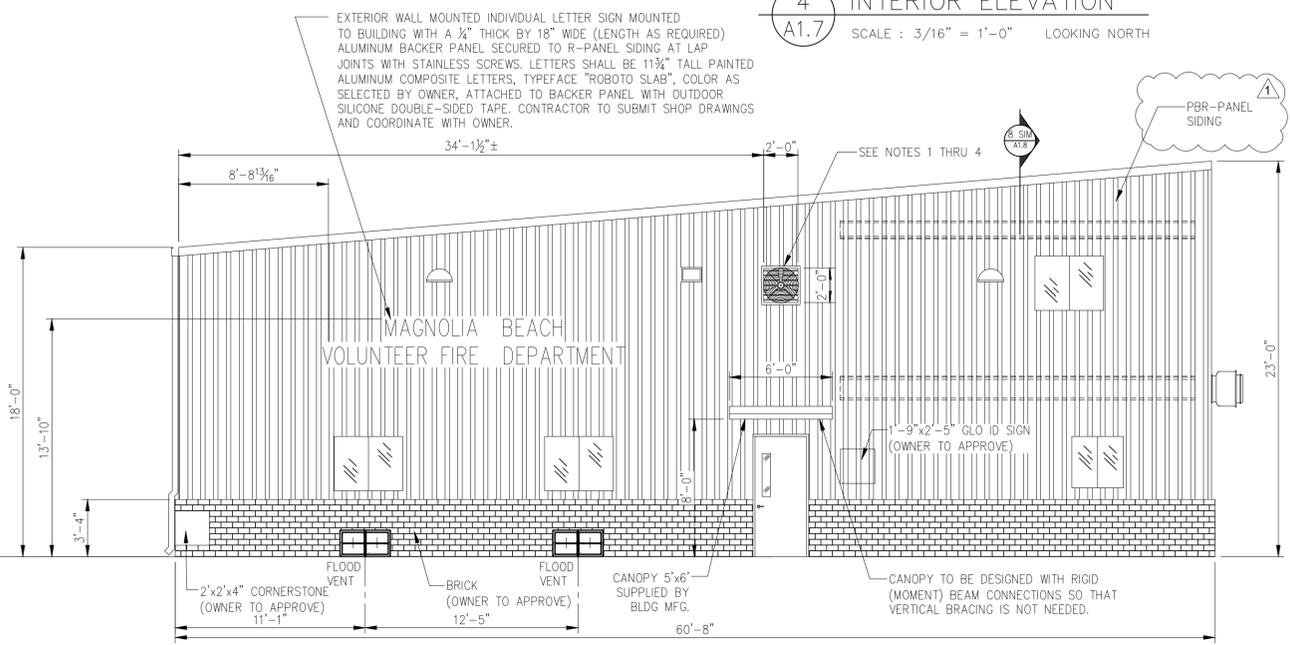


3 SOUTH ELEVATION
 A1.7 SCALE : 3/16" = 1'-0" LOOKING NORTH

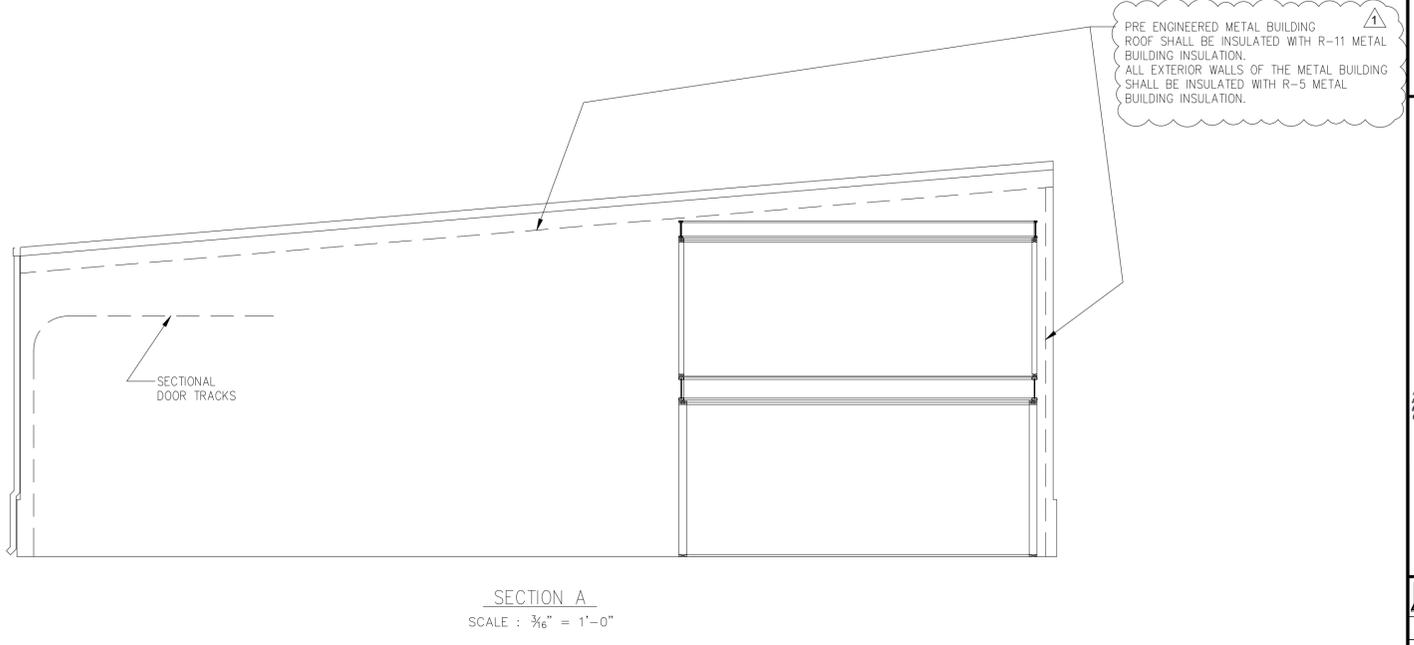
- NOTES:**
- WEST WALL INTAKE LOUVER LOCATION TO BE CENTERED ABOVE WEST DOUBLE DOORS. ELEVATION TO BE 1'-0" BELOW BOTTOM OF BEAM.
 - LOUVER TO BE UNITED ENERTECH, INC. (OR EQUIVALENT)
 PRODUCT #: SED-5.1 LOUVER SYSTEM 24"x24" WITH BUG SCREEN
 - NORTH WALL INTAKE LOUVERS LOCATION TO BE CENTERED IN OPEN MEZZ. BAY. ELEVATION TO BE 1'-0" BELOW BOTTOM OF BEAM.
 - LOUVERS TO BE (2) UNITED ENERTECH, INC. (OR EQUIVALENT)
 PRODUCT #: SED-5.1 LOUVER SYSTEM 24"x24" WITH CD-151 DAMPER ASSEMBLIES AND CHAIN OPERATORS. BOTH WITH BUG SCREENS.
 - EQUIPMENT AND MOUNTING TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF EQUIPMENT AND MOUNTING METHOD TO CONFIRM THAT IT MEETS WINDSTORM REQUIREMENTS.
 - REFER TO ELECTRICAL DRAWINGS FOR EXTERIOR LIGHTING SPECIFICATIONS AND LOCATIONS.



4 INTERIOR ELEVATION
 A1.7 SCALE : 3/16" = 1'-0" LOOKING NORTH



5 EAST ELEVATION
 A1.7 SCALE : 3/16" = 1'-0"



SECTION A
 SCALE : 3/8" = 1'-0"

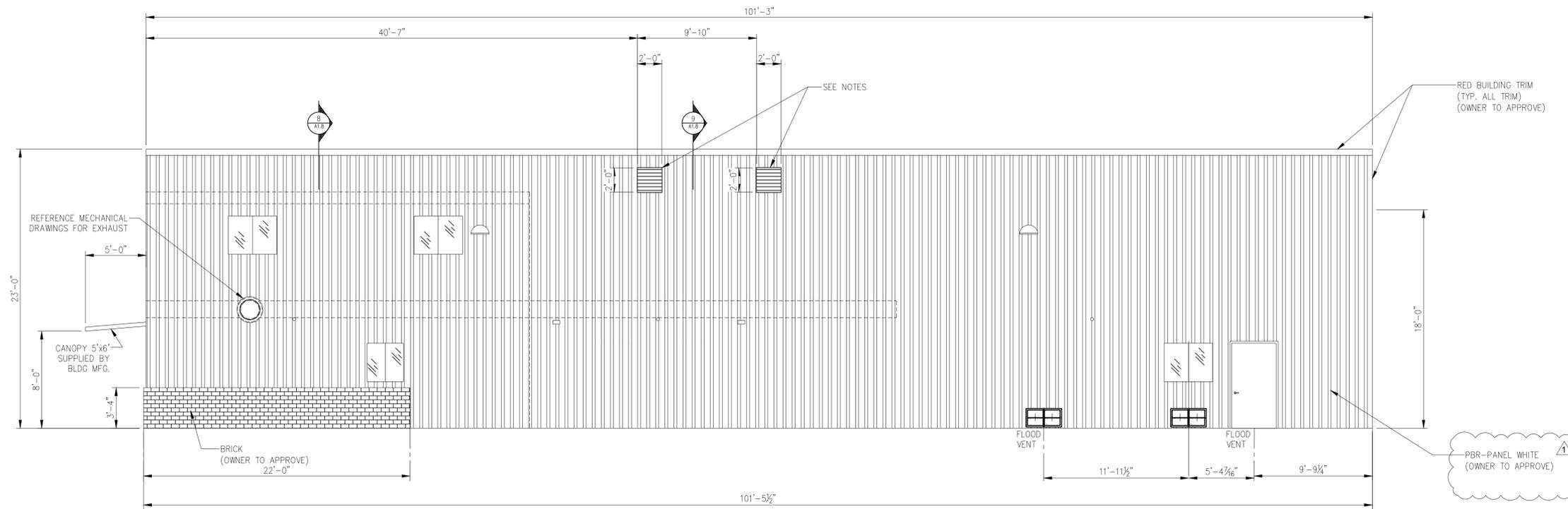
DATE	10/31/25	BY	CHK.
REV.	10/31/25	DATE	DESCRIPTION
1	03/12/26	FOR ADDENDUM NO 1	ZLR SPM
2	10/31/25	FOR BIDDING	ZLR SPM

