" PROPOSED SINGLE STORY GAS CANOPY & C-STORE BUILDING "

LOCATED AT
4311 N, TEXAS AVENUE, CITY OF BRYAN, TX 77803

NOTE:
1. Any changes to the plans during construction need to be approved by the Architect and/or Engineer of record and the City.
2. the Fire Sprinkler/Fire Alarm Drawings need to be submitted to the Fire Marshal's Office (Marc McFeron, Fire Marshal, mmcferon@bryantx.gov or Kimberly Frederick,kfrederick@bryantx.gov).

NOTE:-
1. A separate building demolition and sewer disconnect permit is required for each existing building on-site that is to be removed. An asbestos survey of each building will be required when applying for the permits.
2. The finish floor elevation shall be 12 inches above the nearest Sanitary Sewer Manhole Rim Elevation
3. Fuel Canopy is required seperate Permit.

ABBREVIATIONS:

ADH	ADHESIVE
ADJ	ADJACENT
ADM	ADMINISTRATION
AFF	ABOVE FINISH FLOOR
AL	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
AP	ACCESS PANEL
APPROX.	APPROXIMATE
ASPH	ASPHALT
ATTN	ATTENUATION
AUTO	AUTOMATIC
AUX	AUXILIARY
AVRG.	AVERAGE
AS	ASSOCIATION
BLDG	BUILDING
BM	BEAM
BRKT	BRACKET
BS	BOTH SIDES
BSMT	BASEMENT
BVL	BEVELED
BW	BOTH WAYS
CC	CENTER TO CENTER
CEM	CEMENT
CI	CAST IRON
CIP	CAST IN PLACE
CL	CENTER LINE
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR
CLS	CLOSURE
CM	CENTIMETER
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMB	COMBINATION
COMP	COMPUTER
COMPR	COMPRESSIBLE
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CRSE	COURSE
CRT	COURT
CTLV	CANTILEVER
CU	CUBIC
CUM	CUBIC METER
DBL	DOUBLE
DEM	DEMONSTRATION
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGRAM
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DO	DITTO
DP	DAMP PROOFING
DW	DISH WASHER
DWG	DRAWING
E	EAST
EA	EACH
EL	ELEVATION
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
ENT	ENTRANCE
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
EW	EACH WAY
EXIST	EXISTING
EXPD	EXPOSED
EXP	EXPANSION
EXT	EXTERIOR
FAB	FABRICATE
FAS	FASTEN
FDN	FOUNDATION
F TO F	FACE TO FACE
FFE	FINISH FLOOR ELEVATION
FGL	FIBERGLASS
FIN	FINISH
FIXT	FIXTURE
FP	FIREPROOF
FRM	FRAME
FRT	FIRE RETARDANT
FT	FOOT / FEET
FURN	FURNISH (ED)
FEW	FIRE WALL
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACT
GEN	GENERAL
GR	GRADE
GRTG	GRATING
H	HIGH
HDR	HEADER
HEX	HEXAGONAL
HGR	HANGER
HGT	HEIGHT
HORIZ	HORIZONTAL
HPT	HIGH POINT
HQ	HEADQUARTERS
HR	HOUR
ID	INSIDE DIAMETER
INCL	INCLUDE
INCR	INCREMENT
INFO	INFORMATION
INST	INSTRUMENT
INSTL	INSTALL
INSTL'N	INSTALLATION
INT	INSULATION
INV	INVERT
JCT	JUNCTION
JST	JOIST
JT	JOINT
LB	POUND
LBL	LABEL
LGT	LENGTH
LOC	LOCATION
LP	LOW POINT
LVR	LOUVER

M	METER
MACH	MACHINE
MAIN	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MED	MEDIUM
MEMB	MEMBRANE
MFG	MANUFACTURER
MIN	MINIMUM
ML	MATCH LINE
MM	MILLIMETER
MO	MASONRY OPENING
MOD	MODULAR
MOS	MOSAIC
MOV	MOVEABLE
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MWP	MEMB WATERPROOF
N	NORTH
NA	NOT APPLICABLE
NAT	NATIONAL
NFPA	NAT FIRE PRTN AS
NTL	NATURAL
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NPRN	NEOPRENE
NR	NOISE REDUCTION
NRC	NR COEFFICIENT
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OCC	OCCURS
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPNS	OPERATIONS
OPP	OPPOSITE
PART	PARTITION
PCP	PRECAST CONC. PILING
PCS	PIECES
PERF	PERFORATED
PFN	PRE FINISHED
PL	PLATE
PNL	PANEL
PP	POWER POLE
PR	PAIR
PRCST	PRECAST
PREV	PREVENTATIVE
PRMLD	PRE MOULDED
PRTN	PROTECTION
PTR	PIPE TRENCH
PVC	PLOY-VINYL CHLORIDE
PVMT	PAVEMENT
R	RISER
RCVG	RECEIVING
RE	REFER
REF	REFERENCE
REINF	REINFORCE
REQD	REQUIRED
RESL	RESILIENT
RET	RETURN
REV	REVISION
RF(G)	ROOF (ING)
RL	RAIN LEADER
RND	ROUND
RO	ROUGH OPENING
RTD	RATED
RVS	REVERSE
S	SOUTH
SCH	SCHEDULE
SECT	SECTION
SERV	SERVICE
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SLDG	SLIDING
SM	SQUARE METER
SNT	SEALANT
SQ.	SQUARE
SPEC	SPECIFICATIONS
SPL	SPECIAL
SST	STAINLESS STEEL
ST	STREET
STC	SOUND TRANS. COEFF
STD	STANDARD
STR	STEEL
SUPP	STRUCTURAL
SUPT	SUPPORT
SUSP	SUPERINTENDENT
SURF	SUSPENDED SURFACE
T&B	TOP & BOTTOM
TC	TOP OF CURB
THK	THICK (NESS)
TP	TELEPHONE PEDESTAL
TRD	TREAD
TRNV	TRANSVERSE
TS	TOP OF STEEL (SLAB)
TW	TOP OF WALL
TYP	TYPICAL
UL	UNDERWRITER'S LAB
UNFN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
US	UNLESS
UT	UTILITY
VEH	VEHICLE
VERT	VERTICAL
VEST	VESTIBULE
W	WIDTH, WEST
W	WITH
W/O	WITHOUT
WH	WHERE
WD	WOOD
WP	WATERPROOF
WT	WEIGHT
WTW	WALL TO WALL
WWF	WELDED WIRE FABRIC

IMPORTANT POINTS FOR GENERAL CONTRACTOR:

CONTRACTOR MUST BE FAMILIAR WITH THE EXISTING SITE CONDITIONS AND ANY RESTRICTIONS REGARDING OF ARCHITECTURE REVIEW COMMITEE / CITY OF BRYAN OR COUNTY FOR FUTURE DEVELOPMENT ON THE SUBJECT PROPERTY PER RECIPROCAL EASEMENT AGREEMENT WITH CONVENTS. GENERAL CONTRACTOR MUST HAVE A COPY OF THE ABOVE DOCUMENT FROM THE OWNER PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK. ALL WORK MUST BE DONE IN ACCORDANCE WITH THE DOCUMENT AS MENTION ABOVE AND THE APPLICABLE BUILDING CODE REQUIREMENTS PER ALL REGULATORY AUTHORITIES HAVING JURISDICTION OVER THE SITE. FOR MORE INFORMATION PLEASE CONTACT THE OWNER OR THE OWNER'S REPRESENTATIVE.

OTHER IMPORTANT NOTES:

IF THE DRAWING ARE MARK WITH - NOT SCALE DRAWING.
WRITTEN DIMENSION TAKE PRECEDENCE. NOTIFY DESIGNER FOR ANY DISCREPANCIES BEFORE STARTING ANY WORK.

SYMBOLS MARK

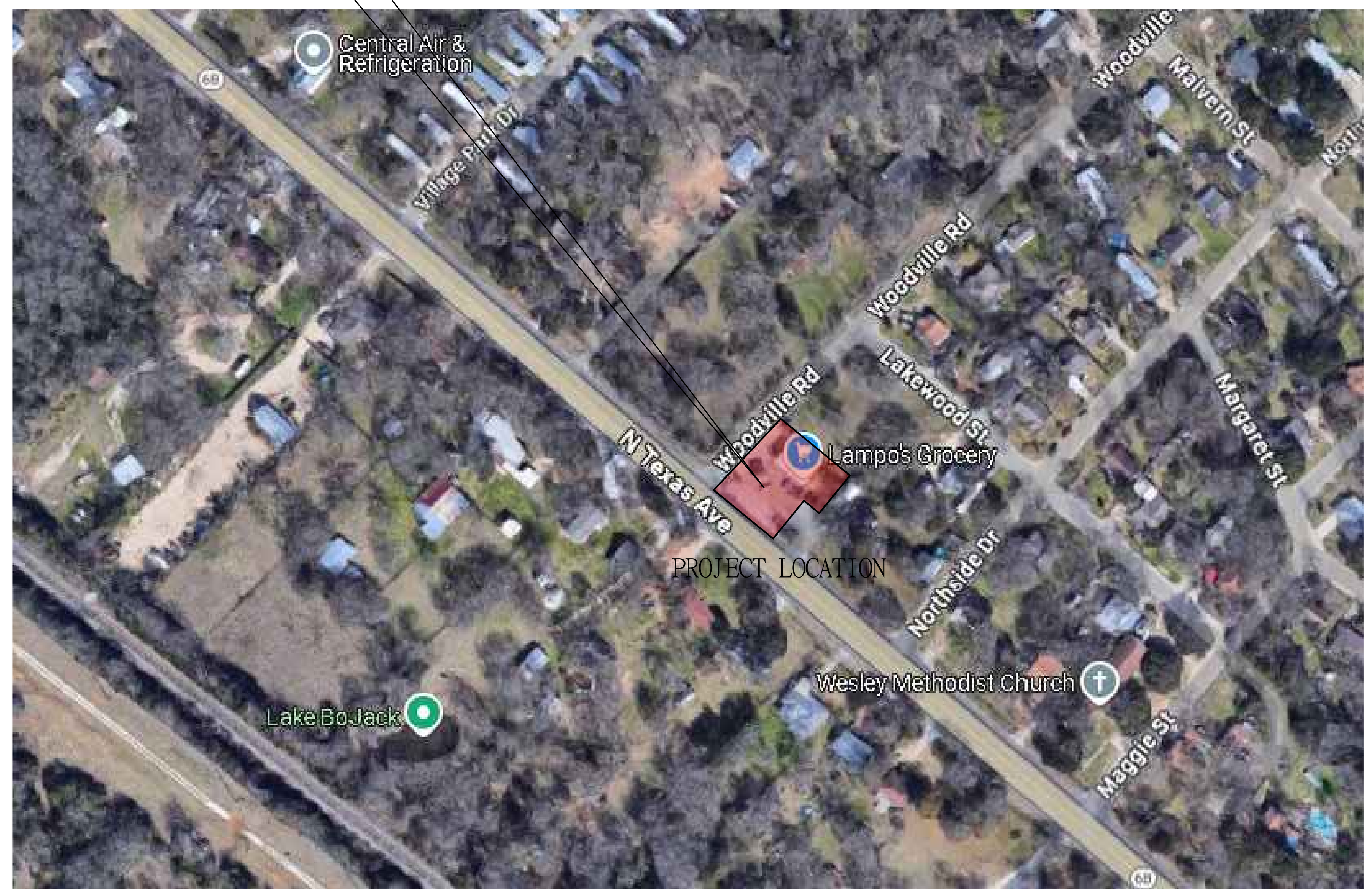
SYMBOL EXAMPLE	SYMBOL DESCRIPTION
100 RESTROOM MENS/ WOMEN	AREA NO / AREA NAME
01 SHEET NO	DETAIL SHEET / BLDG. EXTERIOR ELEVATION
01/A-1.0	ENLARGED DETAIL CALL OUT DETAIL NO./ SHEET NO.
1 / A	COLUMN GRID CALL OUTS
+ 0'-0" KEYWAY	BUILDING DATUM ELEVATION OR ELEVATION NOTATIONS
	NORTH ARROW
SYMBOL EXAMPLE	SYMBOL DESCRIPTION
1 A-2.0	1, 2, 3, 4 GF02 ID-13-608 / INTERIOR ELEV NO. / SHEET NO.
1 A-3.0	DETAIL SHEET / WALL SECTION
MD.00	DOOR SYMBOL & MARK MD.00
4	WALL TYPE AND PARTITION TYPE TAG
AW.00	WINDOW SYMBOL AW.00
1	REVISION CLOUD & COMMENTS NO

MATERIAL INDICATIONS :

CONCRETE BLOCK (PLAN)	WOOD BLOCKING CONTINUOUS
CONCRETE	EARTH / SOIL
HARDI PLANK/CEMENT	GRASS
BRICK	INSULATION (BLANKET OR BAT)
STONE	WOOD BLOCKING
RIGID BOARD INSULATION	CERAMIC TILE
METAL	PAVERS
STUCCO OR PLASTER	GRAVEL OR CRUSHED ROCK OR POROUS FILL

SUITE - LOCATION

BUILD-OUT PERMIT WILL OBTAIN SEPARATELY FROM THE CITY OF BRYAN.



LOCATION PLAN

Scale: N.T.S.

DESIGN TEAM:

CIVIL ENGINEER:
MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

ARCHITECT:
MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

ELECTRICAL AND PLUMBING ENGINEER:
ENTERPRISE ENGINEERING SERVICES
2201 SCENIC DR, PLANO, TX 75025
PHONE # 817-205-2369
ENGINEER # 89774
FIRM # 20896

STRUCTURAL ENGINEER:
PE — BUILDINGS, BRIDGES, INSPECTIONS, MARINE STRUCTURES, CIVIL ENGINEERS & STRUCTURAL ENGINEERING
PARAMOUNT ENGINEERING LLC
10145 LONG POINT DR.
HOUSTON, TX 77043
TEL : (713) 636-9977
FAX : (281) 888-9128
CEL : (713) 204-1742

OCCUPANCY LOAD PER 2021 IBC (1004.1.2)

RM TAG	RM NAME	SQ.FT	OCCUPANCY FACTOR	OCCUPANCY LOAD
F-100	SALES AREA	2502	60	42
F-101	CASHIER	185	60	3
F-102	OFFICE	108	60	2
F-103 & 104	PREP. & DELI	599	100	6
F-105 & 106	FREEZER & COOLER	86	300	1
F-107	MEN'S RESTROOM	125	N/A	N/A
F-108	WOMEN'S RESTROOM	115	N/A	N/A
F-109	VESTIBULE	173	N/A	N/A
F-110	STORAGE	413	100	4
F-111	WALK-IN COOLER	752	300	3
F-112	BEER CAVE	185	300	1
	TOTAL	5243		62

DEFERRED SUBMITTAL

1: KITCHEN HOOD DRAWINGS
2: GAS CANOPY STRUCTURAL DRAWINGS
3: THIRD PARTY INSPECTION REPORTS

UNDER GROUND TANKS DRAWINGS

CIVIL

SCOPE OF PROJECT

A GROUND UP CONSTRUCTION OF SINGLE STORY GAS STATION BUILDING WITH PROP DELI INSIDE

CODE ANALYSIS:

THE DESIGN DRAWING CRITERIA OF THIS PROJECT HAVE BEEN PREPARED AS PER THE FOLLOWING CODE AND WITH LOCAL CITY ORDINANCE ADOPTED.ALL WORK SHALL COMPLY WITH THE FOLLOWING CODE.NOTIFY THE DESIGNER FOR ANY CONFLICTS.

- 2021 IBC — INTERNATIONAL BUILDING CODE W/ COC AMENDMENT
- 2021 IFC — INTERNATIONAL FIRE CODE
- 2021 IECC — INTERNATIONAL ENERGY CONSERVATION CODE
- 2012 ADA — AMERICAN DISABILITIES ACT LATEST EDITION (WITH ALL THE ADDENDUMS); TEXAS DEPARTMENT OF LICENSING & REGULATIONS.
- 2023 NEC — NATIONAL ELECTRICAL CODE
- 2021 IMC — INTERNATIONAL MECHANICAL CODE
- 2021 IPC — INTERNATIONAL PLUMBING CODE
- 2021 IFGC — INTERNATIONAL FUEL GAS CODE

BUILDING DATA ANALYSIS:

OCCUPANCY GROUP :M-MERCANTILE GROUP (SECTION - 309)

TYPE OF CONSTRUCTION : II - B (NON - SPRINKLED)

BUILDING HEIGHT(ALLOWABLE) :55'-0" (2 STORY)
BUILDING HEIGHT (ACTUAL) :33'-0" (1 STORY)

BUILDING AREA (ALLOWABLE) :12,500 SQ.FT

FUTURE RETAIL AREA :2,400 SQ.FT
PROPOSED C-STORE :5,700 SQ.FT

TOTAL GAS STATION BUILDING :8,100 SQ.FT

EGRESS CRITERIA :

AS PER SECTION 1005 & 1005.3.2 : EGRESS WIDTH REQUIREMENT
AS PER SECTION 1016.1 EXIT ACCESS TRAVEL DISTANCE (WITHOUT SPRINKLER SYSTEM)

MIN. EGRESS REQUIREMENTS:

* 2 EXITS ARE REQUIRED WHEN OCCUPANT LOAD IS > 49

EXITS PROVIDED : 04 NO.
MIN. TOTAL EGRESS WITH REQ'D : 0.20 x 62 = 12.4 INCH (TABLE 1005.1 IBC 2021)
TOTAL EGRESS PROVIDED : 2 x 3'-0" DOORS = 72 INCH.
2 x 6'-0" DOORS = 144 INCH.
ALLOWABLE MAX. DEAD LIMIT : 20'-0"
ALLOWABLE MAX. TRAVEL DISTANCE TO EXIT : 200'-0" (IBC 1016.1)

FIRE PROTECTION/ LIFE SAFETY SYSTEM:

SPRINKLER SYSTEM REQUIRED (IFC 903)	: NO
STANDPIPES REQUIRED (IFC 905)	: NO
CONSTRUCTION TYPE (IBC 602)	: TYPE II
FIRE RATED CORRIDOR (IBC 1018)	: NO
ALTERNATIVEAUTOMATIC FIRE EXTINGUISHING SYSTEM (IFC 904)	: NO
FIRE LANE DESIGN AND APPROVED (Appendix D)	: YES
USE OF APPROVED CODE CONSULTANT OR THIRD PARTY REVIEW	: NO
FIRE ALARMS & DETECTION SYSTEM REQUIRED (IFC 907)	: NO
VENTILATING HOOD AND DUCT EXTINGUISHING SYSTEM	: NO
FIRST RESPONDER IN BUILDING RADIO (IFC 510)	: NO
RATED SEPARATION WALLS (IBC 508)	: YES
NUMBER OF REQUIRED EXITS (IFC 1021)	: 4 or MORE
WATER SUPPLY (APPENDIX B AND C)	: NA

SHEET INDEX

ARCHITECTURE

MECHANICAL

ELECTRICAL

PLUMBING

STRUCTURAL

TEXAS DEPARTMENT OF LICENSING AND REGULATION

REGISTRATION NO :

ISSUE FOR:
FOR INTER REVIEW ONLY ☐
BID ONLY ☐
PERMITS SET ☐
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	N.T.S=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	COVER SHEET

DRAWING NUMBER: **A-0.0**

THERMOPLASTIC SINGLE PLY TPO ADHERED ROOFING SYSTEM:

DIVISION 7

GENERAL

1.01 DESCRIPTION

A. ADHERED ROOF SYSTEM IS ASSEMBLED FROM SCRIM REINFORCED THERMOPLASTIC POLYOLEFIN (TPO) ROOF MEMBRANE. AN APPROVED ROOF INSULATION BOARD OR A ROOF RECOVER BOARD IS MECHANICALLY FASTENED TO AN ACCEPTABLE ROOF DECK WITH THE APPROPRIATE FASTENER ASSEMBLY, OR ADHERED TO THE DECK WITH AN APPROVED INSULATION BOARD ADHESIVE OR HOT STEEP ASPHALT. THE DENSITY OF THE FASTENING PATTERN IS DETERMINED BY THE WIND UPLIFT RESISTANCE REQUIRED BY THE DESIGN SPECIFICATION. THE MEMBRANE IS ADHERED TO THE INSULATION BOARD WITH BONDING ADHESIVE.ALL SHEET OF ROOFING MEMBRANE ARE OVERLAPPED ALONG THE SELVEDGE EDGE AND SHEET ENDS. THE MEMBRANE IS PERMANENTLY SEALED AT SEAMS BY THE HOT AIR WELDING METHOD.

1.02 QUALITY ASSURANCE

A.THIS ROOFING SYSTEM SHALL BE INSTALLED BY MEMBRANE MANUFACTURER'S APPROVED APPLICATION, IN STRICT COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND DETAILS.
B.WHEN THE APPLICATION HAS COMPLETED THE INSTALLATION, ARRANGEMENTS SHALL BE MADE FOR AN INSPECTION BY A REPRESENTATIVE OF THE ROOFING SYSTEM MANUFACTURER,SO AS TO DETERMINE THAT THE ROOF INSTALLATION HAS BEEN PERFORMED IN ACCORDANCE WITH MANUFACTURE'S DETAILS AND SPECIFICATIONS, AND THAT THE INSTALLATION WILL QUALIFY FOR ROOF SYSTEM MANUFACTURE'S WARRANTY.

1.03 SUBMITTALS

A. PRODUCT DATA: SUBMIT LATEST EDITION OF MANUFACTURER'S ROOFING AND BASE FLASHING SPECIFICATIONS INCLUDING LIST OF MATERIALS PROPOSED FOR USE, INSTALLATION PROCEDURES, AND MANUFACTURE'S PRODUCT SAFETY DATA SHEETS.
B.SHOP DRAWINGS:INCLUDE PLANS, SECTION, AND DETAILS OF THE FLOWING:
1. BASE FLASHING AND MEMBRANE TEMINATIONS.
2. TAPERED INSULATION, INCLUDING SLOPES.
3. FURNISH FOR APPROVAL ANY PROPOSED DETAILS THAT DIFFER FROM THOSE INCLUDED WITH THIS PROPOSAL PACKAGE. ALL PROPOSAL DETAILS SHALL FIRST BE APPROVED IN WRITING BY ROOFING MANUFACTURER PRIOR TO SUBMITTING TO ARCHITECT AND/OR OWNER FOR APPROVAL.
4. FURNISH DETAILS PROJECT SEQUENCING, STAGING, MATERIAL LOADING, MANPOWER PLANS, AND PROJECT CONSTRUCTION SCHEDULE FOR APPROVAL.

C.SAMPLE FOR VERIFICATIONS: SUBMIT FOUR SAMPLES OF EACH OF THE FOLLOWING PRODUCTS:
1. SHEET ROOFING
2. MEMBRANE FASTENERS AND SECUREMENT BARS OR PLATES
3. SPECIFIED POLYSOCYANURATE INSULATION
4. INSULATION METAL PLATES AND SCREWS
5. PVC WALKWAY

D.CERTIFICATES:
1. INSTALLER SHALL SUBMIT WRITTEN CERTIFICATION THAT THERE ARE NO UNDOCUMENTED WORKERS BEING EMPLOYED BY THEM OR BY ANY SUBCONTRACTOR ON THIS PROJECT AND ALL WORKERS ARE COVERED BY WORKMEN'S COMPENSATION.
2. MANUFACTURER'S WRITTEN CERTIFICATIONS OF APPROVAL/ACCEPTANCE OF THESE SPECIFICATION AND DETAILS.

E.PRODUCT TEST REPORTS: BASED ON EVALUATION OF TESTS PERFORMED BY MANUFACTURER AND WITNESSED BY A QUALIFIED INDEPENDENT TESTING AGENCY, SUBMIT CERTIFICATION INDICATING THE FORMULATION OF THE SPECIFIED ROOFING MEMBRANE HAS NOT CHANGE IN FORMULATION FOR A PERIOD NOT LESS THAN THAN THIRTY (30) YEAR; AND TO INDICATE COMPLIANCE OF COMPONENTS OF ROOFING SYSTEM WITH REQUIREMENTS BASED UPON COMPREHENSIVE TESTING OF CURRENT PRODUCT COMPOSITIONS.
F.INSPECTION REPORT: COPY OF ROOFING SYSTEM MANUFACTURER'S FINAL INSPECTION REPORT OF COMPLETED ROOFING INSTALLATION.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A.DELIVER THE MATERIALS TO THE JOB SITE IN THE ORIGINAL,UNOPENED CONTAINERS LABELED WITH THE MANUFACTURER'S NAME, BRAND NAME AND INSTALLATION INSTRUCTIONS.
B.STORE MEMBRANE IN THE ORIGINAL UNDISTURBED PLASTIC WRAP.
C.PROVIDE JOB STORAGE IN A TEMPERATURE RANGE BETWEEN 40°F AND 90°F.
D.INSULATION AND UNDERLAYMENTS SHALL BE STORED TO KEEP DRY AND PROTECTIVE FROM THE ELEMENTS. STORE INSULATION ON SKIDS AND COMPLETELY COVER WITH A BREATHABLE TARP OR CANVAS.

1.05 JOB CONDITIONS

A.WEATHER LIMITATIONS: PROCEED WITH ROOFING WORK ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT ROOFING TO BE INSTALLED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.
B.ENVIRONMENTAL REQUIREMENTS:
1. APPLY ROOFING IN DRY WEATHER.
2. DO NOT EXPOSE ROOF COMPONENTS AND FLASHING IN INCLEMENT WEATHER OR WHEN 30% OR MORE POSSIBILITY OF INCLEMENT WEATHER IS PREDICTED.
3. WHEN AMBIENT TEMPERATURE IS BELLOW 40°F, EXPOSE ONLY ENOUGH SENSITIVE CEMENTS, SEALANTS,AND ADHESIVES MEMBRANE AND ACCESSORIES TO A CONSTANT TEMPERATURE OF 180°F

C.PROTECTION:
1. PROVIDE SPECIAL PROTECTION AND AVOID TRAFFIC ON COMPLETED AREAS OF MEMBRANE INSTALLATION.
2. RESTORE TO ORIGINAL CONDITION OR REPLACE WORK OR MATERIALS DAMAGED DURING HANDLING OF ROOF MATERIALS.
3. TAKE PRECAUTIONS AS REQUIRED TO PROTECT ADJACENT WORK AND STRUCTURES.

1.06 WARRANTY

A.GENERAL WARRANTY:
THE WARRANTIES SPECIFIED IN THIS ARTICLE SHALL NOT DEPRIVE THE OWNER OF OTHER RIGHTS THE OWNER MAY HAVE UNDER OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AND SHALL BE IN ADDITION TO, AND RUN CONCURRENT WITH, OTHER WARRANTIES MADE BY THE CONTRACTOR UNDER REQUIREMENTS OF THE CONCURRENT WITH, OTHER WARRANTIES MADE BY THE CONTRACTOR UNDER REQUIREMENTS OF THE CONTRACT DOCUMENTS.
B.ROOFING MANUFACTURER'S WARRANTY:
SUBMIT A WRITTEN WARRANTY,WITH OUT MONETARY LIMITATION,WITH ALL AVAILABLE OPTIONS, INCLUDING FLASHING ENDORSEMENT,MANUFACTURER'S ROOF INSULATION AND ROOFING MANUFACTURER'S ACCESSORIES, SIGNED BY ROOFING SYSTEM MANUFACTURER AGREEING TO PROMPTLY REPAIR LEAKS RESULTING FROM DEFECTS IN MATERIALS OR WORKMANSHIP,AND MEETING THE FOLLOWING CONDITIONS:
1. A TWENTY (20)-YEAR FULL SYSTEMS WARRANTY SHALL BE ISSUED UPON COMPLETION OF THE ROOFING PROJECT.
2. THE WARRANTY SHALL GUARANTEE THE ENTIRE ROOF SYSTEM AND ASSOCIATED WORK AGAINST NO DEFECTIVE MATERIALS AND WORKMANSHIP OF INSTALLATION,WITH EXCLUSIONS FOR POUNDING OF WATER.
3. WARRANTY SHALL INCLUDE A WIND 3-SECOND GUST SPEED WARRANTY FOR 110 MPH.

C.CONTRACTOR'S WARRANTY:
SUBMIT ROOFING INSTALLER'S WORKMANSHIP WARRANTY, ON A NOTARIZED WRITTEN WARRANTY FORM, SIGNED BY INSTALLER, COVERING WORK ON THIS SECTION, INCLUDING MEMBRANE ROOFING, SHEET FLASHING, ROOF INSTALLATION, FASTENERS, AND AIR OR VAPOR RETARDERS, IF ANY, FOR THE FOLLOWING WARRANTY PERIOD: FIVE (5) YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PRODUCTS

2.01 MEMBRANE

A.60 MIL THERMOPLASTIC POLYOLEFIN REINFORCED MEMBRANE, IN 8',10' OR 12' WIDE SHEETS x 100' IN LENGTH.

2.02 RELATED MATERIALS

A.REINFORCED FLASHING MEMBRANE, 60 MIL THICK, FOR FLASHING DETAILS, WALKS, CURBS AND ROOF PENETRATIONS
B.BONDING ADHESIVE, ADHERE THE FLEX TPO PLUS MEMBRANES TO ACCEPTABLE HORIZONTAL AND VERTICAL SUBSTRATES
C.CUT EDGE SEALANT, APPLIED TO ALL NON-FACTORY EDGES WHERE THE REINFORCING SCRIM IS EXPOSED
D.FLEX WATER CUT OFF MASTIC
E.CAULKING SEALANTS (SONNEBORN NPI, BOSTIK CHEM CAULK, CHEMLINKM-1)
F.MEMBRANE CLEANER
G.POURABLE SEALER, PITCH PAN SEALANT
H.WALKWAY PADS
I.PRE-FORMED INSIDE/OUTSIDE CORNERS
J.PRE-FORMED PIPE BOOTHS.

EXECUTION

3.01 GENERAL

A.WHEN POSSIBLE, BEGIN THE APPLICATION AT THE HIGHEST POINT OF ROOF LEVEL AND WORK TO THE LOWER POINT TO PREVENT MOISTURE INFILTRATION AND TO MINIMIZE CONSTRUCTION TRAFFIC ON COMPLETED SECTIONS. COMPLETE ALL FLASHING AND TERMINATIONS AS THE INSTALLATION PROGRESSES. SEAL OFF AND MAKE WATERTIGHT AT THE END OF EACH WORK DAY.
B.DEFECTS IN THE ROOF DECK MUST BE REPORTED AND DOCUMENTED TO THE BUILDING OWNER FOR ASSESSMENT. THE ROOFING CONTRACTOR SHALL NOT PROCEED WITH INSTALLATION UNLESS THE DEFECTS HAVE BEEN CORRECTED.

3.02 SUBSTRATE PREPARATION

A.SUBSTRATE SHALL BE EVEN, WITHOUT NOTICEABLE HIGH SPOTS OR DEPRESSION.SURFACE SHALL BE DRY AND FREE FROM ACCUMULATED WATER, ICE OR SHOW
B.THE SUBSTRATE SHALL BE CLEAN AND CLEARED OF DEBRIS OR FOREIGN MATTER. ASPHALT SPILLS OR BITUMEN BASE ROOF CEMENTS SHALL BE REMOVED OR CLEANED.

3.03 INSTALLATION

A.INSTALLATION BOARD OR ROOF RECOVER BOARD SHALL BE SECURED TO THE DECK WITH APPROPRIATE FASTENERS AND 3" INSTALLATION PLAN APPROVED FOR TYPE OF DECK RECEIVING THE FLOOR SYSTEM.
B.INSULATION BOARD SHALL BE ADHERED TO THE APPROPRIATE DECK WITH INSULATION ADHESIVE OR HOT STEEP ASPHALT,
C.SHEETS SHALL BE INSTALLED IN THE FIELD OF THE ROOF, AND ADHERED TO THE SUBSTRATE WITH BONDING ADHESIVE.
D.BONDING ADHESIVE SHALL BE APPLIED TO THE UNDERSIDE OF THE MEMBRANE AND TO THE SUBSTRATE WITH A PAINT ROLLER AT A COVERAGE RATE APPROXIMATELY 60 SQUARE FEET PER GALLON.
E.THE ADHESIVE SHALL BE ALLOWED TO DRY UNTIL TACKY AND THE MEMBRANE ROLLED IN THE ADHESIVE COATED SUBSTRATE. AVOID WRINKLING THE MEMBRANE AND IMMEDIATELY BRUSH DOWN WITH A BROOM OR SQUEEGEE TO REMOVE ANY AIR POCKETS.
F.THE MEMBRANE SHALL BE OVERLAPPED ALONG THE LENGTH OF THE ROLL APPROXIMATELY 3 1/2", AND A MINIMUM OF 4" AT THE END OF ROLL SECTIONS.
G.SEAMS SHALL BE COMPLETED BY THE HOT AIR WELDING METHOD. THE WELDED SEAM SHALL BE A MINIMUM OF 1 1/2" WHEN COMPLETED.
H.ALL SEAMS SHALL BE WELDED THE SAME DAY AS THE MEMBRANE INSTALLED. THE SEAMS SHALL BE MANUALLY CHECKED WITH A SEAM PROBE AND ANY DEFICIENCIES CORRECTED THAT DAY.
I.THE MEMBRANE SHALL BE PROPERLY SECURED AT THE PERIMETER OF EACH ROOF LEVEL, ROOF SECTION, EXPANSION JOINT, ALL ROOF PENETRATIONS AND ANY ANGLE CHANGE WHICH EXCEEDS 2" IN ONE HORIZONTAL FOOT.

3.04 MEMBRANE FLASHING

A.FLASH ALL WALLS AND CURBS WITH TPO REINFORCED MEMBRANE.
B.AT INSIDE AND OUT SIDE CORNERS, FIELD FABRICATED PIPE FLASHING, AND OTHER DETAILS WHERE PER-FORMED ACCESSORIES WOULD NOT BE APPROPRIATE, INSTALL NON-REINFORCED FLASHING MEMBRANE.
C.THE REINFORCED MEMBRANE SHALL BE ADHERED TO THE APPROVED SUBSTRATES WITH BONDING ADHESIVE.
D.THE TOP OF THE VERTICAL EDGE WALL FLASHING SHALL BE SECURELY TERMINATED WITH TERMINATION BAR FASTENED A MINIMUM OF 12" O.C.E. APPROVED CAULKING SHALL BE APPLIED TO THE BACK EDGE SEALANT LIP OF THE TERMINATION BAR AFTER INSTALLATION.

3.05 RELATED WORK

A.WALKWAY ROLLS SHALL BE INSTALLED WHERE SPECIFIED AND SHALL BE HOT-AIR WELDED TO FIELD MEMBRANE.
B.WHEN CONCRETE PAVERS ARE SPECIFIED, AN APPROVED SEPARATOR SHEET SHALL BE PROVIDED BETWEEN THE PAVERS AND THE FIELD MEMBRANE.
C.COPING CAP AND ARCHITECTURAL EDGE METAL FASCIA SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH PRINTED INSTRUCTIONS PROVIDED WITH EDGE SYSTEM.
D.METAL ACCESSORY ITEMS NOT MANUFACTURED OR SUPPLIED BY MEMBRANE MANUFACTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT DESIGN SPECIFICATIONS, CURRENT NRCA AND SMACNA GUIDELINES.

CMU CONTROL JOINTS:

DIVISION 4

1.BRICK/ CMU CONTROL JOINTS
A.PROVIDE BRICK/CMU CONTROL JOINTS AT A MAXIMUM SPACING OF 25 FT.
B.PROVIDE OVER OPENINGS & AT INTERSECTING WALLS.
C.FILL JOINTS WITH ELASTOMERIC MATERIAL APPROVED BY THE BRICK/CMU MANUFACTURER, PLACED IN A CONTINUOUS UNOBSTRUCTED OPENING THROUGH BRICK/CMU WIDTH.
2.WEEP HOLES
A.PROVIDE WEEP HOLES @ TOP OF OPENING & BOTTOM OF ALL BRICK AND/OR CMU WALLS AT A MAXIMUM SPACING OF 36"O.C.

CMU WALLS & VENEER:

DIVISION 4

1. CMU MORTAR MUST INCLUDED A POLYMETRIC MIX TO PROVIDE WATER-REPELLENCY AND CONTROL EFFLORESCENCE.
2. CMU WALLS SHALL BE OF THICKNESS NOTED IN DRAWINGS, AND SHALL BE STANDARD-WEIGHT UNITS, CONFORMING TO ASTM C-90.
3. UNLESS SHOWN OTHERWISE, UNITS SHALL BE SMOOTH-FACED WITH STANDARD (GRAY) COLOR.
4. WHERE SHOWN IN DRAWN IN DRAWINGS, COLORED CMU SHALL BE OF COLOR SELECTED BY OWNER AND/OR ARCHITECT.
5. SPLIT-FACE UNITS SHALL BE PROVIDED AS SHOWN IN BUILDING ELEVATIONS & SPLIT-FACE UNITS SHALL BE PROVIDED AS SHOWN IN BUILDING ELEVATIONS & SECTIONS.
6. COLORED & SPLIT-FACE CMU SHALL BE AS MANUFACTURED BY HEADWATERS CONSTRUCTION MATERIALS INC., HOUSTON,TX (PH.281-821-9487) OR ARCHITECT-APPROVED EQUAL.
7. UNLESS NOTED OTHERWISE, CMU SHALL BE INSTALLED AS DEPICTED ON DRAWINGS. UNLESS NOTED OTHERWISE, CMU SHALL BE INSTALLED AS DEPICTED ON DRAWINGS.
8. RE:STRUCTURAL DRAWINGS FOR MORTAR, GROUT AND REINFORCING STEEL REQUIREMENTS.
9. MORTAR JOINT REINFORCEMENT:
A.WHERE SHOWN IN DRAWINGS, MORTAR JOINT REINFORCEMENT SHALL BE 9-GAGE, GALVANIZED WIRE, TRUSS-TYPE
B.PREFABRICATED CORNER AND T-INTERSECTION REINFORCEMENT SHALL BE USED, WITH MINIMUM 2'-0"LAP EACH SIDE.

CMU WALL INSULATION:

DIVISION 4

1. WHERE SHOWN IN DRAWINGS. CMU WALL CORE VOIDS SHALL BE FILLED WITH FOAM INSULATION AS DESCRIBED HEREIN.
2. FOAM INSULATION SHALL BE A TWO-COMPONENT SYSTEM,CONSISTING OF AMINO-PLAST RESIN AND CATALYST FOAMING AGENT SURFACTANT.
3. APPROVED MATERIAL IS CORE-FILL 500 FOAM INSULATION, MANUFACTURED BY TAILORED CHEMICAL PRODUCTS, INC., HICKORY, NC. (PH.828-322-6512), OR ARCHITECT-APPROVED EQUAL.
4. FOAM INSULATION SHALL BE INSTALLED IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS, SO THAT ALL OPEN CALLS AND VOIDS IN HOLLOW CONCRETE MASONRY UNITS ARE COMPLETELY FILLED.
5. INSULATION SHALL BE PERFORMED BY AN EXPERIENCED APPLICATOR TRAINED AND LICENSED BY PRODUCT MANUFACTURER, WITH NOT LESS THAN THREE YEARS OF DIRECT EXPERIENCE IN PRODUCT INSTALLATION.
6. INSTALLER SHALL BE RESPONSIBLE FOR RESTORING CMU WALL SURFACE TO PRE-INSTALLATION CONDITION, INCLUDING THE PATCHING OF FORM INSULATION INJECTION HOTELS, TO MATCH EXISTING SURFACE.
7. RE:STRUCTURAL DRAWINGS FOR MORTAR,GROUP AND REINFORCING STEEL REQUIREMENTS.
8. WARRANTY:
MANUFACTURER AND INSTALLER.
A ONE-YEAR PRODUCT AND INSTALLATION WARRANTY SHALL BE ISSUED BY BOTH THE PRODUCT.

JOINT FILLER:

DIVISION 4

1. ALL SAW-CUT OR TOOLED SLAB JOINTS SLAB JOINT AT INTERIOR EXPOSED CONCRETE FLOOR SURFACE SHALL RECEIVE A CONTINUOUS JOINT FILLER.
2. JOINT FILLER SHALL BE EUCO 700 (SEMI-RIGID POXY) OR QUICK JOINT 200(POLY-UREA) BY THE EUCLID CHEMICAL COMPANY,CLEVELAND, OH (PH.800.321.7628),OR ARCHITECT-APPROVED EQUAL.