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MAGNOLIA BEACH FIRE STATION
CALHOUN COUNTY, TEXAS
GLO-CDBG-MIT-MOD
ELEVATIONS

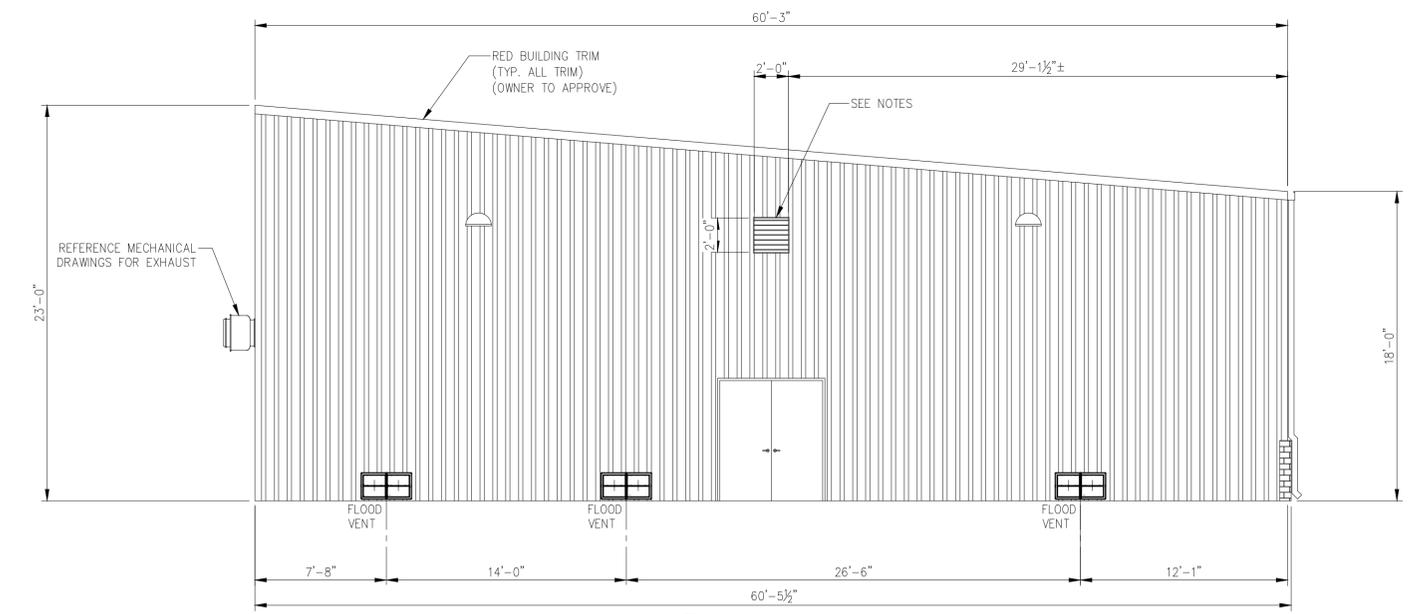
02-12-26
 STATE OF TEXAS
 SCOTT P. MASON
 127893
 LICENSED PROFESSIONAL ENGINEER

PROJECT NO. 5310.022B
 SCALE: SPM
 DWN. BY: JRP
 CHK. BY: SPM
 DATE: 10/31/25
 SHT. NO. A1.7

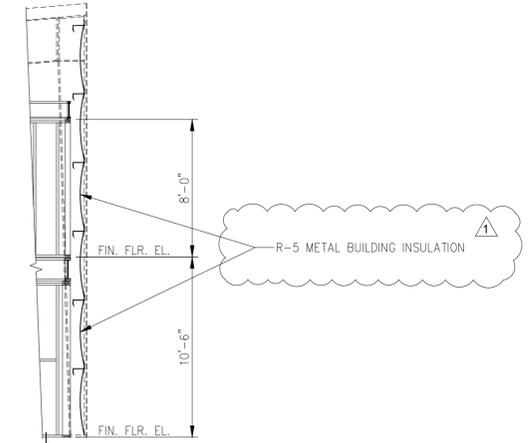


6 NORTH ELEVATION
A1.8 SCALE : 3/16" = 1'-0"

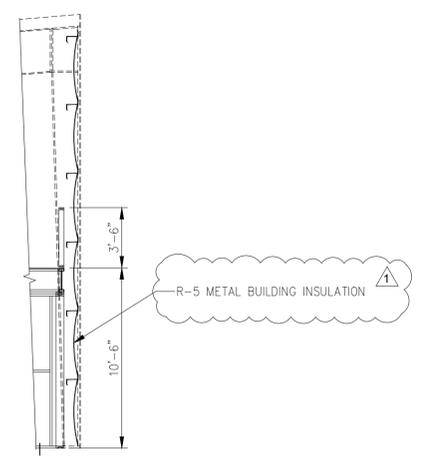
- NOTES:
1. WEST WALL INTAKE LOUVER LOCATION TO BE CENTERED ABOVE WEST DOUBLE DOORS. ELEVATION TO BE 1'-0" BELOW BOTTOM OF BEAM.
 2. LOUVER TO BE UNITED ENERTECH, INC. (OR EQUIVALENT)
PRODUCT #: SED-5.1 LOUVER SYSTEM 24"x24" WITH BUG SCREEN
 3. NORTH WALL INTAKE LOUVERS LOCATION TO BE CENTERED IN OPEN MEZZ. BAY. ELEVATION TO BE 1'-0" BELOW BOTTOM OF BEAM.
 4. LOUVERS TO BE (2) UNITED ENERTECH, INC. (OR EQUIVALENT)
PRODUCT #: SED-5.1 LOUVER SYSTEM 24"x24" WITH CD-151 DAMPER ASSEMBLIES AND CHAIN OPERATORS. BOTH WITH BUG SCREENS.
 5. EQUIPMENT AND MOUNTING TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
 6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF EQUIPMENT AND MOUNTING METHOD TO CONFIRM THAT IT MEETS WINDSTORM REQUIREMENTS.
 7. REFER TO ELECTRICAL DRAWINGS FOR EXTERIOR LIGHTING SPECIFICATIONS AND LOCATIONS.



7 WEST ELEVATION
A1.8 SCALE : 3/16" = 1'-0"



8 NORTH WALL SECTION
S1.8 SCALE : 3/16" = 1'-0" LOOKING WEST



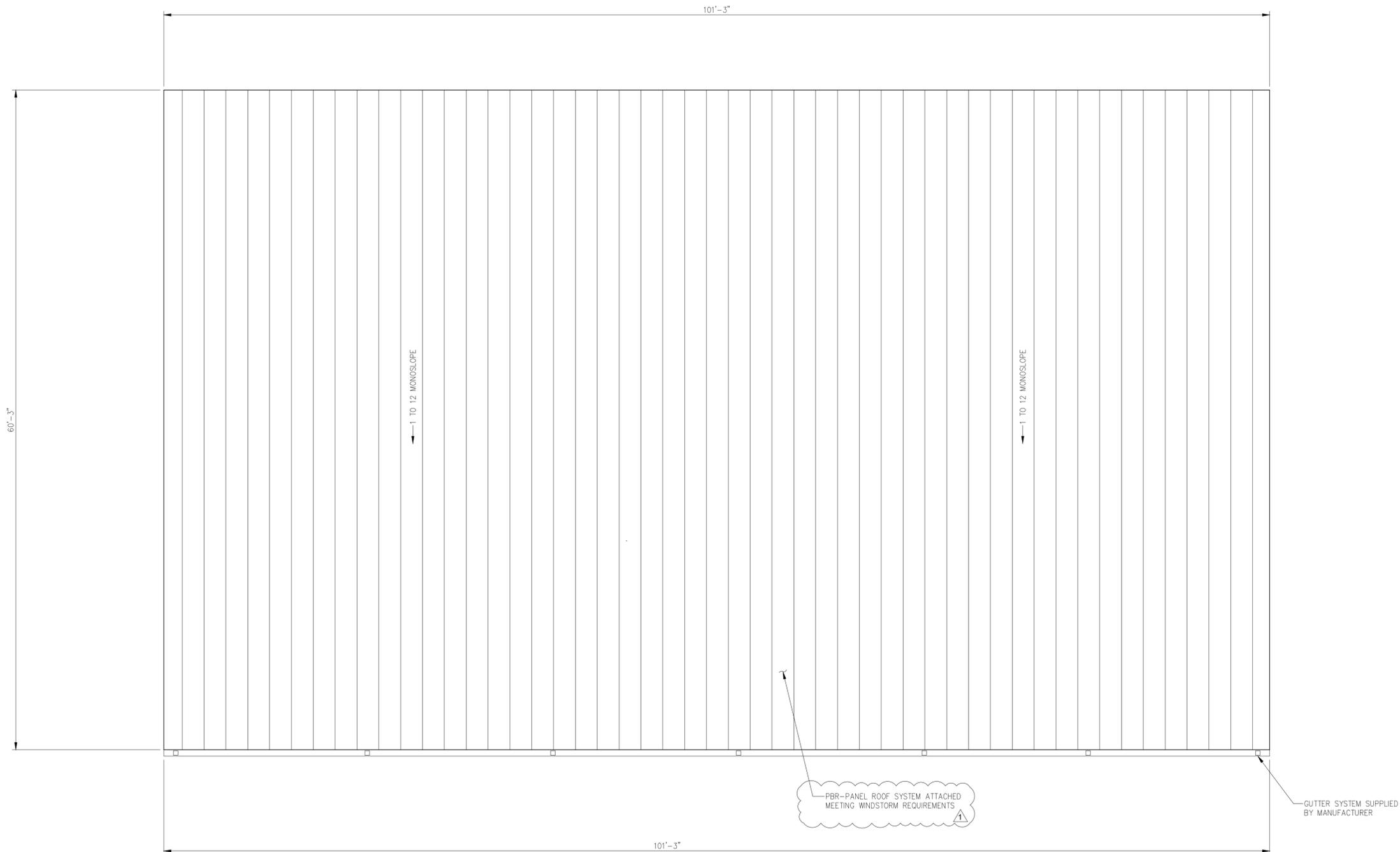
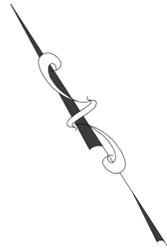
9 NORTH WALL SECTION
S1.8 SCALE : 1/4" = 1'-0" LOOKING WEST

PLANNING	03/12/26	FOR ADDENDUM NO 1	ZLR	SPM	BY	CHK.
ENGINEERING	10/31/25	FOR BIDDING	ZLR	SPM	BY	CHK.
REVISIONS	REV.	DATE	DESCRIPTION			

MAGNOLIA BEACH FIRE STATION
CALHOUN COUNTY, TEXAS
GLO-CDBG-MIT-MOD
ELEVATIONS



PROJECT NO.	5310.022B
SCALE:	AS NOTD.
DWN. BY:	JRP
CHK. BY:	SPM
DATE:	10/31/25
SHT. NO.	A1.8



10 ROOF PLAN
 A1.9 SCALE : 3/16" = 1'-0"

△				
△				
△				
△		03/12/26	FOR ADDENDUM NO 1	ZLR SPM
△		10/31/25	FOR BIDDING	ZLR SPM
REV.	DATE	DESCRIPTION	BY	CHK.

MAGNOLIA BEACH FIRE STATION
 CALHOUN COUNTY, TEXAS
 GLO-CDBG-MIT-MOD
 ROOF PLAN



PROJECT NO.	5310.022B
SCALE:	AS NOTED
DWN. BY:	JRP
CHK. BY:	SPM
DATE:	10/31/25
SHT. NO.	A1.9

BID

PROJECT NAME: Magnolia Beach Fire Station Project for Calhoun County, Texas

DUE DATE: _____

BIDDER NAME: _____

BASE WORK SCOPE is: Furnishing of all labor, materials, equipment, plant and superintendence for performing all work associated with the demolition of the existing Fire Station metal building and concrete foundation; the construction of the new 60'x101' pre-engineered metal building Fire Station including reinforced concrete foundation, electrical components, wet utility services and plumbing, electric operated sectional doors, interior construction with structural walls / joists and mezzanine floor, HVAC and ventilation systems, and floodproofing components; the installation of the 117 kW diesel engine generator including electrical connections, automatic transfer switch, elevated generator platform and all other necessary items; reinforced concrete apron, curbing, sidewalk with ADA ramp and parking lot, all in accordance with the plans and specifications.

General				
Item	Quantity	Unit	Unit Price	Total Bid Price
1. Furnishing all necessary equipment, materials, and labor for Mobilization, and demobilization, as per plans and specifications	1	LS		
2. Furnishing all necessary equipment, materials, and labor for insurance, and bonds as per plans and specifications	1	LS		
3. Furnishing all necessary equipment, materials, and labor for project barricading as per plans and specifications	1	LS		
4. Furnishing all necessary equipment, materials, and labor for temporary onsite disposal (dumpsters and Port-A-Cans) as per plans and specifications	1	LS		
5. Furnishing equipment, materials, and labor for the installation of the CDBG temporary and a permanent acknowledgement sign as per page 02845-1 of the specifications and the Magnolia Beach Volunteer Fire Department building signage as per plans and specifications complete and in place	1	LS		
6. Furnishing materials, labor and equipment for implementation, enforcement, and maintenance of TPDES requirements for duration of project (SWPPP)	1	LS		
General Site Area				
Item	Quantity	Unit	Unit Price	Total Bid Price
7. Furnishing equipment and labor for the demolition and removal and disposal of an existing metal building, and concrete foundation as per plans and specifications	1	LS		

General Site Area Continued				
Item	Quantity	Unit	Unit Price	Total Bid Price
8. Furnishing equipment and labor for the demolition and removal and disposal of sidewalks, existing asphalt parking lot, existing concrete curb and gutter as per plans and specifications	1	LS		
9. Furnishing equipment and labor for the demolition and removal and disposal of an existing propane tank, trash cans, sign, flagpole, and trees as per plans and specifications	1	LS		
10. Furnishing equipment and labor for the demolition and removal and disposal of existing electrical poles and coordinating removal of any electrical work with VEC as per plans and specifications	1	LS		
11. Furnishing equipment, materials, and labor for the installation of building and appropriate earthwork, imported select fill and subgrade prep, as per plans and specifications	1	LS		
12. Furnishing equipment, materials and labor for the installation of water service for the facility that includes, but not limited to all piping, valves, hose bibs, RPZ, and limited coordination with UNDINE, if necessary for new service all complete in place as per plans and specifications	1	LS		
13. Furnishing all equipment, materials and labor for the installation of gravity Sanitary Collection System and Fixtures including but not limited to exterior building plumbing, backflow valves, connection to public sewer line, and coordination with Sewer District, complete in place as per plans and specifications	1	LS		
14. Furnishing equipment, materials and labor for the installation of precast concrete grate inlet, 18" HDPE, 24" HDPE, 24" Cap and connection to existing concrete inlet complete in place as per plans and specifications	1	LS		
15. Furnishing equipment, materials, and labor for the installation of building reinforced concrete drilled piers with bell bottoms, as per plans and specifications	1	LS		
16. Furnishing equipment, materials, and labor for the installation of building reinforced concrete foundation as per plans and specifications	1	LS		

General Site Area Continued				
Item	Quantity	Unit	Unit Price	Total Bid Price
17. Furnishing equipment, materials, and labor for the installation of building reinforced concrete aprons around garage bay doors, and steel pipe bollards as per plans and specifications	1	LS		
18. Furnishing equipment, materials and labor for the installation of concrete pavement and driveways including curb and gutter areas complete in place as per plans and specifications	1	LS		
19. Furnishing equipment, materials and labor for the installation of asphalt patch repair at new driveways and curb and gutter tie-in locations complete in place as per plans and specifications	1	LS		
20. Furnishing equipment, materials and labor for the installation of reinforced concrete door apron with appropriate curbing, reinforced concrete sidewalk and ADA compliant concrete ramp, all concrete flat work, complete in place as per plans and specifications	1	LS		
21. Furnishing equipment, materials and labor for the installation of concrete base for future sign, flag pole and foundation complete in place as per plans and specifications	1	LS		
22. Furnishing labor for the installation of surplus fill including leveling, tree planting and sodding as per plans and specifications	1	LS		
Building & Interior				
Item	Quantity	Unit	Unit Price	Total Bid Price
23. Furnishing equipment, materials and labor for the construction of the interior wood constructed facility (kitchen, restrooms, supply room and storage room) includes, but not limited to structural joist system, studs, framing, including exterior wall penetrations all complete and in place as per plans and specifications	1	LS		

Building & Interior Continued				
Item	Quantity	Unit	Unit Price	Total Bid Price
24. Furnishing equipment, materials and labor for the construction of the FRP and Sheetrock all complete and in place as per plans and specifications	1	LS		
25. Furnishing equipment, materials and labor for the construction of the interior wall painting including the flood proofing paint system all complete and in place as per plans and specifications	1	LS		
26. Furnishing equipment, materials and labor for the installation of the four feet tall Dry Floodproofing Wall Partitions complete and in place as per plans and specifications	1	LS		
27. Furnishing equipment, materials and labor for the installation of Framed Engineered Flood Vents complete and in place as per plans and specifications	1	LS		
28. Furnishing equipment, materials and labor for the installation of the Ceilings and components complete and in place as per plans and specifications	1	LS		
29. Furnishing equipment, materials and labor for the installation of Structural steel & Stairs completed and in place as per plans and specifications	1	LS		
30. Furnishing equipment, materials and labor for the construction of the impact resistant windows, personnel doors, sectional doors complete in place as per plans and specifications	1	LS		
31. Furnishing equipment, materials and labor for the installation of interior Door Flood Barriers complete and in place as per plans and specifications	1	LS		
32. Furnishing equipment, materials and labor for the installation of interior Cabinetry and Millwork of the building interior complete and in place as per plans and specifications	1	LS		

Building & Interior Continued				
Item	Quantity	Unit	Unit Price	Total Bid Price
33. Furnishing equipment, materials and labor for the construction of the masonry including the 3'-4" high brick wall facade, and decorative cornerstones complete in place as per plans and specifications	1	LS		
34. Furnishing equipment, materials and labor for the construction of the Damp proofing complete in place as per plans and specifications	1	LS		
35. Furnishing equipment, materials and labor for the installation of facility electrical components on the exterior and interior of the facility that includes, but not limited to wiring, conduits, disconnects, panels, circuits for all electrical equipment including all lighting and fixtures complete in place system as per plans and specifications	1	LS		
36. Furnishing equipment, materials and labor for the Generator Platform complete in place as per plans and specifications	1	LS		
37. Furnishing all equipment, materials and labor for the installation of gravity Sanitary Collection System and Fixtures including but not limited to interior building plumbing, venting, Restroom water closets, floor drains, mop sink, Restroom lavatories, Restroom showers, trap primers, complete in place as per plans and specifications	1	LS		
38. Furnishing equipment, materials and labor for the installation of water service for the facility that includes, but not limited to all piping, valves, hose bibs, all complete in place as per plans and specifications	1	LS		
39. Furnishing equipment, materials and labor for the installation of the 5-ton air conditioning system that includes, but not limited to air handler, ducts, registers, thermostat, and two large diameter fans, building exhaust fan and louvers, carbon monoxide alarm system all complete and in place as per plans and specifications	1	LS		