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	VALUE
NOMINAL THICKNESS, MIN., IN.	ASTM D 751	.045",.060",.072",.080"
THICKNESS OVER SCRIM, MIN., IN.	ASTM D 4637	.018",.024",.030",.034"
SOLAR REFLECTANCE	ASTM D 1549	.70 MIN.
BREAKING STRENGTH,MIN.,LBF	ASTM D 751	320,360,400,425
ELONGATION AT BREAK,MIN.,%	ASTM D 751	25 TYPICAL
OZONE RESISTANCE	ASTM D 1449	NO CRACKS
RESISTANCE TO WATER ABSORPTION, CHANGE IN MASS,%	ASTM D 471	2.0 TYPICAL
RESISTANCE TO MICROBIAL SURFACE GROUT, RATING (1 IS VERY POOR,10 IS NOT GROUT)	ASTM D 3274	9-10 TYPICAL
FIELD SEAM STRENGTH, LBF.	ASTM D 1876	60 TYPICAL
WATER VAPOR PERMEANCE PERMS	ASTM E 96	0.05 TYPICAL
PUNCTURE RESISTANCE,LBF.	FTM 101C,METHOD 2031	30,360,400,425
RESISTANCE TO XENON-ARC WEATHERING	ASTM G-26	NO CRACKS NO LOSS OF TEARING OR BREAKING STRENGTH

ISSUE FOR:

FOR INTER REVIEW ONLY	
BID ONLY	
PERMITS SET	
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	N.T.S=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

GENERAL NOTES-1

DRAWING NUMBER:
A-0.1

SPECIFICATIONS STUCCO SYSTEM:
DIVISION 9

GENERAL

1.01 QUALITY ASSURANCE
- A. APPLICATOR QUALIFICATIONS:
  APPLICATORS SPECIALIZING IN THE INSTALLATION OF EXTERIOR STUCCO SYSTEM WITH A MINIMUM OF 5 YEARS EXPERIENCE IN WORK SIMILAR TO THAT REQUIRED BY THIS SECTION.
- B. ALLOWABLE TOLERANCES: MAXIMUM DEVIATION FROM TRUE PLANE OF 1/4" IN 8' AS MEASURED BY STRAIGHT EDGE PLACED AT ANY LOCATION ON SURFACE.
- C. JOB MOCK-UP, INCLUDING FINISH COAT SYSTEM
  1. 4'x4' SAMPLE PANEL OF SAME MATERIAL ON SAME SUBSTRATES AS FOR PROJECT,
  2. SHOW COLOR, TEXTURE, AND WORKMANSHIP OF FINISH WORK.
- D. SINGLE SOURCE RESPONSIBILITY: ALL STUCCO BASE AND FINISH COAT MATERIAL SHALL BE FROM A SINGLE MANUFACTURING SOURCE, FACTORY BLENDED.
- E. TYPICAL WALL PENETRATIONS SHALL HAVE ASTME-96 WATER PENETRATION TEST.

1.02 PROJECT DELIVERY, STORAGE, AND HANDLING
- A. DELIVERY MANUFACTURED MATERIALS IN ORIGINAL UNOPENED PACKAGES OR CONTAINER, WITH MANUFACTURER'S LABELS INTACT AND LEGIBLE.
- B. KEEP MATERIALS DRY, STORED OFF GROUND, UNDER COVER, AND AWAY FROM DAMP SURFACES.
- C. REMOVE WET OR DETERIORATED MATERIALS FROM SITE.

1.03 JOB CONDITIONS
- A. ENVIRONMENTAL REQUIREMENTS:
  1. DO NOT APPLY CEMENT STUCCO WHEN AMBIENT TEMPERATURE IS FORECAST TO BE LESS THAN 40°F WITHIN A 24 HOUR PERIOD FOLLOWING APPLICATIONS.
  2. DO NOT APPLY CEMENT STUCCO WHEN AMBIENT TEMPERATURE IS ABOVE 100°F
  3. PROTECT CEMENT STUCCO FROM UNEVEN AND EXCESSIVE EVAPORATION DURING HOT, DRY WEATHER.

PRODUCTS

2.01 MATERIALS
- A. WEATHER RESISTIVE BARRIER: ONE LAYER OF GRADE "D" BUILDING FEET IS REQUIRED OVER ALL NEW SUBSTRATES OF EXTERIOR GRADE SHEATHINGS, TWO LAYERS USE OVER ALL WOOD BASE SUBSTRATES.
- B. EXPENDED POLYSTYRENE: CONFORMING WITH ASTM C-578-87 TYPE 1, AS TESTED IN ACCORDANCE WITH ASTM E 84 FIRE TEST. SIZE, SHAPE AND THICKNESS ARE AS INDICATED ON DRAWINGS AND DETAILS.
- C. METAL ACCESSORIES: MANUFACTURER'S STANDARD STEEL PRODUCTS UNLESS OTHERWISE INDICATED AS ZINC ALLOY.
  1. EXTERIOR COMPONENTS: HOT DIP GALVANIZED FINISH, MINIMUM OF A 17 GAUGE SELF-FURRED STUCCO NETTING.
  2. CASING BEADS: GENERAL-PURPOSE TYPE WITH EXPANDED OR PERFORATED FLANGES.
  3. CORNERITE: MANUFACTURE'S STANDARD PRE-FORMED INTERIOR CORNER REINFORCEMENT MADE FROM 2.5 LBS. SQUARE YARD OF DIAMOND MESH LATH.
  4. EDGED CORNER BEADS: EXPANDED OR FLANGED TO SUITE APPLICATION.
  5. NO.10x BULL NOSE CORNER BEAD: FOR ROUNDED CORNER REINFORCEMENT.
  6. CONTROL JOINTS: NO.XJ15-3 CONTROL JOINT WITH 1/4" SKIT, AND 1" GROUNDS, OR EQUAL. CONTROL JOINTS MUST BE WIRE TIED TO THE LATH AND NOT NAILED OR SCREWED TO SUBSTRATE.
  7. EXPANSION JOINTS: NO. 40 ADJUSTABLE EXPANSION JOINT, FREE FLOATING WITH ADJUSTMENTS FROM 1/4" TO 5/8".
  8. FASTENERS: (CMU APPLICATIONS) GALVANIZED STEEL OF FURRING TYPE AND LENGTH SUITABLE FOR AT LEAST 1/2" PENETRATION OF THE BRICK OR BLOCK SUBSTRATE.
  9. FASTENERS: (STEEL OR WOOD STUDS APPLICATIONS) FURRING NAILS AND OR SCREWS, GALVANIZED GALVANIZED STEEL OR TYPE AND LENGTH SUITABLE FOR AT LEAST A 1/4" PENETRATION OF THE STUD SYSTEM.
  10. EXPANDED METAL LATH: 3.4 LB FOR USE AROUND ALL WINDOWS, DOORWAYS, SOFFITS, FASCIA, OPENINGS AND PARAPETS.
- D. FIBER-REINFORCED PORTLAND CEMENT STUCCO BASE MANUFACTURER'S STANDARD PRE-MIXED STUCCO BASECOATS CONSISTING OF PORTLAND CEMENT AND ALKALI-RESISTANT FIBERGLASS AND ACRYLIC FIBERS AND PROPRIETARY INGREDIENTS, WITH THE FOLLOWING ADDITIONAL REQUIREMENT:
  1. JOBSITE ADDED SAND MUST BE REQUIRED BY ASTM C-897
  2. INDEPENDENT THIRD PARTY SAND TESTING MAY BE REQUIRED AT THE ARCHITECT/OWNER'S REQUEST.
  3. SAND MUST BE PLACED ON A PROTECTIVE SURFACE AND COVERED WHEN NOT IN USE.
- E. LEVELING COAT: POLYMER-BASED, FACTORY-BLENDED OF CEMENT AND PROPRIETARY INGREDIENTS.
- F. PRIMER: 100% ACRYLIC BASED COATING TO PREPARE SURFACES FOR FINISH COAT.
- G. FINISH COAT: FACTORY BLENDED, 100% ACRYLIC POLYMER-BASED ELASTOMERIC FINISH, INTEGRALLY COLORED. FINISH TYPE, TEXTURE AND COLOR AS SELECTED BY ARCHITECT/OWNER.
- H. SAND: MOIST, LOOSE, AND COMPLYING WITH ALL REQUIREMENTS OF ASTM C-897
- I. WATER: COOLED CLEAN, POTABLE AND FREE OF FOREIGN MATTER.

2.02 MIXES
- A. GENERAL:
  1. ACCURATELY PROPORTION MATERIALS FOR EACH STUCCO BATH WITH MEASURING DEVICES OF KNOWN VOLUME.
  2. SIZE BATCHES FOR COMPLETE USE WITHIN MAXIMUM OF ONE HOUR AFTER MIXING.
  3. RE-TEMPER STUCCO STIFFENED FROM EVAPORATION, BUT DO NOT USE OR RE-TEMPER PARTICULAR HYDRATED CEMENT STUCCO.
  4. DO NOT USE FROZEN, CRACKED OR LUMPY MATERIALS, AND REMOVE SUCH MATERIALS FROM JOBSITE IMMEDIATELY.
  5. MIX FACTORY PREPARED CEMENT STUCCO IN STRICT CONFORMANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
  6. WITHOLD 10% OF MIXING WATER UNTIL MIXING IS NEARLY COMPLETE, THEN ADD AS NEEDED TO PRODUCE DESIRED WORKING CONSISTENCY.
- B. MECHANICAL MIXING:
  1. CLEAN MIXER OF SET OR HARDENED MATERIALS BEFORE LOADING NEW BATCH.
  2. MAINTAIN MIXER IN CONTINUOUS OPERATION WHILE ADDING MATERIALS.
  3. CONFORM TO MIXING SEQUENCE, CYCLE OF OPERATIONS, AND TIME RECOMMENDED BY THE MANUFACTURER OF THE BASECOAT MIX MATERIALS.
- C. HAND MIXING:
  1. DO NOT HAND MIX STUCCO BASECOAT SYSTEM MATERIALS UNLESS AUTHORIZED BY ARCHITECT/ENGINEER
  2. USE WATERPROOF MIXING BOXES AND WATER BARRELS WHEN MIXING WITHIN BUILDING.
  3. ADD AMOUNT OF WATER TO THE ACRYLIC FINISH COATS NEEDED TO ACHIEVE WORKABILITY. TO AVOID COLOR VARIATIONS, ADD AMOUNT OF WATER TO EACH PAIL OF FINISH. NO OTHER ADMIXTURE ARE ALLOWED.

EXECUTION

3.01 INSPECTION
- A. VERIFY THAT SURFACE RECEIVING PLASTER ARE FREE OF DUST, LOOSE PARTICLES, OIL AND OTHER DELETERIOUS MATERIALS WHICH WOULD AFFECT BOND OR PROPER HYDRATION OF CEMENT STUCCO.
- B. VERIFY THAT LATH IS TIGHT, PROPERLY SECURED AND OVERLAPPED, AND THAT ALL ACCESSORIES ARE PROPERLY SET AND SECURED.
- C. ISOLATION: WHERE LATHING AND METAL SUPPORT SYSTEM ABUTS BUILDING STRUCTURE HORIZONTALLY, AND WHERE PARTITION WALL WORK ABUTS THE OVERHEAD STRUCTURE. ISOLATE WORK FROM STRUCTURE MOVEMENTS. INSTALL EXPANSION AND CONTROL JOINTS SEPARATELY AND DO NOT BRIDGE JOINTS WITH FURRING OR LATHING.
- D. EXAMINE SUBSTRATES, GROUNDS AND ACCESSORIES TO INSURE THAT FINISHED STUCCO WORK WILL BE TRUE TO LINE, PLANE, LEVEL, AND PLUMB.
- E. VERIFY THAT MASONRY AND CONCRETE SURFACES TO RECEIVE ERECT BOND APPLICATIONS OF STUCCO BASECOATS ARE ROUGH, FREE FROM RELEASE AGENTS OR OTHERWISE PROPERLY PREPARED TO PROVIDE BOND WITH BASE COAT SYSTEM.
- F. NOTIFY ARCHITECT/ENGINEER IN WRITING OF ANY CONDITIONS DETRIMENTAL TO PROPER AND SUCCESSFUL INSTALLATION OF STUCCO SYSTEM. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED TO THE SATISFACTION OF ARCHITECT/ENGINEER AND INSTALLER.

3.02 APPLICATION
- A. GENERAL
  1. APPLY STUCCO BASE COAT SYSTEMS IN STRICT ACCORDANCE WITH MANUFACTURER'S INTERRUPT AND RECOMMENDATIONS.
  2. INTERRUPT OR DELAY STUCCO APPLICATION ONLY AT JUNCTIONS OF STUCCO PLANE, AT OPENING OR AT CONTROL JOINTS.
  3. 3/4"HARD COAT (3-STEP), SMOOTH-TEXTURE STUCCO WITH ELASTOMERIC FINISH.
  4. INSTALL OVER GALVANIZED METAL LATH, OVER "TYVEK STUCCO WRAP" MOISTURE BARRIER, OVER 1/2" CDX PLYWOOD, OR OSB SHEATHING.
  5. ALL FASTENERS SHALL BE GALVANIZED.
  6. ALL MATERIAL SHALL BE INSTALLED AND DETAILED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  7. INSTALL SILICONE SEALANT IN ALL STUCCO WORK, AROUND ALL OPENINGS, TRIM, ETC. ALL SEALANTS SHALL BE APPROVED BY STUCCO MANUFACTURER & ARCHITECT/ENGINEER.
- B. SCRATCH COAT:
  1. APPLY BROWN COAT TO MINIMUM THICKNESS OF 3/8", USING TROWEL PRESSURE TO KEY STUCCO INTO SCRATCH COAT.
  2. ROD SURFACE TO TRUE PLANE.
  3. TROWEL TO SMOOTH AND UNIFORM SURFACE TO RECEIVE ACRYLIC POLYMER FINISH COAT SYSTEM.
  4. TOOL BROWN COAT TO PROVIDE A V-JOINT AT INTERSECTION OF STUCCO WITH FRAMES OR OTHER ITEMS OF METAL, WOOD, OR PLASTIC THAT ACT AS STUCCO GROUNDS.
- D. LEVELING COAT:
  1. USING A STAINLESS STEEL TROWEL, APPLY BASE COAT AND ADHESIVE OVER THE BROWN COAT AT A THICKNESS OF 3/32 IN. AND TROWEL SMOOTH.
- E. FINISH COAT:
  1. APPLY PRIMER BY BRUSH, ROLLER, OR SPRAY, ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS AND IN ORDER TO ACHIEVE TEXTURE INDICATED, USING SUFFICIENT COVERAGE AS REQUIRED. PROTECT ALL OTHER SURFACES.
  2. APPLY EXTERIOR WALL FINISH IN NUMBER OF COATS AND CONSISTENCY REQUIRED TO ARCHIVE SPECIFIED TEXTURE.
- F. STUCCO CONTROL JOINTS:
  1. JOINT SPACING SHOULD NOT BE GRATER THAN 18FT.
  2. NO PANEL SHOULD EXCEED 144 SF ON VERTICAL APPLICATIONS.
  3. NO PANEL SHOULD EXCEED 100 SF OVER CURVED OR ANGULAR SECTIONS.
  4. NO LENGTH TO WIDTH RATIO SHOULD EXCEED 2 1/2 TO 1 IN GIVE PANEL.

3.03 CURING
- A. MOIST-CURE SCRATCH COAT WITH CLEAN POTABLE WATER IN ACCORDANCE WITH ASTM C-926 AND/OR BUILDING CODES FLOWING INITIAL APPLICATION (UNLESS BROWN COAT IS APPLIED AFTER THE SCRATCH COAT HAS ACHIEVED SUFFICIENT RIGIDITY TO SUPPORT THE BROWN COAT.)
- B. MOIST BROWN COAT WITH CLEAN POTABLE WATER IN ACCORDANCE WITH ASTM C-926.
- C. ALLOW BROWN COAT TO DRY THOROUGHLY TO A H OF 9.5 OF LOWER BEFORE APPLYING ACRYLIC PRIMERS OR FINISH COAT IF THE OPTIONAL LEVELING COAT AND REINFORCING COAT IS NOT APPLIED
- D. IF OPTIONAL LEVELING COAT OR LEVELING REINFORCING COAT IS APPLIED, ALLOW TO CURE FOR 24 HOURS BEFORE APPLICATION OF PRIMER AND FINISH. (NOTE: CEMENTITIOUS FINISHES ARE NOT RECOMMENDED TO BE USED OVER THE OPTICAL LEVELING COAT OR LEVELING AND REINFORCING COAT.)
- E. AIR CURE ACRYLIC BASE FINISH COATS ONLY, DO NOT WET CURE.

3.04 ADJUST AND CLEAN
- A. PATCHING:
  1. UPON COMPLETION, POINT UP EXTERIOR WALL FINISH COAT AROUND TRIM AND OTHER LOCATION WHERE FINISH COAT TERMINATES OR MEETS DISSIMILAR MATERIALS.
  2. CUT OUT AND REPLACE DEFECTIVE OR MEETS DISSIMILAR MATERIALS.
  3. MAINTENANCE KIT: SHALL INCLUDE ENOUGH MATERIALS TO REPAIR 100 SQUARE FEET; CONTAINERS OF LIQUIDS SHALL REMAIN UN-OPENED, ALL MATERIALS SHALL BE STORED PROPERLY.

STOREFRONT SYSTEM:
DIVISION 8

1. WHERE SHOWN IN DRAWINGS. STOREFRONT SYSTEM, INCLUDING ALUMINUM SILLS, HEADS, JAMBS, MULLIONS, AND ALL OTHER COMPONENTS REQUIRED TO PRODUCE A COMPLETE SYSTEM.
2. STOREFRONT SYSTEM DESIGN:
   - A. DESIGN OF STOREFRONT SYSTEM, INCLUDING ALL FRAMING MEMBERS AND FASTENERS ASSOCIATED THEREWITH, AS WELL AS ALL GLAZING, SHALL BE BY SYSTEM SUPPLIER.
   - B. ALL SYSTEM COMPONENTS INCLUDING END DAMS, METAL SUB-SILL AND POCKET FILLER AT HEAD AND JAMB MULLIONS SHALL BE BY SYSTEM SUPPLIER.
3. PROTECTION OF ALUMINUM
   - A. ALUMINUM SHALL BE ISOLATED FROM CONTACT WITH DISSIMILAR METAL BY EITHER OF THE FOLLOWING METHODS
     1. COAT THE DISSIMILAR METAL WITH TWO COATS OF HEAVY-BODIED ALKALI RESISTANT BITUMINOUS PAINT.
     2. PLACE CAULKING COMPOUND, OR NON-ABSORPTIVE TAPE, OR GASKET BETWEEN THE ALUMINUM AND THE DISSIMILAR METAL.
   - B. ALUMINUM SHALL BE ISOLATED FROM CONCRETE, MORTAR OR PLASTER AS FOLLOWS:
     1. PAINT ALUMINUM CONTACT SURFACE WITH A COAT OF ALKALI-RESISTANT BITUMINOUS PAINT.
     2. SET THRESHOLDS IN FULL CONTINUOUS BED OF SELF-LEVELING SEALANT, MECHANICALLY ATTACHED TO SUBSTRATE.

STONE VENEER:
DIVISION 9

1. MATERIAL
   - A. VENEER SHALL BE A MANUFACTURED, PRECAST STONE, SIMILAR IN TEXTURE TO NATURAL STONE.
   - B. VENEER SHALL BE A MADE FROM PORTLAND CEMENT, EXPANDED AGGREGATE, EXPANDED PERLITE, MINERAL IRON OXIDE COLOR & CONCRETE CHEMICAL ADDITIVES.
   - C. STONE THICKNESS SHALL BE A MINIMUM OF 1 INCHES AND MAXIMUM OF 3 INCHES.
   - D. AVERAGE WEIGHT SHALL BE 7.5 TO 15 PSF.
   - E. MAXIMUM LENGTH OF EACH STONE IS 36 INCHES. MAXIMUM SURFACE AREA IS 720 SQUARE INCHES.
   - F. PATTERN & COLOR SELECTION WILL BY OWNER AND ARCHITECT.
   - G. APPROVED MANUFACTURES (OR ARCHITECT-APPROVED EQUAL)
   - H. PRODUCT SHALL BE APPROVED BY ICC EVALUATION SERVICES, INC. (ICC-ES).
   - J. EACH PALLET OF STONE SHALL BE IDENTIFIED BY LABEL BEARING MANUFACTURE'S NAME, PRODUCT NAME AND ICC-ES REPORT NO.
2. INSTALLATION
   - A. THE INDIVIDUAL PRECAST STONES ARE ADHESIVELY APPLIED TO SUBSTRATE SUCH AS WOOD OR STEEL FRAMING, MASONRY, OR METAL BUILDING WALL PANELS, WALL PANELS, WITH TYPE "S"OR"N" MORTAR COMPLYING WITH ASTM C270
   - B. INSTALLATION MUST BE IN STRICT ADHERENCE WITH MANUFACTURER'S INSTRUCTIONS, A COPY OF WHICH SHALL BE KEPT AT THE JOB SITE AT ALL TIMES DURING INSTALLATION.
   - C. CONTRACTOR SHALL ENSURE THAT SUBSTRATE IS OF WETHER-RESISTIVE MATERIAL. IF NOT, CONTRACTOR SHALL INSTALL A FIRE-RESISTIVE BARRIER, SUCH AS TYPE 15 FELT BUILDING PAPER COMPLYING WITH ASTM D226, TYPE 1,OR OTHER CODE APPROVED PRODUCTS.
   - D. SPACE BETWEEN ADJACENT UNITS SHALL BE APPROXIMATELY s INCH, AND SHALL BE FILLED WITH GROUT, FINISHED AND SEALED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION. DO NOT BEGIN GROUTING UNTIL STONES ARE FIRMLY SET.

FLOOR SEALER:
DIVISION 9

1. EXPOSED CONCRETE FLOORS AT REPAIR SHOP BAY AND BASEMENT SHALL RECEIVED AT LEAST ONE COAT OF A LIQUID DENSIFIER/SELLER, OVER THE ENTIRE FLOOR AREA.
2. APPROVED MATERIAL IS "EUCO DIAMOND HARD" BY THE EUCLID CHEMICAL COMPANY, CLEVELAND,
3. OH (PH.800-321-7628), OR ARCHITECT-APPROVED EQUAL. SUBMITTALS FOR SUBSTITUTION SHALL BE MADE IN WRITING TO ARCHITECT/ENGINEER.
4. SUPPORTING TECHNICAL DATA AND TEST DATA SHOWING EQUIVALENT PERFORMANCE. NO SUBMITTALS FOR SUBSTITUTION WILL BE ACCEPTED AFTER BID DATE. CONCRETE FLOOR AREAS RECEIVING SELLER SHALL HAVE A HARD TROWELED FINISH, AND SHALL
5. BE WET-OR SHEET-CURED IN ACCORDANCE WITH ASTM C-171. CONCRETE SHALL CURE A MINIMUM OF 7 DAYS BEFORE SEALER APPLICATION.
6. CONCRETE FLOOR SHALL BE ALLOWED TO AIR-DRY FOR 24 HOURS BEFORE SEALER APPLICATION.
7. CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH MANUFACTURE'S APPLICATION.
8. AND CONDITIONS. APPLICATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURE'S INSTRUCTION, INCLUDING COVERAGE RATE, ALLOWABLE AIR TEMPERATURE RANGE, AND MINIMUM DRYING PERIOD PRIOR TO EXPOSURE TO TRAFFIC.

ISSUE FOR:

FOR INTER REVIEW ONLY	
BID ONLY	
PERMITS SET	
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

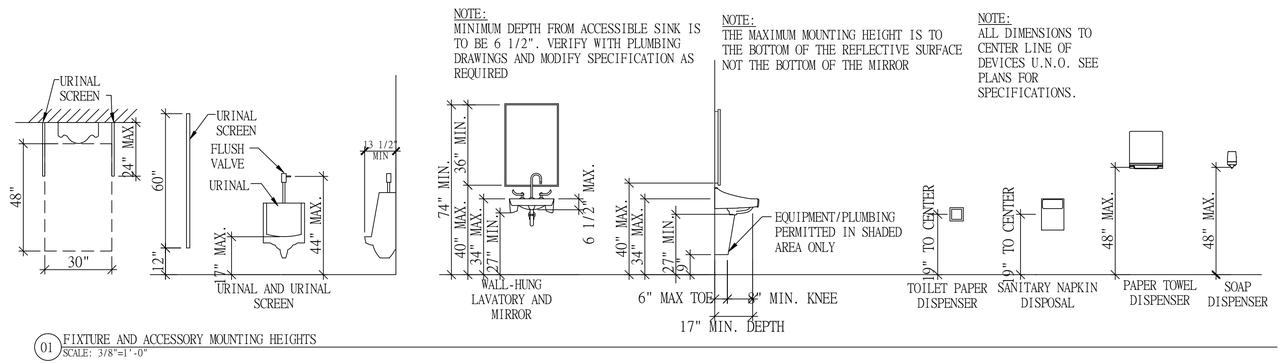
PROJECT NUMBER :	25-006
SCALE :	N.T.S=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

GENERAL NOTES-2

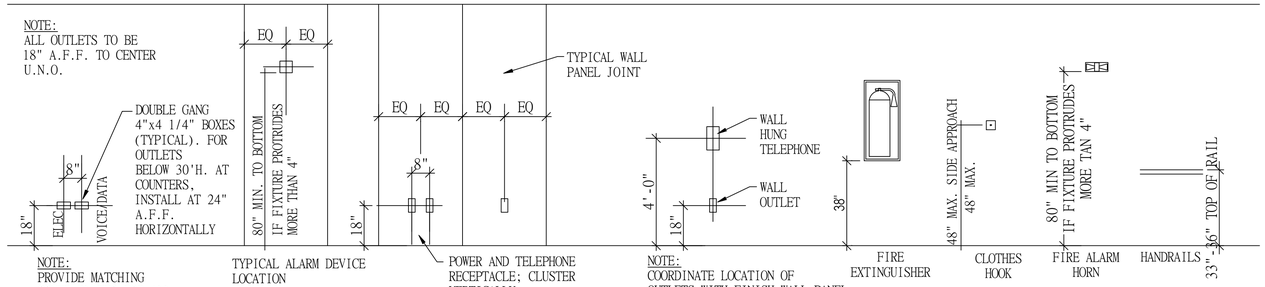
DRAWING NUMBER:
A-0.2

ACCESSIBILITY NOTES:

703 SIGNS
703.1 GENERAL SIGN SHALL COMPLY WITH 703. WHERE BOTH VISUAL AND TACTILE CHARACTERS ARE REQUIRED, EITHER ONE SIGN WITH BOTH VISUAL AND TACTILE CHARACTERS, OR TWO SEPARATE SIGNS, ONE WITH VISUAL, AND ONE WITH TACTILE CHARACTERS SHALL BE PROVIDED.
703.2 RAISED CHARACTERS. RAISED CHARACTERS SHALL COMPLY WITH 703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH 703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 703.4. ADVISORY 703.2 RAISED CHARACTERS. SIGNS THAT ARE DESIGNED TO BE READY BY TOUCH SHOULD NOT HAVE SHARP OR ABRASIVE EDGES. 703.2.1 DEPTH. RAISED CHARACTERS SHALL BE 1/32 INCH (0.8 MM) MINIMUM ABOVE THEIR BACKGROUND. 703.2.2. CASE CHARACTERS SHALL BE UPPERCASE. 703.2.3 STYLE. CHARACTERS SHALL BE SAN SERIF. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. 703.2.4 CHARACTER PROPORTIONS. CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LATTER "O" IS 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LATTER "I". 703.2.5 CHARACTER HEIGHT. CHARACTER HEIGHT MEASURE VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8 INCH (16 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LATTER "I". EXCEPTION: WHERE SEPARATE RAISED AND VISUAL CHARACTERS WITH THE SAME INFORMATION ARE PROVIDED, RAISED CHARACTERS HEIGHT SHALL BE PERMITTED TO BE 1/2 INCH (13 MM) MINIMUM. 703.2.6 STROKE THICKNESS. STROKE THICKNESS OF THE UPPERCASE LATTER "I" SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF CHARACTER. 703.2.7 CHARACTER SPACING. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINT OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. WHERE CHARACTERS HAVE RECTANGULAR CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/8 INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM. WHERE CHARACTER HAVE OTHER CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/16 INCH (1.6 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE TOP OF THE CROSS SECTIONS. CHARACTERS SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/8 INCH (9.5 MM) MINIMUM. 703.2.8 LINE SPACING. SPACING BETWEEN THE BASELINE OF THE SEPARATE LINES OF RAISED CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT.
703.5.1 FINISH AND CONTRAST. CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER LIGHT CHARACTERS ON DARK BACKGROUND OR DARK CHARACTER ON LIGHT BACKGROUND. ADVISORY 703.5.1 FINISH AND CONTRAST. SIGNS ARE MORE LEGIBLE FOR PERSON WITH LOW VISION WHEN CHARACTERS CONTRAST AS MUCH AS POSSIBLE WITH THEIR BACKGROUND. ADDITIONAL FACTORS AFFECTING THE EASE
WITH WHICH THE TEXT CAN BE DISTINGUISHED FROM ITS BACKGROUND INCLUDE SHADOWS CAST BY LIGHTING SOURCES, SURFACE GLARE, AND THE UNIFORMITY OF THE TEXT AND ITS BACKGROUND COLORS AND TEXTURES.703.5.2 CASE. CHARACTERS SHALL BE CONVENTIONAL IN FORM. CHARACTERS SHALL BE UPPERCASE OR LOWERCASE OR A COMBINATION OF BOTH. 703.5.3 STYLE. CHARACTERS SHALL BE CONVENTIONAL IN FORM. CHARACTER SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS.
703.5.4 CHARACTER PROPORTIONS. CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LATTER "O" IS 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LATTER "I" . 703.5.5 CHARACTER HEIGHT. MINIMUM CHARACTER HEIGHT SHALL COMPLY WITH TABLE 703.5.5. VIEWING DISTANCE SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CHARACTER AND AN OBSTRUCTION PREVENTING FURTHER APPROACH TOWARDS THE SIGN. CHARACTER HEIGHT SHALL BE BASED ON THE UPPER LATTER "I". TABLE 703.5.5 VISUAL CHARACTER HEIGHT TO FINISH FLOOR OR GROUND FROM BASELINE OF CHARACTER HORIZONTAL VIEWING DISTANCE MINIMUM CHARACTER HEIGHT 40 INCH (1015 MM) TO LESS THAN OR EQUAL TO 70 INCH (1780 MM) LESS THAN 72 INCH (1830 MM) 5/8 INCH (16 MM) 72 INCH (1830 MM) AND GRATER 5/8 INCH (16 MM), PLUS 1/8 INCH (3.2 MM) PER FOOT (305 MM) OF VIEWING DISTANCE ABOVE 72 INCH (1830 MM) GRATER THAN 70 INCH (1780 MM) TO LESS THAN OR EQUAL TO 120 INCH (3050 MM) LESS THAN 180 INCH (4570 MM) 2 INCH (51 MM) 180 INCH (4570 MM) AND GRATER 2 INCH (51 MM), PLUS 1/8 INCH (3.2 MM) PER FOOT (305 MM) OF VIEWING DISTANCE ABOVE 180 INCHES (4570 MM) GRATER THAN 120 INCHES (3050 MM) LESS THAN 21 FEET (6400 MM) 3 INCHES (75 MM) 21 FEET (6400 MM) AND GRATER 3 INCHES (75 MM), PLUS 1/8 INCH (3.2 MM) PER FOOT (305 MM) OF VIEWING DISTANCE ABOVE 21 FEET (6400 MM) 703.5.6 HEIGHT FROM FINISH FLOOR OR GROUND. VISUAL CHARACTERS SHALL BE 40 INCHES (1015 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND. EXCEPTION: VISUAL CHARACTERS INDICATING ELEVATOR CAR CONTROLS SHALL NOT BE REQUIRED TO COMPLY WITH
703.5.6.703.5.7. STROKE THICKNESS. STROKE THICKNESS OF THE UPPERCASE LATTER "I" SHALL BE 10 PERCENT MINIMUM AND 30 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER. -150-2012 TEXAS ACCESSIBILITY STANDARDS
● EFFECTIVE MARCH 15, 2012 ● TEXAS DEPARTMENT OF LICENSING AND REGULATION 703.5.8 CHARACTER SPACING. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT CHARACTERS, EXCLUDING WORD SPACES. SPACING BETWEEN INDIVIDUAL CHARACTERS SHALL BE 10 PERCENT MINIMUM AND 35 PERCENT MAXIMUM OF CHARACTER HEIGHT. 703.5.9 LINE SPACING. SPACING BETWEEN THE BASELINES OF SEPARATES LINES OF CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE CHARACTER HEIGHT.



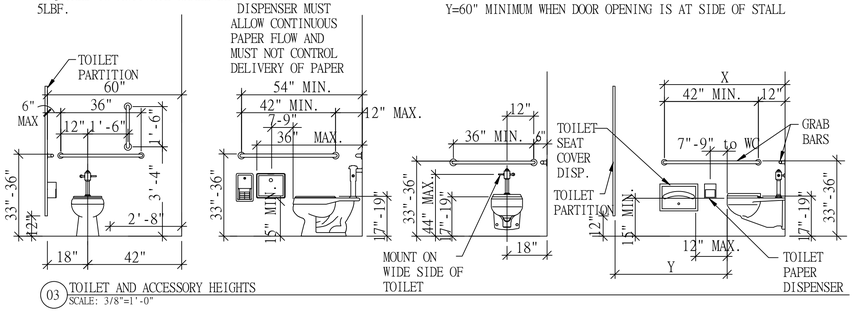
01 FIXTURE AND ACCESSORY MOUNTING HEIGHTS
SCALE: 3/8"=1'-0"



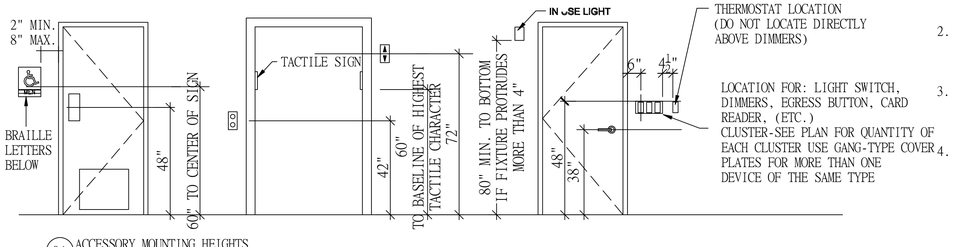
02 DEVICE MOUNTING HEIGHTS
SCALE: 3/8"=1'-0"

NOTE:
FLUSH VALVE OPERATION SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE SHALL BE NO GRATER THAN 5LBF.

NOTE:
X=52" MINIMUM WHEN WATER CLOSETS ARE INSTALLS.
X=54" MINIMUM WHEN WATER CLOSETS ARE NOT INSTALLS (I.E SINGLE ACCOMMODATION ROOMS OR OPEN TOILETING SITUATIONS)
Y=48" MINIMUM WHEN DOOR OPENING IS AT FRONT OF STALL
Y=60" MINIMUM WHEN DOOR OPENING IS AT SIDE OF STALL



03 TOILET AND ACCESSORY HEIGHTS
SCALE: 3/8"=1'-0"



04 ACCESSORY MOUNTING HEIGHTS
SCALE: 3/8"=1'-0"

1. DOOR HARDWARE-HANDLES, PULLS, LATCHES, LOOKS AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING. TIGHT PINCHING, OR TWISTING OF LEVEL-OPERATED MECHANISM: U-SHAPED HANDLES ARE ACCEPTABLE DESIGNS.
2. WHEN SLIDING DOORS ARE FULLY OPEN, OPERATING HARDWARE SHALL BE EXPOSED AND USEABLE FROM BOTH SIDES, HARDWARE REQUIRED FOR ACCESSIBLE DOOR PASSAGE SHALL BE MOUNTED NO HIGHER THAN 48" ABOVE FINISHED DOOR.
3. DOOR CLOSERS ND GATES CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECOND MINIMUM.
4. DOOR OPENING FORCE THE MAXIMUM FORCE PUSHING OR PULLING OPEN A DOOR SHALL BE AS FOLLOWS: FIRE DOORS-MINIMUM OPENING FORCE ALLOWED BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY. INTERIOR HINGED SLIDING OR FOLDING DOORS- 5 LBF.