Building & Interior Continued				
Item	Quantity	Unit	Unit Price	Total Bid Price
40. Furnishing equipment, materials and labor for the installation of the exterior A/C Condensing Unit Platform complete and in place as per plans and specifications	1	LS		
41. Furnishing equipment, materials and labor for the installation of the Flooring and flooring finishes complete and in place as per plans and specifications	1	LS		
42. Furnishing equipment, materials and labor for the installation of the window blinds complete and in place as per plans and specifications	1	LS		
43. Furnishing equipment, materials and labor for the installation of the MAGNOLIA BEACH VOLUNTEER FIRE DEPARTMENT Exterior Wall Mounted Building Signage as per plans and specifications complete and in place	1	LS		
44. Furnishing equipment, materials and labor for the installation of fire prevention measures including fire extinguishers and mounting brackets complete in place as per plans and specifications complete and in place	1	LS		
45. Furnishing equipment, materials and labor for the construction of the restrooms, includes, but not limited to mirrors, changing tables, ADA bars, ADA Shower Seats, shower pans, systems, etc. all complete and in place as per plans and specifications	1	LS		
46. Furnishing equipment, materials and labor for the construction of the kitchen, supply room and storage room includes, but not limited to concession roll up door and counters, stainless steel islands, counter tops, hood venting components, all complete and in place as per plans and specifications	1	LS		

Generator Electrical				
Item	Quantity	Unit	Unit Price	Total Bid Price
47. Furnishing equipment, materials and labor for the installation of the appliances listed on sheet A1.6 of the plan set.	1	LS		
48. Furnishing equipment, materials and labor for the construction of the 60' x 101' pre-engineered metal building designed for 160 mph wind pressure with "PBR" panel roofing and siding including insulated roof and sides, gutters, and downspouts complete in place as per plans and specifications	1	LS		
49. Furnishing equipment, materials and labor for a 117-kW diesel engine generator with 220-gallon UL 142 approved fuel tank with transfer switch and wiring complete in place as per plans and specifications	1	LS		
50. Furnishing equipment, materials and labor for the Generator Platform complete in place as per plans and specifications	1	LS		
Owners Betterment Allowance / Contingency Allowance (3% of sum of items 1-50)			-	
Testing Allowance			-	\$15,000.00
TOTAL BASE BID				\$
Proposed Calendar Days				
OWNER'S OPTION(S)				
Item	Quantity	Unit	Unit Price	Total Bid Price
O1. Furnishing equipment and labor for the Demolition, Removal, and Disposal of existing asphalt parking lot (approx. 1,420 SY) and installation of Two-Course Chip Seal Pavement and appropriate earthwork and subgrade and base material prep (approximately 10,100 SF) complete in place as per plans and specifications	1	LS		
Additional Calendar Days				

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01210 - ALLOWANCES

PART I - GENERAL

I.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division Specification Sections, apply to this Section.

1.3 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual services, materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Testing allowances.
 - 2. Contingency

1.4 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual services, materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.5 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Engineer of the date when final selection of service provider described by an allowance must be completed to avoid delaying the Work.
- B. At Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

- C. Execute agreement from the designated service provider.

1.6 SUBMITTALS

- A. Submit proposals for purchase of services included in allowances, in the form specified for Change Orders.

1.7 INFORMATIONAL SUBMITTALS

- A. Submit invoices to show actual quantities of services provided for the project for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for coordination of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.8 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates/schedules as required to coordinate these services.

1.9 TESTING ALLOWANCES

- A. Use the testing allowance only as directed by Engineer for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the testing allowance are included in the allowance and are not part of the Contract Sum. These costs include coordination, meetings, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the testing allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the allowance to Owner by Change Order.

1.10 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower- priced materials or systems of the same scope and nature as originally indicated.
- C. Deniable use of allowance, shall include:
1. Re-testing, additional services, additional trips, and additional overhead associated with failed test. Reference technical specification 01410.
 2. Testing fees completed outside of normal business hours and days, which are the result of being behind schedule or lack of preparation and/or scheduling.
 3. Invoices received after close-out of the project and retainage released. It shall be the CONTRACTOR's responsibility to ensure all invoices are paid and received prior to close out.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DOCUMENTS/RESULTS

- A. All testing results shall be made available to ENGINEER at all times, and testing service provider shall provide a copy of results to ENGINEER at the time they are transmitted to CONTRACTOR.

3.2 PREPARATION

- A. Coordinate services for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Owner's Betterment Allow / Contingency Allowance (3% of sum of Items 1-50): to be used as directed by the Engineer for making change orders associated with betterment of the project. All change orders using monies from this allowance will be coordinated and approved by the Owner prior to work being done.
- B. Testing Allowance: Include the net sum of Fifteen Thousand Dollars (\$15,000.00) to be used as directed by the Engineer for making change orders associated with testing for the betterment of the project. All change orders using monies from this allowance will be coordinated and approved by the Owner prior to work being done.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

.01 GENERAL:

- a. Submit shop drawings, product data, Texas Department of Insurance (TDI) Product Evaluation Reports (if building project) and samples required by specification sections.
- b. Shop drawings, product data and samples are not considered a part of Contract Documents.
- c. Schedule submissions at least 10 days before reviewed submittals will be needed.

.02 CONTRACTOR RESPONSIBILITIES:

- a. Review shop drawings, project data and samples for completeness prior to submission.
- b. Verify:
 1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and other data.
 4. Conformance with submission requirements.
 5. Products have TDI Product Evaluation Reports (if building project)
- c. Coordinate each submittal with Contract Documents and the work requirements to prevent any delay in the work.
- d. Ensure that if a submittal consists of multiple arrangements, configurations, model numbers, etc. that the selected arrangement, configuration, and model numbers, etc., are highlighted, noted, or clearly evident throughout the entire submittal.
- e. CONTRACTOR's responsibility for errors and omissions is not relieved by ENGINEER's review of submittals.
- f. At time of submission and in writing, notify ENGINEER of submittal deviations from Contract Documents.
- g. CONTRACTOR's responsibility for deviations from Contract Documents is not

relieved by ENGINEER's review of submittals, unless ENGINEER gives written acceptance of specific deviations.

- h. Begin no Work related to submittals until return of submittals with ENGINEER's stamp and initials or signature indicating review.
- i. Distribute copies after ENGINEER's review.

.03 ENGINEER'S DUTIES:

- a. Review submittals with reasonable promptness to prevent any delay in the Work.
- b. Review for conformance with:
 - 1. Design concept of project.
 - 2. Contract Documents.
- c. Review of a separate item does not constitute review of an assembly in which the item functions.
- d. Return to CONTRACTOR those submittals which do not meet the requirements and require correction and resubmission.
- e. Affix stamp and initials or signature certifying review of submittal.
- f. Return reviewed submittals to CONTRACTOR for distribution.

.04 PREPARATION REQUIREMENTS:

- a. Shop Drawings:
 - 1. Preparation by a qualified detailer.
 - 2. Sheet size same as Contract Drawings.
 - 3. Identify details by reference to sheet and detail numbers on Contract Drawings.
 - 4. Include on the drawing all information required for submission or prepare a transmittal letter.
 - 5. All shop drawings prepared for the project must be legible and legible if reproduced on a printed copy.
- b. Product Data:
 - 1. Modify manufacturer's standard schematic drawings to delete or

supplement information as applicable.

2. For manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other descriptive data:
 - (a) Clearly mark each copy to identify pertinent materials, products or models.
 - (b) Show dimensions and clearances required.
 - (c) Show performance characteristics and capacities.
 - (d) Show wiring diagrams and controls.
 - (e) Provide standard manufacturer warranties and limitations.
3. Include on the data all information required for submission or prepare a transmittal letter.
4. All product data prepared for the project must be legible and legible if reproduced on a printed copy.

c. Samples:

1. Obtain office samples of sufficient size and quantity to clearly illustrate:
 - (a) Functional characteristics of products or materials with integrally related parts and attachment devices.
 - (b) Full range of color samples.
2. Erect field samples and mock-ups at the project site in an acceptable location. Construct each sample complete, including work of all trades required in finished work.
3. Include on transmittal letter all information required for submission.
4. Prepare the number of samples specified in specification sections.

.05 SUBMISSION REQUIREMENTS:

- a. Submit shop drawings, product data and samples in the form and quantity specified.
- b. Accompany submittals with a transmittal letter.
- c. Include the following information for each submittal:
 1. Date and revision dates.
 2. Project title and number.
 3. The names of:

- (a) ENGINEER
 - (b) CONTRACTOR
 - (c) Subcontractor
 - (d) Supplier
 - (e) Manufacturer
 - (f) Separate detailer when pertinent.
4. Identification of product or material.
 5. Relation to adjacent structure of materials.
 6. Field dimensions clearly identified as such.
 7. Specification section number.
 8. Applicable standards, such as ASTM number or Federal Specification.
 9. A blank space, 4" x 4", for ENGINEER's review stamp.
 10. Identification of deviations from Contract Documents.
 11. CONTRACTOR's stamp, initialed or signed, certifying review of submittal, verification of field measurements and compliance with Contract Documents.

.06 RESUBMISSION REQUIREMENTS:

- a. Shop Drawings:
 1. Revise initial drawings as required and resubmit as specified for initial submittal.
 2. Indicate on drawings any changes which have been made other than those requested by ENGINEER.
- b. Product Data and Samples:

Submit new data and samples as required for initial submission.

.07 DISTRIBUTION AFTER REVIEW:

- a. Distribute copies of shop drawings and product data which carry ENGINEER's stamp to:
 1. CONTRACTOR's file
 2. Job site file
 3. Record document file

4. Other prime CONTRACTORS
 5. Subcontractors
 6. Supplier
 7. Fabricator
- b. Distribute samples as directed. After review, samples may be used in construction.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01410 - INSPECTION, TESTING AND GUARANTEE

.01 GENERAL:

These requirements supplement those provided under Article 13 of the General Conditions, or in the case of some packages prepared by ENGINEER, this specification shall supplement the Contract Drawings.