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PERMITS SET
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

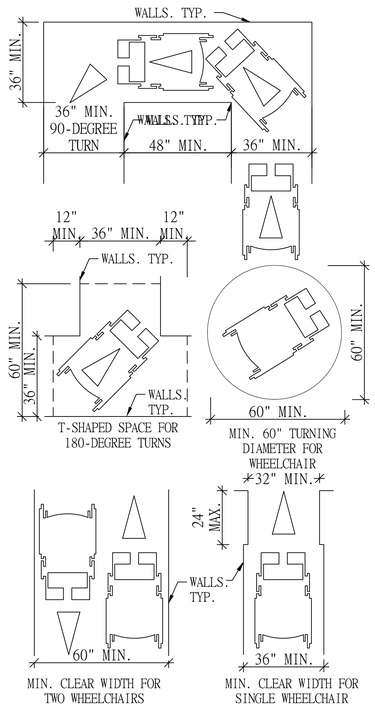
SEAL :

DATE: 05/16/2025

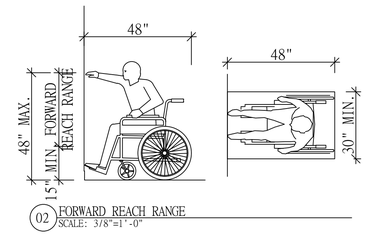
PROJECT NUMBER :	25-006
SCALE :	N.T.S=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

ADA STANDARD DETAILS (1/2)

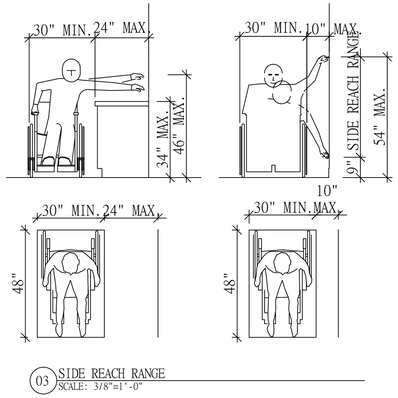
DRAWING NUMBER:
ADA-1



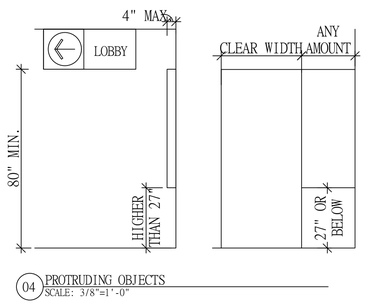
01 WHEELCHAIR CLEARANCES
SCALE: 3/8"=1'-0"



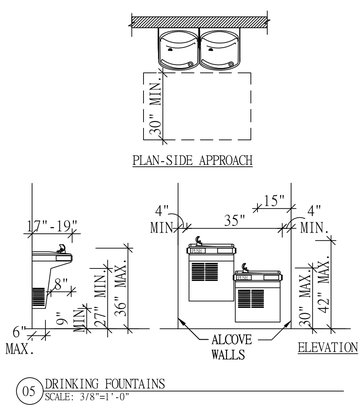
02 FORWARD REACH RANGE
SCALE: 3/8"=1'-0"



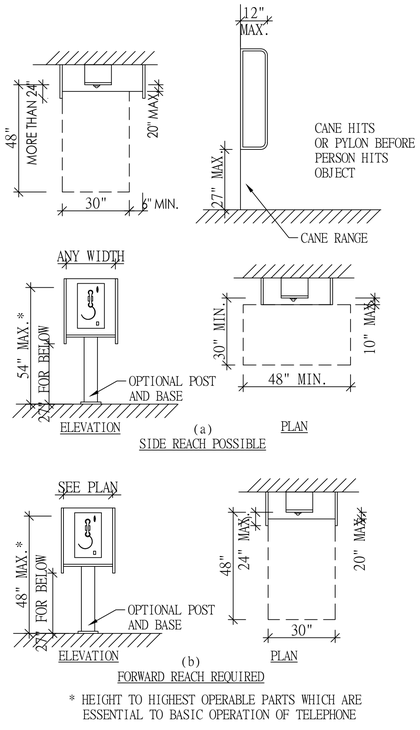
03 SIDE REACH RANGE
SCALE: 3/8"=1'-0"



04 PROTRUDING OBJECTS
SCALE: 3/8"=1'-0"



05 DRINKING FOUNTAINS
SCALE: 3/8"=1'-0"

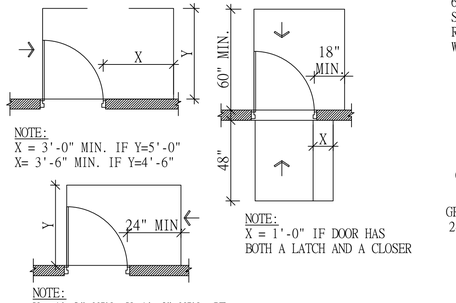


* HEIGHT TO HIGHEST OPERABLE PARTS WHICH ARE ESSENTIAL TO BASIC OPERATION OF TELEPHONE

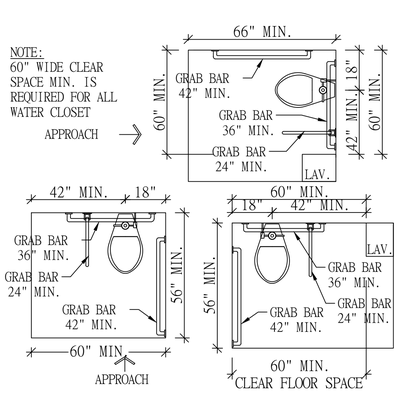
06 PHONE MOUNTING HEIGHTS
SCALE: 3/8"=1'-0"

ACCESSIBILITY NOTES:

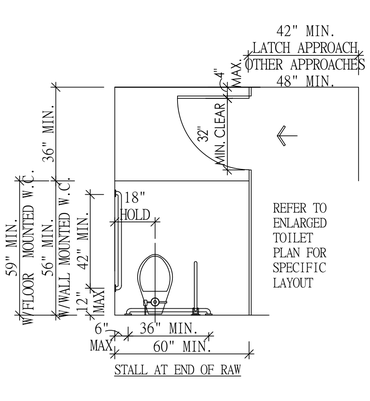
1. IN BUILDINGS AND FACILITIES, FLOOR OF A GIVEN STORY SHALL BE A COMMON LEVEL THROUGHOUT, OR SHALL SHALL BE CONNECTED BY PEDESTRIAN RAMPS, PASSENGER ELEVATORS, OR SPECIAL ACCESS LIFTS.
2. FLOOR SURFACES SHALL BE SLIP-RESISTANT.
3. EVERY CORRIDOR AND AISLE SERVING AN OCCUPANT LOAD OF 10 OR MORE SHALL BE NOT LESS THAN 44" IN CLEAR WIDTH.
4. ABRUPT CHANGES IN LEVEL ALONG ANY ACCESSIBLE ROUTE SHALL NOT EXCEED 1/2" IN HEIGHT. LEVEL CHANGES NOT EXCEEDING 1/4" MAY BE VERTICAL. BEVEL OTHERS WITH A SLOPE OF NO GRATER THAN 1:2.
5. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. MOUNT DOOR OPENING HARDWARE BETWEEN 30" AND 44" ABOVE THE FLOOR FINISH.
6. CENTER HAND ACTIVATED DOOR OPENING HARDWARE 30" AND 44" ABOVE FINISHED FLOOR.
7. MAXIMUM PULL OR PUSH EFFORT TO OPERATE DOOR SHALL NOT EXCEED 8.5 POUNDS FOR EXTERIOR DOORS, AND 5 POUNDS FOR INTERIOR DOORS, MEASURES AT RIGHT ANGLES TO HINGED DOOR AND AT CENTER PLAN OF SLIDING OR FOLDING DOORS. CORRESPONDING DEVICES OR AUTOMATIC DOOR OPENERS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. MAXIMUM EFFORT TO OPERATE REQUIRED FIRE DOORS MAY BE INCREASED NOT TO EXCEED 15 POUNDS.
8. THE BOTTOM 10" OF ALL DOORS, (EXCEPT SLIDING AND AUTOMATIC) SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED USING A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. PROVIDE A 10" SMOOTH PANEL ON THE PUSH SIDE OF NARROW FRAME DOORS.
9. EVERY REQUIRED ENTRANCE OR PASSAGE DOORWAY SHALL BE NOT LESS THAN 3' IN WIDTH AND NOT LESS 6"-8" IN HEIGHT. DOORS SHALL BE CAPABLE OF OPENING AT LEAST 90 DEGREES AND SHALL BE MOUNTED SO THAT THE CLEAR WIDTH OF THE DOORWAY IS NOT LESS THAN 32".
10. WHERE A PAIR OF DOORS IS UTILIZED, AT LEAST ONE OF THE DOOR SHALL PROVIDES A CLEAR, UNOBSTRUCTED OPENING WIDTH OF 32" WITH THE LEAF POSITIONED AT AN ANGLE OF 90 DEGREES FROM FROM ITS CLOSED POSITION.
11. IDENTIFY ACCESSIBLE ENTRANCES WITH AT LEAST ONE STANDARD SIGN AND WITH ADDITIONAL DIRECTIONAL SIGNS AS REQUIRED, VISIBLE FROM APPROACHING PEDESTRIAN WAYS.
12. THE FLOOR OR LANDING ON EACH SIDE OF AN ENTRANCE OR PASSAGE DOOR SHALL BE LEVEL AND CLEAR. THE LEVEL AND CLEAR AREA SHALL HAVE A LENGTH IN THE DIRECTION OF DOOR SWINGS OF AT LEAST 60", AND THE LENGTH OPPOSITE THE DIRECTION OF DOOR SWING OF 44" AS MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN ITS CLOSED POSITION.
13. FLOOR OR LANDINGS SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED, WITH A SLOPE NO GRATER THAN 1:2.
14. TO ALERT THE VISUALLY IMPAIRED, MARK THE UPPER APPROACH AND THE LOWER THREAD OF EACH INTERIOR STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE, PLACED PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING. THE STRIP SHALL BE OF A MATERIAL THAT IS AS LEAST AS SLIP RESISTANT AS THE OTHER THREADS OF THE STAIR.
15. ELECTRICAL RECEPTACLES CANNOT BE LESS THAN 15" FROM THE FLOOR AS MEASURED TO THE LOWEST OPERABLE PART MAKING THE BOTTOM OF THE OUTLET NO LESS THAN 15" FROM THE FLOOR.



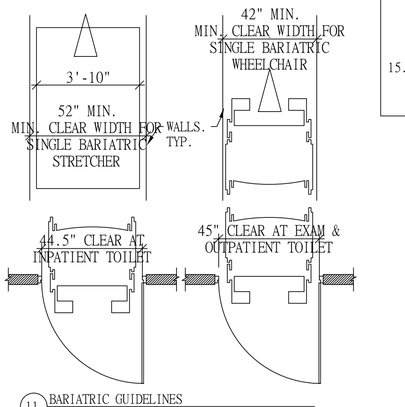
07 DOOR CLEARANCES
SCALE: 3/8"=1'-0"



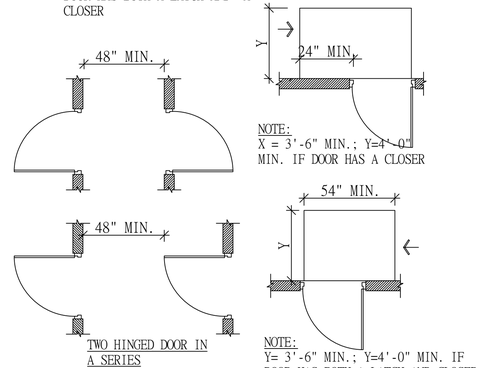
08 SINGLE USER TOILET
SCALE: 3/8"=1'-0"



10 MULTI USER TOILET
SCALE: 3/8"=1'-0"



11 BARIATRIC GUIDELINES
SCALE: 3/8"=1'-0"



07 DOOR CLEARANCES
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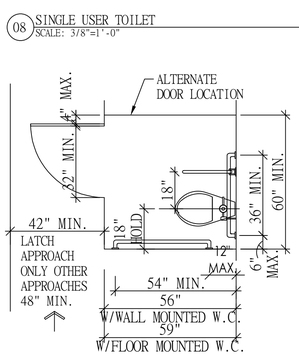
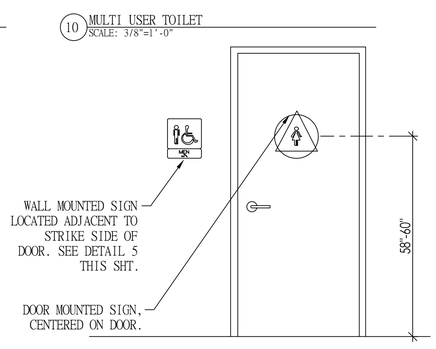
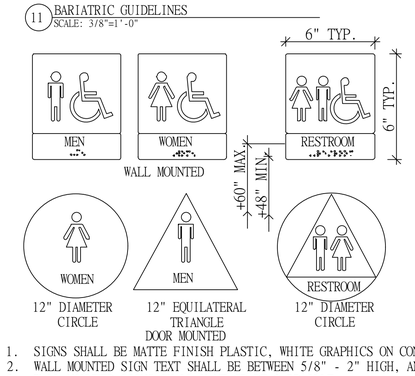


09 MULTI USER TOILET
SCALE: 3/8"=1'-0"



06 DOOR SIGNAGE
NOT TO SCALE



1. SIGNS SHALL BE MATTE FINISH PLASTIC, WHITE GRAPHICS ON CONTRASTING BACKGROUND.
2. WALL MOUNTED SIGN TEXT SHALL BE BETWEEN 5/8" - 2" HIGH, AND SHALL BE RAISED 1/32".
3. WALL MOUNTED SIGNS SHALL HAVE GRADE 2 BRAILLE.

05 TOILET ROOMS SIGNS
NOT TO SCALE

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- BID ONLY
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- CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

PROJECT NUMBER	:	25-006
SCALE	:	N.T.S=1'-0"
DRAWN BY	:	R.R
CHECKED BY:		A.B
SHEET TITLE	:	

ADA STANDARD DETAILS (2/2)

DRAWING NUMBER:
ADA-2

1013.3 ILLUMINATION. EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED.
EXCEPTION: TACTILE SIGNS REQUIRED BY SECTION 1013.4 NEED NOT BE PROVIDED WITH ILLUMINATION.
1013.4 RAISED CHARACTER AND BRAILLE EXIT SIGNS. A SIGN STATING EXIT IN VISUAL CHARACTERS, RAISED CHARACTERS AND BRAILLE AND COMPLYING WITH ICC A117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN AREA OF REFUGE, PROVIDING DIRECT ACCESS TO A STAIRWAY, AN EXTERIOR AREA FOR ASSISTED RESCUE, AN EXIT STAIRWAY OR RAMP, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE.

FIRE DEPARTMENT CONNECTION SIGN

EMERGENCY STOP SIGN

KNOX BOX (3200 SERIES)

EXIT LIGHT 10.4W, 120V, AC, 6V DC WITH 90 MINUTE BATERY - BACK-UP SURE-LITES, AUTOMATION SYSTEMS
EXIT SIGN COLOR TO BE GREEN

EMERGENCY EGRESS LIGHT FIXTURE WITH BATERY BACK-UP-SURELITE#UMB-1 INCANDESCENT LIGHT FIXTURE, 120/277V BALLAST, UNIVERSAL MOUNT, APPROVED FOR WET LOCATIONS, 2-8W INCANDESCENT SEALED BEAM LAMPS AND 90 MINUTE LEAD CALCIUM BATERY BACKUP,

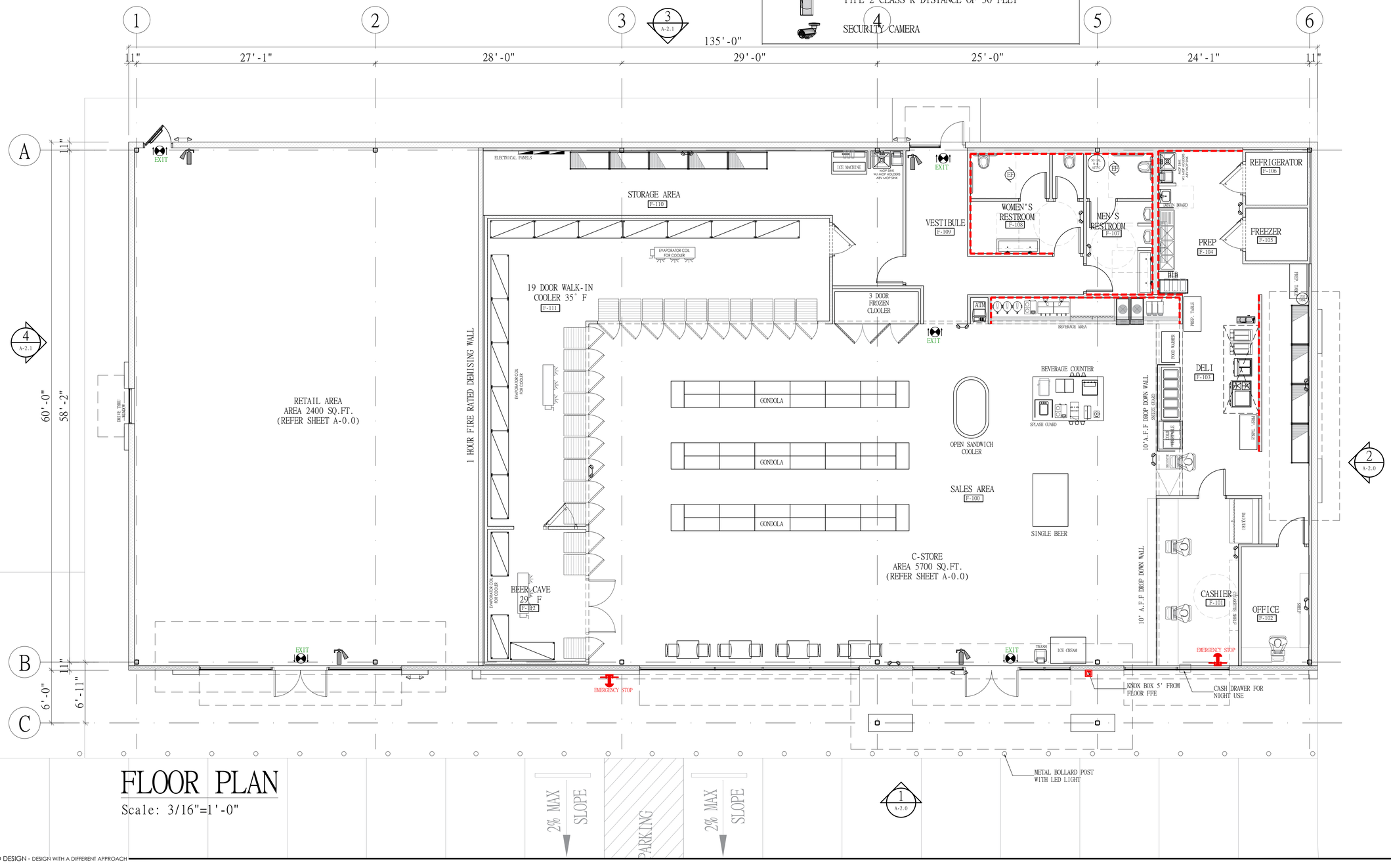
PORTABLE FIRE EXTINGUISHER TYPE 1 CLASS 2A-10BC DISTANCE OF 75 FEET

PORTABLE FIRE EXTINGUISHER TYPE 2 CLASS K DISTANCE OF 30 FEET

SECURITY CAMERA

WALL PARTITION NOTES

- PROP. 8" CMU WALL (EXTERIOR)
- PROP. 6" & 4" METAL STUD WALL (INSULATION)
- PROP. 6" & 4" INTERIOR WALL
- PROP. 6" METAL STUD WALL (TYPE-X)
- PROP. 4" METAL STUD WALL (INSULATION)



FLOOR PLAN

Scale: 3/16"=1'-0"

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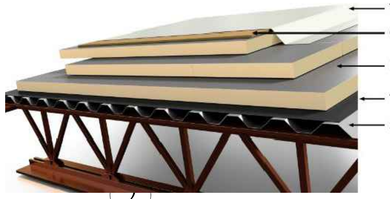
SCALE :	3/16"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

FLOOR PLAN

DRAWING NUMBER:

A-1.1

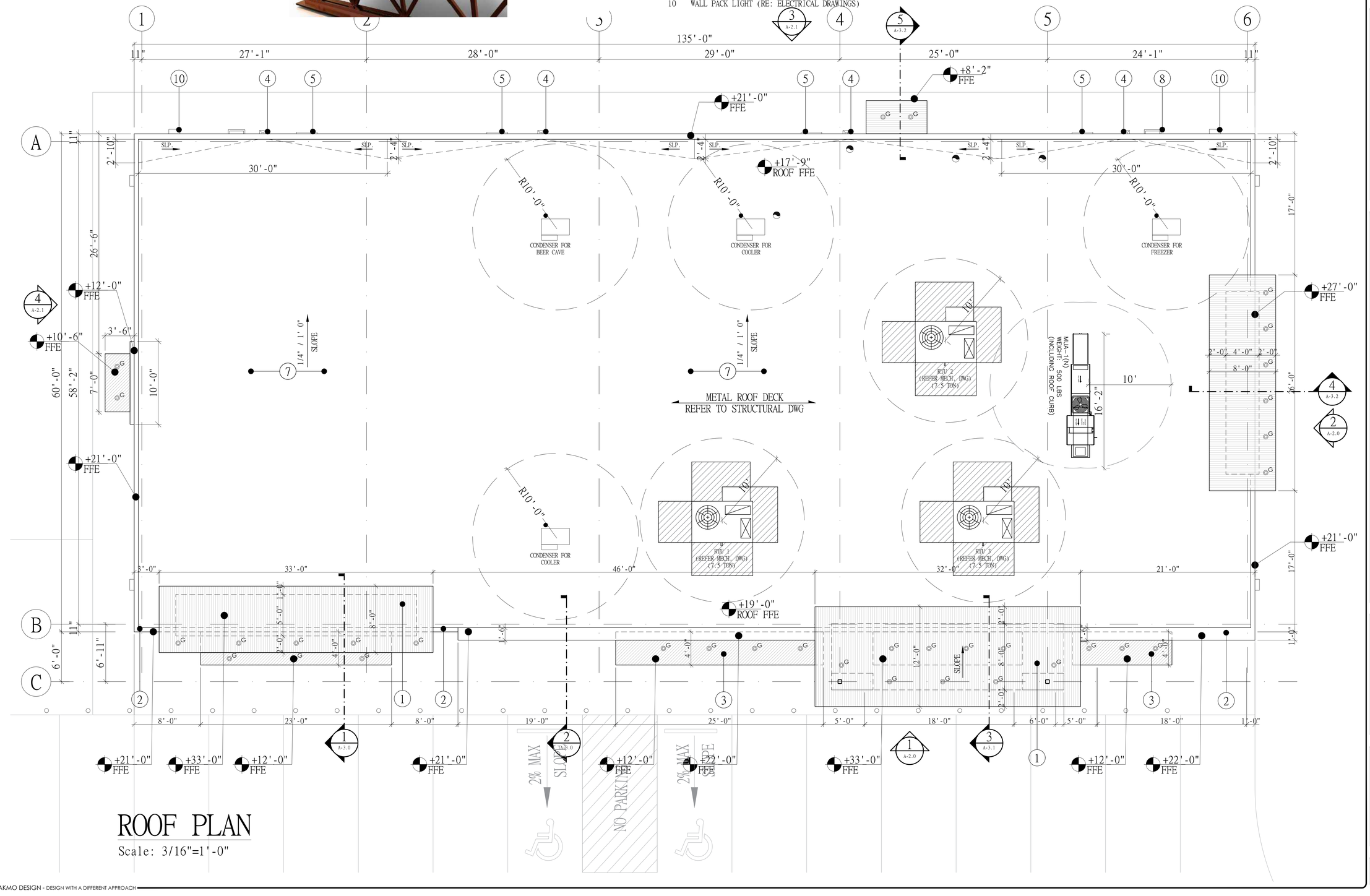


KEYED NOTES

1 PARAPET WALL WITH CONTINUOUS KYNAR 500 METAL COPING
2 PARAPET WALL WITH CONTINUOUS METAL COPING
3 ALUMINUM ENTRANCE CANOPY (BY APPROVED SUPPLIER)
4 PRE-FINISHED PRIMARY SCUPPER AND DOWNSPOUT (RE: PLUMBING DRAWING)
5 SECONDARY SCUPPER (RE: PLUMBING DRAWINGS)
6 ROOF HATCH ACCESS (NOT APPLICABLE)
7 FIRESTONE ULTRAPLY TPO XR 115 FULLY ADHERED ROOFING SYSTEM OVER 6" RIGID INSULATION AND COVER BOARD (R®28) OVER METAL DECKING
8 CAT LADDER
9 ROOF TOP MECHANICAL UNIT (RE: MECHANICAL DRAWINGS)
10 WALL PACK LIGHT (RE: ELECTRICAL DRAWINGS)

GENERAL NOTES

* ROOF COVERING CLASSIFICATION PROVIDED ® TYPE "C"
* ROOF ASSEMBLY MUST COMPLY WITH IBC 2021 SECTION 2603.4. 1.5.



ROOF PLAN

Scale: 3/16"=1'-0"

ISSUE FOR:

FOR INTER REVIEW ONLY	
BID ONLY	
PERMITS SET	
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

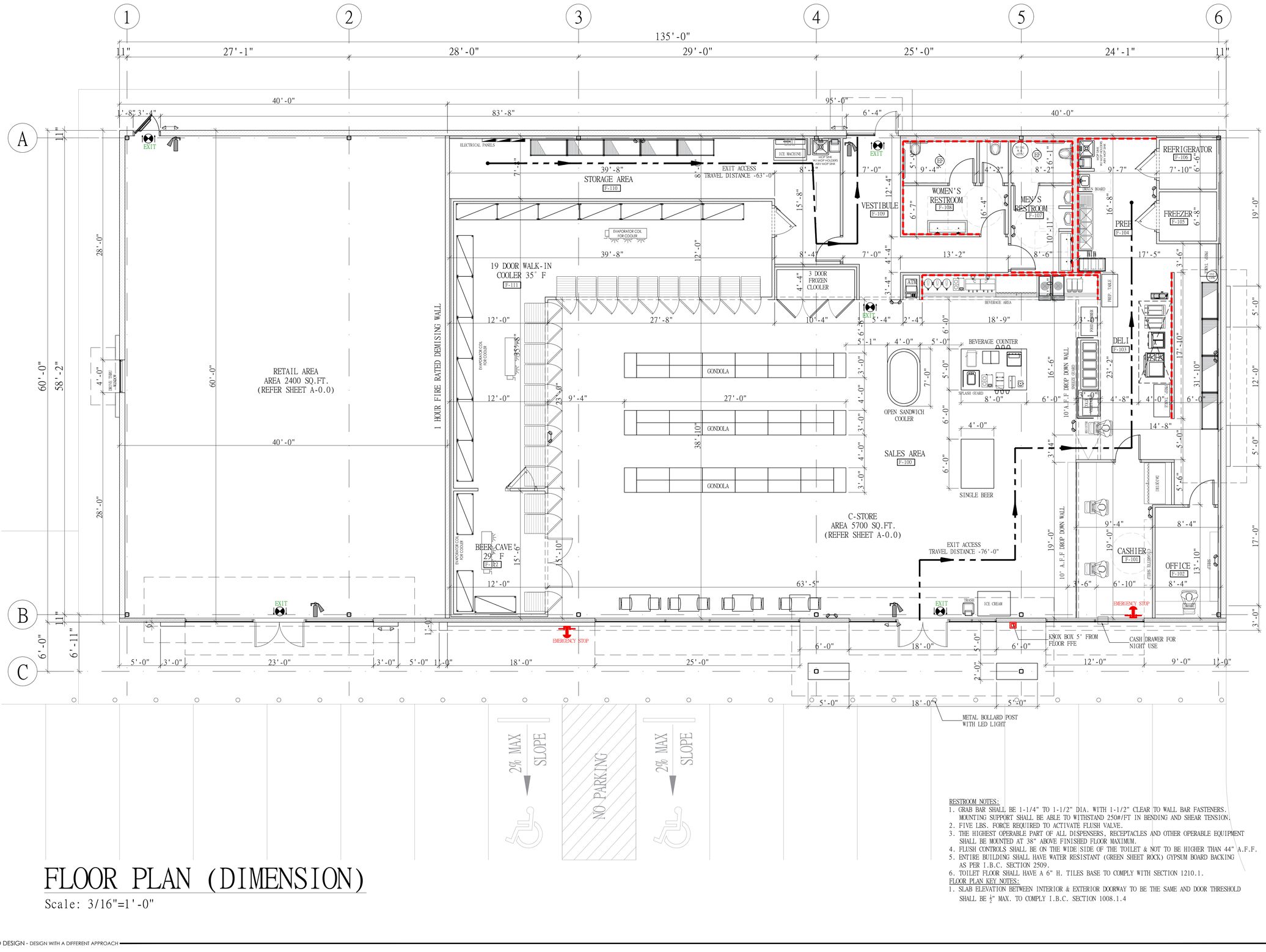
DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	3/16"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

ROOF PLAN

DRAWING NUMBER:

A-1.2



FLOOR PLAN (DIMENSION)

Scale: 3/16"=1'-0"

RESTROOM NOTES:

1. GRAB BAR SHALL BE 1-1/4" TO 1-1/2" DIA. WITH 1-1/2" CLEAR TO WALL BAR FASTENERS. MOUNTING SUPPORT SHALL BE ABLE TO WITHSTAND 250#/FT IN BENDING AND SHEAR TENSION.
2. FIVE LBS. FORCE REQUIRED TO ACTIVATE FLUSH VALVE.
3. THE HIGHEST OPERABLE PART OF ALL DISPENSERS, RECEPTACLES AND OTHER OPERABLE EQUIPMENT SHALL BE MOUNTED AT 38" ABOVE FINISHED FLOOR MAXIMUM.
4. FLUSH CONTROLS SHALL BE ON THE WIDE SIDE OF THE TOILET & NOT TO BE HIGHER THAN 44" A.F.F.
5. ENTIRE BUILDING SHALL HAVE WATER RESISTANT (GREEN SHEET ROCK) GYPSUM BOARD BACKING AS PER I.B.C. SECTION 2509.
6. TOILET FLOOR SHALL HAVE A 6" H. TILES BASE TO COMPLY WITH SECTION 1210.1.

FLOOR PLAN KEY NOTES:

1. SLAB ELEVATION BETWEEN INTERIOR & EXTERIOR DOORWAY TO BE THE SAME AND DOOR THRESHOLD SHALL BE ½" MAX. TO COMPLY I.B.C. SECTION 1008.1.4

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MAKMO DESIGN
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PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

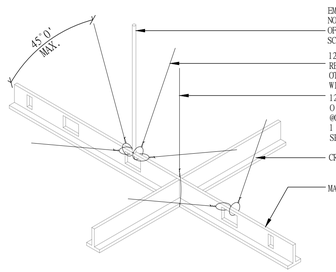
PROJECT NUMBER :	25-006
SCALE :	3/16"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

FLOOR PLAN (DIMENSION)

DRAWING NUMBER:

A-1.3

SYMBOL	DESCRIPTION
	TYPE A LUMINARIES. SEE LIGHT FIXTURE SCHEDULE IN E0.0
B	TYPE C LUMINARIES. SEE LIGHT FIXTURE SCHEDULE IN E0.0
C	TYPE G LUMINARIES. SEE LIGHT FIXTURE SCHEDULE IN E0.0
	TYPE D LUMINARIES. SEE LIGHT FIXTURE SCHEDULE IN E0.0
E	TYPE E LUMINARIES. SEE LIGHT FIXTURE SCHEDULE IN E0.0
G	TYPE G LUMINARIES. SEE LIGHT FIXTURE SCHEDULE IN E0.0
EXIT	EXIT LIGHT. SEE LIGHT FIXTURE SCHEDULE IN E0.0
	EMERGENCY EGRESS LIGHT. SEE LIGHT FIXTURE SCHEDULE IN E0.0



COMPRESSION STRUT SCHEDULE	
LENGTH	DIAMETER
UP TO 4'-0"	3/4"ø
5'-0"	1"ø
8'-0"	1-1/2"ø

NOTE:-

1. ALL HANGERS & SUPPORTS TO BE ATTACHED WITH 4 TURNS IN 1 1/2" (TYP.)
2. SUPPORT EACH LIGHT FIXTURE INDEPENDENTLY OF CEILING GRID WITH 1-#12 WIRE AT TWO CORNERS DIAGONALLY ACROSS FROM ONE ANOTHER.
3. ALL MAIN AND CROSS TEES, THEIR SPLICES AND INTERSECTING CONNECTIONS SHALL BE ADEQUATE TO RESIST 72 lbs. IN TENSION

1 SUSPENDED CEILING SUPPORT
Scale: 1/2"=1'-0"

CEILING TYPE

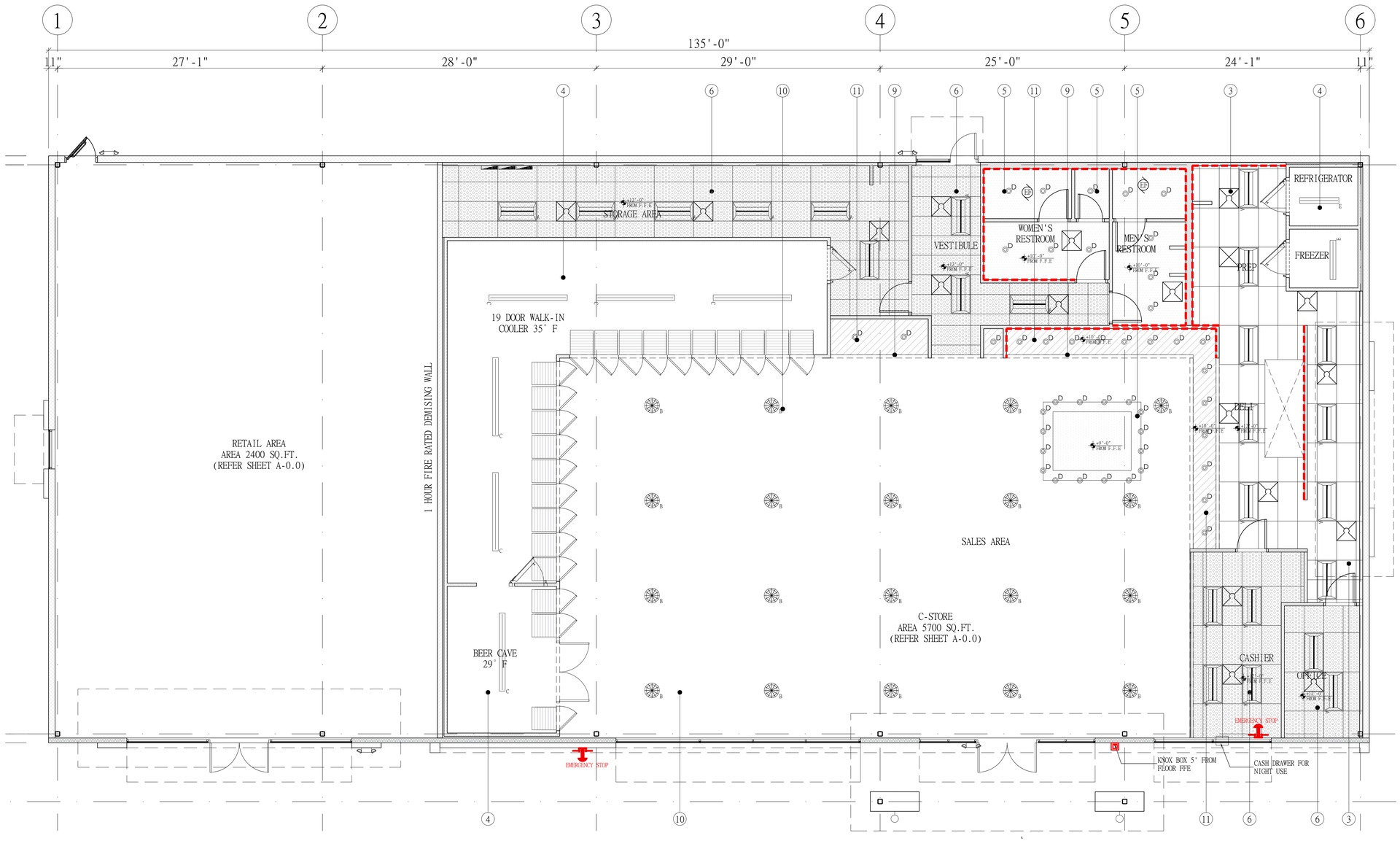
	ENAMEL PAINTED 5/8" SMOOTH FINISH WATER-RESISTANT GYPSUM BOARD
	24"x48"x1" VINYL-FACED CEILING TILE
	24"x48"x1" ACOUSTICAL LAY-IN CEILING TILE
	SMOOTH FINISH NON-ABSORBENT SHEET ROCK CEILING

KEYED NOTES

1 CEILING LIGHTING (RE: ELECTRICAL DRAWINGS)
2 ROOF EAVES (NOT APPLICABLE)
3 2'x4' VINYL FACED CEILING TILE - NON-ABSORBENT & EASILY CLEANABLE & LIGHT IN COLOR
4 COOLER CEILING BY COOLER MANUFACTURER
5 ENAMEL PAINTED SMOOTH GYPSUM BOARD (WATER-RESISTANT)
6 2'x4' ACOUSTIC CEILING TILE
7 ALUMINUM CANOPY TO BE PROVIDED BY CONTRACTOR, MUST BE CANTILEVERED (NO TIE BACKS WILL BE ACCEPTED)
8 ROOF HATCH ACCESS (NOT APPLICABLE)
9 FUR DOWN
10 CEILING OPEN TO STRUCTURE
11 SMOOTH FINISH NON-ABSORBENT SHEET ROCK CEILING

LEGEND:

SYMBOL	DESCRIPTION
	SUPPLY DIFFUSER - TYPE A SEE DIFFUSER SCHEDULE FOR MORE DETAILS
	RETURN DIFFUSER - TYPE B SEE DIFFUSER SCHEDULE FOR MORE DETAILS
EF	CEILING MOUNT DUCTED EXHAUST FAN SEE EXHAUST FAN SCHEDULE FOR MORE DETAILS
T	THERMOSTAT FOR RTU



REFLECTED CEILING PLAN
Scale: 3/16"=1'-0"

ISSUE FOR:
- FOR INTER REVIEW ONLY
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REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

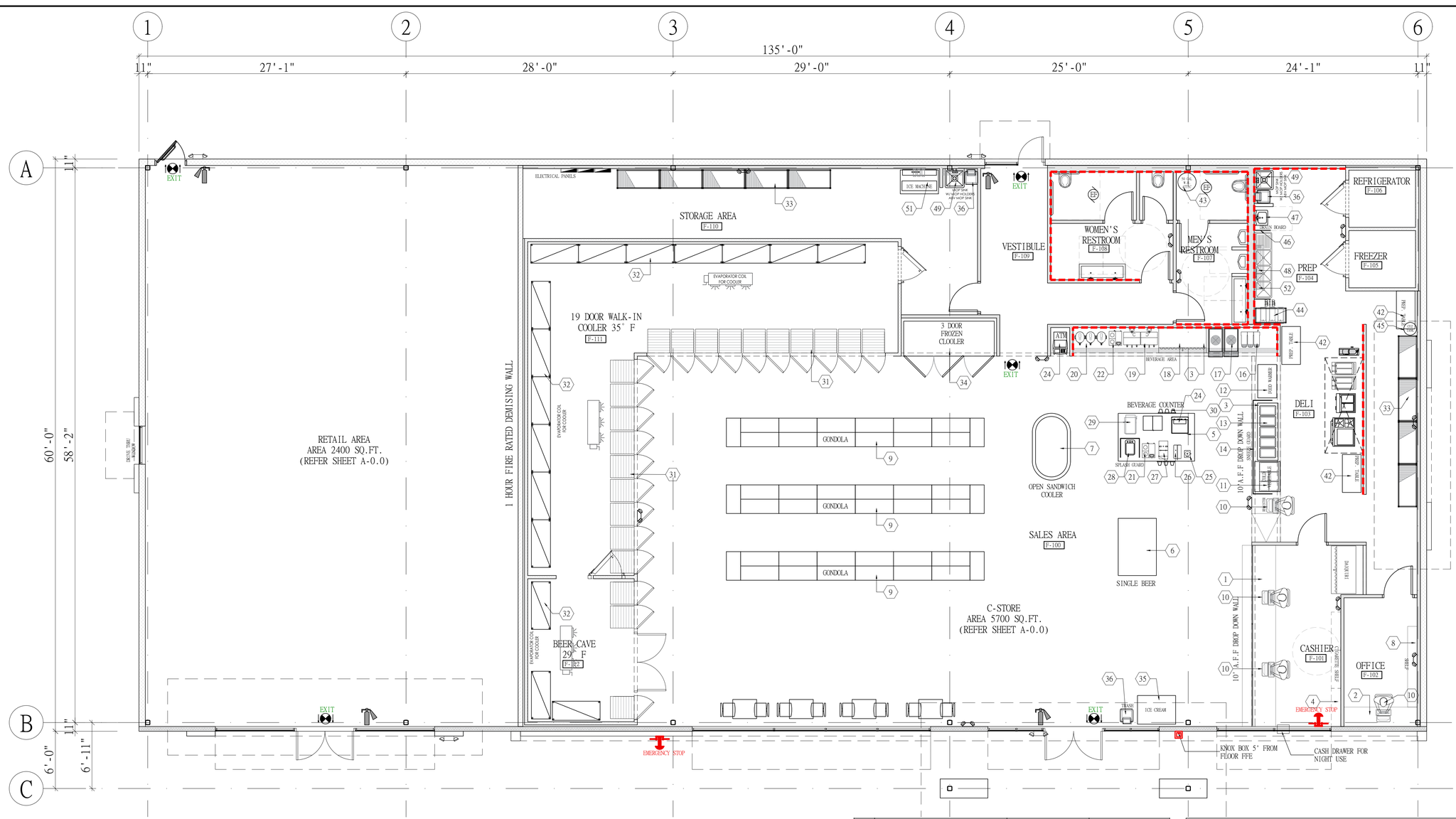
SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	3/16"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

REFLECTED CEILING PLAN

DRAWING NUMBER:
A-1.4



EQUIPMENT FLOOR PLAN

Scale: 3/16"=1'-0"

GENERAL NOTES

SYMBOL - (XX) EQUIPMENT NO.

1. IT IS THE RESPONSIBILITY OF THE G.C. TO COORDINATE DELIVERY, UNCRATING, POSITIONING, FINAL HOOK-UP AND REMOVAL OF TRASH OF ALL OWNER SUPPLIED EQUIPMENT.
2. ALL EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
3. DECOR ITEMS SUPPLIED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR.

FOOD SERVICE EQUIPMENT

GENERAL PROVISIONS

1. SCOPE:COORDINATE WITH THE INSTALLATION OF ALL EQUIPMENT ITEMS SHOWN ON PLANS AND SCHEDULED IN EQUIPMENT SCHEDULE (EXCEPT AS NOTED AS INSTALLED BY CONTRACTOR) WHICH ARE FURNISHED BY THE OWNER OR UNDER SEPARATE CONTRACT. EQUIPMENT SCHEDULE LISTS TRADES RESPONSIBLE FOR FURNISHING, INSTALLING AND FINAL CONNECTION.
2. DELIVERY AND STORAGE: RECEIVE, UNLOAD, AND SAFEGUARD THE EQUIPMENT. COORDINATE SHIPPING TIME WITH OWNER.
3. PROTECTION AND CLEANING: SURFACES SHALL BE CLEANED BEFORE FINAL INSPECTION.

NOTE:

1. IN THE EVENT THAT TENANT CHANGES EQUITMENT OTHER THAT WHAT IS HEREIN SPECIFIED, PLEASE CONTACT ARCHITECT FOR CHANGE.
2. GLASS SUBCONTRACTOR MUST VERIFY SNEEZE GUARD REQUIREMENTS WITH HEALTH DEPARTMENT.
3. THE OWNER WILL SUPPLY TABLES AND THE GENERAL CONTRACTOR SHALL ASSEMBLE THEM.
4. ALL EQUITMENT MUST BE NSF APPROVED.

NOTES:-
1. ALL BULK CO2 TANK SHALL BE PROVIDE WITH MONITOR AND NOTIFICATION DEVICE PER IFC 5303.16.10.
2. TYPE I HOOD AND EXTINGUISHING SYSTEM SHALL BE INSTALLED AT OR ABOVE ALL COMMERCIAL COOKING APPLIANCES AND DOMESTIC COOKING APPLIANCES THAT PRODUCE GREASE-LADEN VAPOR.

27	COFFEE MAKER	BUNN-O-MATIC	
28	BLENDER SINK	BY OWNER	
29	UNDER COUNTER MICROWAVE OVEN	AMANA COMMERCIAL	RMS10DS
30	UNDER COUNTER CUP / LID DISPENSER	SAN JAMAR	C8504WFD
31	WALK-IN-COOLER	US COOLER	WALK-IN-COOLER
32	4 TIER SHELVING	ADVANCE TABCO	ECC- 2448
33	4 TIER SHELVING	BY OWNER	
34	3 DOOR FROZEN REACH-IN-COOLER	US COOLER	WALK-IN-COOLER
35	ICE CREAM MERCHANDISER	AVANTCO	360ICFC13HC
36	TRASH CAN	BY OWNER	
37	10' KITCHEN EXHAUST HOOD	CAPTIVE AIRE	
38	GAS 6 BURNER STOVE, 150,000 BTU	ADVANTCO	177AGR636
39	S/S EQUIPMENT STAND, 36"x36"	ADVANCE TABCO	109AGMT363
40	GAS GRIDDLE W/OVEN, 95,000 BTU	IMPERIAL RANGE	IR-G36
41	GAS FRYER, 120,000 BTU	AMERICAN RANGE	AF-35/50
42	STAINLESS STEEL PRE. TABLE	ADCANCE TABCO	ELAG-244-X
43	ELECTRICAL WATER HEATER	RHEEM	
44	SODA BAG-IN-BOX	NOT APPLICABLE	
45	Co2 TANK	NOT APPLICABLE	
46	3 COMPARTMENT SINK 18"X18"X15" STAINLESS STEEL ROUND INNER CORNERS.	ADCANCE TABCO	FC-3-1620-18RL
47	HAND SINK STAINLESS STEEL ROUND INNER CORNERS.	ADCANCE TABCO	BOWL SIZE: 10"X14"
48	DRAIN BOARD	BY OWNER	
49	MOP SINK	SWAN	MS-2424
50	EMPLOYEES LOCKER	FURNITURE SUPPLIER CO.	
51	ICE MACHINE	ICE-O-MATIC	CIM2046R
52	WALL SHELF	INTER METRO	

NOTE: G.C SHALL VERIFY WITH OWNER FOR FINAL EQUIPMENTS BEFORE INSTALL FOR ALL M.E.P CONNECTION
ALL EQUIPMENT TO BE PROVIDE WITH THE PROVISION IBC SECTION 107.1 AND 107.2

EQUIPMENT SCHEDULE

ITEMS	EQUIPMENT DESCRIPTION	MANUFACTURE	MODEL NUMBER
1	CASHIER COUNTER	COUNTER SUPPLIER CO.	
2	OFFICE COUNTER	COUNTER SUPPLIER CO.	
3	DELI SERVICE COUNTER	COUNTER SUPPLIER CO.	
4	CIGARETTE SHELF	COUNTER SUPPLIER CO.	
5	BEVERAGE COUNTER	COUNTER SUPPLIER CO.	
6	BEER COUNTER	FURNITURE SUPPLIER CO.	
7	DISPLAY CASE COUNTER	FURNITURE SUPPLIER CO.	
8	SHELF	COUNTER SUPPLIER CO.	
9	GONDOLA	FURNITURE SUPPLIER CO.	
10	P.O.S.	BY OWNER	
11	COLD FOOD WELL	VOLLRATH	
12	HOT FOOD WELL	VOLLRATH	3640901
13	FOOD WARMER	VOLLRATH	
14	CAFETERIA FOOD SHIELD	VOLLRATH	C898628
15	MICROWAVE OVEN	AMANA COMMERCIAL	RMS10DS
16	3-FLAVOUR FROZEN BEVERAGE DISPENSER	NARVON	3788M263
17	SLUSH MACHINES	BUNN	
18	FOUNTAIN DRINK	LANCER	85-1481GN-12
19	CAPPUCCINO MACHINE	BUNN	34900.0000
20	TEA DISPENSER	BUNN	34100.0000
21	COFFEE DISPENSER	BUNN	34100.0000
22	COFFEE MACHINE	BUNN	34600.0000
23	ICEE MACHINE	BUNN	
24	ATM	TRITON	9100 ATM
25	BLENDER	BY OWNER	
26	COFFEE GRINDER	BUNN-O-MATIC	

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REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	3/16"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

EQUIPMENT FLOOR PLAN

DRAWING NUMBER:
A-1.5

FLOOR PLAN KEY NOTES: -

1. SLAB ELEVATION BETWEEN INTERIOR & EXTERIOR DOORWAY TO BE THE SAME AND DOOR THRESHOLD SHALL BE ½" MAX. TO COMPLY I.B.C. SEC. 1008.1.4

RESTROOM NOTES: -

1. GRAB BAR SHALL BE 1-1/4" TO 1-1/2" DIA. WITH 1-1/2" CLEAR TO WALL BAR FASTENERS. MOUNTING SUPPORT SHALL BE ABLE TO WITHSTAND 250#/FT IN BENDING AND SHEAR TENSION.
2. FIVE LBS. FORCE REQUIRED TO ACTIVATE FLUSH VALVE.
3. THE HIGHEST OPERABLE PART OF ALL DISPENSERS, RECEPTACLES AND OTHER OPERABLE EQUIPMENT SHALL BE MOUNTED AT 38" ABOVE FINISHED FLOOR MAXIMUM.
4. FLUSH CONTROLS SHALL BE ON THE WIDE SIDE OF THE TOILET & NOT TO BE HIGHER THAN 44" A.F.F.
5. DASHED LINE ▬ ▬ ▬ ▬ ▬ AS INDICATED ON PLAN TO BE WATER RESISTANT (GREEN SHEET ROCK) GYPSUM BOARD BACKING AS PER I.B.C. SECTION 2059.
6. TOILET FLOOR SHALL HAVE A 6" H. TILES BASE TO COMPLY WITH SEC. 1210.1.

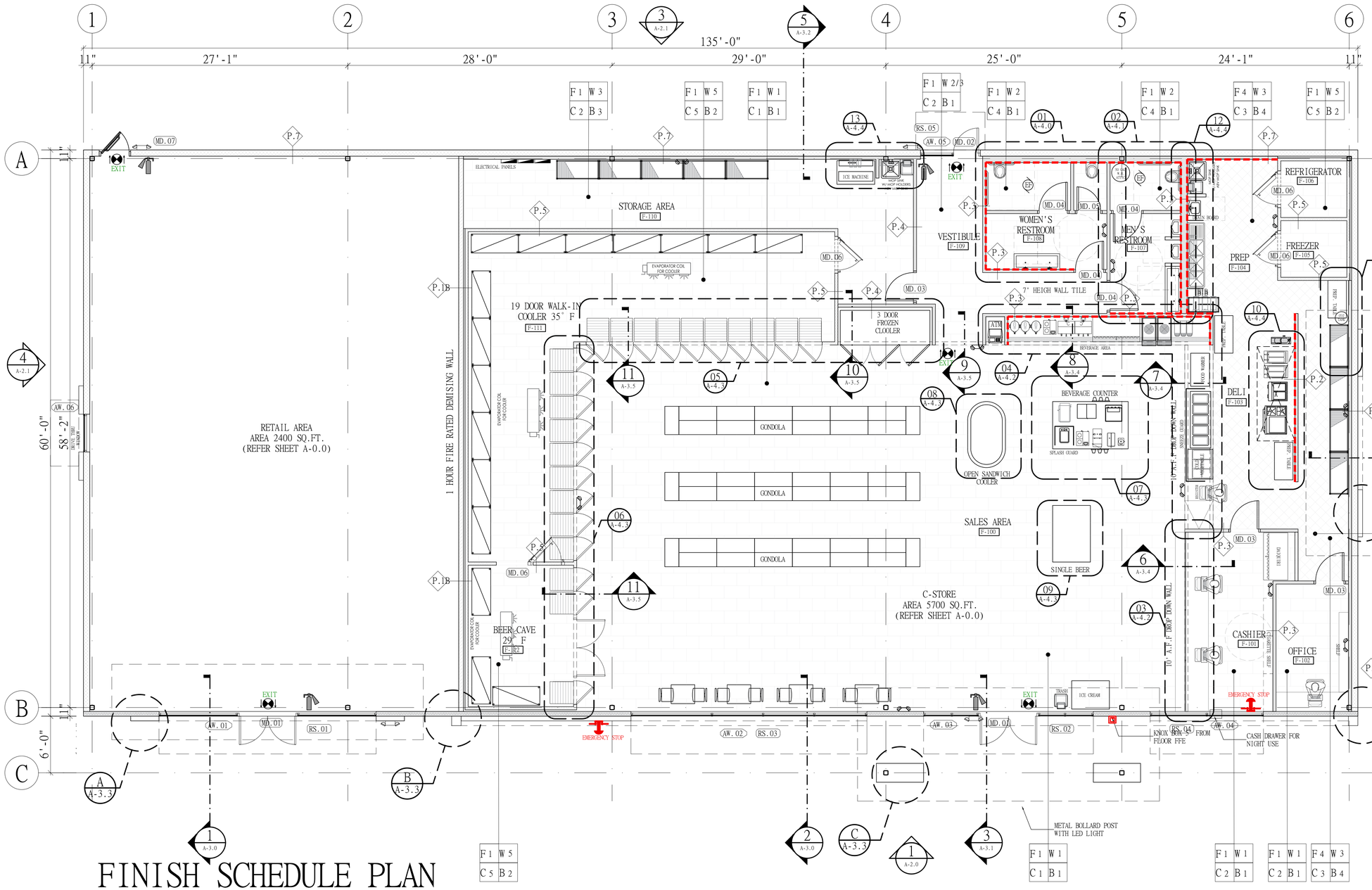
TABLE 803.11 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY			
NON-SPRINKLERED			
GROUP	INTERIOR EXIT STAIRWAYS, INTERIOR EXIT RAMPS & EXIT PASSAGE WAYS a,b	CORRIDORS & ENCLOSURE FOR EXIT ACCESS STAIRWAYS & EXIT ACCESS RAMPS	ROOMS & ENCLOSED SPACES c
M	A	B	C

804.4 INTERIOR FLOOR FINISH REQUIREMENTS.
Intrior floor covering material shall comply with Section 804.4.1 and 804.4.2 and interior floor finish material shall comply with Section 804.4.2

804.4.1 TEST REQUIREMENT
In all occupancies, interior floor covering materials shall comply with the requirements of the DOC FF-1 "pill test" (CPSC 16 CFR Part 1630) or with ASTMD 2859.

GENERAL NOTES

1 RESTROOM COUNTERTOPS SHALL BE QUARTZ MANU:SILTSTONE TILE 3/4" THICKNESS - COLOR: BY OWNER
2 BEVERAGE STATION AND CASHIER COUNTERTOPS TO BE QUARTZ MANU: SILTSTONE TILE 3/4" THICKNESS - COLOR: BY OWNER
3 ALL CABINETS TO BE LAMINATED WITH WILSONART - COLOR:BY OWNER
4 ALL TILE PATTERNS TBD



FINISH SCHEDULE PLAN

Scale: 3/16"=1'-0"

FINISHING REFERENCES:

FLOORS

F.1: CERAMIC TILE
F.2: SEALED CONCRETE
F.3: PREE -FINISHED COOLER CONSTRUCTION BY COOLER MANUFACTURER
F.4: QUARRY TILE FINISH
F.5: VINYL TILE FLOORING

WALLS

W.1: PAINTED SMOOTH FINISH 5/8" GYPSUM BOARD
W.2: PORCELAIN TILE (24" x12") OVER 5/8" WATER-RESISTANT GYPSUM BOARD.
W.3: WHITE FRP PANEL OVER 1/2" CDX PLYWOOD W/ 1/2" CEMENT BOARD TO 12" A.F.F.
W.3.1:STAINLESS STEEL METAL PANEL BEHIND DELI EQUIPMENT
W.4: WHITE LINEAR MOSAIC GLASS TILE (12" x 13") OVER 5/8" WATER-RESISTANT GYPSUM BOARD.
W.5: PRE-FINISHED COOLER CONSTRUCTION BY COOLER MANUFACTURER

CEILINGS

C.1: OPEN CEILING (PAINTED) - VERIFY W/ OWNER
C.2: 24" x 48 x 1" ACOUSTICAL LAY-IN CEILING TILE
C.3: 24" x 48" x 1" VINYL-FACED CEILING TILE
C.4: ENAMEL PAINTED 5/8" SMOOTH FINISH WATER-RESISTANT GYPSUM BOARD (SCREWED)
C.5: PRE-FINISHED COOLER CONSTRUCTION BY COOLER MANUFACTURER

BASE

B.1: CERAMIC TILE 6" x 8" COVE BASE
B.2: PRE-FINISHED COOLER CONSTRUCTION BY COOLER MANUFACTURER
B.3: 6" RUBBER BASE COVE
B.4: 6" QUARY TILE

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REVISIIONS:

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MAKMO DESIGN
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PH # 832-231-7047 TBPE FIRM. # 21236

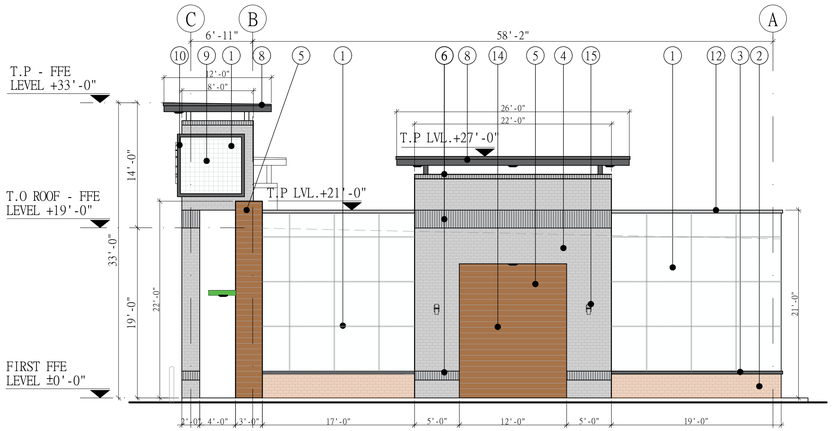
PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

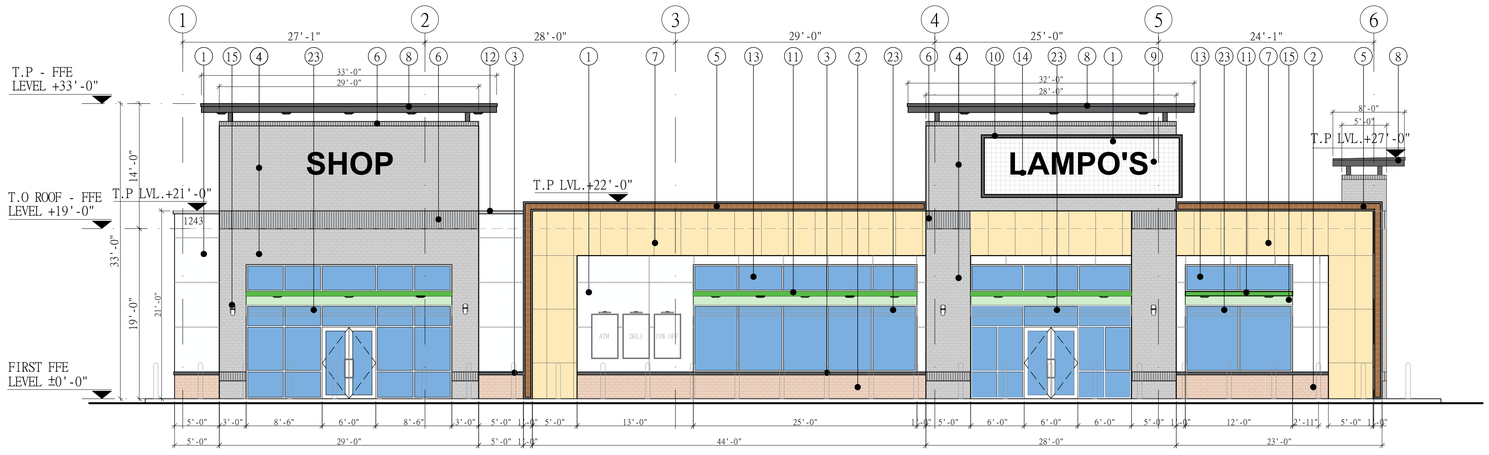
PROJECT NUMBER :	25-007
SCALE :	3/16"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	FINISH SCHEDULE PLAN

DRAWING NUMBER:
A-1.6



ELEVATION -2

Scale: 1/8"=1'0"



ELEVATION -1

Scale: 1/8"=1'0"

KEYED NOTES

1. 3/4" STUCCO FINISH OVER 5/8" DENSGLASS SHEATHING / 8" CMU BLOCK
2. THIN BRICK VENEER #1 OVER 5/8" DENSGLASS / METAL STUDS
3. STONE SILL
4. THIN BRICK VENEER #2 OVER 5/8" DENSGLASS SHEATHING
5. FIBER CEMENT PANEL (WOOD TEXTURE) OVER 5/8" DENSGLASS SHEATHING
6. ARCHITECTURAL BLOCK PANEL #1 PAINTED FINISH OVER 5/8" DENSGLASS SHEATHING
7. ARCHITECTURAL BLOCK PANEL #2 PAINTED FINISH OVER 5/8" DENSGLASS SHEATHING
8. FIBER CEMENT BOARD PAINTED FINISH WITH PRE FINISHED GALVANIZED METAL CAP FLASHING
9. METAL WIRE MESH / PERFORATED METAL PANEL
10. METAL FRAME
11. METAL ENTRANCE CANOPY (BY APPROVED SUPPLIER) COVERED WITH FIBER CEMENT BOARD
12. PARAPET WALL WITH 4" / 6" METAL CAP COPING
13. ALUMINUM STOREFRONT SYSTEM WITH 1" THICK INSULATING TEMPERED LOW-E GLASS (RE: WINDOW SCHEDULE)
14. EXTERIOR SIGN BY OWNERS
15. LED DROP LIGHT
16. 8" CMU SMOOTH PAINTED FINISH
17. EXTERIOR HOLLOW CORE METAL DOOR (RE: DOOR SCHEDULE)
18. DOWNSPOUT (RE: PLUMBING DRAWINGS)
19. SECONDARY SCUPPER (RE: PLUMBING DRAWINGS)
20. WALL PACK LIGHT (RE: ELECTRICAL DRAWINGS)
21. CAT LADDER
22. EMERGENCY EXIT LIGHT
23. METAL ROLLING SHUTTER

MATERIAL LEGEND

SYMBOL	DESCRIPTION	COLOR
	THIN BRICK VENEER	
	FIBER CEMENT PANEL (WOOD TEXTURE)	
	FIBER CEMENT BOARD #1	
	FIBER CEMENT BOARD #2	
	THIN BRICK VENEER	
	3/4" STUCCO BAND FINISH	
	CMU BLOCK	

IMPORTANT NOTES

A. "ANY SUBSTITUTION OF EXTERIOR MATERIALS MUST BE APPROVED BY THE CITY PRIOR TO INSTALLATION."

B. "SOLID DOORS, INCLUDING ANY OVERHEAD DOORS, SERVICE AND UTILITY BOXES, GUTTERS AND DOWNSPOUTS WILL BE PAINTED EITHER A COMPLEMENTARY TRIM OR ACCENT COLOR, OR THE SURROUNDING PREDOMINATE COLOR TO BLEND."

C. "ALL COPING WILL EITHER MATCH A COMPLEMENTARY TRIM OR ACCENT COLOR, OR MATCH THE SURROUNDING PREDOMINATE COLOR TO BLEND."

D. "ANY VENTILATION LOUVERS WILL BE UNIFORMLY PAINTED EITHER A COMPLEMENTARY TRIM OR ACCENT COLOR, OR MATCH THE SURROUNDING PREDOMINATE COLOR TO BLEND."

E. "ALL ROOF-TOP EQUIPMENT WILL BE SCREENED BY PARAPET WALLS. GROUND-MOUNTED EQUIPMENT WILL BE SCREENED BY MASONRY WALLS OR LANDSCAPING. ALL TRANSFORMERS WILL BE SCREENED BY MASONRY WALLS, AND ALL WALL-MOUNTED EQUIPMENT WILL BE PAINTED TO MATCH THE BUILDING."

F. "THE ZONING INSPECTOR WILL MAKE THE FINAL DETERMINATION DURING CONSTRUCTION AND PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY REGARDING COMPLIANCE WITH MECHANICAL EQUIPMENT SCREENING STANDARDS."

DESIGN CRITERIA:

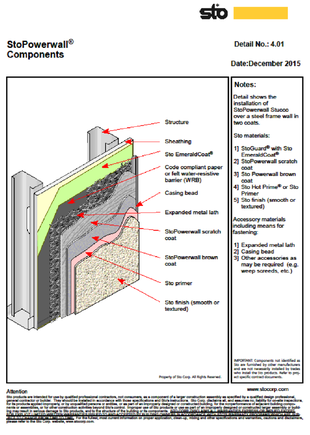
1. THE BUILDING CODE USED FOR THE BASIS ON TABLE 1604.5, 1607.1, 2021 INTERNATIONAL CODES WITH CITY OF BRYAN AMENDMENTS
2. STRUCTURAL DESIGN CRITERIA:
   A. GRAVITY LOAD
   1. DESIGN LOADS

ROOF -	LIVE LOAD	----------	20 PSF
	DEAD LOAD	----------	SELF WT. OF
STRUCTURAL ELEMENTS			
FLOOR -	LIVE/DEAD	----------	100 PSF/ 20 PSF

   B. WIND LATERAL

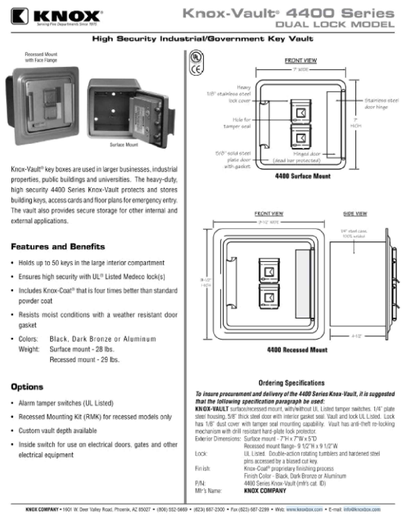
1. WIND LOAD CRITERIA (AS PER ASCE 7)
ULTIMATE DESIGN WIND SPEED, V(ult)= 140 MPH
RISK CATEGORY - II
IMPORTANCE FACTOR - 1.0
EXPOSURE CLASSIFICATION - B

AWNINGS AND CANOPIES ARE DESIGNED FOR A MINIMUM UNIFORM LIVE LOAD OF 20 PSF AS PER TABLE 1607.1 AS WELL AS FOR THE REQUIRED ULTIMATE DESIGN WIND SPEED, V(ULT).



STUCCO DETAIL

Scale: N.T.S.



KNOX BOX DETAIL

Scale: N.T.S.

ISSUE FOR:
- FOR INTER REVIEW ONLY
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- PERMITS SET
- CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

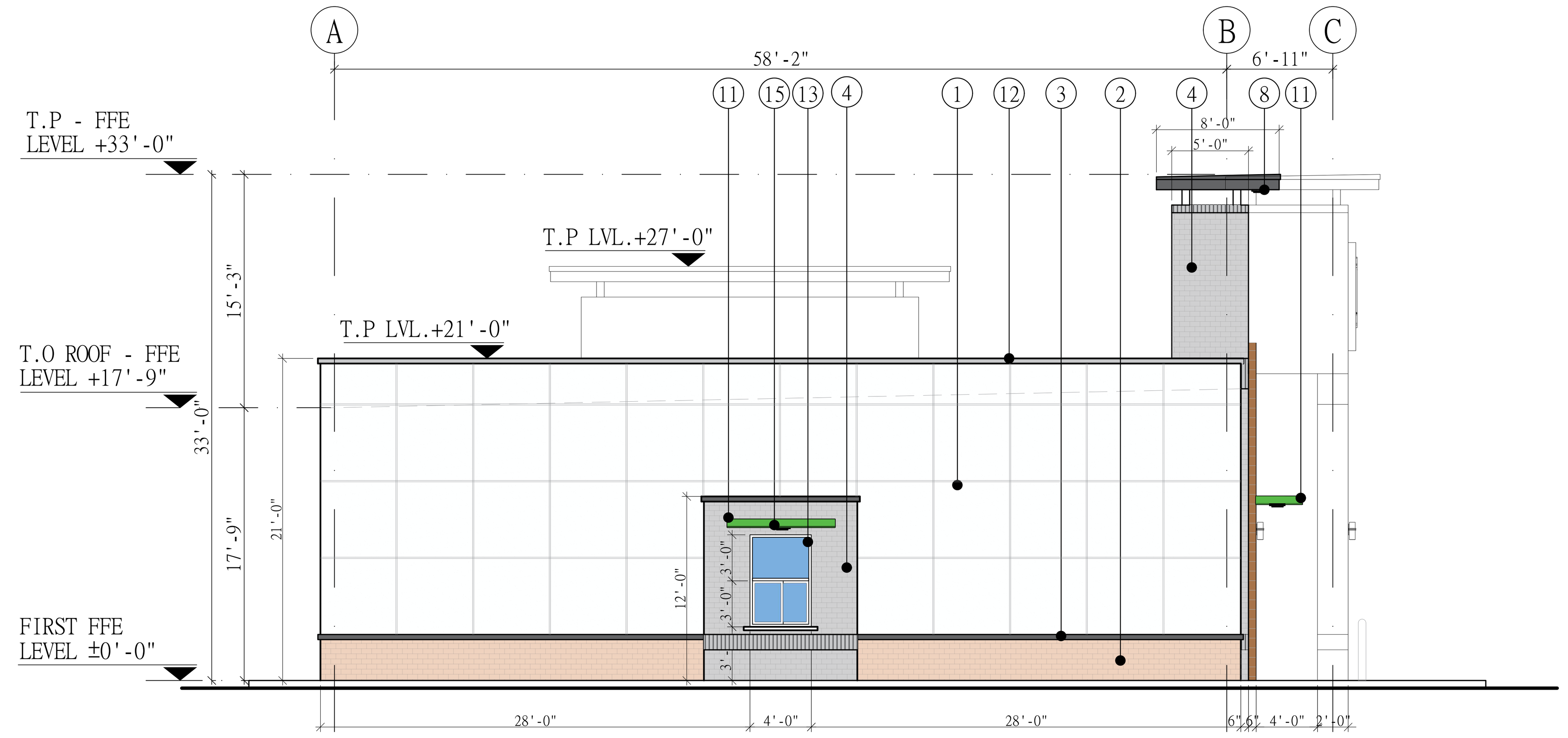
SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25006-0
SCALE :	
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

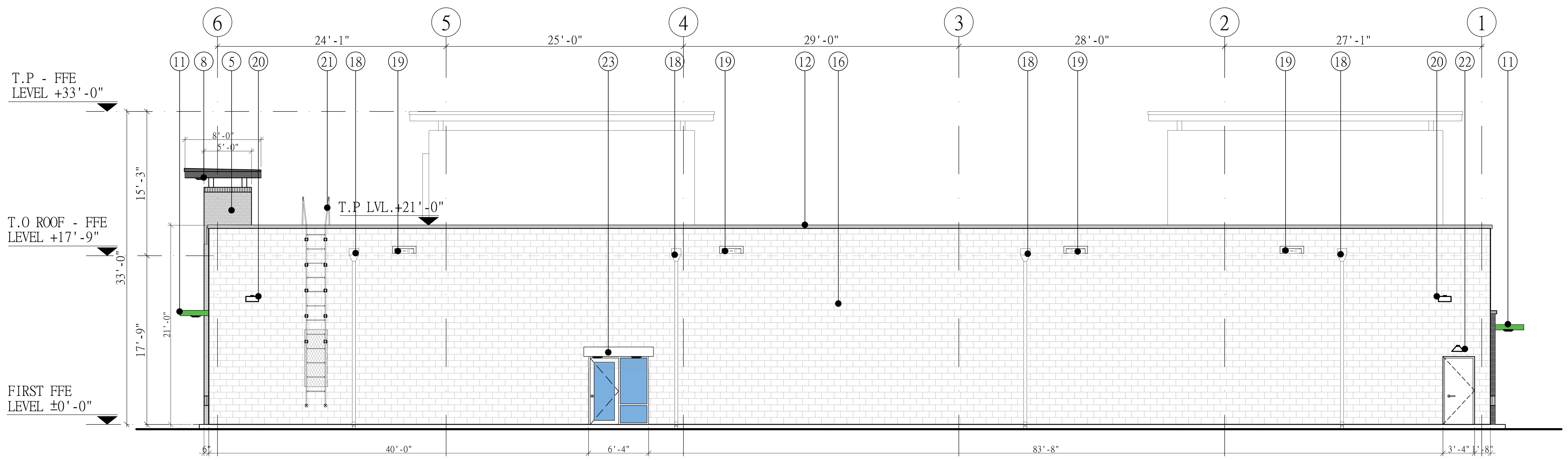
ELEVATION 1 & 2

DRAWING NUMBER:
A-2.0



ELEVATION -4

Scale: 1/8"=1'0"



ELEVATION -3

Scale: 1/8"=1'0"

KEYED NOTES

1. 3/4" STUCCO FINISH OVER 5/8" DENSGLASS SHEATHING / 8" CMU BLOCK
2. THIN BRICK VENEER #1 OVER 5/8" DENSGLASS / METAL STUDS
3. STONE SILL
4. THIN BRICK VENEER #2 OVER 5/8" DENSGLASS SHEATHING
5. FIBER CEMENT PANEL (WOOD TEXTURE) OVER 5/8" DENSGLASS SHEATHING
6. ARCHITECTURAL BLOCK PANEL #1 PAINTED FINISH OVER 5/8" DENSGLASS SHEATHING
7. ARCHITECTURAL BLOCK PANEL #2 PAINTED FINISH OVER 5/8" DENSGLASS SHEATHING
8. FIBER CEMENT BOARD PAINTED FINISH WITH PRE FINISHED GALVANIZED METAL CAP FLASHING
9. METAL WIRE MESH / PERFORATED METAL PANEL
10. METAL FRAME
11. METAL ENTRANCE CANOPY (BY APPROVED SUPPLIER) COVERED WITH FIBER CEMENT BOARD
12. PARAPET WALL WITH 4" / 6" METAL CAP COPING
13. ALUMINUM STOREFRONT SYSTEM WITH 1" THICK INSULATING TEMPERED LOW-E GLASS (RE: WINDOW SCHEDULE)
14. EXTERIOR SIGN BY OWNERS
15. LED DROP LIGHT
16. 8" CMU SMOOTH PAINTED FINISH
17. EXTERIOR HOLLOW CORE METAL DOOR (RE: DOOR SCHEDULE)
18. DOWNSPOUT (RE: PLUMBING DRAWINGS)
19. SECONDARY SCUPPER (RE: PLUMBING DRAWINGS)
20. WALL PACK LIGHT (RE: ELECTRICAL DRAWINGS)
21. CAT LADDER
22. EMERGENCY EXIT LIGHT
23. METAL ROLLING SHUTTER

MATERIAL LEGEND

SYMBOL	DESCRIPTION	COLOR
	THIN BRICK VENEER	
	FIBER CEMENT PANEL (WOOD TEXTURE)	
	FIBER CEMENT BOARD #1	
	FIBER CEMENT BOARD #2	
	THIN BRICK VENEER	
	3/4" STUCCO BAND FINISH	
	CMU BLOCK	

LIGHT GAUGE METAL FRAMING NOTES:

1. ALL STUDS AND / OR JOIST AND ACCESSORIES SHALL BE OF THE TYPE, SIZE, GAUGE AND SPACING SHOWN ON THE DRAWINGS.
2. ALL STRUCTURAL MEMBERS AND CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.
3. ALL STUDS,RUNNERS, JOISTS AND TRUSSES SHELL BE FORMED FROM GALVANIZED STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A446, WITH A MINIMUM YIELD STRENGTH OF 50 KSI FOR .097, .068, .054 THICK MEMBERS AND 33 KSI FOR .043 AND .033 THICK MEMBERS AND FLAT STRAP BRACING.
4. PRIOR TO FABRICATION THE CONTRACTOR SHALL SUBMIT ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
5. PREFABRICATED PANELS SHALL BE SQUARE, WITH COMPONENTS ATTACHED IN A MANNER AS TO PREVENT RACKING. HANDLING AND LIFTING SHALL BE DONE IN A MANNER SO AS NOT CAUSE DISTORTION IN ANY MANNER
6. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR, AS REQUIRED, FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS.
7. AXIALLY LOADED STUDS SHALL BE INSTALLED IN A MANNER WHICH WILL ASSURE THAT THEIR ENDS ARE POSITIONED AGAINST THE INSIDE OF TRACK WEB PRIOR TO FASTENING.
8. FASTENING OF COMPONENTS SHALL BE WITH SELF - DRILLING SCREWS OR WELDS. SCREW OR WELDS SHALL BE OF SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE CONNECTION. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED.ALL WELDS SHALL BE TOUCHED - UP WITH A ZINC - RICH PAINT.
9. RUNNER SHALL BE SECURELY ANCHORED TO THE SUPPORTING STRUCTURE. PROPOSED CONNECTION TO BE SUBMITTED FOR APPROVAL.
10. ABUTTING LENGTHS OF TRACK SHALL EACH BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, BUTT - WELDED, OR SPLICED.
11. STUDS SHALL BE PLUMB, ALIGNED AND SECURELY ATTACHED TO FLANGES OF BOTH UPPER AND LOWER TRACKS.
12. JACK STUDS OR CRIPPLES SHALL BE INSTALLED BELOW WINDOW SILLS, ABOVE WINDOW AND DOOR HEADERS, AND WHERE NEEDED TO FURNISH SUPPORT, AND SHALL BE SECURELY ATTACHED TO CONNECTING MEMBERS.
13. RESISTANCE TO MINOR AXIS BENDING AND ROTATION SHALL BE PROVIDED BY GYPSUM BOARD OR GYPSUM SHEATHING AND BY HORIZONTAL STRAP AND BLOCKING OR COLD - ROLLED CHANNEL BRACING AT THIRD POINTS.
14. SPLICES IN AXIALLY LOADED STUDS SHALL NOT BE PERMITTED.
15. PROVIDE A MINIMUM OF (3) #12 SCREWS FOR ALL STUD CONNECTIONS.
16. BRIDGING SHALL BE INSTALLED IMMEDIATELY AFTER JOISTS ARE ERECTED AND BEFORE CONSTRUCTION LOADS ARE APPLIED TO PREVENT FLANGE ROTATION AND TO SUPPORT FLANGES IN COMPRESSION.BRIDGING SHALL CONSIST OF SOLID BLOCKING PLUS STRAP BRACING OR 1 1/2 " COLD - ROLLED CHANNELS SCREW - ATTACHED OR WELDED TO BOTTOM JOIST FLANGES. BRIDGING SHALL BE INSTALLED AT MID SPAN FOR SPAN 16'-0" OR LESS AND AT 8' - 0" O.C. MAX. FOR SPANS GREATER THAN 16'-0" U.N.O SOLID BLOCKING, OF FIELD - CUT TRACK OR JOIST SECTION, SHALL BE PROVIDED, WELDED OR SCREW - ATTACHED BETWEEN OUTER JOISTS, OVER ALL INTERIOR SUPPORTS AND ADJACENT TO OPENING AT 10' - 0" O.C. MAX. COLD - ROLLED CHANNELS OR STRAP BRACING OF 1 1/2 " X 33 MIL (0.033") CORROSION - RESISTANT STEEL SHALL BE SCREW - ATTACHED TO BOTTOM JOIST FLANGE BETWEEN SOLID BLOCKING. REFERENCE MANUFACTURER INSTALLATION INSTRUCTIONS.

STUCCO COMPOSITION NOTES:

SECTION 2512: EXTERIOR PLASTER:

2512.1 GENERAL.

Plastering with cement plaster shall not be less than three coats where applied over metal lath or wire fabric lath and shall not be less than two coats where applied over masonry, concrete or gypsum board backing as specified in Section 2510.5. If the plaster surface is to be completely covered by veneer or other facing material, or is completely concealed by another wall, plaster application need be only two coats, provided the total thickness is as set forth in ASTM C 926.

2512.1.1 ON-GRADE FLOOR SLAB.

On wood-framed or steel stud construction with an on-grade concrete floor slab sys- tem, exterior plaster shall be applied in such a manner as to cover, but not to extend below, the lath and paper. The application of lath, paper, and flashing or drip screeds shall comply with ASTM C 1063.

2512.1.2 WEEP SCREEDS.

A minimum 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed with a minimum vertical attachment flange of 3-1/2 inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inch- es (51 mm) above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attach- ment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

2512.2 PLASTICITY AGENTS.

Only approved plasticity agents and approved amounts thereof shall be added to Portland cement. When plastic cement or masonry cement is used, no additional lime or plasticizers shall be added. Hydrated lime or the equivalent amount of lime putty used as a plasticizers is permitted to be added to cement plaster or cement and lime plaster in an amount not to exceed that set forth in two coats, provided the total thickness is as set forth in ASTM C 926.

2512.3 LIMITATIONS.

Gypsum plaster shall not be used on exterior surfaces.

2512.4 CEMENT PLASTER.

Plaster coats shall be protected from freezing for a period of not less than 24 hours after set has occurred. Plaster shall be applied when the ambient temperature is higher than 40°F (4°C), unless provisions are made to keep cement plaster work above 40°F (4°C) during application and 48 hours thereafter.

2512.5 SECOND COAT APPLICATION.

The second coat shall be brought out to proper thickness, rodded and floated suffi- ciently rough to provide adequate bond for the finish coat. The second coat shall have no variation greater than 1/4 inch (6.4 mm) in any direction under a 5-foot (1524 mm) straight edge.

2512.6 CURING AND INTERVAL

First and second coats of cement plaster shall be applied and moist cured as set forth in ASTM C 926 and Table 2512.6.

TABLE 2512.6 CEMENT PLASTERS [a]

COAT	MINIMUM PERIOD MOIST CURING	MINIMUM INTERVAL BETWEEN COATS
FIRST	48 HOURS [a]	48 HOURS [b]
SECOND	48 HOURS	7 DAYS [c]
FINISH	—	NOTE C

a. The first two coats shall be as required for the first coats of exterior plaster, except that the moist-curing time period between the first and second coats shall not be less than 24 hours. Moist curing shall not be required where job and weather conditions are favorable to the retention of moisture in the cement plaster for the required time period.

b. Twenty-four-hour minimum interval between coats of interior cement plaster. For alternate method of application, see Section 2512.8.

c. Finish coat plaster is permitted to be applied to interior Portland cement base coats after a 48-hour period.

2512.7 APPLICATION TO SOLID BACKINGS

Where applied over gypsum backing as specified in Section 2510.5 or directly to unit masonry surfaces, the second coat is permitted to be applied as soon as the first coat has attained sufficient hard- ness.

2512.8 ALTERNATE METHOD OF APPLICATION.

The second coat is permitted to be applied as soon as the first coat has attained sufficiently rigidity to receive the second coat.

2512.8.1 ADMIXTURES.

When using this method of application, calcium aluminate cement up to 15 percent of the weight of the Portland cement is permitted to be added to THE MIX.

2512.8.2 CURING.

Curing of the first coat is permitted to be omitted and the second coat shall be cured as set forth in ASTM C 926 and Table 2512.6.

2512.9 FINISH COATS

Cement plaster finish coats shall be applied over base coats that have been in place for the time periods set forth in ASTM C 926. The third or finish coat shall be applied with sufficient material and pressure to bond and to cover the brown coat and shall be of sufficient thick- ness to conceal the brown coat.

These notes were obtained from 2021 IBC.