.02 INSPECTION:

- a. Inspector: A representative of ENGINEER or OWNER will be assigned authority to observe the WORK. In the case of Windstorm Inspections, ENGINEER will serve as official inspector with pass/fail authority.
- b. Working Days: Inspectors are not required to work on Saturdays, Sundays or legal holidays. If CONTRACTOR plans work on a Saturday, Sunday or legal holiday, prior arrangements should be made for an inspector not later than 48 hours on the working days before the Saturday, Sunday or legal holiday.
- c. Uninspected Work: Any Work performed on Saturday, Sunday, or a legal holiday without benefit of any inspection may require removal and replacement if directed by ENGINEER. Removal and replacement will be completed at no additional cost.

.03 TESTING:

- a. The cost of preparing and testing, and the cost of other laboratory services required for establishing the concrete mix, and redesigning the mix, if necessary, shall be borne by CONTRACTOR. These tests shall also include, but not necessarily limited to: Proctors, Compaction Testing, Concrete Strength Testing, Concrete Slump Testing, Subgrade Stabilization Depth Testing, Select Fill Testing, Subgrade Gradation Testing, Base Material Testing, Asphalt Placement Testing and Density Testing. Certain building/structure related projects require specialized testing/inspection for performance, including but not limited to weld inspections, post-installed anchor bolt testing, mortar and grout testing, structural steel final letter of compliance also called "special inspections" are all testing and inspections that shall be borne by CONTRACTOR.
- b. The minimum schedule of testing for various civil related construction work shall be in accordance with the Texas Department of Transportation (TxDOT) latest published addition of "Guide Schedule of Sampling & Testing for Design Bid-Build (DBB) projects" or the equivalent guidance and/or specification from TxDOT. In the case of the small projects of quantities less than those parameters

specified as requirements in TxDOT's tables, the ENGINEER shall rely on the recommended schedule and frequency as recommended by the geotechnical testing firm procured by the CONTRACTOR. Said recommendation must be submitted in writing to ENGINEER and agreed upon prior to any testing work or construction work being performed. In the case of building/structure related projects, testing, at a minimum, shall be as follows:

1. Buildings/Structures less than 2,500 SF
 - a. Testing of EACH lift and a minimum of 2 test locations per lift.
 - b. Concrete Slump and Strength Testing of 1 set of tests per 50 CY
2. Building/Structures greater than 2,500 SF but less than 5,000 SF
 - a. Testing of EACH lift and a minimum of 3 test locations per lift.
 - b. Concrete Slump and Strength Testing of 1 set of tests per 100 CY
3. Buildings/Structures greater than 5,000 SF but less than 7,500 SF
 - a. Testing of EACH lift and a minimum of 4 test locations per lift.
 - b. Concrete Slump and Strength Testing of 1 set of Tests per 100 CY
4. Buildings/Structures greater than 7,500 SF
 - a. Fill to be tested as recommended by procured Geotechnical Firm.
 - b. Concrete Testing as recommended by procured Geotechnical Firm.

Note: These recommendations are at a minimum and in some case the Contract Drawings may specify a higher frequency of testing. The more stringent shall govern.

- c. CONTRACTOR shall furnish at his own expense, suitable evidence that all the materials he proposes to incorporate into the Work are in accordance with the Specifications. Mill tests for reinforcing steel and cement will be acceptable if it is definite that the test sheets apply to the material being furnished. Manufacturer's or supplier's test results will be acceptable for such items as pipe and fittings, when it is definite that the materials being furnished is that to which the test results apply. Should CONTRACTOR fail to provide the above information, ENGINEER shall have the right to require tests to be made by OWNER's laboratory to obtain the information and the cost therefore shall be borne by CONTRACTOR.
- d. In any event, ENGINEER may have further tests made by commercial laboratory, or may make tests himself, to ensure that the Specifications are complied with by CONTRACTOR. Costs of these tests will be borne by CONTRACTOR. Should OWNER wish to have a third-party testing performed to confirm test results supplied by CONTRACTOR then those tests shall be paid for by OWNER, **unless** those results come back with unsatisfactory construction and/or materials. Should results come back unsatisfactory then the cost associated with the OWNER's testing shall be paid for by CONTRACTOR and retested at CONTRACTOR's expense. Work shall not commence further until OWNER and ENGINEER are provided evidence showing that unsatisfactory results and areas have been addressed and receiving passing results.

.04 GUARANTEE:

- a. CONTRACTOR shall deliver to ENGINEER upon completion of all Work under the Contract his written guarantee, in the form of SECTION 01700 - CONTRACT CLOSEOUT REQUIREMENTS, made out to OWNER, guaranteeing all of the Work under the Contract to be free from faulty materials in every particular and free from improper workmanship; and against injury from proper and usual wear; and agreeing to replace or to re-execute without cost to OWNER such Work as may be found to be improper or imperfect; and to make good all damage caused to other Work or materials, due to such required replacement or re-execution. This guarantee shall be made to cover a period of one (1) year from the date of completion of all Work under this Contract, as evidenced by ENGINEER's final certificate. This guarantee must be furnished to ENGINEER and approved by ENGINEER before acceptance and final payment is made.
- b. CONTRACTOR shall provide OWNER with copies of all guarantees or warranties which have been made to CONTRACTOR by suppliers or subcontractors as required hereunder, together with an assignment of such warranties and guarantees to OWNER; however, such assignment shall not relieve CONTRACTOR of the responsibility (stated in subparagraph a. above) in case of failure of subcontractors or suppliers to fulfill the provisions of such warranties or guarantees.
- c. Neither the final certificate, nor payment, nor any provision in the Contract Documents shall relieve CONTRACTOR of responsibility for neglect of faulty materials or workmanship during the period covered by the guarantee.

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02111 – CLEARING, ROUGH GRADING, COMPACTION AND FINISH GRADING

.01 GENERAL:

The Work covered under this section of the Specifications shall include furnishing all labor, materials and equipment and performing all operations necessary to complete all clearing and grubbing, disposal of surplus materials, rough grading, compaction of embankments, finish grading, and the performance of all other miscellaneous sitework operations required to complete the project as shown on the drawings and specified herein.

.02 SITE CLEARING:

- a. Clearing: All areas of new construction shall be cleared of all brush, weeds, rubbish, wire, debris and all other objectional matter to a line five (5) feet outside the proposed Work.
- b. Stripping: Remove all topsoil and organic materials within areas to be excavated and/or areas to receive embankment, for a depth of at least six (6) inches, or until bottom of existing topsoil layer is reached. Topsoil material shall be stockpiled separately and spread at locations and finished to grade.
- c. Grubbing: Remove all stumps, roots, etc., within the areas to be excavated to a depth of at least one (1) foot below the existing ground surface. In areas to receive embankment, remove all stumps, roots, etc., to a depth of at least one (1) foot below the existing ground surface. All holes remaining after clearing and grubbing shall be backfilled and the entire area bladed to prevent ponding of water and to provide drainage, unless otherwise directed.

.03 PROCESSING OF CLEARED, STRIPPED AND GRUBBED MATERIAL:

- a. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- b. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire designated area, graded and shaped to drain. Unsuitable unclassified excavation

shall be known as "waste" and shall be disposed of by CONTRACTOR. The waste shall be disposed of in such manner as to not create a public nuisance, and disposal shall conform to State laws. CONTRACTOR may not utilize any public rights-of-way or public lands for waste disposal.

.04 ROUGH GRADING AND COMPACTION:

a. Material

Furnish approved material capable of forming stable fill from required excavation within the agreed mitigation ponding area.

b. Construction

Backfill tree-stump holes or other minor excavations with approved material and tamp. Restore the ground surface, including any material disked loose or washed out, to its original slope. Compact the ground surface by sprinkling in accordance with the current TxDOT Item 204, "Sprinkling," and by rolling using equipment complying with the current TxDOT Item 210, "Rolling," when directed.

Scarify and loosen the unpaved surface areas, except rock, to a depth of at least 6 inches, unless otherwise shown on the plans. Bench slopes before placing material. Begin placement of material at the toe of slopes. Do not place trees, stumps, roots, vegetation, or other objectionable material in the embankment. Simultaneously re-compact scarified material with the placed embankment material. Do not exceed the layer depth specified in "Compaction" herein.

Earth fill is mainly composed of material other than rock. Construct fill in successive layers, evenly distributing materials in lengths suited for sprinkling and rolling. Construct the fill in layers approximately parallel to the finished grade for the full width of the area, unless otherwise shown on the plans. Construct the fill to the grades shown on the plans. Ensure that each section of the fill conforms to the detailed sections or slopes, if any.

Move the material dumped in piles or windrows by blading or by similar methods and incorporate it into uniform layers. Featheredge or mix abutting layers of dissimilar material for at least 100 ft. to ensure there are no abrupt changes in the material. Break down clods or lumps of material and mix embankment until a uniform material is attained. Apply water free of industrial wastes and other objectionable matter to achieve the uniform moisture content specified for compaction. Roll and sprinkle each layer in accordance with "Compaction" herein.

c. **Compaction**

Compaction of the material shall be provided by sheep-foot rollers or other approved method. Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller. Alternate roller trips to attain slightly different lengths. Do not allow the loose depth of any layer to exceed 8 inches, unless otherwise approved.

Provide a uniform compaction of 95% modified density in accordance with ASTM Standard 1557 at a moisture content between optimum moisture and five (5) percent above optimum moisture.

Requirements for Testing shall be as specified in Technical Specification Number 01410.

Schedule of frequency for all Testing shall be as specified in Technical Specification Number 01410.

.05 FINISH GRADING:

- a. Grade all areas indicated on drawings or as required to suit construction operations.
- b. Grading shall be carefully finished at elevations shown against building and other structures.
- c. In ungraded areas, backfill shall be placed around outside of structures to approximate level of adjacent ground but modified to assure positive drainage away from structures.
- d. A qualified engineer shall set lines, batterboards and grades.
- e. Grading changes shall be even between indicated finish elevations and contours, without sharp breaks, low spots, etc., to provide positive drainage.