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REVISIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	1/8"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

ELEVATION 3 & 4

DRAWING NUMBER: **A-2.1**

DESIGN CRITERIA:

1. THE BUILDING CODE USED FOR THE BASIS ON TABLE 1604.5, 1607.1 WITH AMENDED 2021 IBC.

2. STRUCTURAL DESIGN CRITERIA:
   A. GRAVITY LOAD
   1. DESIGN LOADS
ROOF - LIVE LOAD ----------20 PSF
DEAD LOAD ----------SELF WT. OF STRUCTURAL ELEMENTS
FLOOR - LIVE/DEAD ----------100 PSF/ 20 PSF

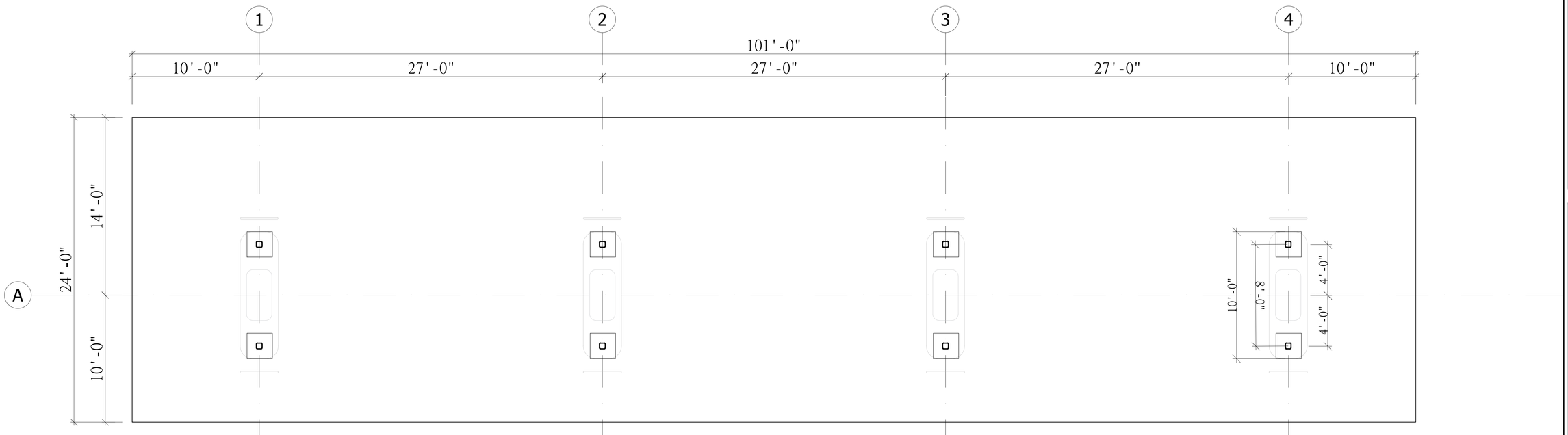
   B. WIND LATERAL
1. WIND LOAD CRITERIA (AS PER ASCE 7)
ULTIMATE DESIGN WIND SPEED, V(ult)= 150 MPH
RISK CATEGORY - II
IMPORTANCE FACTOR - 1.0
EXPOSURE CLASSIFICATION - B

SIGNAGE

- ALL CANOPY SIGNAGE TO BE PERMITTED SEPARATELY

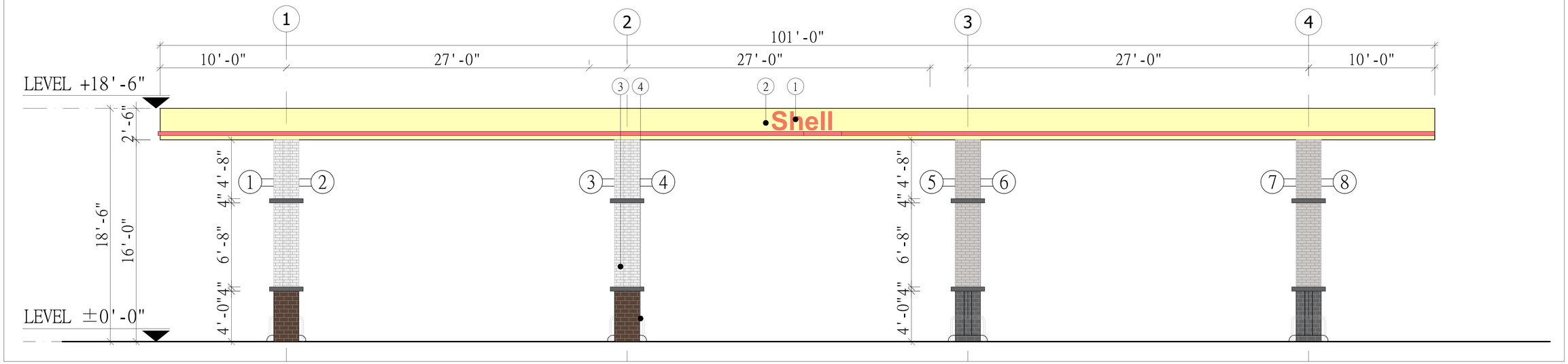
KEY NOTES

1. GAS BRAND NAME- TO BE PERMITTED SEPRATEDELY
2. CANOPY WITH METAL FASCIAL FINISH
3. FUEL DISPENSOR
4. METAL BARRIER



4 MPDs GAS CANOPY PLAN

Scale: 1/4"=1'0"



GAS CANOPY ELEVATION

Scale: 1/4"=1'0"

MAKMO DESIGN
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PH # 832-231-7047 TBPE FIRM # 21236

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LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

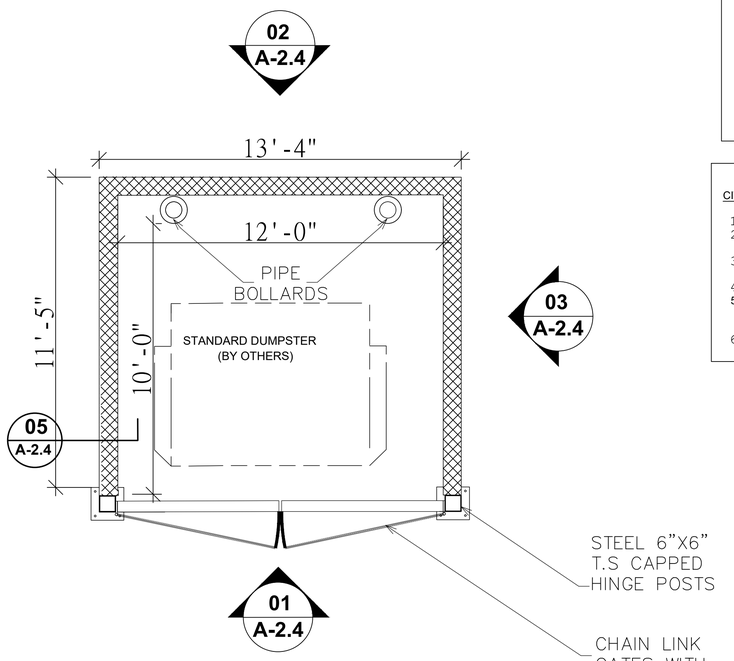
DATE: 05/16/2025

PROJECT NUMBER :	25006
SCALE :	
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

GAS CANOPY PLAN & ELEVATION

DRAWING NUMBER:

A-2.2



DUMPSTER ENCLOSURE PLAN

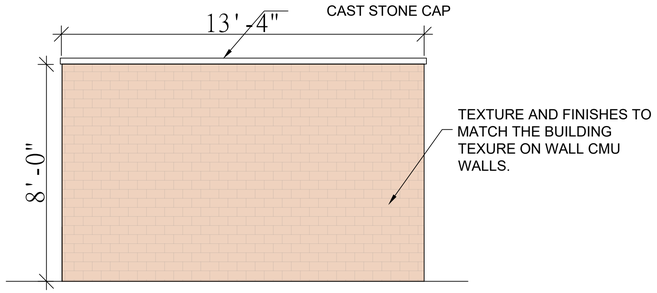
SCALE: 1/4" = 1'-0"

NOTES:

1. INSTALL GATE TO SWING CLEAR OF PAVEMENT.
2. PROVIDE BOLTS TO SECURE GATES IN FULL OPEN OR CLOSED POSITION.
3. SEAL AND PAINT TO MATCH BUILDING.
4. ENCLOSURE HEIGHT: MIN 6' , MAX 8'.
5. MATERIALS MUST BE COMPATIBLE WITH PRINCIPAL BUILDING.
6. DUMPSTER TO REMAIN FULLY SCREENED FROM PUBLIC VIEW.
7. ENCLOSURE MUST BE MAINTAINED IN CLEAN, SECURE CONDITION.

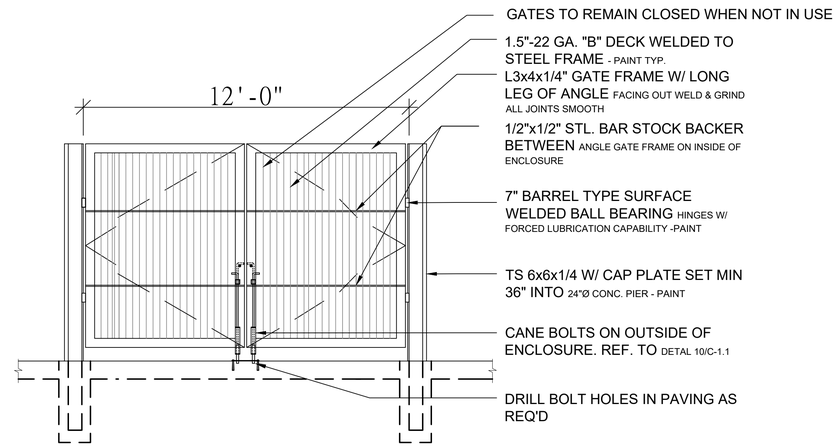
CITY OF BRYAN DUMPSTER ENCLOSURE CONSTRUCTION & MAINTENANCE REQUIREMENTS

1. BEFORE ENCLOSURE CONSTRUCTION/MODIFICATION BEGINS CONTACT SOLID WASTE, AT (979)209-5900 FOR AN ON-SITE REVIEW.
2. IF ANY CHANGES ARE MADE TO THE ENCLOSURE PLAN DURING THE CONSTRUCTION PHASE PLEASE CONTACT SOLID WASTE TO REVIEW MODIFICATIONS.
3. DUMPSTER CONTAINMENT AREAS SHALL USE 8" CONCRETE, REINFORCED WITH #5 BARS AT 12" OCEW AND THE PAD SHALL EXTEND AN ADDITIONAL 10' IN FRONT OF THE CONTAINMENT AREA.
4. THE DUMPSTER CONTAINMENT AREA SHALL BE SURROUNDED ON THREE SIDES WITH A SCREEN CONSTRUCTED TO A HEIGHT OF SIX FEET.
5. BAN ALL-WEATHER ACCESS ROUTE (I.E. PARKING LOTS, LOADING DOCKS, PRIVATE ROADS, ALLEYS, ETC.) CAPABLE OF SUPPORTING THE CONTAINER AND THE COLLECTION TRUCK MUST BE CONSTRUCTED AND WILL BE MAINTAINED AND REPAIRED AT THE BUSINESS OWNER'S EXPENSE.
6. THE PAD, SCREENING AND DOORS WILL BE CONSTRUCTED AND MAINTAINED AT THE PROPERTY OWNER'S EXPENSE



02 ENCLOSURE ELEVATION

SCALE: 1/4" = 1'-0"



01 DUMPSTER ENCLOSURE ELEVATION

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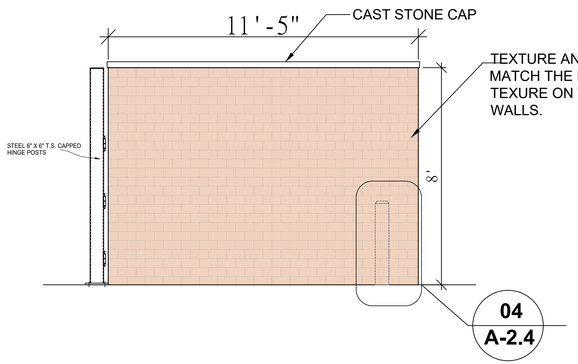

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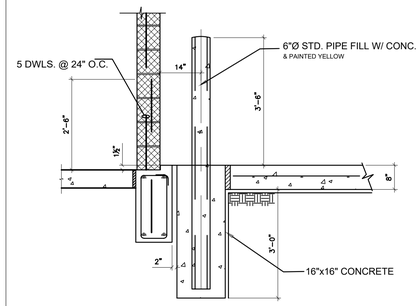

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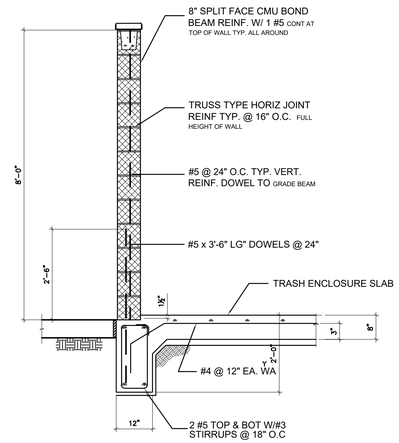

05 SECTION : DUMPSTER WALLS

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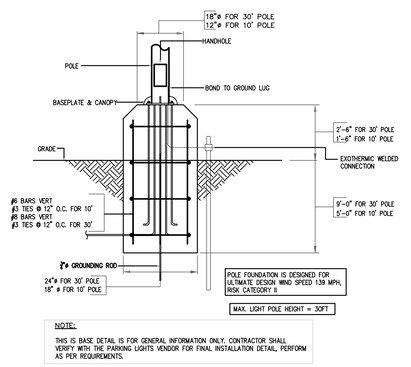

06 DETAIL : LIGHT POLE FOUNDATION SECTION

SCALE: 1/4" = 1'-0"

DUMPSTER DETAIL

Scale: 1/4"=1'0"

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REVISIIONS:

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MAKMO DESIGN
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PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

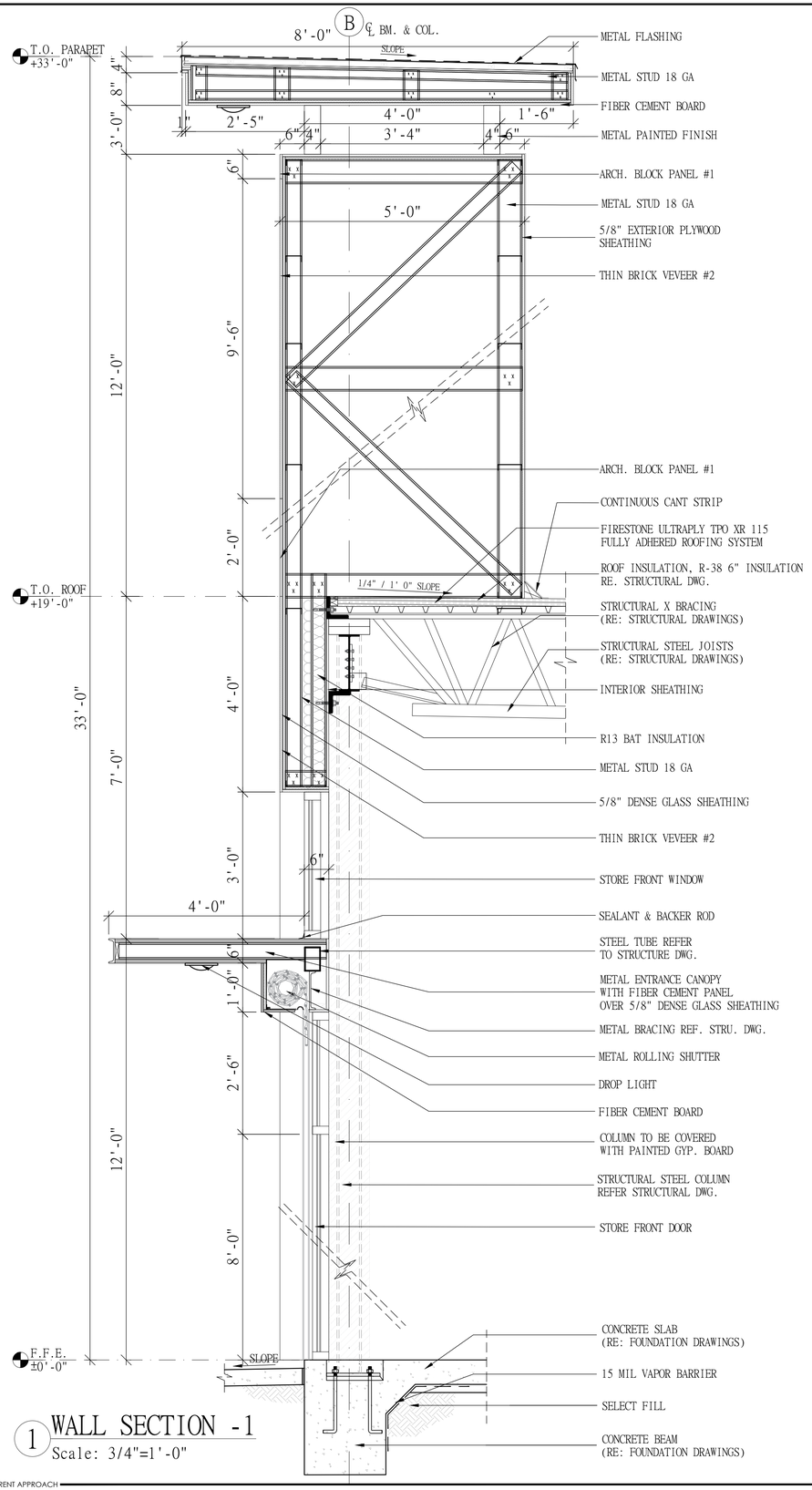
DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	1/8"=1'-0"
DRAWN BY :	R,R
CHECKED BY:	A.B
SHEET TITLE :	

DUMPSTER DETAIL

DRAWING NUMBER:

A-2.3



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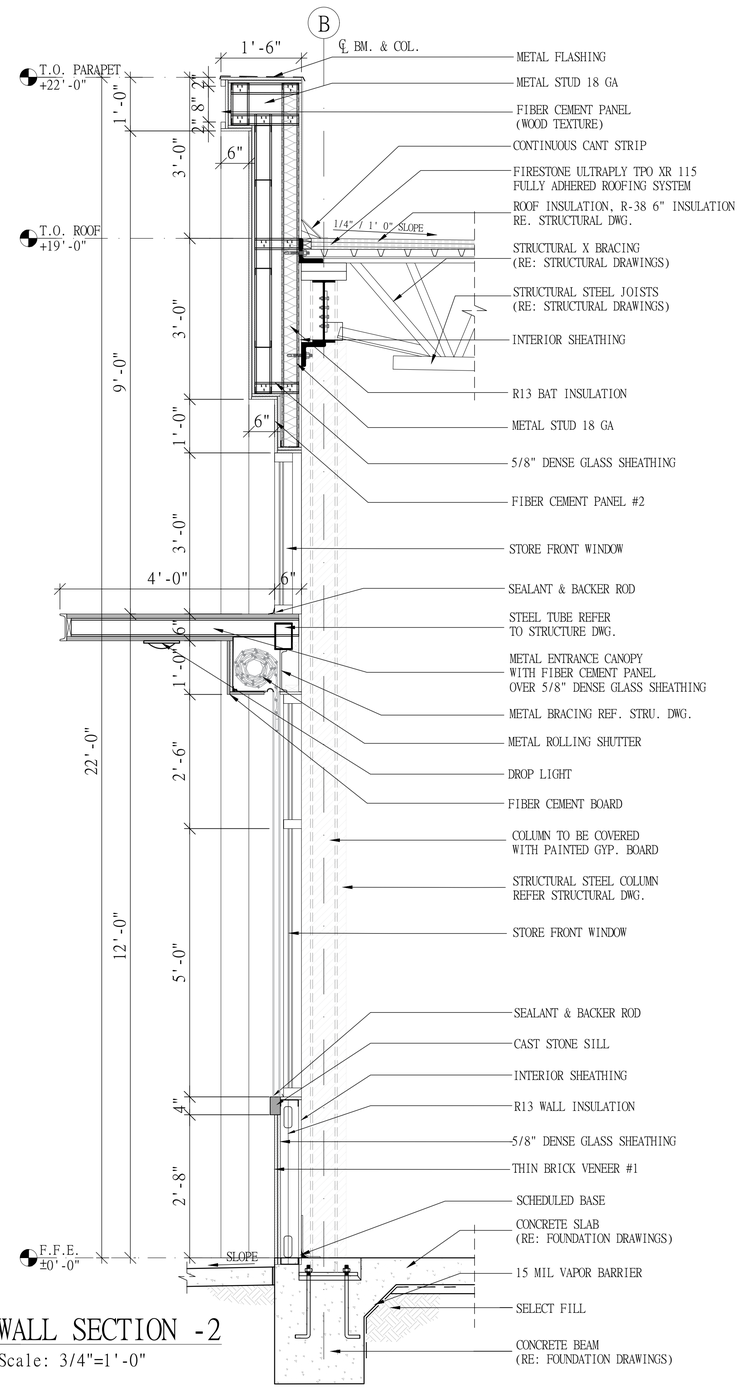

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Scale: 3/4"=1'-0"

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- CONSTRUCTION SET [x]

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SCALE :	3/4"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

WALL SECTION (1/4)

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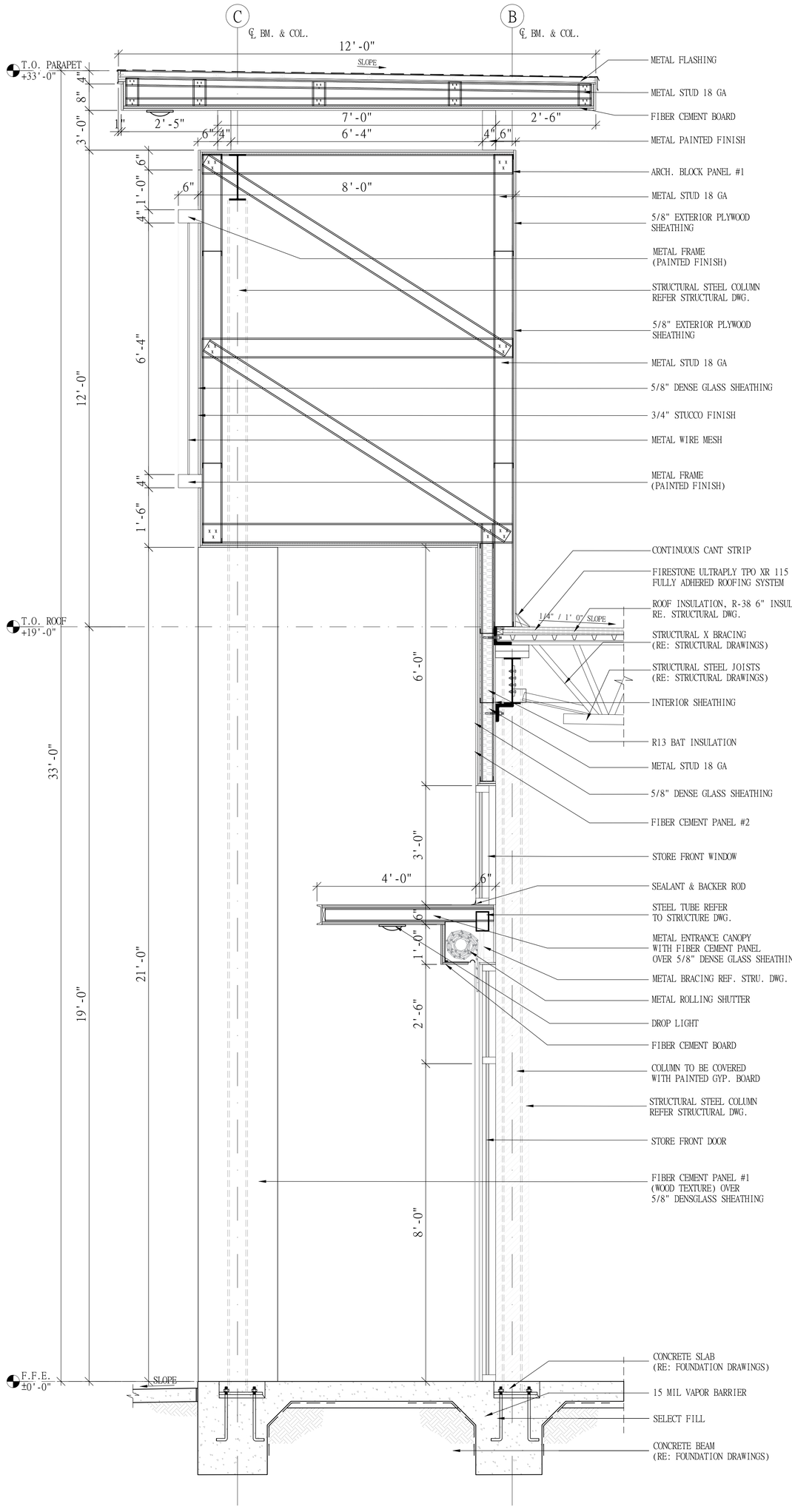
A-3.0



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DRAWING NUMBER: **A-3.1**

WALL SECTION (2/4)

PROJECT NUMBER : 25-006
SCALE IN 8½" : 3/4"=1'-0"
DRAWN BY: KB
CHECKED BY: AB
SHEET TITLE :

DATE: 05/16/2025

SEAL :

PROPOSED GAS STATION & C-STORE

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4311 N, TEXAS AVENUE, BRYAN, TX 77803

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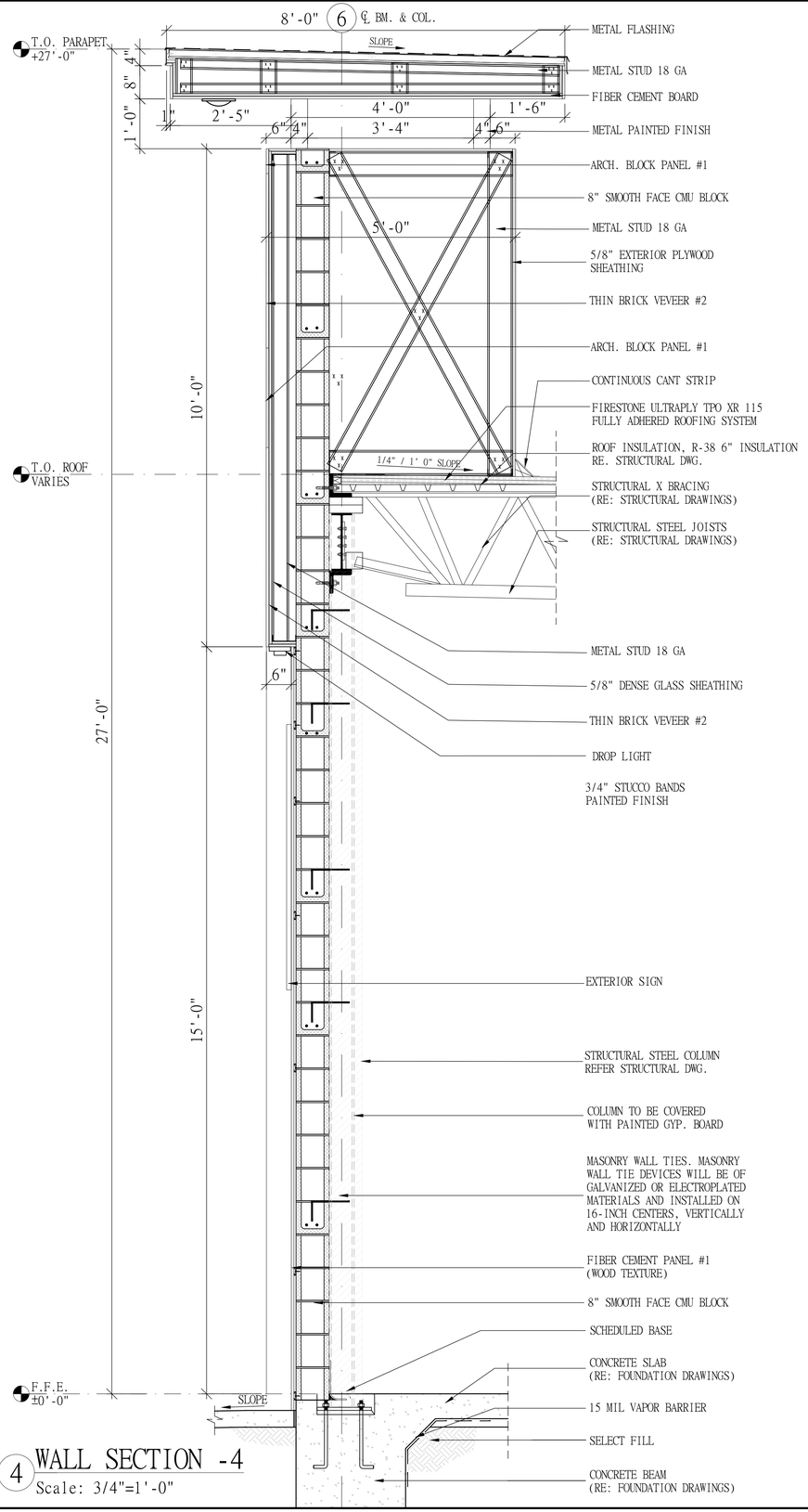

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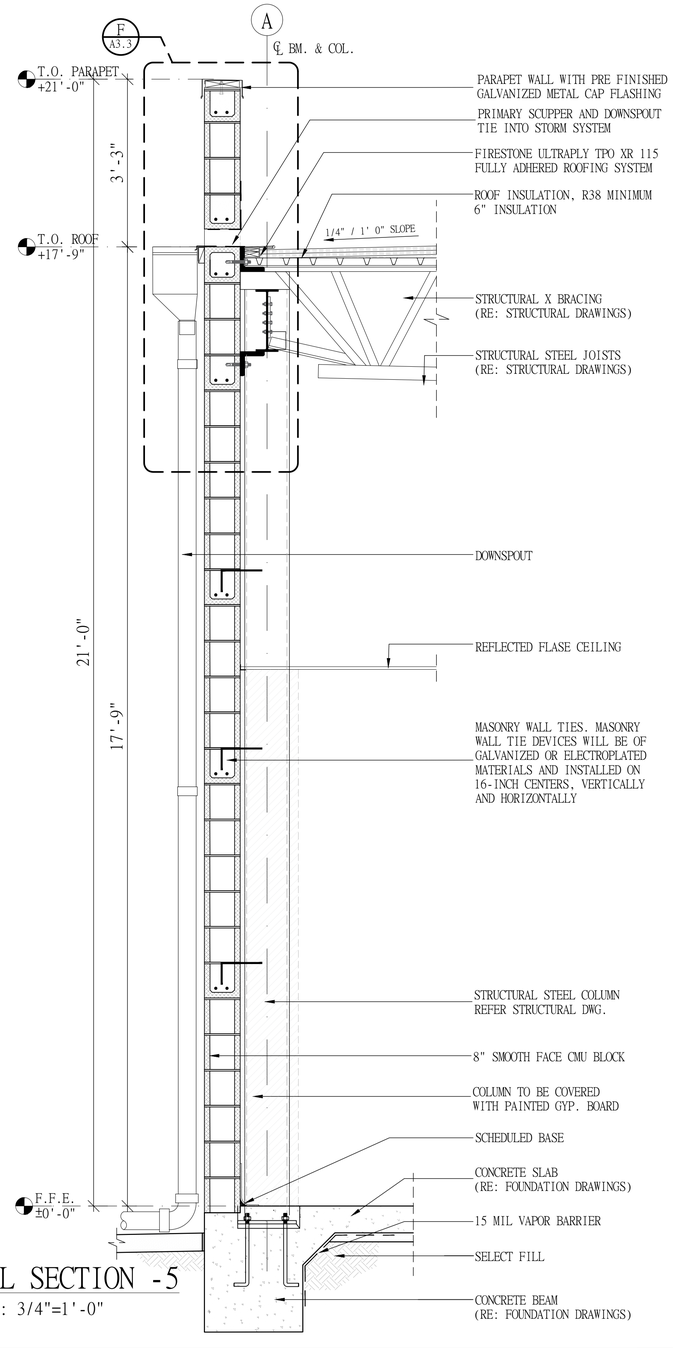

5 WALL SECTION -5
Scale: 3/4"=1'-0"

ISSUE FOR:

FOR INTER REVIEW ONLY	
BID ONLY	
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PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

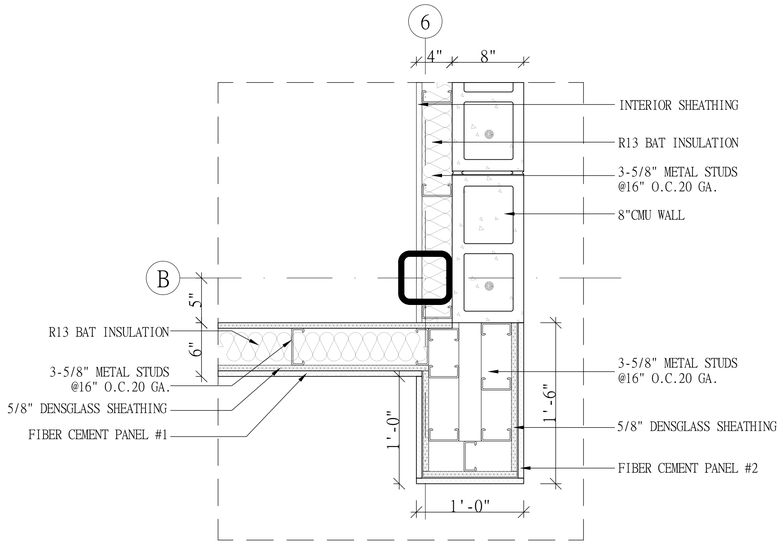
SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	3/4"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

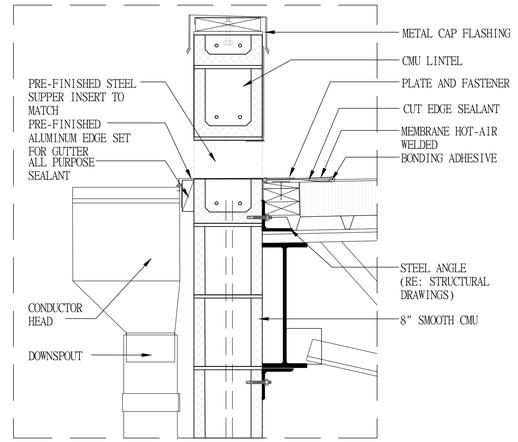
WALL SECTION (3/4)

DRAWING NUMBER:
A-3.2



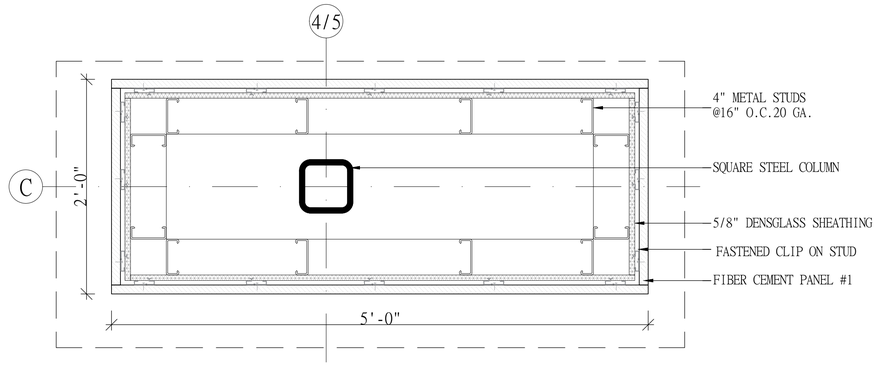
E PLAN DETAIL - E

Scale: 1 1/2"=1'-0"



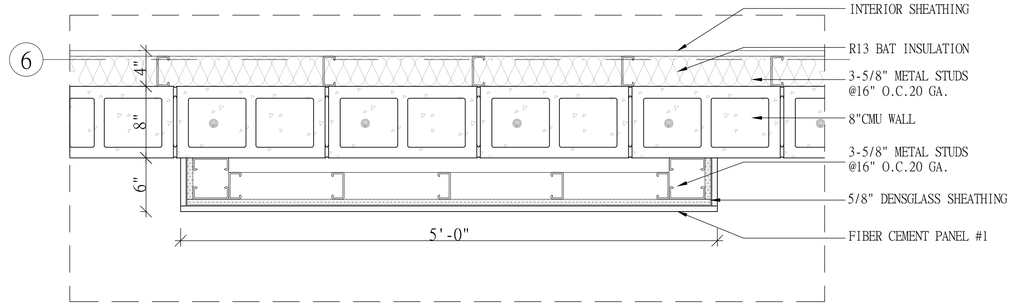
F ENLARGED DETAIL SECTION - A DOWNSPOUT

Scale: 1 1/2"=1'-0"



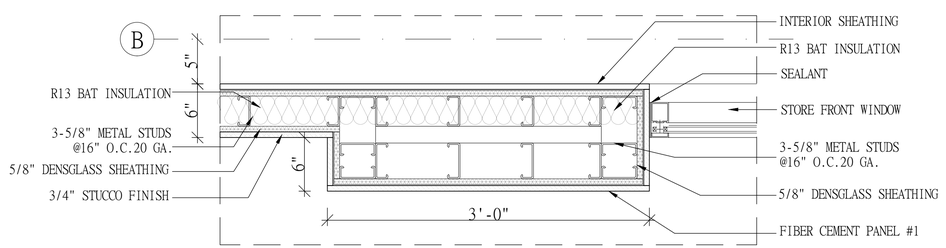
C PLAN DETAIL - C

Scale: 1 1/2"=1'-0"



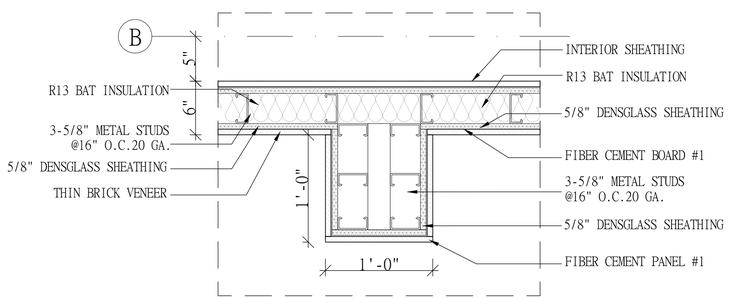
D PLAN DETAIL - D

Scale: 1 1/2"=1'-0"



A PLAN DETAIL - A

Scale: 1 1/2"=1'-0"



B PLAN DETAIL - B

Scale: 1 1/2"=1'-0"

ISSUE FOR:

FOR INTER REVIEW ONLY	☐
BID ONLY	☐
PERMITS SET	☐
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

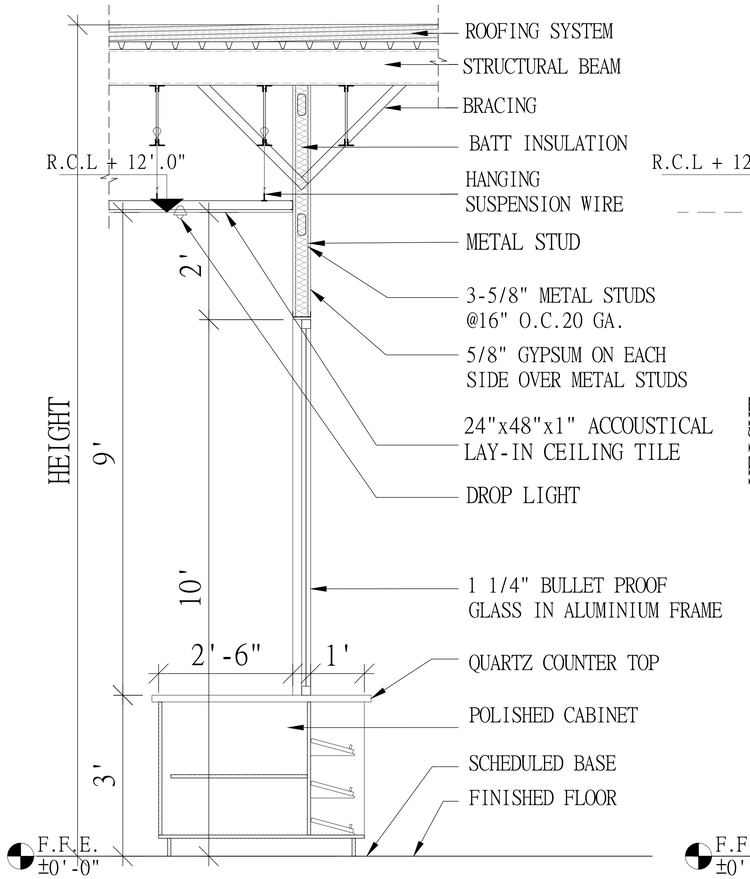
SEAL :