.06 UNDERGROUND UTILITIES:

Determine location of underground utilities before doing any excavation work. If a live utility line is damaged, the proper utility shall be notified immediately for required action. CONTRACTOR is responsible for repair to the line, at no cost to OWNER.

.07 CLEANUP:

Prior to final acceptance of the complete project, CONTRACTOR shall remove all tools, scaffolding, temporary structures and debris from the site and areas of the Work. Any washes, ruts or other depressions that have occurred shall be leveled to give all areas where the Work was accomplished a smooth finish and neat appearance.

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02220 - STRUCTURAL EARTHWORK

.01 GENERAL:

This Work includes furnishing all plant, labor, equipment and materials, and performing of all operations required for proper completion of excavation, backfill, stripping, shoring and bracing as required, dewatering of excavations as required, rough and finish grading, compacting, and disposal of surplus earth, together with all other miscellaneous site work and earthwork operations required to complete the project as shown on drawings and specified herein.

.02 PROTECTION OF EXISTING FACILITIES:

Prior to any operations, existing facilities and/or permanent objects including trees and shrubs shall be adequately protected. Any costs resulting from damage to any property due to negligence and/or lack of adequate protection shall be borne by CONTRACTOR.

.03 EXCAVATION:

- a. General: Excavation shall be unclassified and includes removal of all types of materials encountered without exception. Make all excavation to lines and grades indicated on drawings. Completed excavations shall be within tolerances hereinafter specified.
- b. Shoring, Bracing and Dewatering: All shoring, bracing and dewatering of excavations required to properly and safely complete the Work as shown on the drawings, shall be provided by CONTRACTOR. Shoring and bracing shall be provided as required to prevent the excavation from extending beyond the specified or indicated limits and as required to protect workmen. Excavations shall be kept dewatered while construction therein is in progress. Shoring, bracing and sheeting shall be removed as the excavations are backfilled in a manner to prevent injurious caving.
- c. Excavation for Structures: Excavation shall extend sufficient distance from walls, beams and footings to allow for placing and removing forms, installation of facilities and for inspection. No excavation shall be made outside vertical plane three (3) feet beyond footing, beam or wall line, except where specified or shown otherwise on drawings, and no excavation shall be made beyond the lines indicated on drawings. Excavation for slabs, beams or footings that bear on earth shall not be carried below elevation indicated; if carried below indicated elevation, thickness of footing or height of wall shall be increased as directed. Perform excavation of last four (4) inches of material to grade for bottom of slabs, beams or footings immediately prior to placing compacted sand beds or other base

material. Protect open excavations from excessive rainfalls or drying. After completion of excavation and prior to commencement of the Work on structure, excavation will be inspected to insure that suitable foundation surfaces have been reached and that surfaces have been properly prepared to receive concrete walls, piers, slabs or other parts of structure.

- d. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- e. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire designated area, graded and shaped to drain. Unsuitable unclassified excavation shall be known as "waste" and shall be disposed of by CONTRACTOR.

.04 FILL AND BACKFILL:

- a. General: Complete fill and backfill to lines and grades indicated on drawings or elsewhere specified. Fill and backfill shall conform to requirements specified herein. Suspend backfill operations in field during times of inclement weather or other unsatisfactory conditions when desired results cannot be obtained.
- b. Use of Excavated Materials: Suitable materials from the excavation may be used as fill and backfill except where select materials are indicated on drawings or herein specified. Any objectionable material which may be encountered, such as peat, silt, muck, topsoil, organic materials, debris or other extraneous material, will be rejected.
- c. Sand Beds: Under slabs shall be a clean bank sand suited to purpose and obtained from an approved off-site source. Material shall be free of clay lumps or other foreign material, plasticity index shall not exceed 3.0 and not more than 10% of the material by weight shall pass the 200-mesh sieve.
- d. Backfill at Structures: Place backfill as far as practicable as the Work progresses. Remove forms, shoring, bracing, etc., before backfilling is started. No backfill shall be placed against concrete until directed. Take care to prevent wedging action of backfill against a structure. Step slopes bounding excavation or serrate to prevent such wedge action. Place backfill in successive horizontal layers of not more than eight (8) inches when rolling equipment is used and not more than four (4) inches when mechanical hand tampers are used.

- e. Cement Stabilized Material: Material for Cement Stabilized Backfill, where designated, shall be in accordance with the requirements of Item 275, "Cement Treatment (Road-Mixed)" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (November 2014 edition).

.05 COMPACTION:

- a. General: Place all fill and backfill in uniform layers not to exceed 8" and compact to 95% of Standard Density (ASTM D 698) at not less than 100% of optimum moisture content. Methods to secure the optimum moisture content shall be CONTRACTOR's responsibility and shall be such that uniform density will be obtained over entire area and depth of material being compacted. Fill material shall be thoroughly broken up before being spread into uniform layers.
- b. Compaction Equipment: Compaction equipment shall conform to the requirements of Item 210, "Rolling" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (November 2014 edition).
- c. Requirements for Testing shall be as specified in Technical Specification Number 01410.
- d. Schedule of frequency for all Testing shall be as specified in Technical Specification Number 01410.

END OF SECTION

DIVISION 10 - SPECIALTIES

SECTION 10800 - MISCELLANEOUS SPECIALTIES

.01 GENERAL:

This work includes furnishing all materials, labor and equipment, and performing all operations necessary for complete installation of Miscellaneous Specialties as indicated on the drawings and specified herein. All items shall meet ADA Standards where applicable.

.02 TOILET ACCESSORIES:

a. Approved Manufacturers:

1. Bradley Washfountain Company.
2. Bobrick Washroom Equipment, Inc.
3. Global Steel Products Corporation
4. American Standard

b. Toilet Tissue Dispenser:

Bobrick No.B-273 Surface Mounted Roll Toilet Tissue Dispenser, or equal.

c. Towel Dispenser:

Bobrick No.B-262 Surface Mounted Paper Towel Dispenser, or equal.

d. Mirrors:

Bobrick No. B-290-2436 Stainless Steel Channel Frame Mirror, or equal.

e. Soap Dispenser:

Bobrick No. B-2112 Soap Dispenser, or equal.

f. Grab Bars:

Bobrick No. B-6806 Grab Bar with Bobrick 252-30 series anchor plate for stud walls. Installed Grab Bar to meet ADA Requirements.

**END OF SECTION
END OF DIVISION**

DIVISION 13 - SPECIAL CONSTRUCTION

SECTION 13121 - PRE-ENGINEERED METAL BUILDINGS

PART 1 - GENERAL

.01 SCOPE:

The building shall include all primary and secondary structural framing members, connection bolts, covering, doors, windows, flashing, fasteners, closures, sealant tape, caulking, insulation, and other miscellaneous items as shown or called for in the drawings or specifications.

.02 DESCRIPTION:

The building shall be of the single-slope galvanized, with flush girts. All building materials, but not limited to beams, girts and purlins shall be galvanized. The primary transverse frames shall be clear span. The roof slope shall be 1:12.

.03 BUILDING NOMENCLATURE:

- a. The building "Width" and Length" shall be measured from inside to inside face of the wall covering.
- b. The building "Eave Height" shall be measured from the bottom of the base plate of the rigid frame columns to the intersection of lines representing of the inside of the wall covering and the inside of the roof covering.

.04 DRAWINGS AND CERTIFICATION:

The METAL BUILDING MANUFACTURER will furnish five (5) complete sets of erection drawings showing anchor bolt settings, sidewall, endwall, and roof framing, transverse cross-sections, covering and flashing details, and accessory installation details to clearly indicate the proper assembly of all building parts. The METAL BUILDING MANUFACTURER shall also furnish a certificate, signed by a registered, professional engineer in the State of Texas, that the building design meets the requirements of the specifications and is in accordance with accepted engineering practices.

PART 2 - DESIGN

.01 GENERAL:

- a. The following standards and criteria shall be used where applicable in the structural design of the building system covered by this Specification:
 1. "MANUAL OF STEEL CONSTRUCTION", American Institute of Steel Construction - latest edition.

2. "COLD FORMED STEEL DESIGN MANUAL", American Iron & Steel Institute, latest edition.
 3. "STANDARD BUILDING CODE", Southern Building Code Congress International, Inc., latest edition.
- b. The design loads shall be in accordance with the "Recommended Design Practices of the Metal Building Manufacturer's Association (MBMA)" and shall meet or exceed all code requirements set forth in the "Standard Building Code" of the Southern Building Code Congress International, Inc. (SBCCI).
- c. Published Standards; When a manufacturer has published standards of construction, he shall not reduce any portion of them even though they exceed these specifications.

.02 DESIGN LOADS:

- a. Design loads shall include live and wind in addition to dead loads.
- b. Vertical live loads:
Roof panels shall be designed for either 20 pounds per square foot (psf) uniformly distributed, or a 200 pound concentrated (point load over a 1 foot by 1 foot area) load located at the center of maximum panel span. The most severe condition shall govern.
- c. Wind Loads:

Roof panels, clips and fasteners shall be designed in compliance with the wind load provisions of: International Building Code, 2018 Edition, ASCE 7-16 Wind Speed 160 mph, Risk Category IV - Essential Facility, Wind Exposure Category C, Internal Pressure Coefficient ± 0.18 , Inland 1 Region (windborn debris protection required for all exterior openings) unless product is specified with impact resistance meeting TDI requirements.
- d. Auxiliary (additional collateral) load:
Other superimposed dynamic and/or static loads shall be considered as part of the design requirements and combined with the normal design (live and wind) loads. These loads shall include but are not limited to ceiling mounted unit heaters, surface routed water and natural gas lines ceiling mounted light fixtures and floor loads from the overhead storage area.
- e. Combination of normal loads and auxiliary loads for design purposes shall be as prescribed and recommended in the applicable building code.