DATE: 05/16/2025

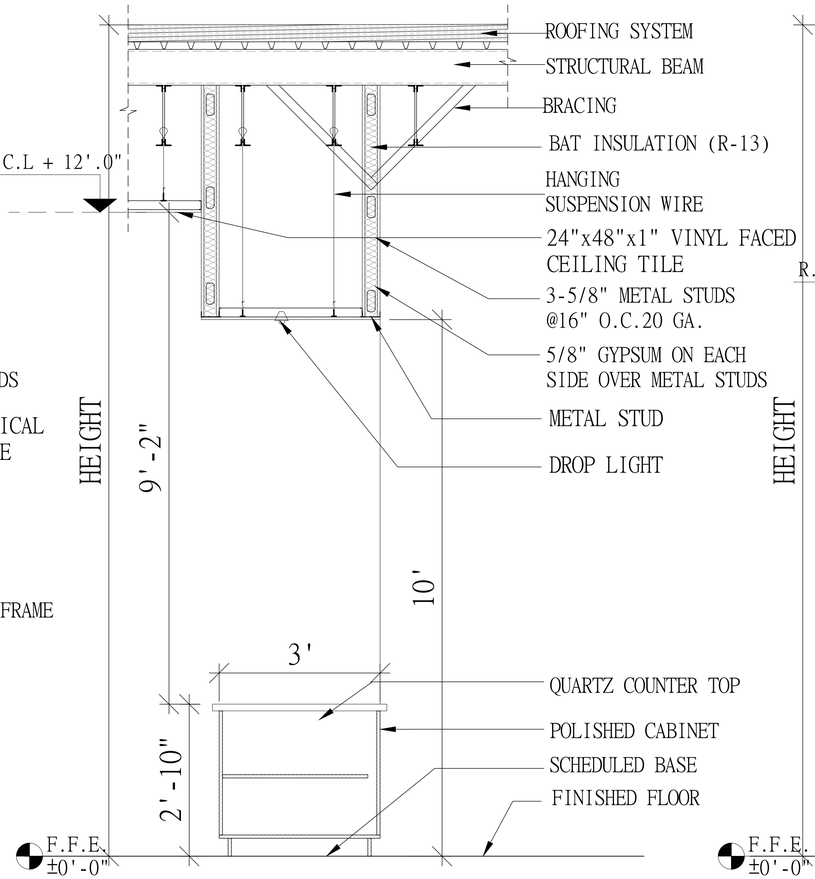
PROJECT NUMBER :	25-006
SCALE :	3/4"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

WALL SECTION (4/4)

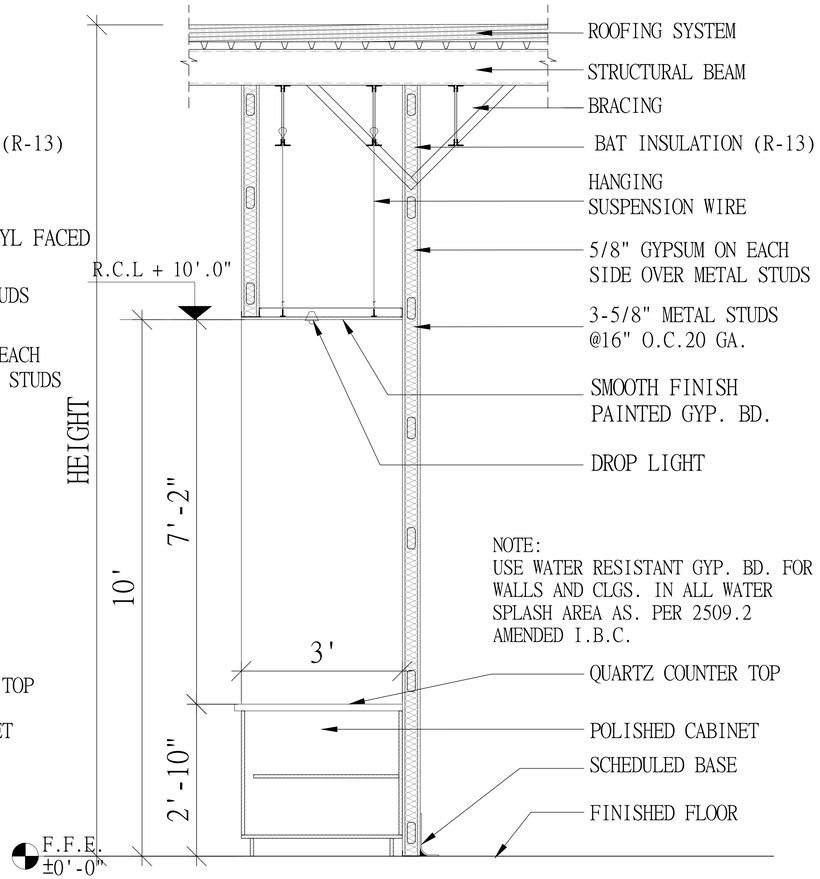
DRAWING NUMBER:
A-3.3



1 INTERIOR WALL SECTION -6
Scale: 3/4"=1'-0"



2 INTERIOR WALL SECTION -7
Scale: 3/4"=1'-0"



3 INTERIOR WALL SECTION -8
Scale: 3/4"=1'-0"

ISSUE FOR:
FOR INTER REVIEW ONLY
BID ONLY
PERMITS SET
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE

LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

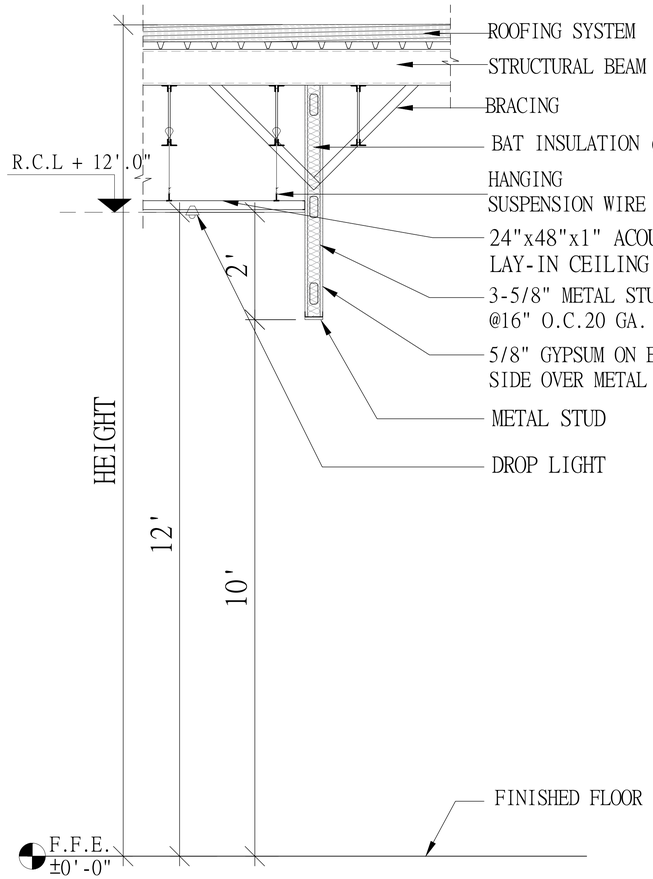
SEAL :

DATE: 05/16/2025

PROJECT NUMBER	:	25-006
SCALE	:	3/4"=1'-0"
DRAWN BY	:	R.R
CHECKED BY:		A.B
SHEET TITLE	:	

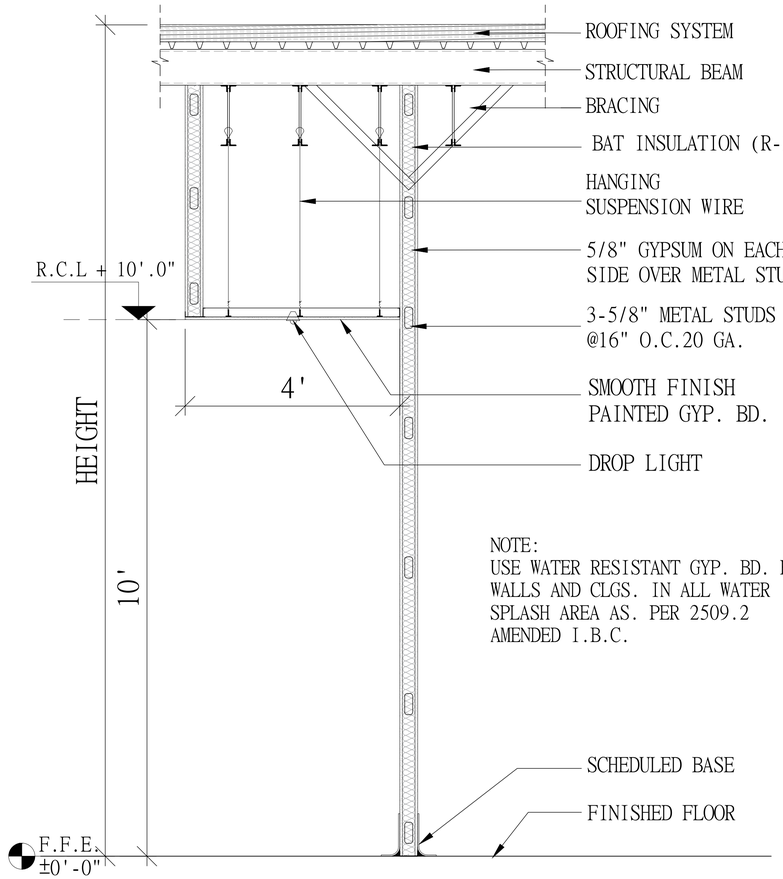
INTERIOR WALL SECTION (1/2)

DRAWING NUMBER:
A-3.4



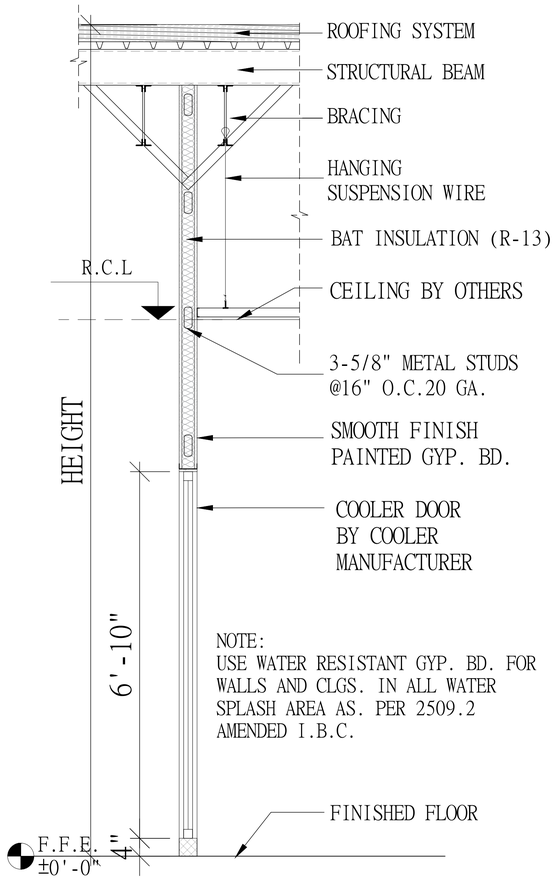
4 INTERIOR WALL SECTION -9

Scale: 3/4"=1'-0"



5 INTERIOR WALL SECTION -10

Scale: 3/4"=1'-0"



6 INTERIOR WALL SECTION -11

Scale: 3/4"=1'-0"

ISSUE FOR:

FOR INTER REVIEW ONLY	
BID ONLY	
PERMITS SET	
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

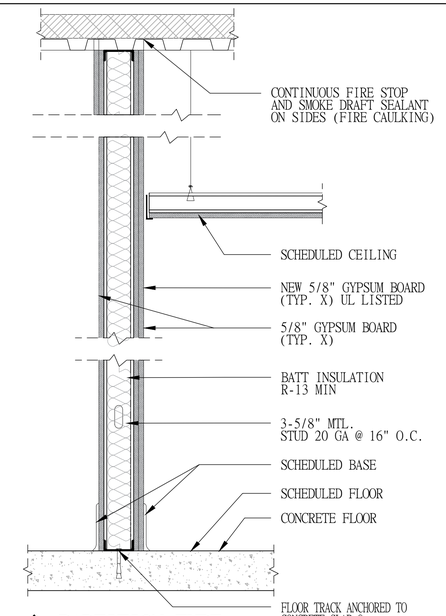
SEAL :

DATE: 05/16/2025

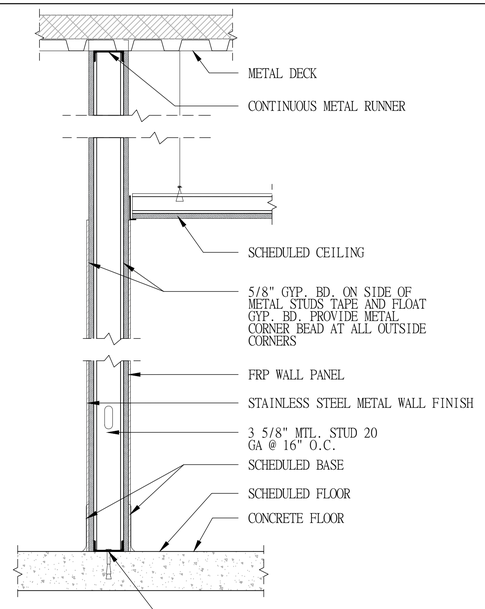
PROJECT NUMBER :	25-006
SCALE :	3/4"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

INTERIOR WALL SECTION (2/2)

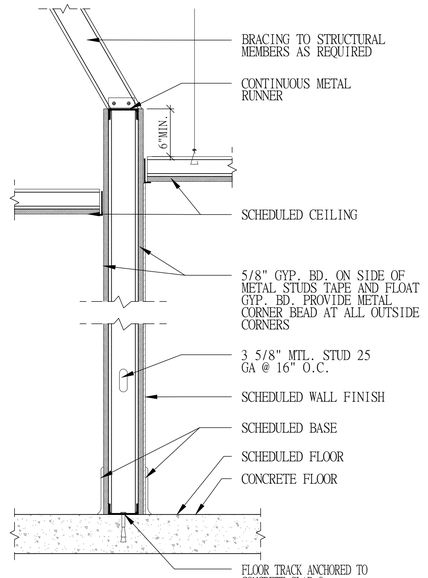
DRAWING NUMBER:
A-3.5



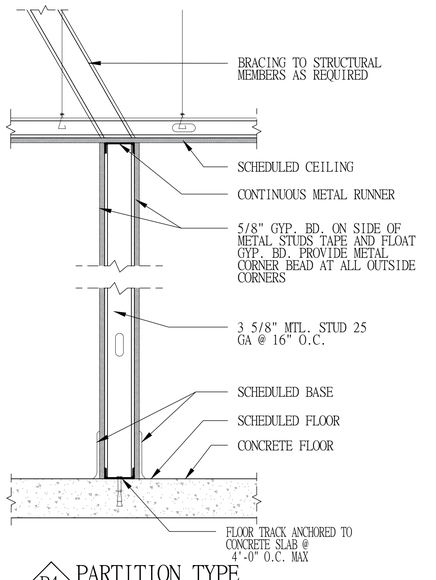
P1B PARTITION TYPE
2 HR.FIRE RATED PARTITION-DESIGN NO.U411



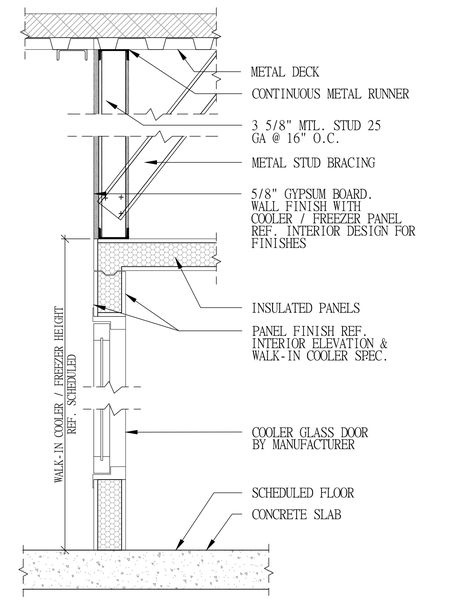
P2 PARTITION TYPE
TYPICAL INTERIOR WALL DELI AREA



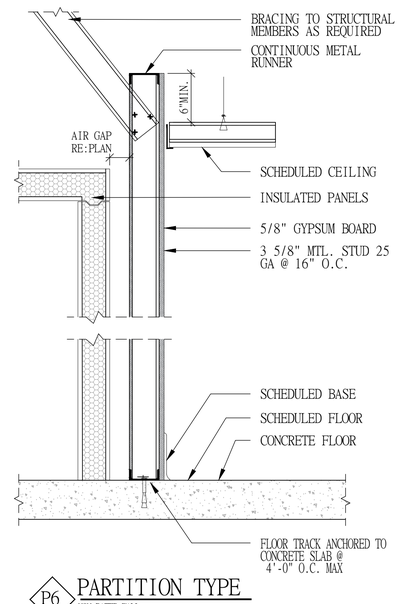
P3 PARTITION TYPE
NON RATED WALL



P4 PARTITION TYPE
NON RATED WALL



P5 PARTITION TYPE
@WALK-IN COOLER/FREEZER



P6 PARTITION TYPE
NON RATED WALL

ISSUE FOR:
- FOR INTER REVIEW ONLY
- BID ONLY
- PERMITS SET
- CONSTRUCTION SET [X]

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

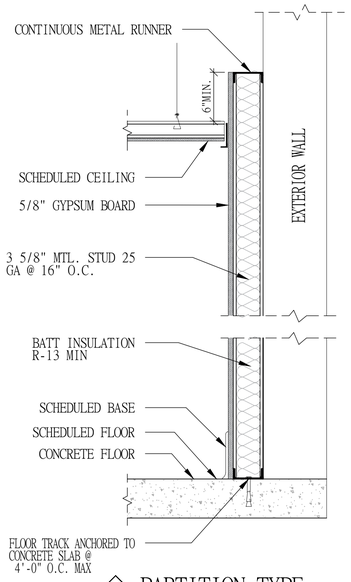
SEAL :

DATE: 05/16/2025

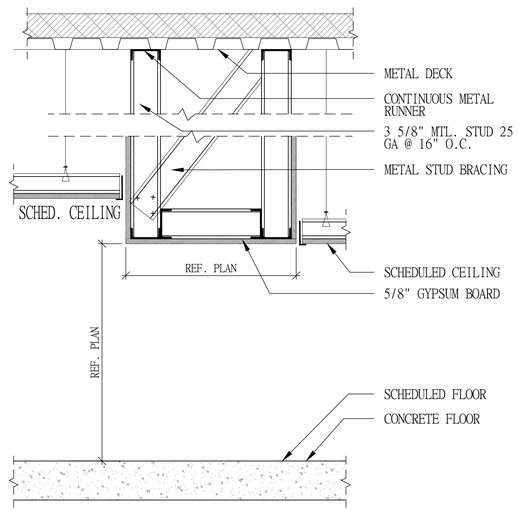
PROJECT NUMBER	:	25-006
SCALE	:	N.T.S.
DRAWN BY	:	R.R
CHECKED BY:		A.B
SHEET TITLE	:	

TYPICAL WALL TYPE DETAILS (1/2)

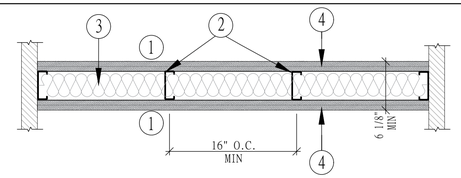
DRAWING NUMBER:
A-3.6



P7 PARTITION TYPE
NON RATED WALL



P8 PARTITION TYPE
@FUR-DOWN



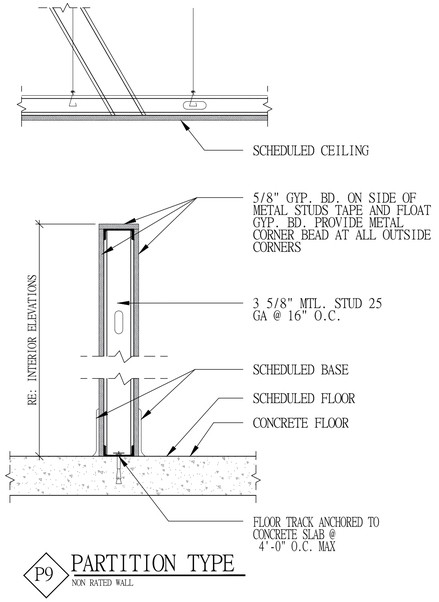
1 FLOOR AND CEILING RUNNER, 25 MSG MIN. GALVANIZED STEEL 1" HIGH, RETURN LEGS 3 5/8" WIDE MIN. ATTACHED TO FLOOR AND CEILING WITH FASTENERS @ 24" ON CENTERS.

2 STEEL STUDS- 3 5/8" WIDE MIN., 1 1/4" LEGS, 3/8" RETURN, FORMED OF 25 MSG MIN. GALVANIZED STEEL, MAX. STUD SPACING 24" ON CENTER. STUDS TO BE CUT 3/4" LESS THAN ASSEMBLY HEIGHT.

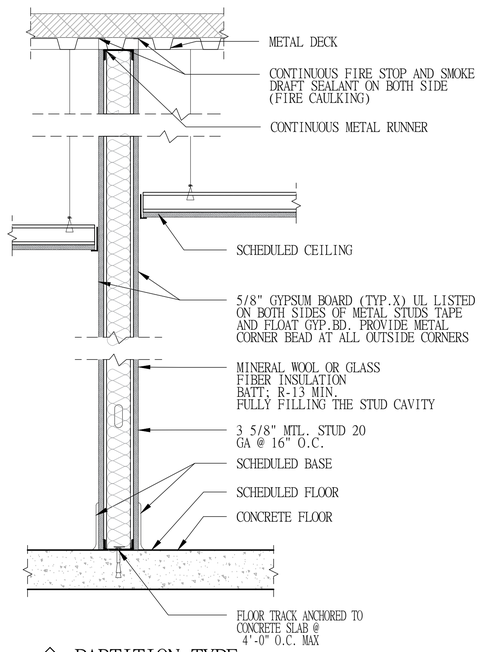
3 INSULATION: PROVIDE R-13 BATT INSULATION IN 2 HOUR RATED WALLS. MINERAL WOOL OR FIBER BATT PARTIALLY OR COMPLETELY FILLING STUD CAVITY. FASTEN EACH BATT TO WALL BOARD BASE LAYER WITH A MINIMUM 9/16" LONG STAPLES. USE FIVE STAPLES FOR EACH 4 FOOT PIECE. DRIVE ONE STAPLE IN THE CENTER OF EACH PIECE AND A STAPLE AT EACH CORNER, APPROXIMATELY 3" FROM EDGES.

4 WALLBOARD GYPSUM: 5/8" THICK OUTER LAYER OR VINYL SURFACED. WALLBOARD APPLIED VERTICALLY IN TWO LAYERS. INNER LAYER ATTACHED TO STUDS WITH 1" LONG TYPE S STEEL SCREWS, SPACED @ 8" ON CENTERS ALONG VERTICAL EDGES, AND 12" ON CENTERS IN THE FIELD AND OUTER LAYER LAMINATED TO INTER LAYER WITH JOINT COMPOUND, APPLIED WITH A NOTCHED SPREADER PRODUCING CONTINUOUS BEADS OF COMPOUND ABOUT 3/8" IN DIAMETER, SPACED NOT GREATER THAN 2" ON CENTER. JOINTS OF LAMINATED OUTER LAYER OFFSET 12" FROM INNER LAYER JOINTS. OTHER LAYER WALLBOARD ATTACHED TO FLOOR AND CEILING RUNNER TRACK WITH 1 5/8" LONG TYPE S STEEL SCREWS SPACED 12" ON CENTER.
BORAL GYPSUM INC., TYPES DDN1, DDG2, OR DDDG3.
CANADIAN GYPSUM INC., LTD., TYPES C, SCX, SHX OR WRX.
CELOTEX CORP., TYPE 1 OR FRP.
DOMTAR GYPSUM, TYPES C, 4 OR 9.
GEORGIA-PACIFIC, TYPES C, GPFS-3.
GOLD BOND BUILDING PRODUCTS A NATIONAL GYPSUM DIV.,TYPES FSW OR FSW-G.
JAMES HARDIE GYPSUM, TYPE FIRE X.
PABCO GYPSUM CO., TYPES C, PG-3, PG-9 OR PG-C.
STANDARD GYPSUM CORP., TYPE SGC OR SGC-G.
TEMPLE-INLAND FOREST PRODUCTS CORP., TYPES T, VPB-TYPE T.
UNITED STATES GYPSUM CO., TYPES C, FCV, 1P-X1, 1P-X2, SCX, SHX,WRC OR WRX.

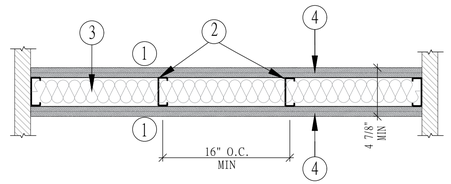
2 HOUR FIRE RATED PARTITION - DESIGN No. U411



P9 PARTITION TYPE
NON RATED WALL



P1A PARTITION TYPE
1 HR.FIRE RATED PARTITION-DESIGN NO.U465



1 FLOOR AND CEILING RUNNER-(NOT SHOWN) 25 MSG MIN. GALVANIZED STEEL 1" HIGH, RETURN LEGS 3 5/8" WIDE (MIN). ATTACHED TO FLOOR AND CEILING WITH FASTENERS @ 24" ON CENTERS.

2 STEEL STUDS- 3 5/8" WIDE MIN., 1 1/4" LEGS, 3/8" RETURN, FORMED OF 25 MSG MIN. GALVANIZED STEEL, MAX. STUD SPACING 24" ON CENTER. STUDS TO BE CUT 3/4" LESS THAN ASSEMBLY HEIGHT.

3 INSULATION: PROVIDE R-13 BATT INSULATION IN 1 HOUR RATED WALLS. MINERAL WOOL OR FIBER BATT PARTIALLY OR COMPLETELY FILLING STUD CAVITY. FASTEN EACH BATT TO WALL BOARD BASE LAYER WITH A MINIMUM 9/16" LONG STAPLES. USE FIVE STAPLES FOR EACH 4 FOOT PIECE. DRIVE ONE STAPLE IN THE CENTER OF EACH PIECE AND A STAPLE AT EACH CORNER, APPROXIMATELY 3" FROM EDGES.

4 WALLBOARD GYPSUM: 5/8" THICK, 4' WIDE, ATTACHED TO STEEL STUDS, FLOOR AND CEILING TRACK WITH 1" LONG, TYPE S SELF-TAPPING STEEL SCREWS SPACED 8" O.C ALONG EDGES OF BROADBAND 12" O.C IN THE FIELD OF THE BOARD. JOINTS ORIENTED VERTICALLY AND STAGGERED ON OPPOSITE SIDE OF THE ASSEMBLY. WHEN ATTACHED TO ITEM 6(FURRING CHANNELS), WALLBOARD IS SCREW ATTACHED TO FURRING CHANNELS WITH 1" LONG, TYPE S STEEL SCREWS ATTACHED 12" O.C.
CANADIAN GYPSUM CO., LTD., TYPES C, SCX, SHX OR WRX.
DOMTAR GYPSUM CO., TYPE PG-C.
UNITED STATES GYPSUM CO., TYPES C, 1PX2, SCX, SHC, SHX, WRC OR WRX.

5 JOINT TAPE AND COMPOUND - VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINT AND SCREW HEAD; PAPER TAPE, 2" WIDE\, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINT. AS AN ALTERNATE, NORMAL 3/32" THICK GYPSUM VENEER BASEBOARD. JOINTS REINFORCED.

6 FURRING CHANNEL- (OPTIONAL NOT SHOWN) RESILIENT 25 MSG GALVANIZED STEEL FURRING CHANNELS SPACED VERTICALLY MAX. 24" O.C., FLANGE PORTION ATTACHED TO EACH INTERSECTION STUD WITH 1/2" LONG TYPE S-12 PAN-HEAD STEEL SCREWS.
**BEARING THE UL CLASSIFICATION MARKING

1 HOUR FIRE RATED PARTITION - DESIGN No. U465

ISSUE FOR:
FOR INTER REVIEW ONLY
BID ONLY
PERMITS SET
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

PROJECT NUMBER	:	25-006
SCALE	:	N.T.S.
DRAWN BY	:	R.R
CHECKED BY:		A.B
SHEET TITLE	:	

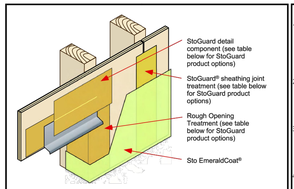
TYPICAL WALL TYPE DETAILS (2/2)

DRAWING NUMBER:
A-3.7

StoPowerwall®
Joint Treatment

Detail No.: 5.09

Date:December 2015



StoGuard® Components for use with StoPowerwall®

Product or Product Combination	Sheathing Joint	Rough Opening	Detail Component
StoGuard RapidFill	✓		✓
StoGuard RapidSeal	✓	✓	✓
	✓	✓	✓
StoGuard Transition Membrane embedded in StoGuard RapidFill, StoGuard RapidSeal or Sto Emerald Coat			✓
Sto Gold Fill with StoGuard Mesh or Sto Detail Mesh	✓	✓	✓
StoGuard Tape		✓	

Notes:

1) Refer to Sto detail series 20.xx or 21.xx for complete instructions regarding material options and application instructions for StoGuard products.

2) Flashing must be installed at the head and sill of window openings and integrated into the StoGuard system with StoGuard detail components.

3) The upper edge of StoGuard Tape must be lapped with a StoGuard detail component to direct water away from the substrate.

4) Refer to StoGuard Transition Membrane installation guide for step-by-step instructions for detailing with StoGuard Transition Membrane.

5) Refer to the individual Sto product bulletin and applicable Sto specification for the products being used.

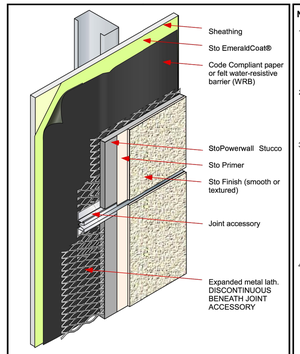
6) Refer to the most current Sto product bulletins, specifications, installation guides and other information are available at www.stocorp.com.

1 JOINT TREATMENT
Scale: N.T.S.

StoPowerwall®
One-Piece Control Joint

Detail No.: 4.52

Date: December 2015



Notes:

1) Provide one-piece control joints at minimum 144 ft² (13.4 m²) intervals and below window, door, and similar openings in the wall construction.

2) Do not exceed length to width ratio of 2.5:1 in joint layout and do not exceed 18 ft (5.5 m) in any direction without a joint.

3) Lap metal reinforcement (lath) over joint accessory flanges and wire tie. Alternatively, install metal reinforcement, snip (cut) at line of accessory, and wire tie joint accessory over metal reinforcement. Metal reinforcement MUST BE DISCONTINUOUS BENEATH THE ACCESSORY.

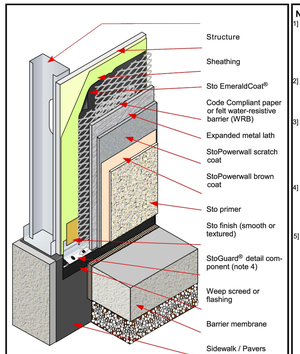
4) Comply with ASTM 1063.

2 ONE PIECE CONTROL JOINT
Scale: N.T.S.

Sto Powerwall®
Termination at Grade: Sidewalk / Pavers

Detail No.: 4.10

Date:December 2015



Notes:

1) Install barrier membrane at bottom of frame wall to provide protection from rain penetration below the stucco.

2) Install stucco weep screed or flashing to terminate minimum 1" (25 mm) below sill plate .

3) Provide minimum 2" (50 mm) clearance between nose of weep screed and sidewalk / paved surface. Increase distance when snow and ice may accumulate

4) Lap StoGuard® detail component onto weep screed to direct water to the exterior. See Sto detail 4.09

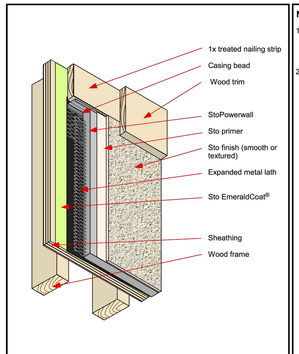
5) Provide waterproofing at the foundation to protect the support structure from rising damp.

3 TERMINATION AT GRADE: SIDE WALK
Scale: N.T.S.

StoPowerwall®
Termination at Soffit

Detail No.: 5.40

Date: December 2015



Notes:

1) Install Sto EmeraldCoat® on the sheathing as per plans and specifications.

2) StoGuard® air/moisture barrier is a component in the air barrier system for a building. The design professional or builder must provide connections to other components in the system to make the entire envelope air tight. This detail assumes that the air barrier connection would be made prior to the installation of the 1x treated nailing strip.

4 TERMINATION AT SOFFIT
Scale: N.T.S.

StoPowerwall®
Termination at Parapet Cap

Detail No.: 4.60

Date:December 2015

Notes:

1) Install StoGuard® System over the parapet supporting structure lapping onto compatible sheathing.

2) Provide a barrier membrane over the parapet blocking and integrate it with the roofing or deck waterproofing assembly. This provides additional protection against water intrusion through penetration of mechanical fasteners.

3) Parapet illustrated is uninsulated. Conditioned interior air should not circulate in this space if there is a risk of condensation.

4) Provide a minimum 3" (75 mm) overlap of flashing over the face of the stucco. Increase overlap with building height.

5 TERMINATION AT PARAPET GAP
Scale: N.T.S.

StoPowerwall®
Commercial Window Sill

Detail No.: 4.22

Date:December 2015

Notes:

1) Provide a mock-up installation and test using materials and substrates associated with the project.

2) Prepare opening prior to the installation of the window. Coordinate installation with other associated substrates.

3) Provide StoGuard® air/moisture barrier and other associated trim and accessories as noted in Sto detail 4.09.

4) Provide pan flashing at sill to drain water to the exterior.

5) In cold climates this detail will provide little insulation around the pan flashing. The designer should specify a pan design that will provide a thermal break.

6) Provide continuous air barrier connection around perimeter of the window to reduce leaking, condensation related to air movement,sound, and insect intrusion.

6 WINDOW SILL
Scale: N.T.S.

StoPowerwall®
StoGuard® Components

Detail No.: 4.09

Date: November 2015

StoGuard® Components for use with StoPowerwall®

Product or Product Combination	Sheathing Joint	Rough Opening	Detail Component
StoGuard RapidFill	✓		✓
StoGuard RapidSeal	✓	✓	✓
StoGuard Fabric embedded in Sto Emerald Coat	✓	✓	✓
StoGuard Transition Membrane embedded in StoGuard RapidFill, StoGuard RapidSeal or Sto Emerald Coat			✓
Sto Gold Fill with StoGuard Mesh or Sto Detail Mesh	✓	✓	✓
StoGuard Tape		✓	

Notes:

1) Refer to Sto detail series 20.xx or 21.xx for complete instructions regarding material options and application instructions for StoGuard products.

2) Flashing must be installed at the head and sill of window openings and integrated into the StoGuard system with StoGuard detail components.

3) The upper edge of StoGuard Tape must be lapped with a StoGuard detail component to direct water away from the substrate.

4) Refer to StoGuard Transition Membrane installation guide for step-by-step instructions for detailing with StoGuard Transition Membrane.

5) Refer to the individual Sto product bulletin and applicable Sto specification for the products being used.

6) Refer to the most current Sto product bulletins, specifications, installation guides and other information are available at www.stocorp.com.

7 GUARD COMPONENTS
Scale: N.T.S.

StoPowerwall®
Termination at Grade

Detail No.: 5.10

Date:December 2015

Notes:

1) Install barrier membrane at bottom of frame wall to provide protection from rain penetration below the stucco.

2) Install stucco weep screed to terminate minimum 1" below bottom of wood plate and a minimum of 6" above finished grade or as required by code.

3) Lap StoGuard® detail component onto weep screed to direct water to the exterior. See detail 5.09.

3) Provide waterproofing at the foundation to protect the support structure from rising damp.

8 TERMINATION AT GRADE
Scale: N.T.S.

StoPowerwall®
Outside Corner

Detail No.: 4.55

Date:December 2015

Notes:

1) Install expanded metal lath continuous around corner without break for minimum 24" (610 mm).

2) Attach corner bead over lath.

3) Metal accessories are susceptible to corrosion in costal environments. Metal corner beads with solid metal noses are susceptible to corrosion in exposed exterior application.

4) Comply with ASTM 1063.

9 OUTSIDE CORNER
Scale: N.T.S.

StoPowerwall®
Commercial Window Head

Detail No.: 4.20

Date:December 2015

Notes:

1) Provide a mock-up installation and test using materials and substrates associated with the project.

2) Provide flashing installed over the window to direct water away from the window. Verify requirements for head flashing with local codes and window manufacturer.

3) Protect rough opening against water penetration by wrapping with Sto Guard®. Direct any water penetration to the exterior at or above the sill pan flashing.

(Refer to Sto detail 4.09)

4) Provide continuous air barrier connection around the perimeter of the window to reduce leaking, condensation related to air movement and sound and insect intrusion.

5) Provide window insert to optimize sealant configuration.

10 WINDOW HEAD
Scale: N.T.S.

Sto Powerwall® MVES
Components

Detail No.: 4.01 MVES

Date: December 2020

Notes:

1. See StoGuard Chart (22s.SG) for transition component, joint treatment, and rough opening protection product options.

2. Glass mat gypsum sheathing,in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.

3. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.

4. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.

5. Veneer options: thin brick, thin stone, ceramic tile or cultured stone in conformance with applicable building code requirements.

6. Portland cement-based grout / pointing mortar in compliance with ANSI 118.7

7. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

11 STUCCO COMPONENTS
Scale: N.T.S.

ISSUE FOR:
FOR INTER REVIEW ONLY
BID ONLY
PERMITS SET
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

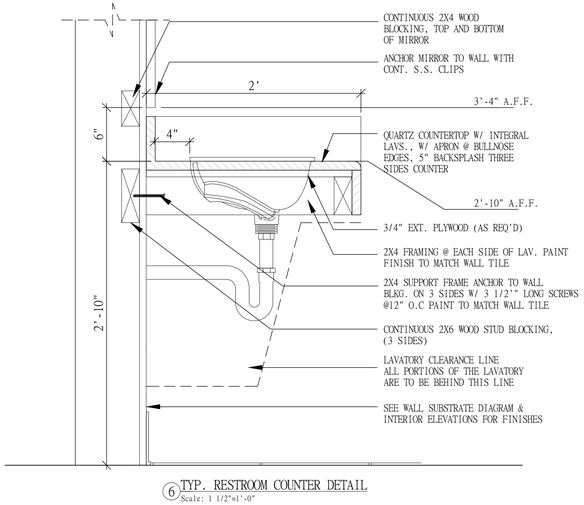
SEAL :

DATE: 05/16/2025

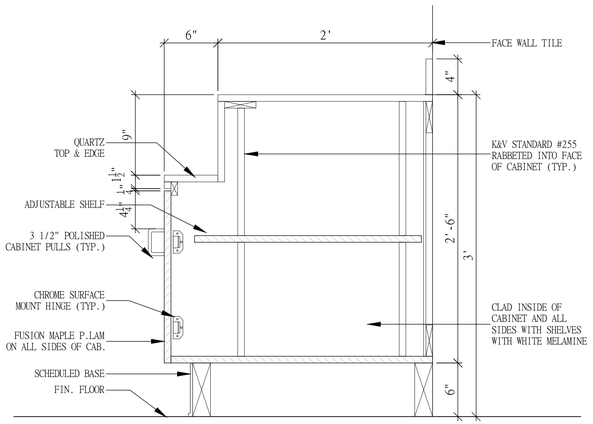
PROJECT NUMBER	:	25-006
SCALE	:	N.T.S.
DRAWN BY	:	R.R
CHECKED BY:		A.B
SHEET TITLE	:	

TYPICAL STUCCO DETAILS

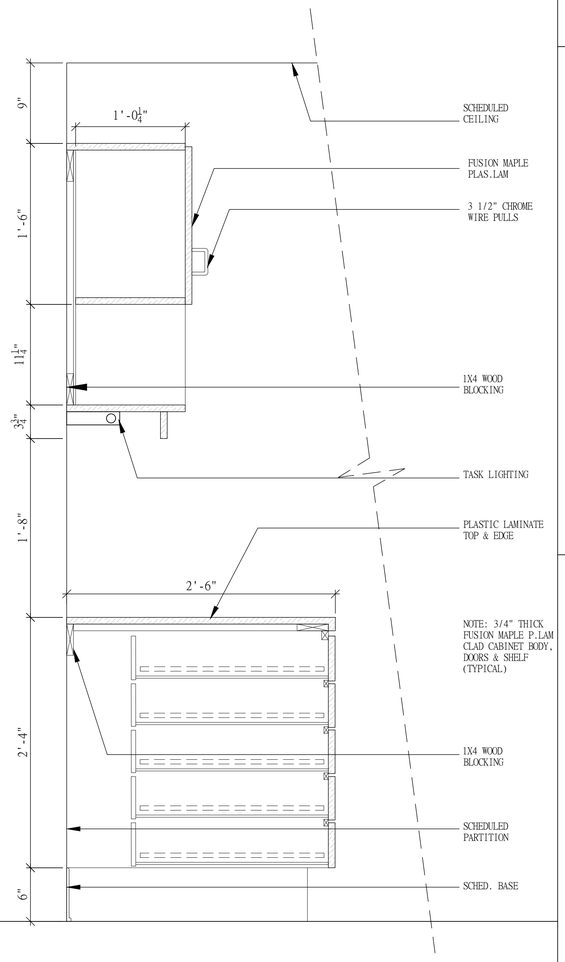
DRAWING NUMBER:
A-3.8



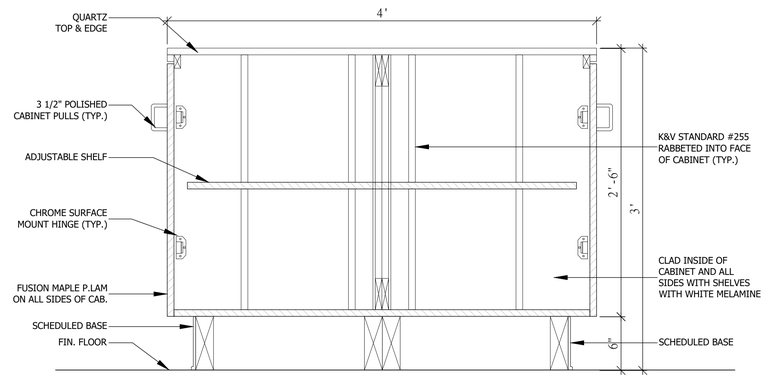
6 TYP. RESTROOM COUNTER DETAIL
Scale: 1 1/2"=1'-0"



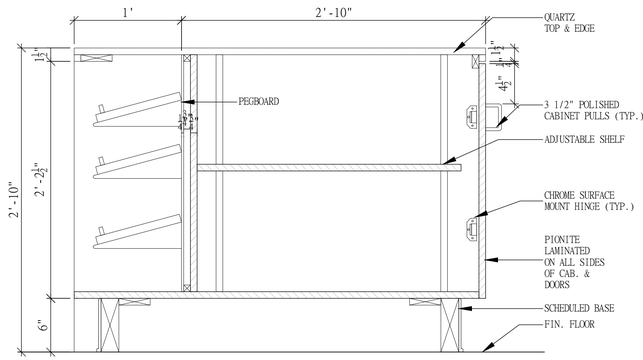
3 TYP. DETAIL AT NOTCHED SECTION BASE CABINET (BEVERAGE STATION)
Scale: 1 1/2"=1'-0"



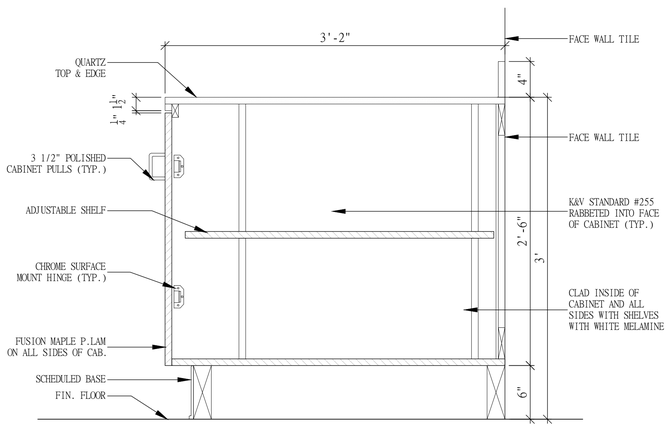
7 TYP. DETAIL AT SECTION BASE & WALL CABINET (CASHIER OFFICE)
Scale: 1 1/2"=1'-0"



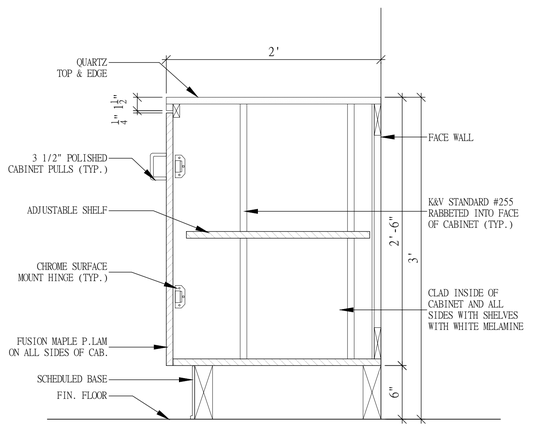
5 TYP. DETAIL AT SECTION BASE CABINET (ISLAND COUNTER)
Scale: 1 1/2"=1'-0"



2 TYP. DETAIL AT SECTION BASE CABINET (CASHIER COUNTER)
Scale: 1 1/2"=1'-0"



4 TYP. DETAIL AT SECTION BASE CABINET (BEVERAGE STATION)
Scale: 1 1/2"=1'-0"



1 TYP. DETAIL AT SECTION BASE CABINET (CABINET AT WINDOW)
Scale: 1 1/2"=1'-0"

ISSUE FOR:
- FOR INTER REVIEW ONLY
- BID ONLY
- PERMITS SET
- CONSTRUCTION SET [X]

REVISIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

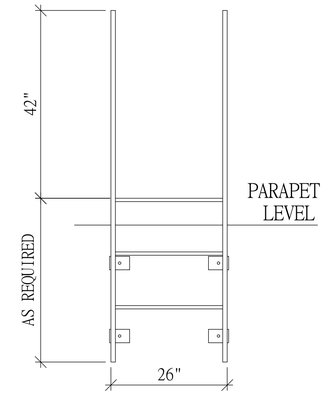
DATE: 05/16/2025

PROJECT NUMBER	:	25-006
SCALE	:	N.T.S.
DRAWN BY	:	R.R
CHECKED BY:		A.B
SHEET TITLE	:	

TYPICAL MILL WORK DETAILS

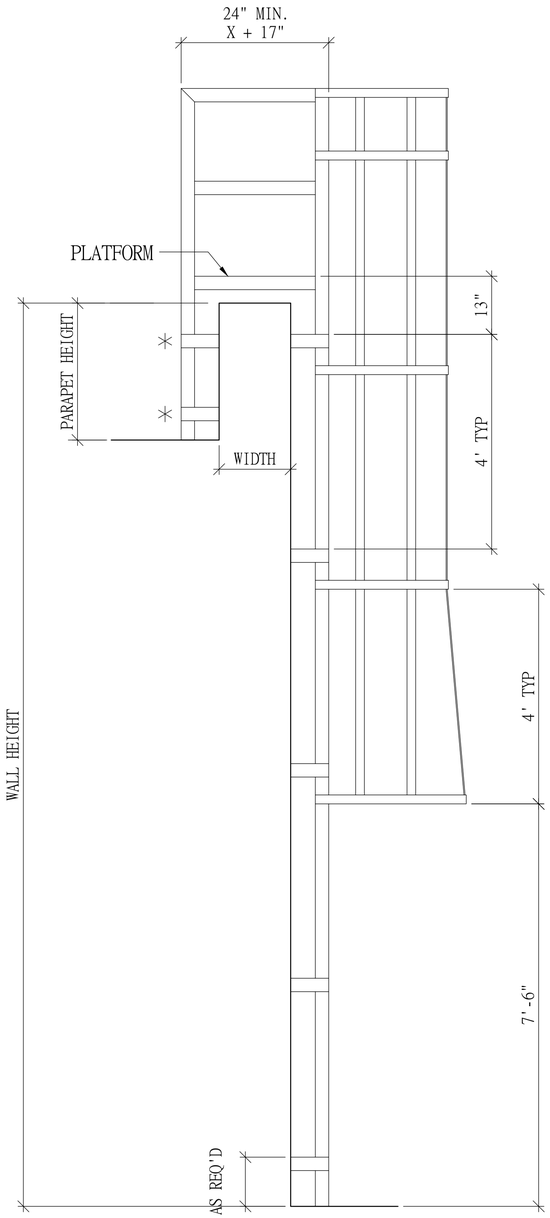
DRAWING NUMBER:
A-3.9

TUBULAR FIXED LADDER w/CAGE, PLATFORM & ROOFSIDE RETURN

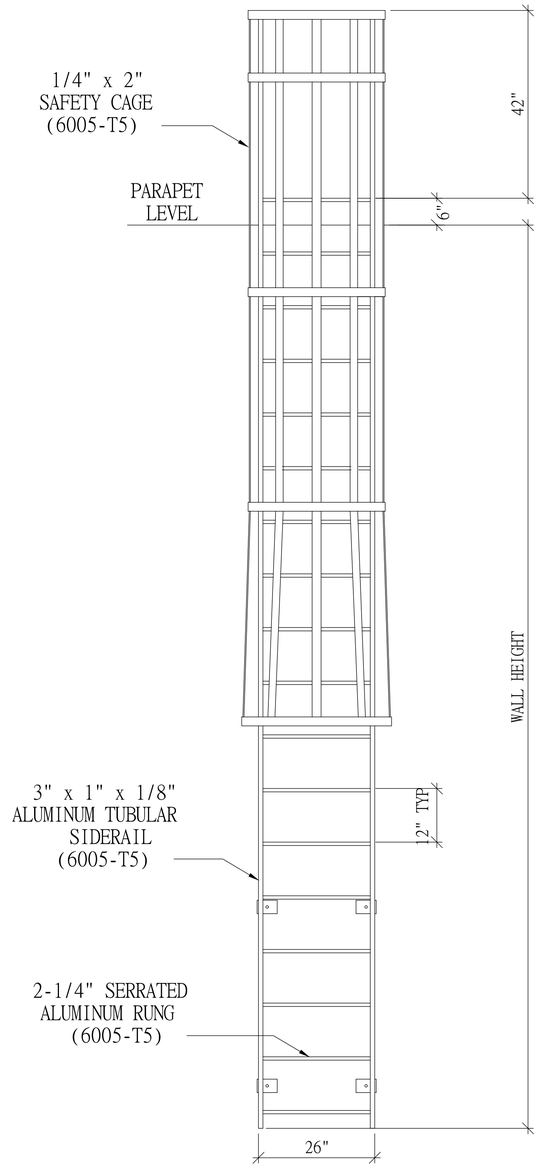


ROOF TOP

NOTES:
1) ALL BOLTS/FASTENERS NECESSARY TO ANCHOR LADDER ARE BY OTHERS.

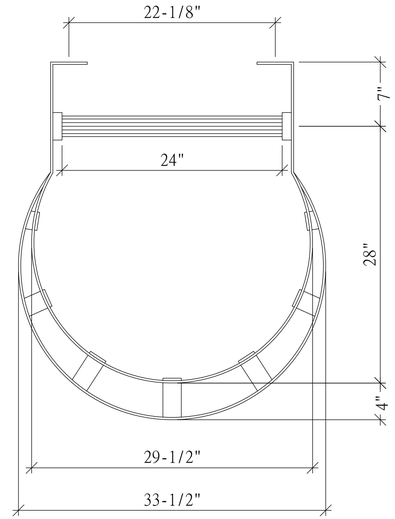


SIDE VIEW



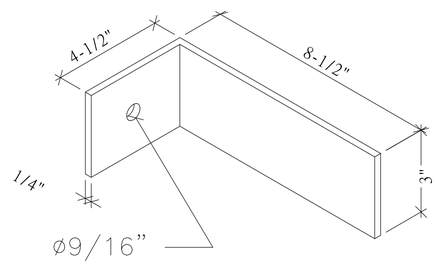
FRONT VIEW

CAGE NOT REQUIRED BY CODE



PLAN

(PARAPET PLATFORM & RETURN LADDER ARE OMITTED FOR CLARITY)



BRACKET DETAIL

FACTORY FINISH
ALUMINUM-MILL FINISH

ISSUE FOR:
- FOR INTER REVIEW ONLY
- BID ONLY
- PERMITS SET
- CONSTRUCTION SET [x]

REVISIIONS:

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MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

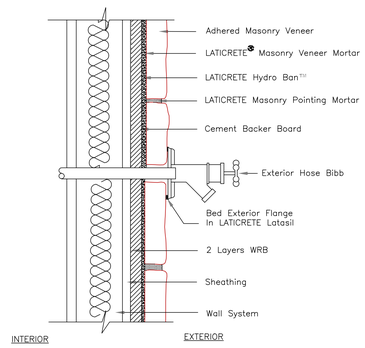
SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	N.T.S.
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

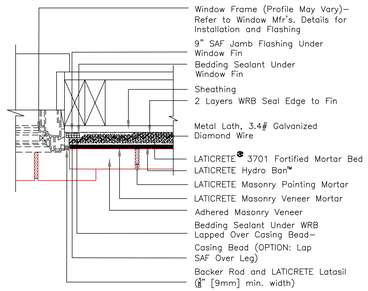
TYPICAL CAT LADDER DETAILS

DRAWING NUMBER:
A-3.10



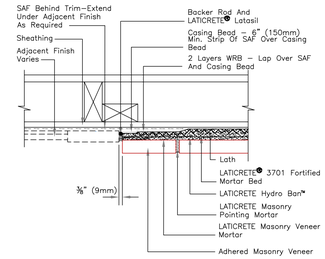
Note: Ensure that all covers, flanges and escutcheons are properly bedded in sealant before fastening them to wall.

1 PIPE PENETRATION
Scale: N.T.S.



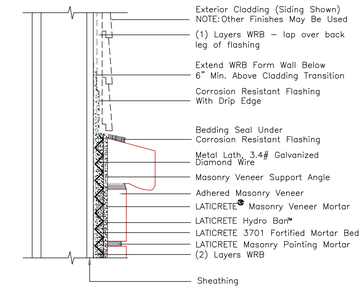
Note: Rough openings must be properly flashed prior to window installation. Flashing should drain between layers of water–resistive barrier. Extend layers of flashing to extreme of adhered masonry veneer. Tuck water–resistive barrier under paper at sill.

2 WINDOW JAMB
Scale: N.T.S.



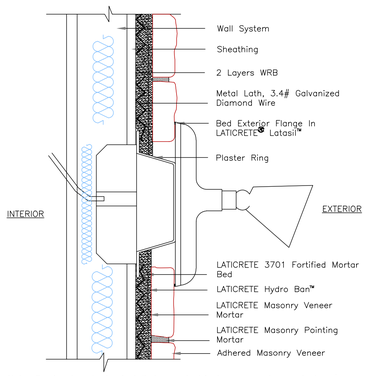
Note: Self–adhered flashing (SAF) to extend under the adjacent finishes. A 3/8" (9mm) minimum gap to be used between finishes. SAF to overlap casing bead 6" (150mm) minimum.

3 OPEN EAVE OVERHANG
Scale: N.T.S.



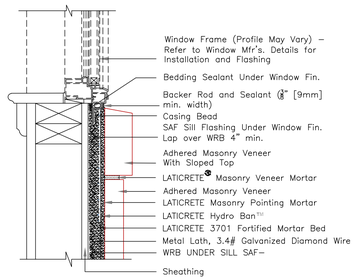
Note: Flashing to be installed prior to adhered masonry veneer. Water resistive barrier laps over back leg of flashing for positive drainage. Verify installation requirements with adhered masonry veneer manufacturer.

4 CLADDING TRANSITION
Scale: N.T.S.



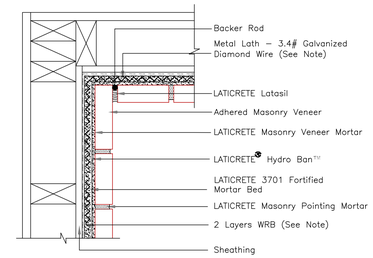
Note: Service box to be installed per electrical component manufacturer's requirements and all electrical codes. Plaster rings should be affixed over the service box to bring the face of the box flush with the masonry veneer.

5 FIXTURE PENETRATION
Scale: N.T.S.



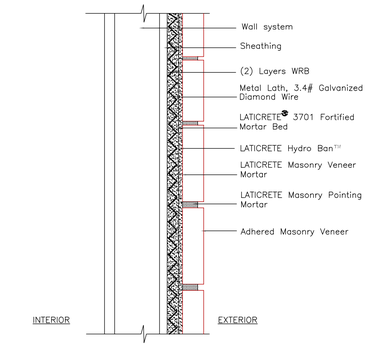
Note: Rough openings must be properly flashed prior to window installation. Sill flashing to drain between layers of water–resistive barrier to exterior of adhered masonry veneer. Tuck water–resistive barrier under pan flashing at sill.

6 WINDOW SILL
Scale: N.T.S.

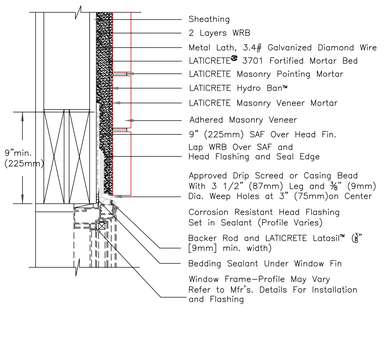


Note: Randomly alternate ends above and below to interweave the corner. Double wrap water resistive barrier around both sides of the corner. Lap lath to the framing at least 16" to the next framing member.

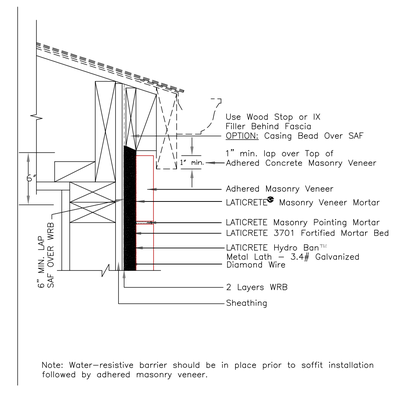
7 INSIDE CORNER
Scale: N.T.S.



8 TYPICAL WALL SECTION
Scale: N.T.S.

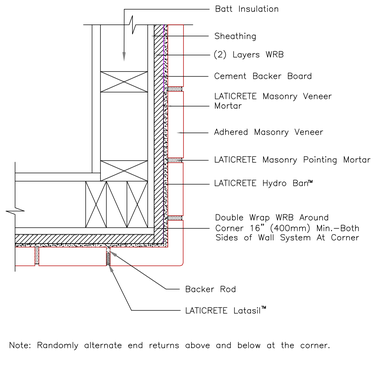


9 WINDOW HEAD CBB
Scale: N.T.S.



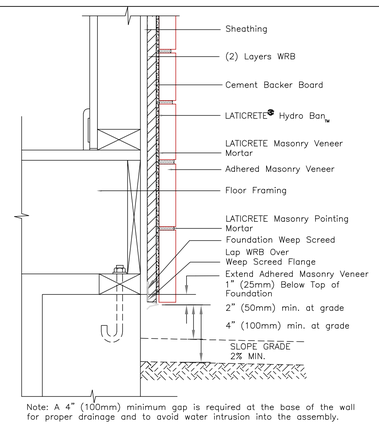
Note: Water–resistive barrier should be in place prior to soffit installation followed by adhered masonry veneer.

10 OPEN EAVE FLUSH
Scale: N.T.S.



Note: Randomly alternate end returns above and below at the corner.

11 OUTSIDE CORNER
Scale: N.T.S.



Note: A 4" (100mm) minimum gap is required at the base of the wall for proper drainage and to avoid water intrusion into the assembly.

12 FOUNDATION WALL BASE
Scale: N.T.S.

ISSUE FOR:

FOR INTER REVIEW ONLY	☐
BID ONLY	☐
PERMITS SET	☐
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

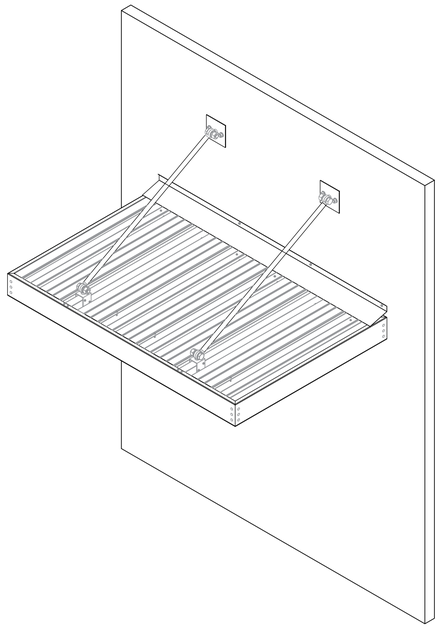
SEAL :

DATE: 05/16/2025

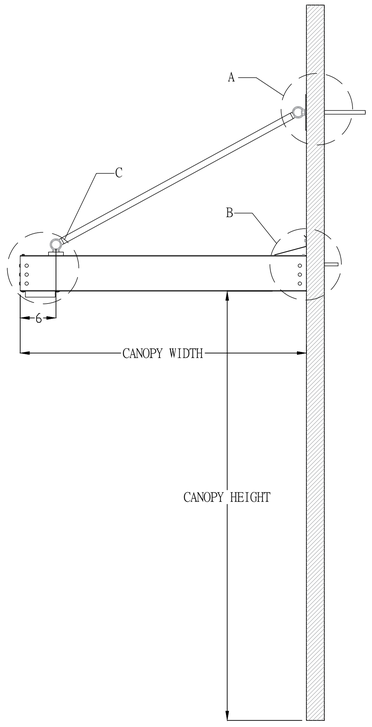
PROJECT NUMBER :	25-006
SCALE :	N.T.S.
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

TYPICAL THIN BRICK DETAILS

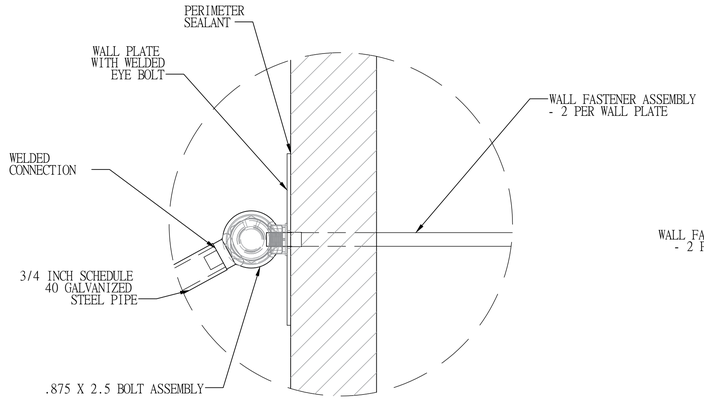
DRAWING NUMBER:
A-3.11



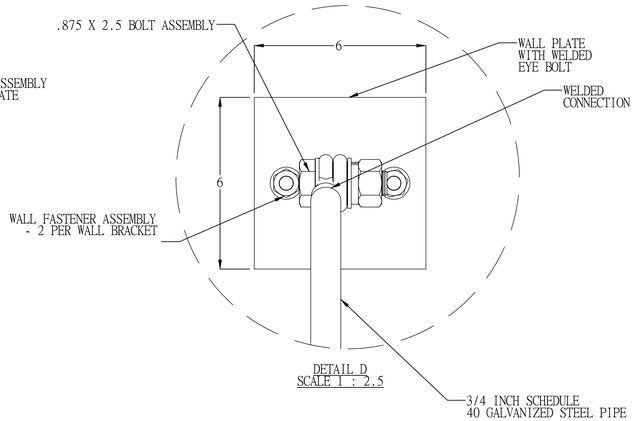
ISOMETRIC VIEW OF CANOPY



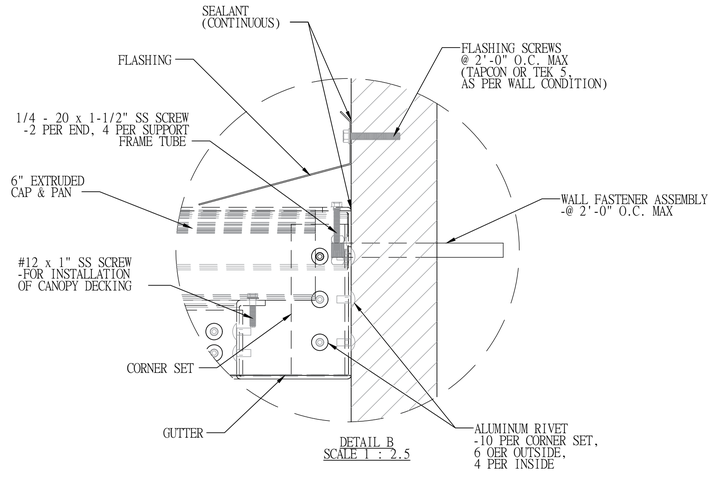
SECTION VIEW OF CANOPY



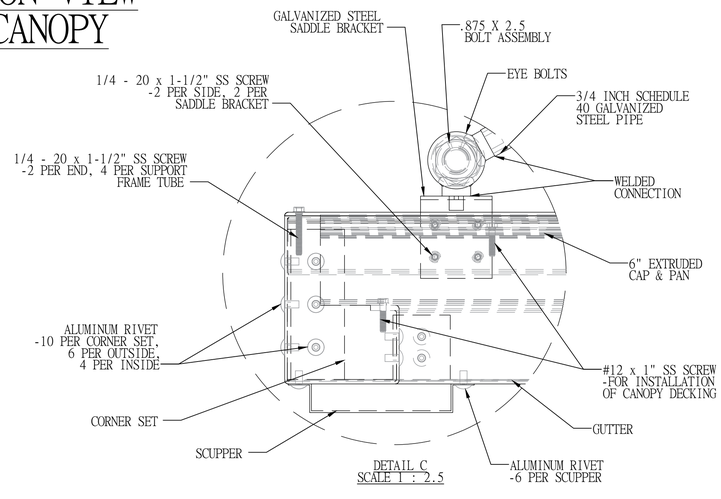
DETAIL A
SCALE 1 : 2.5



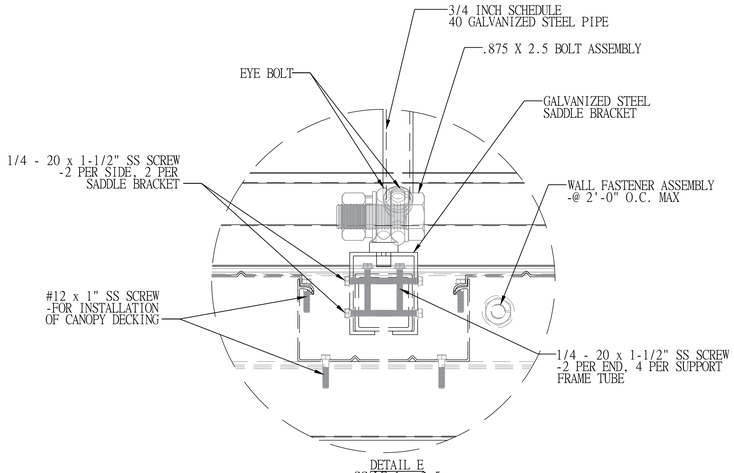
DETAIL D
SCALE 1 : 2.5



DETAIL B
SCALE 1 : 2.5



DETAIL C
SCALE 1 : 2.5



DETAIL E
SCALE 1 : 2.5

SPECIFICATIONS
Section 107312 - Overhead Supported Canopy-Round Rod

1.01 General Description of Work:
A. Work in this section shall include design and fabrication of pre-engineered aluminum canopies.
B. Canopies are to be fabricated and installed according to approved shop drawings.

1.02 Design Criteria:
A. International Building Code 2021
B. ASCE 7-10
C. Aluminum Design Manual 2021
D. Local governing codes and standards for site location

1.03 Materials:
A. All materials shall be extruded from aluminum unless indicated otherwise on the drawing.
B. Material sizes shall meet or exceed the design criteria on 1.02

1.04 Finishes:
A. Factory applied baked enamel to comply with AAMA 2603
B. Color selected from manufacturers standard colors

1.05 Manufacturers:
A. Mitchell Metals, LLC -www.mitchellmetals.net - 770-431-7300
B. Dittmer - www.dittdeck.com - 407-699-1755
C. See Specifications 2.1-C for conditions of equivalent systems by other manufacturers.

NOTES:
° ALL FASTENERS TO BE 300 SERIES STAINLESS STEEL OR ALUMINUM

ISSUE FOR:
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- CONSTRUCTION SET [x]

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
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PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

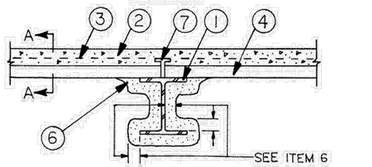
SEAL :

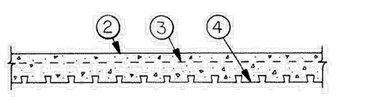
DATE: 05/16/2025

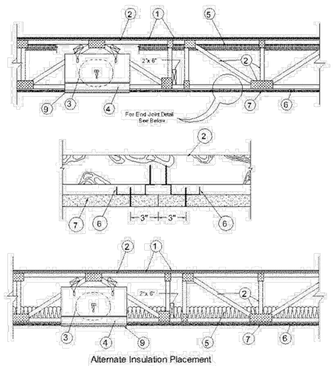
PROJECT NUMBER :	25-006
SCALE :	N.T.S.
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

TYPICAL CAT CANOPY DETAILS

DRAWING NUMBER:
A-3.12







ONLINE CERTIFICATIONS DIRECTORY

Design No. D904
BXUV.D904
Fire-resistance Ratings - ANSI/UL 263

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. D904

November 18, 2014

Restrained Assembly Ratings — 1-1/2, 2 and 3 Hr. (See Items 2 and 6)

Unrestrained Assembly Rating — 3/4 and 1-1/2 Hr. (See Item 4)

Unrestrained Beam Rating — 1, 1-1/2 Hr. (See Item 6)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

SEC.A-A

1. **Beam —** W10x29 or W8x28, min size. (See Item 6).

2. **Normal-Weight, Lightweight or Semi-Lightweight —** Normal weight concrete, carbonate or siliceous aggregate, 147 pcf unit weight, 3500 psi compressive strength. Lightweight concrete, expanded shale, clay or slate aggregate by rotary-kiln method or expanded clay or flyash aggregate by sintered-grate method, 112 pcf unit weight, 4000 psi compressive strength. Semi-Lightweight concrete, consisting of lightweight aggregate as described above and carbonate or siliceous normal weight aggregate, 130 pcf, 3500 psi compressive strength. Concrete thickness measured from the top of the crest of the deck.

Restrained Assembly Rating	Concrete (Type)	1.5 in. deep Deck Concrete Thickness (in.)	2.0 in. deep Deck Concrete Thickness (in.)
1-1/2	NW	3-1/4	2-3/4
2	NW	3-3/4	3-1/4
2	SLW	3-1/2	3
2	LW	3	2-1/2
3	NW	5-1/4	4-3/4
3	LS	3-3/4	3-1/4
3	SLW	4-1/2	4

3. **Welded Wire Fabric —** 6x6 — 6/6 SWG.

4. **Steel Floor and Form Units*; —** Composite. All 1-1/2 or 2 in. deep, 17, 18 or 24 in. wide, 22 MSG min galv fluted units. Welded to supports 12 in. O.C. max. Adjacent units button-punched or welded together 36 in. O.C. at joints. For 2 in. deep units with clear spans not more than 10 ft, the Unrestrained Assembly Rating is 1-1/2 hr.

CHIA TEH CONSTRUCTION MATERIAL CO LTD — Types ALK, ALN, Versa I, Versa II, and Versa III.

CONSOLIDATED SYSTEMS INC — 24 in. wide, Type Versa-Dek.

EPIC METALS CORP — Types EC, Bondek.

HARD DECK ENTERPRISES CO LTD — 36 in. wide Types HD-2W, HD-3W, HD-4W-620-51H, Type HD-4W-555-65H.

MARLYN STEEL DECKS INC — Type Marcore.

5. **Joint Cover —** Optional — (Not shown) — 2 in. wide cloth adhesive tape applied following the contour of the steel form units or around the end of each open flute.

6. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying in more than one coat to steel beam surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 15 and 14 pcf, respectively, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. For method of density determination, see Design Information Section, Sprayed Material. The Spray-Applied Fire Resistive Materials shall be applied to the floor units a min of 2 in. beyond each side of the beam's top flange at the beam thickness. Crest areas above the beam need not be filled with Spray-Applied Fire Resistive Materials.

The min thicknesses of Spray-Applied Fire Resistive Materials required for various fire resistance ratings are shown in the table below:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Min Beam Size	Min Thkns on Beam In.
1-1/2, 2, 3	1-1/2	W10x29	3/4
1-1/2, 2	1	W10x29	9/16
1-1/2, 2, 3	1-1/2	W8x28	3/4
1-1/2, 2	1	W8x28	1/2

BERLIN CO LTD — Types 300, 300ES, 300N or SB.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, or 400AC.

ISOLATEK INTERNATIONAL — Types 300, 300AC, Type 300ES, 300HS, 300N, SB, 400AC, 400ES, 3000, 3000ES.

NEWKEM PRODUCTS CORP — Types 300, 300ES, 300N, or SB.

In lieu of Item 6, **Spray-Applied Fire Resistive Materials*** — (Not shown)

6A. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying in more than one coat to steel beam surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 17.5 and 16 pcf, respectively, for Type 300TW. Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, see Design Information Section, Sprayed Material. The Spray-Applied Fire Resistive Materials shall be applied to the floor units a min of 2 in. beyond each side of the beam's top flange at the beam thickness. Crest areas above the beam need not be filled with Spray-Applied Fire Resistive Materials.

The min thicknesses of Spray-Applied Fire Resistive Materials required for various fire resistance ratings are shown in the table below:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Min Beam Size	Min Thkns on Beam In.
1-1/2, 2, 3	1-1/2	W10x29	3/4
1-1/2, 2	1	W10x29	9/16
1-1/2, 2, 3	1-1/2	W8x28	3/4
1-1/2, 2	1	W8x28	1/2

BERLIN CO LTD — Type 400.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400.

ISOLATEK INTERNATIONAL — Type 300TW or 400.

NEWKEM PRODUCTS CORP — Type 400.

In lieu of Item 6 and 6A, **Spray-Applied Fire Resistive Materials*** — (Not shown)

6B. Applied by spraying with water in one coat, to a final untamped thickness as shown above to steel beam surface which is free of dirt, oil, and scale. Use of adhesive is optional. Steel beam surfaces shall be wetted with water before sprayed-fiber application. The material shall be sprayed to the floor units a min of 2 in. beyond the beam's top flange at the beam thickness. Crest areas above the beam need not be filled with fiber. After completion of application, all surfaces of the material shall be given a light spray of water. Min avg untamped density, 13 pcf, with min ind untamped density, 11 pcf for Types II or DC/F. Min avg and min ind untamped densities of 22 and 19 pcf, respectively, for Type HP. For method of density determination, refer to Design Information Section.

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Min Beam Size	Min Thkns on Beam In.
1-1/2, 2, 3	1-1/2	W10x29	3/4
1-1/2, 2	1	W10x29	9/16
1-1/2, 2, 3	1-1/2	W8x28	3/4
1-1/2, 2	1	W8x28	1/2

ISOLATEK INTERNATIONAL — Type D-C/F, HP or Type II, Type EBS or Type X adhesive/sealer is optional.

7. **Shear-Connector Studs —** Optional — Studs, 3/4 in. diam by 3 in. long headed type or equivalent per AISC specifications. Welded to the top flange of the beam through the steel form units.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2014-11-18

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ONLINE CERTIFICATIONS DIRECTORY

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BXUV.L521
Fire-resistance Ratings - ANSI/UL 263

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. L521

December 12, 2014

Unrestrained Assembly Rating — 1 Hr

Finish Rating — 25 Min (See Items 5 and 5A)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Alternate Insulation Placement

1. **Flooring System —** The flooring system shall consist of one of the following:

System No. 1

Subflooring—Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier—(Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Floor—Min 1 by 4 in. T & G lumber installed perpendicular to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

System No. 2

Subflooring—Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier—(Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Floor Mat Materials* — (Optional) — Floor mat material nom 5/64 in. (2mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTscu 4002

HACKER INDUSTRIES INC — Type Hacker Sound-Mat.

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32mm) of floor-topping mixture.

ECORE INTERNATIONAL INC — Type QTrbm 3006-3

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II.

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/8 in. (3mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Qurl 55/025

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/8 in. (10mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Qurl 60/040

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Qurl 65/075

Metal Lath (Optional) — For use with 3/8 in. or 10 mm floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring - Floor Topping Mixture*—Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 3

Subflooring—Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier—(Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Floor - Mineral and Fiber Board*—Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

System No. 4

Subflooring—Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier—(Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* —Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

Floor Mat Materials*—(Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer\'s instructions regarding the minimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials* — (Optional) - Nom 3/8 in. thick floor mat material loose laid over the subfloor.

GRASSWORX L L C — Type SC50

Alternate Floor Mat Material* — (Optional) - Floor mat material nominal 3/8 in. thick loose laid over the subfloor. Floor topping shall be a min 1/2 in. thick.

OWENS CORNING — Type QuietZone Acoustical Floor Mat

System No. 5

Structural Cement-Fiber Units* — Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self- countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel.

UNITED STATES GYPSUM CO — Type STRUCTO-CRETE

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

Floor Mat Materials* — (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer\'s instructions regarding the minimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

2. **Trusses —** Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when no Ceiling Damper* is used and 18 in. when a Ceiling Damper* is used. Truss members secured together with min 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approx. 7/8 in. centers with four rows of teeth per inch of plate width.

3. **Air Duct* —** Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

4. **Ceiling Damper* —** For use with min 18 in. deep trusses. Max nom area shall be 324 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. . Max height of damper shall be 14 in. Aggregate damper openings shall not exceed 162 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS — Model RD-521

POTTORFF — Model CFD-521.

4A. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses. Max nom area shall be 196 sq in. with the length not to exceed 26 in. and the width not to exceed 14 in. Max height of damper shall be 7 in. Aggregate damper openings shall not exceed 98 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) not to exceed 144 in.^{2} shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS — Model RD-521-BT

POTTORFF — Model CFD-521-BT.

4B. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses. Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS — Models RD-521-IP, RD-521-NP

POTTORFF — Models CFD-521-IP, CFD-521-NP

4C. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer\'s installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.

DELTA ELECTRONICS INC — Model CRD2

5. **Batts and Blankets* —** (Optional) - Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 24 in. OC, no insulation shall be installed in the concealed space. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced a max of 12 in. OC or when the Steel Framing Members (Item 6B) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient or furring channels (or Steel Framing Members) and gypsum panel membrane. When **Steel Framing Members** (Item 6C) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ca) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Cd). The finished rating has only been determined when the insulation is secured to the subflooring.

5A. **Fiber, Sprayed* —** (Dry Dense Packed 100% Borate Formulation) — (Optional) - As an alternate to Item 5, When used, the resilient channel and gypsum board attachment is modified as specified in Items 6 and 7 and wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product. When Item 5A (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C or 6D.

U S GREENFIBER L L C — INS735, INS745, INS765LD & INS770LD to be used with dry application only.

5B. **Fiber, Sprayed* —** (Loose Fill 100% Borate Formulation) — (Optional) - As an alternate to Items 5 and 5A, The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a minimum dry density of 0.5 lb/ft^3 and at a max thickness of 3-1/2 in., in accordance with the application instructions supplied with the product. Wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. When Item 5B (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C or 6D.

U S GREENFIBER L L C — INS735, INS745, INS765LD & INS770LD to be used with dry application only.

6. **Resilient Channels —** Formed from min 25 MSG galv steel installed perpendicular to trusses. When there is no insulation installed in the concealed space the resilient channels are spaced 24 in. OC. When insulation , Item 5 is secured to the underside of the subfloor the resilient channels are spaced16 in. OC. When insulation, Items 5, 5A or 5B is applied over the resilient channel/gypsum panel ceiling membrane, the resilient channels are spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint as shown in the above illustration. Additional channels shall extend min 6 in. beyond each side edge of panel.

6A. **Steel Framing Members* —** (Not Shown) - As an alternate to Item 6.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5, 5A or 5B is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. course drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. When **Fiber, Sprayed** (Item 5B) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board shall be installed as described in Item 7.

PAC INTERNATIONAL INC — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

6B. **Steel Framing Members —** (Not Shown) - As an alternate to Items 6 and 6A, main runners, cross tees, cross channels and wall angle as listed below.

a. **Main Runners —** Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Hanger wires to be located adjacent to main runner/cross tee intersections. Hanger wires wrapped and twist-tied on 16d nails driven in to side of trusses at least 5 in. above the bottom face.

b. **Cross Tees or Channels —** Nom 4 ft long cross tees, with 15/16 in. or 1-1/2 in. wide face, or nom 4 ft long cross channels, with 1-1/2 in. wide face, either spaced 16 in. OC, installed perpendicular to the main runners. Additional cross tees or channels used 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

c. **Wall Angle or Channel —** Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls at perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum panel.

CGC INC — Type DGL or RX.

USG INTERIORS LLC — Type DGL or RX.

6C. **Steel Framing Members* —** (Not Shown) - As an alternate to Items 6, 6A and 6B.

a. **Furring Channels —** Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max. 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Cb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels —** 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Cd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking —** Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Cd) location.

d. **Steel Framing Members* —** Hangers spaced 48 in. OC. max along truss, and secured to the Blocking (Item 6Cc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer\'s instructions.