PART 3 - STRUCTURAL FRAMING

.01 GENERAL:

- a. All framing members shall be shop fabricated for bolted, field assembly. Field cutting or drilling, when required, shall be clearly noted on the drawings.
- b. Primary structural framing shall include the transverse rigid frames, wing-unit rafter beams and columns, canopy beams, intermediate columns, bearing end frames, endwall columns, and wind bracing.
- c. All hot-rolled steel plate and flat bar used in the fabrication of welded assemblies shall be in accordance with ASTM A36.
- d. All hot-rolled steel sheet, 10 gauge and heavier, used in the fabrication of welded assemblies and cold-formed assemblies shall be in accordance with ASTM A569 or ASTM A570 Grade 33 or higher.
- e. All structural shapes used in building fabrication shall conform to ASTM A36.
- f. All hot-rolled strip used in the fabrication of coldformed members shall conform to the requirements of ASTM A570.
- g. All tubing and pipe used in the fabrication of intermediate columns, and/or strut bracing shall be in accordance with ASTM A53, Grade B.
- h. All hot-rolled rounds, used for fabrication of diagonal wind bracing shall be in accordance with ASTM A36.
- i. Light gauge cold-formed sections shall be manufactured by precision roll or brake forming. All dimensions shall be true and the formed member shall be free of fluting, buckling, or waviness.
- j. All shop connections shall be by welding, in accordance with the AWS "Standard Code for Welding in Building Construction." All flange to web welds shall be in the continuous gas metal or submerged arc partial penetration fillet welds on one side of the web. Other welds shall be by either the gas metal, or submerged or shielded arc process. Butt welds in flange plates shall be full penetration.
- k. All field connections shall be bolted. Bolts shall be either high-strength bolts, furnished with nuts, conforming to ASTM Specification A-325, or machine bolts, furnished with nuts, conforming to ASTM Specification A-307. Drawings will be furnished indicating the placement of the differing bolts. A-325 bolts shall be tightened by the turn-of-the-nut method. The faying surfaces of all bolted connections shall be smooth and free from burrs or distortions. All bolts shall be electro-plated with zinc (A-307) or a yellow dichromate (A-325) for corrosion protection and easy identification.

1. All framing members shall carry an easily visible identifying mark - stamped, stenciled or painted on each member.

.02 RIGID FRAMES, WING-UNIT FRAMES, CANOPY BEAMS:

All members shall be welded, built-up "I" shapes, either constant depth or tapered.

.03 BEARING END FRAMES:

Bearing end frames shall consist of columns at the building corners, intermediate column(s), and a continuous "C" shaped rafter beam supported by the endwall columns. The endwall columns shall be either cold-formed "C" sections or welded, built-up "I" shapes.

.04 PURLINS AND GIRTS:

Purlins shall be cold-formed "Z" sections, 8" deep with 2-1/2" wide flanges and stiffening lips. Stiffening lips shall be formed at an angle of 45° with the flanges to permit nesting during shipping and when making overlapping connections. Girts shall be cold-formed "Z" sections or cold-formed "C" sections. Purlins and girts will be minimum 16 gauge.

.05 EAVE STRUTS:

Eave struts shall be cold-formed, unequal flange "C" sections formed so as to provide adequate backup for both roof and wall panels at the building eave. Eave struts will be minimum 14 gauge.

.06 WIND BRACING:

Wind bracing shall consist of a combination of diagonal rod bracing and/or portal frame bracing and shall be provided in both roof and sidewall(s). Rods shall be minimum 1/2" diameter and be galvanized.

.07 FLANGE BRACING:

The inside flange of all rigid frames shall be braced laterally so that the allowable compressive stress is adequate for any combination of loading.

.08 SILL SUPPORT:

A continuous member shall be provided to which the base of the wall covering may be attached. This member shall be a 14 gauge galvanized angle, secured to the concrete floor with 1/4" cinch-type fasteners at maximum 3'-0" centers.

.09 FRAMED OPENINGS:

Structural framing members for all openings shall be adequate for the specified design loads.

.10 PAINTING:

All primary structural framing members shall be hot dip galvanized. All secondary structural framing members shall be pre-galvanized.

PART 4 - ROOF AND WALL COVERING

.01 GENERAL:

- a. Roof covering shall be a "PBR-Panel" of minimum 26 gauge steel. Panels will be factory painted Galvalume™. The roof shall be UL rated - Class 90 for wind uplift by Underwriters Laboratories.
- b. Wall covering shall be a "PBR-Panel" of minimum 26 gauge steel. Panels will be factory painted Galvalume™.
- c. Soffit covering shall be a "beaded profile panel" of minimum 26 gauge steel with a concealed fastening system. Panels will be factory painted Galvalume™.
- d. Submit METAL BUILDING MANUFACTURER's standard color samples to Engineer for color selections by Owner.

.02 PANEL MATERIALS:

Galvalume™ coated steel for roof and wall panels shall conform to ASTM Specification A-792, Grade 80 (80,000 PSI minimum yield strength). Galvalume™ is coated with a zinc-aluminum alloy which is applied at 0.5 ounces (combined total of both sides) per square foot.

.03 FASTENERS:

- a. All fasteners furnished for building panels will be #14 x 3/4", self-tapping (not self-drilling), sheet metal screws or size and length as specified by PEMB Engineer. Fasteners shall conform to ASA Standard B 18.6, shall have type "A" threads, and match the finish of the panels.
- b. Screws and washers shall be carbon steel with a 0.0007" zinc plating.
- c. After plating, all fasteners and washers shall be coated with zinc-phosphate, one prime coat, and two finish coats of baked-on silicon polyester paint. The finish of the fasteners shall match the building panels and trim.

- d. Fasteners shall have separate steel and neoprene sealing washers for weathertightness.
- e. Structural blind rivets shall be special 1/8" diameter, pull type fasteners having a stainless steel body and mandrel. All rivets shall match the finish of the trim. When installed, the body shall deform in such a manner as to securely clinch the joined surfaces together.

.04 SIDELAP TAPE SEALANT:

- a. Sealant for roof sidelaps, endlaps, and flashings shall be a gray, pressure sensitive, 100% solids, butyl based continuous tape. Width of the tape sealant shall be 1/2" wide the thickness shall be 3/32". Sealant tape shall be provided in fifty foot rolls incorporating the use of a coated, waterproof release paper for ease of installation.
- b. The tape sealant shall be comprised of not less than a 50% blend of butyl rubber and elastomeric polymers. The balance of ingredients shall be both stable reinforcing and inert fillers. The material shall be non-asphaltic, non-shrinking, non-drying, and non-toxic. Adhesion shall be superior on metals, plastics, and painted surfaces at a temperature range of -40 F to +220 F.
- c. Life expectancy of the sealant tape shall be a minimum of twenty years.

.05 INSTALLATION OF PANELS:

- a. Roof panels shall be continuous from ridge to eave on buildings 70'-0" wide or less. Where endlaps are required, they shall be a minimum of 6" and shall occur at a roof purlin. A die-formed closure strip shall be installed at the eave.
- b. Wall panels shall be continuous from 1-1/2" below the column base to the roofline, except where the required length would exceed 35'-0" in which case the panels would endlap at a wall girt. All panels shall be square cut at the rooflines.
- c. Before securing, all laps of roof panels shall be sealed with a continuous ribbon of sealant tape.
- d. Roof and wall panels shall be secured to intermediate framing members as well as endlaps and it is REQUIRED that PEMB Engineer specify a maximum spacing and pattern that meet the design, uplift and pressure requirements of the project for both the roof and wall panels.

.06 FLASHING, CLOSURES, AND TRIM:

- a. Flashing and/or trim shall be furnished at the rake, corners, and eaves; at framed openings, and wherever necessary to provide weathertightness and a finished appearance.

- b. Steel for flashing, metal closures, trim and other miscellaneous uses shall be factory painted Galvalume™ conforming to ASTM Specification A-792 Grade 50 and shall be a minimum of 26 Gauge unless specified otherwise.
- c. A die-formed panel, matching the adjoining roof panels, shall be provided along the building ridge.
- d. PEMB Engineer shall be REQUIRED to submit a maximum fastener spacing and pattern that meet the design, uplift and pressure requirements of the project for both the roof and wall panels.

.07 CLOSURE STRIP:

A closed cell, chemically cross-linked, polyethylene, die-formed closure strip shall be provided for installation at the eave and the rake of the building. All closure strip shall be formed to accommodate the appropriate panel's inside or outside face, as required.

.08 TUBE SEALANT:

A tube sealant shall be provided for sealing applications including (but not limited to) the following: gutter/downspout joinings, window and door perimeter caulking. The sealant shall provide a high performance, flexible seal with superior adhesion and elasticity.

.09 EAVE GUTTERS AND DOWNSPOUTS:

- a. Eave gutters shall be roll-formed to a true profile, free of objectionable waviness and any other imperfections, from not less than 26 gauge factory painted Galvalume™. The face of the gutter shall match the profile of the rake trim. All gutter sections shall be securely fastened and sealed at end laps. The outside face of the gutter shall be supported by 22 gauge factory painted Galvalume™ supports on 3'-0" centers.
- b. Downspouts shall be 4" x 4" roll-formed box sections made from not less than 26 gauge factory painted Galvalume™ matching the color of the building. Matching finish 26 gauge steel straps shall be provided for securing downspouts to the building wall. Kickouts shall be provided on each downspout.

.10 PANEL WARRANTY:

- a. Unless otherwise specified, the exposed surfaces of all roof and wall panels, trim, and other exterior steel surfaces shall be factory painted Galvalume™.
- b. Galvalume™ shall be under warranty for a period of not less than 20 years after installation. The warranty shall provide that Galvalume™ will not rupture, fail structurally, or perforate within the warranty period due to exposure to normal atmospheric corrosion.

- c. The color finish on factory painted Galvalume™ shall be under warranty for a period not less than twenty years after installation. The warranty shall provide protection from excessive chalking and color change (fading), peeling, and cracking within this warranty period.

.11 PAINTED FINISH:

- a. All Galvalume™ will be factory coated by a firm which coats coil products exclusively. The coater shall be responsible for insuring color consistency, paint film hardness, and paint film thickness.
- b. The Galvalume™ will be pre-treated before painting in chemical solutions formulated to clean and prepare the steel for superior paint adhesion.
- c. Each side of the Galvalume™ will be coated with a baked-on primer before the color coating.
- d. A baked-on silicone polyester finish coat will be applied on one side while a baked-on wash coat will be applied on the other. Thickness of the finish coat will be a nominal 1.0 mils (including the primer coat). Thickness of the wash coat will be a nominal 0.5 mils (including the primer coat).

PART 5 - ACCESSORIES

.01 LIGHTNING PROTECTION:

At each end of the building, ground the structural steel frames to a 3/4" dia. by 10'-0" long copper weld ground rod with 2/0 bare stranded copper conductors and brundy connectors. Rods shall extend 10'-6" into moist earth and 6" below grade.

.02 FIBERGLASS BLANKET INSULATION:

- a. The fiberglass blanket shall be laminated to a white taffeta vinyl vapor barrier leaving a 2" vinyl tab on each side. The vinyl vapor barrier shall have a nominal thickness of 4 mils.
- b. The composition material of facing, adhesive, and fiberglass blanket shall have a flame spread rating of 25 or less as rated by Underwriters Laboratories.
- c. The density of the fiberglass blanket shall be 0.60 pounds per cubic foot.
- d. Insulation shall be provided in rolls, cut to the specific lengths required for proper installation. Rolls for the roof shall be of continuous lengths for buildings up to 120' wide while the rolls for the walls shall be in multiple increments of necessary lengths to be cut to proper length in the field. All rolls shall be clearly marked with the proper length and shall be individually protected in clear poly bags.
- e. The minimum resistance to conductive heat flow (R-Value) for the metal building insulation shall be R-5 in sidewalls and R-11 in the roof.

- f. 3M commercial grade two-sided tape shall be used to adhere the vinyl to the ceiling panels in areas of potential sag (between purlins).

.03 DOORS:

All doors shall be of the size and type as indicated on the drawings. All doors shall be primed and painted to match the exterior color of the building, or preferably factory painted with color selection by OWNER, if possible, especially in the case of garage/shop type doors.

PART 6 - BUILDING ANCHORAGE AND FOUNDATIONS

.01 ANCHORAGE:

The building anchor bolts shall be designed to resist the column reactions resulting from the specified loads as applied in the specific loading combinations. The sizes and design shall be as specified by the building manufacturer. See specification 01410 for testing requirements for Post-Installed Anchors.

.02 FOUNDATION:

METAL BUILDING MANUFACTURER shall submit calculated loads for his building to the Engineer for evaluation before any construction will be allowed. Calculated loads may require modifications to the foundation design shown on the drawings.

**END OF SECTION
END OF DIVISION**

DIVISION 15 - MECHANICAL

SECTION 15400 - PLUMBING FIXTURES AND EQUIPMENT

.01 GENERAL:

This section includes the complete installation of all domestic cold and hot water piping, drain, waste and vent piping, piping insulation, incidentals, and equipment described in this section and indicated on drawings.

.02 SHOP DRAWINGS:

Submit detail shop drawing of plumbing connection and other product data of all equipment and fixtures.

.03 MINIMUM REQUIREMENTS:

All work in this section shall conform to the minimum requirements of the SBCCI Standard Plumbing Code. However, give precedence to the plans and specifications whenever they require higher standards than those required by rules and regulations above. The Plumbing Code will govern in case of any direct conflict between this code and the plans and specifications. Any changes necessary in the work indicated on the plans or in the specifications, that must be made in order for the work to conform to this Plumbing Code, shall be made at no additional cost to the OWNER.

.04 OTHER TRADES:

Cooperate with mechanical contractor, electrical contractor and others, where plumbing work serves units furnished under separate trades and contracts.

.05 SANITARY DRAIN, WASTE AND VENT PIPING:

- a. Furnish and install all sanitary drain, waste and vent piping as shown, noted or required to extend fixture drains to a building sewer which shall be extended to a new Sanitary Sewer Line. New Sanitary Sewer Line will extend to the existing sanitary sewer system approximately where noted on drawings.
- b. All sanitary drain, waste and vent piping, inside the building (including piping below ground floor slab) and to a point at least 5 feet outside the building's exterior wall, shall be type DWV Schedule 40 unplasticized polyvinyl chloride pipe and drainage fittings with solvent cement welded connections.
- c. All piping for roof drains shall be 4" dia. Sch. 40 ASTM A-53, Grade B, seamless carbon steel pipe, galvanized in accordance with ASTM A-123.

- d. All below ground drainage and waste piping at the exterior of the building wall shall be DWV Schedule 40 unplasticized polyvinyl chloride pipe.
- e. Pitch for typical drainage and waste based on pipe sizes as follows:
 - 1. 2-1/2 inch and smaller pipe - 1/4 inch per foot minimum.
 - 2. 3 inch through 6 inch pipe - 1/8 inch per foot minimum.
 - 3. 8 inch or larger pipe - 1/16 inch per foot minimum.

.06 WATER SERVICE AND PIPING:

- a. General: Work includes hot and cold water piping under floor slabs and to a point five (5) foot outside of building. Furnish and install cold water piping and domestic hot water piping to all fixtures and equipment requiring such connections.
- b. Pipe and Fittings:
 - 1. Underground Piping: PEX or ENGINEER approved.
 - 2. Under Concrete Piping: PEX or ENGINEER approved. Runs to be continuous with no joints under floor slab.
 - 3. Aboveground Piping (Inside Weatherproofed Structure): PEX or ENGINEER approved.
- c. Joints:

Make joints permanent per manufacturer's recommendation.

.07 TESTS:

- a. Drain, Waste and Vent Piping:
 - 1. Test all waste piping by plugging inlets and outlets in each separate system, then filling with water to the level of the highest vent.
 - 2. Replace cracked or broken pipe or fittings with new units.
- b. Water Piping:

Piping below grade and floor slab to be capped above floor line and 125 psig hydrostatic pressure applied to piping and allowed to stand a minimum of 24 hours without pressure loss.

Remove and replace any leaky fittings and joints. After piping is covered and floor slab is poured, piping to be tested again in same manner in the presence of the OWNER's agent. After all water piping is completely installed, test with 100 psig hydrostatic pressure. Any leaky piping shall be removed and replaced.

.08 CONNECTIONS TO UTILITIES:

Bidders are required to verify the location and depths of water and sanitary sewer lines, and govern themselves accordingly. It is the intention to make suitable permanent connection to all of the above utilities.

.09 PLUMBING FIXTURES:

See Plumbing Fixture Schedule on Drawings.

END OF SECTION

DIVISION 4 - MASONRY

SECTION 04248 - BRICK VENEER MASONRY SYSTEM

.01 GENERAL:

This section includes the complete work of Brick Veneer Masonry Systems as indicated on the drawings and as specified herein.

.02 BRICK MASONRY UNITS:

Brick masonry units shall be modular units with nominal dimensions of 2-1/4" x 3-5/8" x 7-5/8", Grade MW, Type FBS, burned clay as manufactured by Butler, U.S. Brick or Acme Brick Companies and shall conform to ASTM C-216.

.03 MORTAR MATERIALS:

- a. Brands: Brands of cementitious materials and the source of supply of sand shall remain the same throughout the entire job and shall not be changed except by written permission of the Engineer. Mortar shall be Type S (1800 PSI at 28-days) for exterior brick. Waterproofing shall be added to Type S mortar for exterior brick walls in accordance with manufacturer's written recommendations.
- b. Hydrated Lime: ASTM C-207, Type S.
- c. Portland Cement: ASTM C-150, Type I.
- d. Masonry Cement: ASTM C-91, Type II.
- e. Sand: ASTM C-144.
- f. Water: Potable.

.04 MORTAR MIX:

- a. Proportions: (By Volume) Test to ASTM C-270.
- b. Water: Water shall be used in the quantity necessary to give proper workability. Water shall be potable.
- c. Mixing: Mortar shall be thoroughly machine mixed for at least five (5) minutes after all material is in the mixer.
- d. Admixtures: No anti-freeze liquids, salts or other substances shall be used in the mortar in an attempt to lower the freezing point.

.05 ACCESSORIES:

- a. Wall Straps: Shall be screw mounted adjustable galvanized wall straps, 12 gauge x 3/4" x 9". Mounting shall be with 3/16" x 1" galvanized hex head screws, two (2) to each strap.
- b. Masonry Ties: Shall be triangular type, 3-1/2" long for 4" brick ledge, formed of 3/16" mill-galvanized cold drawn steel wire ASTM A-82.

.06 INSTALLATION:

- a. Bond: Brick masonry units shall be installed with regular running bond with units centered over the joint below.
- c. Anchoring System: Locate ties as called upon Contract Plans. Embed triangle ties 3 inches into brick veneer mortar joint.
- d. Joints: Shall be 3/8 inch and cover full area of horizontal and vertical joint face. Tool slightly concave.
- e. Movement Joints: Provide continuous vertical joints in brick veneer 3/8" wide spaced not greater 12'-0" horizontally.
- f. Weep Holes: Provide 3/8" diameter weep holes at 24 inch centers. Use greased neoprene rope for filler, remove after initial set.
- g. Workmanship: All brick shall be laid wet, level, plumb and true to line in full beds of mortar. All joints shall be even and regular.

.07 BUILT-IN ITEMS:

Built into place accessories supplied by other trades for their use. Include placing such things as bolts and anchors. Build around other items and provide openings for other work.

.08 POINTING AND CLEANING:

On completion of the work, all masonry shall be carefully pointed and cleaned, removing all loose mortar and re-pointing joints where necessary.

When an acid solution or factory prepared cleaner is used, it shall be washed off thoroughly before drying.

**END OF SECTION
END OF DIVISION**