KINETICS NOISE CONTROL INC — Type ICW.

6D. **Steel Framing Members* —** (Not Shown) - As an alternate to Items 6, 6A, 6B and 6C.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to the bottom chord of alternating trusses with two No. 8 x 2-1/2 in. course drywall screws, one through the hole at each end of the clip. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 5B.

KINETICS NOISE CONTROL INC — Type Isomax.

6E. **Steel Framing Members* —** (Not Shown) - As an alternate to Items 6, 6A, 6B, 6C and 6D.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to the bottom chord of alternating trusses with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Not evaluated for use with Item 5B.

PLITEQ INC — Type Genie Clip

6F. **Steel Framing Members —** (Not Shown)* - As an alternate to items 6-6E, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 24 in OC, perpendicular to joists. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the trusses (Item 2). Clips spaced at 24" OC and secured to the bottom of the joists with one No. 10 x 2-1/2 Coarse Drywall Screw through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and screwed with four #8 x 1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Additional clips are required to hold the Gypsum Butt joints and side joints as described in item 7.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6G. **Steel Framing Members* —** (Not Shown) - As an alternate to Items 6 through 6F - Not for use with Items 5, 5A or 5B -Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

USG INTERIORS LLC — Type DGL or RX

7. **Gypsum Board* —** Nom 5/8 in. thick, 48 in. wide gypsum panels. When resilient channels (Item 6) are used, gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. When insulation (Items 5 or 5A) is applied over the resilient channel/gypsum panel ceiling membrane screw spacing shall be reduced to 8 in. OC. End joints secured to both resilient channels as shown in end joint detail. When **Steel Framing Members** (Item 6A) are used, gypsum panels installed with long dimensions perpendicular to furring channels. Panels attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC along butted end joints and in the field of the panel. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum panel shall be supported by a single length of furring channel equal to the width of the gypsum panel plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to underside of the truss with one clip at each end of the channel. When **Steel Framing Members*** (Item 6B) are used, gypsum panels installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Panels fastened to cross tees with 1 in. long . Type S bugle-head screws spaced in the field and 8 in. OC along end joints. Panels fastened to main runners with 1 in. long . Type S bugle-head screws spaced midway between cross tees. Screws along sides and ends of panels spaced 3/8 to 1/2 in. from panel edge. End joints of panels shall be staggered with spacing between joints on adjacent panels not less than 4 2 ft OC. When **Fiber, Sprayed** (Items 5A or 5B) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer gypsum board secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. End joints secured to both resilient channels as shown in end joint detail. Outer layer gypsum board secured with 1-5/8 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Outer layer shall be finished as described in Item 8. When both **Steel Framing Members** (Item 6A) and **Fiber, Sprayed** (Items 5A or 5B) are used, furring channels spaced 12 in. OC and two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimension perpendicular to furring channels. Base layer secured to furring channels with nom 1 in. long Type S bugle head screws spaced 8 in. OC along butted end joints and in the field of the board. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the underside of the truss with one clip at each end of the channel. Outer layer secured to furring channels using 1-5/8 in. long Type S screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min. of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min. 18 in. from butted side joints of base layer. When **Steel Framing Members** (Item 6C) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ca). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer. When **Steel Framing Members** (Item 6D) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered min 2 ft. within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two furring channels shall be spaced approximately 4 in. OC, and be attached to underside of the truss with one Isomax clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC in the field. The end of the outer layer boards at the butt joint shall be attached to the base layer boards with 1-5/8 in. long Type G screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min 18 in. from butted side joints of base layer. Outer layer shall be finished as described in Item 8. When **Steel Framing Members** (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide are installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels using 1 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered minimum 2 ft. within the assembly. Additional furring channels constructed as per Item 6E shall be used to support each end of each gypsum board. These additional furring channels shall be attached to underside of the truss with Genie clips as described in Item 6E. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field. The outer layer boards at the butt joint shall be attached to the base layer boards with No. 10, 1-1/2 in. long drywall screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min of 24 in. from base layer end joints. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer. When **Steel Framing Members** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end, spaced approximately 2 in. in from joint. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Butt joint furring channels shall be attached with a RESILMOUNT Sound Isolation Clip secured to underside of every truss that is located over the butt joint. Over all Gypsum Board side joints, approximately 20 in. lengths of furring channel shall be installed parallel to trusses (Item 2) between main furring channels. Side joint furring channels shall be attached to underside of the joist with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of the approximate 20 in. length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

When alternate **Steel Framing Members*** (Item 6G) are used, gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

CGC INC — Types C, IP-X2, IPC-AR.

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR.

BXUV.U906 - Fire-resistance Ratings - ANSI/UL 263 Page 1 of 2

ONLINE CERTIFICATIONS DIRECTORY

Design No. U906
BXUV.U906
Fire-resistance Ratings - ANSI/UL 263

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U906

April 20, 2015

Bearing Wall Rating — 2 HR.

Nonbearing Wall Rating — 2 HR.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

1. **Concrete Blocks* —** Nominal 6 by 8 by 16 in, hollow or solid. Various designs. Classification (2 hr).

See **Concrete Blocks** category for list of eligible manufacturers.

ANCHOR CONCRETE PRODUCTS INC

GAGNE & SON CONCRETE BLOCK INC

GLENWOOD MASONRY PRODUCTS

Allowable compressive stress of 57% of max allowable compressive stress in accordance with the empirical design method.

OLDCASTLE APG SOUTH INC, DBA ADAMS PRODUCTS

WESTBROOK CONCRETE BLOCK CO INC

Allowable compressive stress of 75.6% of max allowable compressive stress in accordance with the empirical design method.

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BXUV.U906 - Fire-resistance Ratings - ANSI/UL 263 Page 2 of 2

2. **Mortar —** Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster —** Add 1/2 hr to Classification if used. Attached to concrete blocks (Item 1).

4. **Foamed Plastic* —** (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).

ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation" and "EnergyShield Pro 2 Wall Insulation"

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ Sheath

HUNTER PANELS — Types Xci-Class A, Xci 286

RMAX OPERATING L L C — "TSX-8500", "TSX-8510", "Thermasheath-XP", "ECOMAXci", "Thermasheath-3", "Durasheath-3"

THE DOW CHEMICAL CO — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP) and TUFF-R™ ci Insulation

4A. **Building Units —** As an alternate to Item 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in., with a facer on one side and wood fiber board on the other.

RMAX OPERATING L L C — "Thermasheath-SI"

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2015-04-20

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ISSUE FOR:
FOR INTER REVIEW ONLY ☐
BID ONLY ☐
PERMITS SET ☐
CONSTRUCTION SET ☑

REVISIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

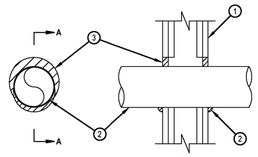
SEAL :

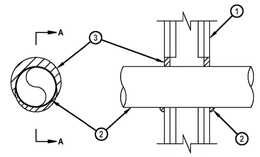
DATE: 05/16/2025

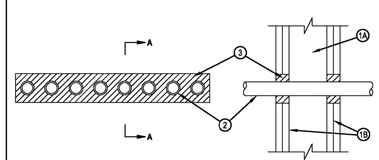
PROJECT NUMBER	25-006
SCALE :	N.T.S.
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

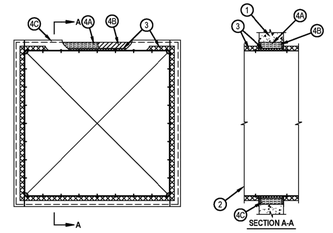
FIRE RATED WALL DETAILS (1/2)

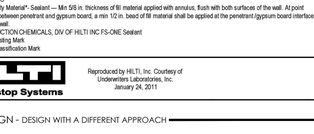
DRAWING NUMBER:
A-3.13

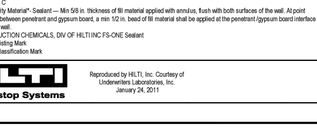


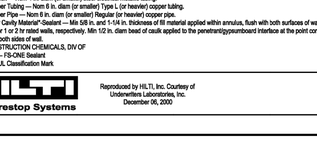


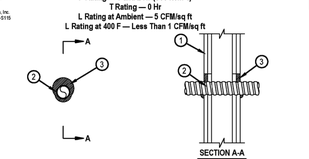


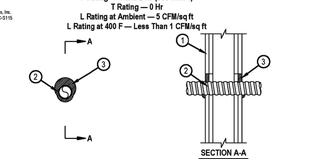


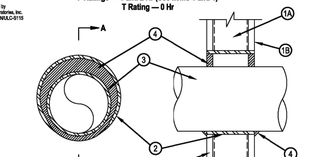


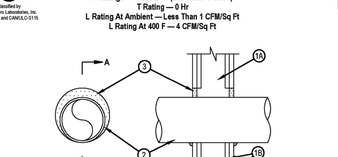


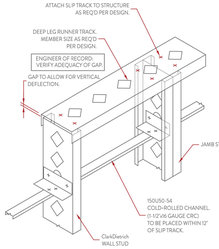


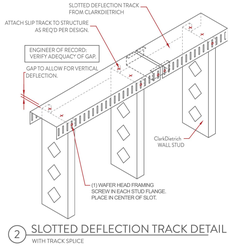












Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1175

F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr
L Rating at Ambient - Less Than 1 CFM/sq ft
L Rating at 400 F - Less Than 1 CFM/sq ft

SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features.

   A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Gypsum Board* — Nom 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the Fire Resistance Directory. Max diam of opening is 5-1/2 in.
   The hourly F and T Ratings of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrant — One metallic tubing or conduit installed concentrically or eccentrically within the firestop system. Tube or conduit to be rigidly supported on both sides of wall assembly. The annular space between the tube or conduit and periphery of the steel sleeve shall be min 0 in. (point contact) to max 1 in. The following types and sizes of metallic tube or conduit may be used:

   A. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing or steel conduit.

3. Fill Void or Cavity Material* — Putty — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At point contact location between penetrant and wall, a 1/4 in. crown of fill material shall be applied at the conduit/wall interface on both sides of the assembly, lapping 1/4 in. on the conduit and 1/4 in. beyond the periphery of the opening.
HILTI INC — CP618 Putty Stick

*Bearing the UL Classification Mark

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
February 08, 2006

WL 1175

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1175

F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr
L Rating at Ambient - Less Than 1 CFM/sq ft
L Rating at 400 F - Less Than 1 CFM/sq ft

SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features.
A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
B. Gypsum Board* — Nom 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the Fire Resistance Directory. Max diam of opening is 5-1/2 in.
The hourly F and T Ratings of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — One metallic tubing or conduit installed concentrically or eccentrically within the firestop system. Tube or conduit to be rigidly supported on both sides of wall assembly. The annular space between the tube or conduit and periphery of the steel sleeve shall be min 0 in. (point contact) to max 1 in. The following types and sizes of metallic tube or conduit may be used:
A. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
3. Fill Void or Cavity Material* — Putty — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At point contact location between penetrant and wall, a 1/4 in. crown of fill material shall be applied at the conduit/wall interface on both sides of the assembly, lapping 1/4 in. on the conduit and 1/4 in. beyond the periphery of the opening.
HILTI INC — CP618 Putty Stick
*Bearing the UL Classification Mark

Hilti Firestop Systems

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February 08, 2006

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1095

F Ratings — 1 & 2 Hr (See Item 1)
T Ratings — 1 & 2 Hr (See Item 3)
L Rating At Ambient — Less Than 1 CFM/Sq Ft
L Rating At 400 F — 4 CFM/Sq Ft

SECTION A-A

1. Wall Assembly — The 1 or 2 h fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Gypsum Board* — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max size of opening 2-5/8 in. by 18 in. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Electric Metallic Tubing (EMT) — One or more nom 1 in. diam steel electric tubing. The annular space shall be min 1/2 in. to a max 1 in. Conduit to be rigidly supported on both sides of wall assembly.
3. Fill, Void or Cavity Material* — Sealant — For 2 h F Rating, min 1-1/4 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. For 1 h F Rating, min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — FS-One Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

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January 02, 1997

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-J-7112

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 2 Hr
	FTH Rating — 0 Hr

SECTION A-A

Hilti Firestop Systems

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Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1214

F Rating — 1 Hr
T Rating — 0 Hr

SECTION A-A

1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified if the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of either wood studs or channel shaped steel studs. Wood studs to consist of 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide, fabricated from min 25 MSG galvanized steel, spaced max 24 in. OC.
   B. Wallboard, Gypsum* — One layer of nom 5/8 in. gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 2 in.
2. Through Penetrants — Flexible Steel Conduit+ — Nom 1 in. diam (or smaller) flexible steel conduit. Max one conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 3/4 in. Conduit to be rigidly supported on both sides of floor or wall assembly.
   See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Materials Directory for names of manufacturers.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. At point contact location between conduit and wall, a min 1/2 in. bead of fill material shall be applied at the conduit/wallboard interface on both side of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — FS-ONE Sealant

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October 19, 2000

WL 1214

System No. W-L-1214

F Rating — 1 Hr
T Rating — 0 Hr

SECTION A-A

1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified if the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:
A. Studs — Wall framing shall consist of either wood studs or channel shaped steel studs. Wood studs to consist of 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide, fabricated from min 25 MSG galvanized steel, spaced max 24 in. OC.
B. Wallboard, Gypsum* — One layer of nom 5/8 in. gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 2 in.
2. Through Penetrants — Flexible Steel Conduit+ — Nom 1 in. diam (or smaller) flexible steel conduit. Max one conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 3/4 in. Conduit to be rigidly supported on both sides of floor or wall assembly.
See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Materials Directory for names of manufacturers.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. At point contact location between conduit and wall, a min 1/2 in. bead of fill material shall be applied at the conduit/wallboard interface on both side of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — FS-ONE Sealant
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Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1148

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr (See Item 1)	F Rating — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1 and 2 Hr (See Item 1)
	FTH Rating — 0 Hr

SECTION A-A

1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of either wood studs or channel shaped steel studs. Wood studs to consist of 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide, fabricated from min 25 MSG galvanized steel, spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual U300 or U400 Series Designs in the UL Fire Resistance Directory. Max diam of opening is 13 in. (330 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of the assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or steel conduit.
3. Pipe Covering — Nom 2 in. (51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) fiberglass pipe covering with an all-service jacket. Pipe covering material to be min 9 in. long and installed on penetrant to extend 2 in. (51 mm) beyond both sides of wall surface. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap (SSL) tape. The annular space between the pipe covering and periphery of opening shall be min 0 in. (point contact) to max 3/8 in. (10 mm).
   See Pipe and Equipment Covering-Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. Fill, Void or Cavity Material* — Sealant — In 1 hr assemblies, min 5/8 in. (16 mm) thickness of fill material applied within annulus flush with both surfaces of wall. In 2 hr assemblies, min 1-1/4 in. (32 mm) thickness of fill material applied within annulus flush with both surfaces of wall. For both 1 and 2 hr assemblies, at point contact location between insulation and gypsum, a min 1/2 in. (13 mm) bead of fill material shall be applied on both sides of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

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Hilti Firestop Systems

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December 10, 2013

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-J-7112

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 2 Hr
	FTH Rating — 0 Hr

1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight 100-150 pcf (1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max area of opening is 76.2 sq ft. (7 m2) with a max width of 105-1/2 in. (2.7 m).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Steel Duct — Max 100 by 100 in. (2.5 by 2.5 m) steel duct to be installed within the framed opening. The duct shall be constructed and reinforced in accordance with SMACNA construction standards. Steel duct to be rigidly supported on both sides of wall assembly.
3. Batts and Blankets* — Nom 1-1/2 or 2 in. (38 or 51 mm) thick glass fiber batt or blanket (min 3/4 pcf or 12 kg/m3) jacketed on the outside with a foil-scrim-kraft facing. Longitudinal and transverse joints sealed with aluminum foil tape. During the installation of the fill material, the batt or blanket shall be compressed minimum 50% such that the annular space within the firestop system shall be min 1/2 in. (13 mm) to max 2 in. (51 mm).
   See Batts and Blankets (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index 50 or less may be used.
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant
   C. Steel Retaining Angles — Min No. 16 gauge (0.059 in. or 1.5 mm) galv steel angles sized to lap steel duct a min of 1 in. (25 mm) and lap wall surfaces a min of 2 in. (51 mm). Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC. When max duct dimension does not exceed 48 in. (122 cm) and duct area does not exceed 1300 in2 (8387 cm2), angles may be min No. 18 gauge galv steel. Angles attached to steel duct on both sides of wall with min No. 10 by 1/2 in. (13 mm) long steel sheet metal screws located a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC. When max 1-1/2 in. (38 mm) thick insulation is used, steel angles are optional for those sides of duct that do not exceed the dimension specified in Table below, dependent on packing material and annular space as specified.

Max Duct Dimension	Duct Thickness	Annular Space	Packing Material	Angle (Item 3C) Required
24 in. (610 mm)	24 ga or heavier	1/2 in. min to 1 in. max (13 to 25 mm)	Item 3A1	No

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Hilti Firestop Systems

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Page: 2 of 2

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1243

F Rating — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr
L Rating at Ambient — 5 CFM/sq ft
L Rating at 400 F — Less Than 1 CFM/sq ft

SECTION A-A

1. Wall Assembly — The 1 or 2 Hr. fire-rate gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Design in the Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of either wood studs or channel shaped steel studs. Wood studs to consist of 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide, fabricated from min 25 MSG galvanized steel, spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft. (1.2 m) wide with square or tapered edges. The gypsum board type, number of layers and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Designs in the UL Fire Resistance Directory. Max diam of opening is 3-1/2 in. (89 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through-Penetrant — Max one flexible metal pipe or conduit installed concentrically or eccentrically within opening. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1 in. (25 mm). Penetrant to be rigidly supported on both sides of wall assembly. The following types and sizes of penetrants may be used:
   A. Flexible Metal Conduit+ — Nom 2 in. (51 mm) diam (or smaller) aluminum or steel flexible conduit installed either concentrically or eccentrically within the firestop system. The annular space between conduit and periphery of opening shall be min 0 in. (point contact) to max 1 in. (25 mm). Conduit to be rigidly supported on both sides of wall assembly.
      See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Materials Directory for names of manufacturers.
   B. Through Penetrating Product* — Flexible Metal Piping — The following types of steel flexible metal gas piping may be used:
      1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping.
         OMEGA FLEX INC
      2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping.
         GASTITE, DIV OF TITEFLEX
3. Min 5/8 in. (16 mm) thickness of fill material applied with annulus, flush with both surfaces of the wall. At point contact location between penetrant and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the penetrant /gypsum board interface on both sides of wall.
   WARD MFG L L C
3. Fill, Void or Cavity Material*- Sealant — Min 5/8 in. thickness of fill material applied with annulus, flush with both surfaces of the wall. At point contact location between penetrant and gypsum board, a min 1/2 in. bead of fill material shall be applied at the penetrant /gypsum board interface on both sides of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC FS-ONE Sealant

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Hilti Firestop Systems

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January 24, 2011

WL 1243

System No. W-L-1243

F Rating — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr
L Rating at Ambient — 5 CFM/sq ft
L Rating at 400 F — Less Than 1 CFM/sq ft

SECTION A-A

1. Wall Assembly — The 1 or 2 Hr. fire-rate gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Design in the Fire Resistance Directory and shall include the following construction features:
A. Studs — Wall framing shall consist of either wood studs or channel shaped steel studs. Wood studs to consist of 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide, fabricated from min 25 MSG galvanized steel, spaced max 24 in. (610 mm) OC.
B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft. (1.2 m) wide with square or tapered edges. The gypsum board type, number of layers and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Designs in the UL Fire Resistance Directory. Max diam of opening is 3-1/2 in. (89 mm).
The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through-Penetrant — Max one flexible metal pipe or conduit installed concentrically or eccentrically within opening. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1 in. (25 mm). Penetrant to be rigidly supported on both sides of wall assembly. The following types and sizes of penetrants may be used:
A. Flexible Metal Conduit+ — Nom 2 in. (51 mm) diam (or smaller) aluminum or steel flexible conduit installed either concentrically or eccentrically within the firestop system. The annular space between conduit and periphery of opening shall be min 0 in. (point contact) to max 1 in. (25 mm). Conduit to be rigidly supported on both sides of wall assembly.
See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Materials Directory for names of manufacturers.
B. Through Penetrating Product* — Flexible Metal Piping — The following types of steel flexible metal gas piping may be used:
1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping.
OMEGA FLEX INC
2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping.
GASTITE, DIV OF TITEFLEX
3. Min 5/8 in. (16 mm) thickness of fill material applied with annulus, flush with both surfaces of the wall. At point contact location between penetrant and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the penetrant /gypsum board interface on both sides of wall.
WARD MFG L L C
3. Fill, Void or Cavity Material*- Sealant — Min 5/8 in. thickness of fill material applied with annulus, flush with both surfaces of the wall. At point contact location between penetrant and gypsum board, a min 1/2 in. bead of fill material shall be applied at the penetrant /gypsum board interface on both sides of wall.
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Hilti Firestop Systems

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January 24, 2011

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1164

F Ratings — 1 and 2 Hr (See Items 1 and 4)
T Rating — 0 Hr

SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening in steel stud walls is 32in.. Max diam of openings in wood stud walls is 14-1/2 in.
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Sleeve — Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve friction fit in nom 32 in. diam circular opening cut through gypsum board layers. Length of steel sleeve to be equal to thickness of wall.
3. Through-Penetrant — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the steel sleeve shall be min of 0 in. (point contact) to max 1-7/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. diam (or smaller) service weight (or heavier) cast iron soil pipe or Class 50 (or heavier) ductile iron pressure pipe.
   C. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing.
   D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Fill, Void or Cavity Material*-Sealant — Min 5/8 in. and 1-1/4 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. Min 1/2 in. diam bead of caulk applied to the penetrant/gypsumboard interface at the point contact location on both sides of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS-ONE Sealant

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Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1054

F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Sq Ft
L Rating At 400 F — 4 CFM/Sq Ft

SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.
   The F Rating of the firestop system is equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
   D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall .
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant

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December 04, 2002

Deep Leg Deflection Track Systems

Head-of-wall vertical deep leg deflection track systems are required to allow the top of the wall stud to float within the top track legs. This condition allows for vertical live load movement of the primary structure without transferring axial loads to the interior drywall studs. A gap (determined by the Engineer of Record) is required between the top of the wall stud and the deflection track.
- **Wall framing with Deflection Track is a non-composite design since the screws attaching the gypsum board are not directly attached to the top track.**

ProSTUD® Drywall Framing studs can be used with the three Deep Leg Track Systems listed below:

ProTRAK® Deep Leg Track

ProTRAK deep leg track is available with leg lengths of 2," 2-1/2" and 3" long. The wall studs are not fastened to the deflection track, and a row of lateral bracing is required within 12" of the deep leg track to prevent rotation and lateral movement of the studs. The deflection track system must be designed for the end reaction of the wall studs (point loads) and for the specific gap required for vertical deflection.

ProTRAK® Allowable Lateral Loads and Wall Heights

Deflection track system	2" Leg Track with 1/2" Gap		2-1/2" Leg Track with 3/4" Gap		3" Leg Track with 1" Gap	
	Allowable load (lbs)	Limiting wall height	Allowable load (lbs)	Limiting wall height	Allowable load (lbs)	Limiting wall height
ProTRAK 25	36	10' 8"	24	7' 2"	18	5' 4"
ProTRAK 20	52	15' 6"	34	10' 4"	26	7' 9"
ProTRAK 30MIL	92	27' 6"	61	18' 4"	46	13' 9"
ProTRAK 33MIL	113	33' 10"	75	22' 7"	56	16' 11"

Notes:
- Limiting wall heights are based on studs spaced at 16" o.c. and an interior lateral load of 5psf.
- Stud members must be analyzed independently of the track system. Use www.iProSTUD.com to check limiting wall heights for ProSTUD members.
- Stud failure modes relating to the deflection track connection (shear, web crippling, etc.) must be checked separately.

Structural Deep Leg Track (18ga & 16ga)

Structural Deep Leg Track systems are installed the same as the ProTRAK deep leg track system but are designed to handle tall wall systems.

For structural deep leg track allowable loads, contact Technical Services at 888-437-3244 or visit clarkdietrich.com.

Slotted Deflection Track from ClarkDietrich

The slotted deflection track is attached to the wall studs through vertical slots using wafer head screws, creating a positive connection that allows for vertical movement and also eliminates the requirement for lateral bracing near the top of the wall stud.

MaxTrak™ Allowable Lateral Loads and Wall Heights

Deflection track system	ProSTUD 25 (15mil, 50ksi)		ProSTUD 20 (18mil, 70ksi)		ProSTUD 30mil (33ksi)		ProSTUD 33mil (33ksi)	
	Allowable load (lbs)	Limiting wall height	Allowable load (lbs)	Limiting wall height	Allowable load (lbs)	Limiting wall height	Allowable load (lbs)	Limiting wall height
MaxTrak 30MIL	45	13' 6"	76	22' 10"	148	44' 4"	148	44' 4"
MaxTrak 33MIL	52	15' 7"	88	26' 5"	156	46' 10"	156	46' 10"

Notes:
- Allowable loads are based on screws through the slots located 1-1/4" from the track web.
- #8 minimum wafer head screws shall be used for stud-track connection.
- The above table is applicable to ProSTUD members only. ProSTUD allowable heights must be checked also.
- Allowable heights are based on 5psf and wall stud spacing at 16" o.c. with a max. gap of 7/8."

Complete information on Allowable Loads is available at clarkdietrich.com.

1 DEEP LEG DEFLECTION TRACK DETAIL
WITH LATERAL BRACING WITHIN 12" OF SLIP TRACK

Details shown are for example only. The engineer of record of the project is responsible for the design of the connection to the structure. Additional connection details can be found at clarkdietrich.com.

2 SLOTTED DEFLECTION TRACK DETAIL
WITH TRACK SPLICE

ClarkDietrich offers both the MaxTrak® Slotted Deflection Track and BlazeFrame® Integrated Fire Stop System. Find more information on these systems at clarkdietrich.com.

Complies with AISI S100-16 • AISI S220-15 • IBC 2018

clarkdietrich.com

The technical content of this literature is effective 8/17/21 and supersedes all previous information.

Pub. No. CD-ProSTUD 8/21

DEEP TOP TRACK DETAILS

ISSUE FOR:
FOR INTER REVIEW ONLY ☐
BID ONLY ☐
PERMITS SET ☐
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

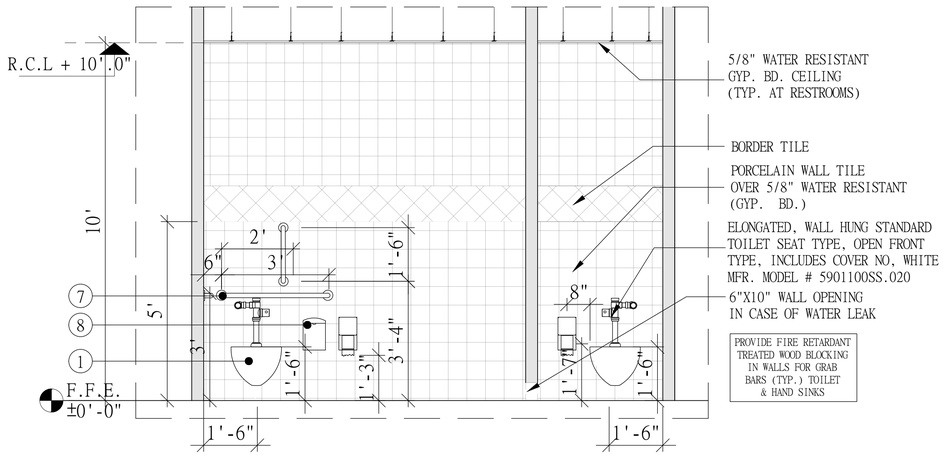
SEAL :

DATE: 05/16/2025

PROJECT NUMBER	:	25-006
SCALE	:	N.T.S.
DRAWN BY :		R.R
CHECKED BY:		A.B
SHEET TITLE :		

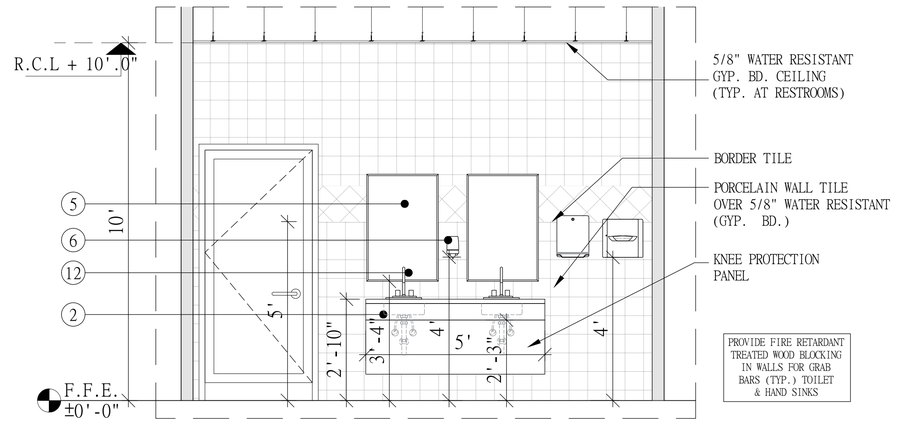
FIRE RATED WALL DETAILS (2/2)

DRAWING NUMBER:
A-3.14



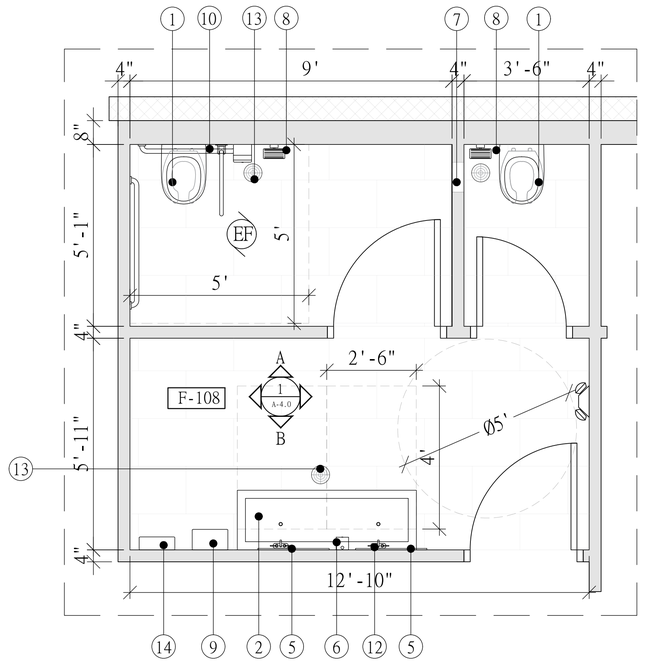
A WOMEN'S R.R. ADA STALL

Scale: 1/2"=1'-0"



B WOMEN'S R.R. LAVATORY SECTION

Scale: 1/2"=1'-0"



1 WOMEN'S RESTROOM FLOOR PLAN

Scale: 1/2"=1'-0"

GENERAL NOTES

GRAB BARS SHALL WITHSTAND 250LBS FORCE IN ANY DIRECTION.

GENERAL ADA NOTES

1. LAVATORY & WATER CLOSETS ARE TO BE SENSOR WATER CLOSET TO BE WALL HUNG- CONTRACTOR TO COORDINATE WITH THE OWNER
2. ADA HANDICAP SYMBOLS (W/BRAILLE, GRADE 2) LOCATED @ 2' ADJACENT TO DOOR LATCH SIDE & 60" TO CENTERLINE, OR AS REQUIRED BY LOCAL AUTHORITY.
3. GRAB BAR ALLOWABLE STRESSES SHALL NOT BE EXCEEDED FOR MATERIALS USED WHEN A VERTICAL OR HORIZONTAL FORE OF 250 POUNDS IS APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE (TAS SECTION 609.8)
4. GRAB BAR ON SIDE WALL TO BE OFFSET 12" MAX FROM REAR WALL.
5. PROVIDE 1 1/2" CLEARANCE BETWEEN GRAB BAR & WALL.
6. HOT WATER & DRAIN PIPES UNDER LAV. SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT.
7. ACCESSIBLE RESTROOM FLOORS SHALL HAVE A SMOOTH, HARD, NON-ABSORBENT SURFACE THAT EXTENDS UPWARD ONTO THE WALL NOT LESS THAN 4 INCHES. (AS PER IBC 2021 SEC. 1210.2.1)

KEYED NOTES

1 WALL HUNG WATER CLOSET
2 COMBINED WASH BASIN
3 WASH BASIN COUNTERTOP (NANAO MARBLE)
4 WALL MOUNTED URINAL
5 FACIAL MIRROR
6 SOAP DISPENSER
7 GRAB BARS
8 DOUBLE-ROLL TOILET TISSUE DISPENSER
9 AUTOMATIC WALL RECESS PAPER TOWEL DISPENSER
10 SANITARY NAPKIN DISPOSAL
11 EXIT SIGNAGE
12 FAUCET
13 TYP. FLOOR DRAIN
14 WALL RECESS HAND DRYER
15 DIAPER CHANGING

Bradley

812
Grab Bar

1½" O.D. heavy duty stainless steel grab bar with concealed mounting:

Product Materials

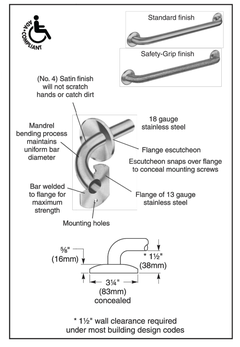
FLANGES: 3⁄16" dia. 13 gauge stainless steel.
ESCUTCHEONS: 22 gauge stainless steel. One-piece drawn construction with exposed surfaces in architectural satin finish. Snap over flanges to conceal mounting screws.
TUBING: 1¼" O.D. 18 gauge stainless steel, seamless construction with exposed surfaces in architectural satin finish. Bent ends of tubing pass thru the flanges and are welded for maximum strength. Intermediate supports are contour cut and joined by welding to form an integral part of the grab bar. All exposed welds ground and polished to blend. Mandrel bending process maintains uniform bar diameter. Return provides 1½" standard safety clearance between wall and bar.

Strength

When properly mounted, all Bradley heavy duty grab bar systems meet or exceed the requirements of ANSI Standard A117.1, the ADA and ABA Accessibility Guidelines for Buildings and Facilities (ADAAG), and the Uniform Federal Accessibility Standard (UFAS). All standard (non-bariatric) grab bars are rated to support up to 250 pounds. Please see Bradley's website for more information on all bariatric grab bar configurations.

Installation

For instructions on installation, warnings and maintenance, please visit www.bradleycorp.com.



Optional Features

Features	Suffix
☐ Safety-grip finish	-2
☐ High-polish finish	-4
☐ Safety grip with high-polished finish: 001-18, 001-24, 001-36, 001-36-10, 001-42, 001-42-10 only	-7
☐ Antimicrobial finish: 1-1/2" - 001-18, 001-24, 001-36 & 001-42 only	-AM

Bradex® Models

Configuration Number	Shipping Data		Configuration Number	Shipping Data	
	Cu. Ft.	Wt. Lbs.		Cu. Ft.	Wt. Lbs.
001-18"	0.14	2	001-42"	0.15	4
001-24"	0.14	3	001-42"-10	3.14	37.67
001-30"	0.15	3	001-48"	0.25	4
001-36"	0.15	3	059**	2.85	7
001-36-10	2.40	30.46			

NOTE: These units must ship via common carrier.
** 059: 40" x 52" Standard Dimensions.

ADA Compliant

- ☑ Consult local and national accessibility codes for proper installation guidelines.
- ☑ Conformity and compliance to local and national codes is the responsibility of the installer.

Orders composed of products indicated as ***Bradex***® will be available to ship in three days after receipt of order at the factory. There is no pricing penalty for this service from Bradley.

Page 1 of 1 3/27/2018
This information is subject to change without notice.
Bradley_GrabBar_812

P.O. Box 309, Menomonee Falls, WI 53052-0309
800 BRADLEY (800 272 3539) +1 262 251 6000
bradleycorp.com

GRAB BAR DETAILS

ISSUE FOR:
FOR INTER REVIEW ONLY
BID ONLY
PERMITS SET
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

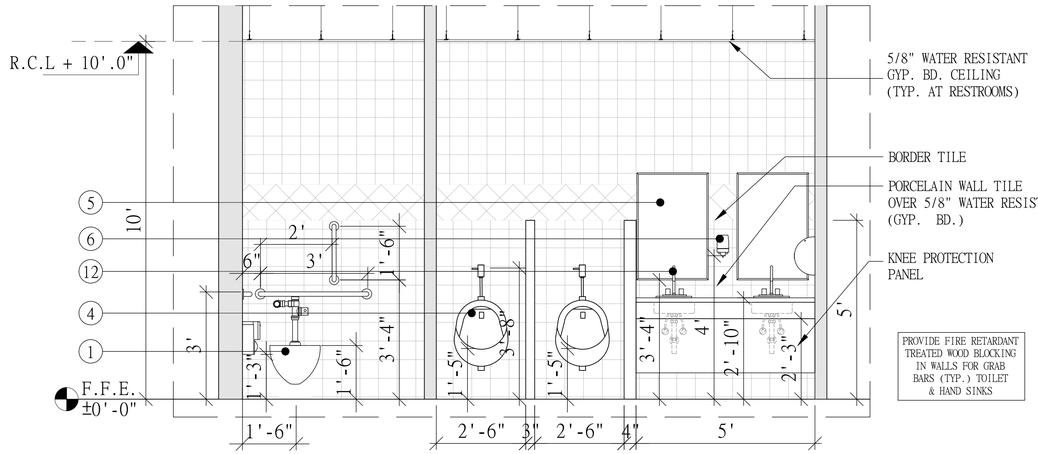
SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	1/2"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

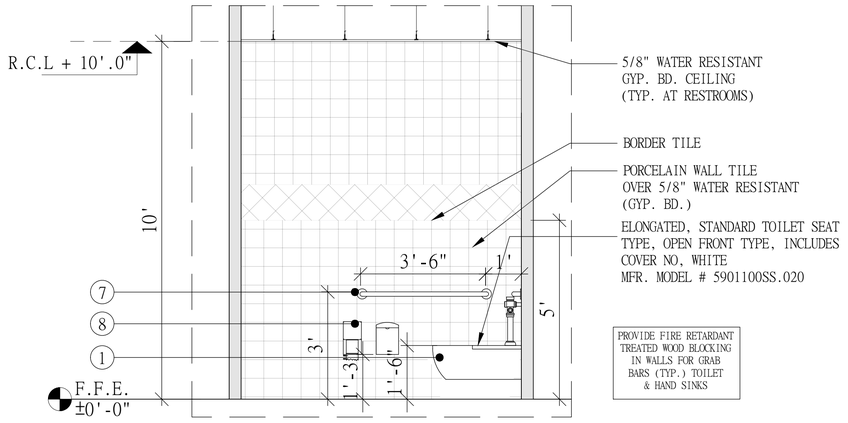
RESTROOM-1 DETAILS

DRAWING NUMBER:
A-4.0



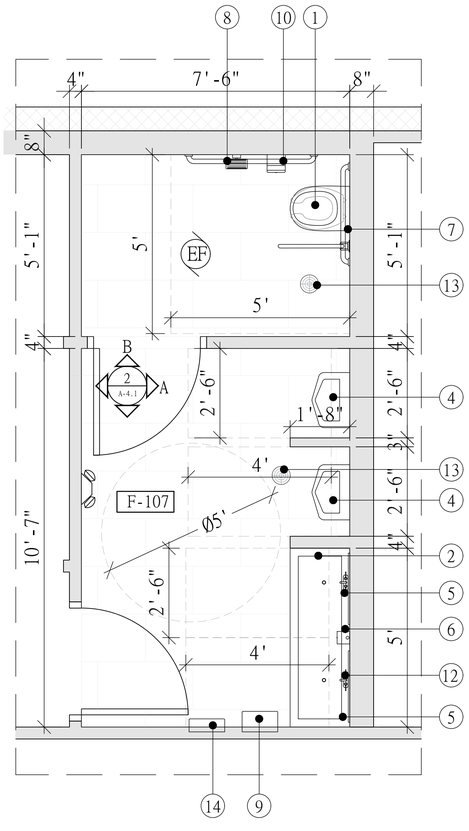
A MEN'S R.R. LAVATORY SECTION

Scale: 1/2"=1'-0"



B MEN'S R.R. ADA STALL

Scale: 1/2"=1'-0"



2 MEN'S RESTROOM FLOOR PLAN

Scale: 1/2"=1'-0"

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12 FAUCET
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14 WALL RECESS HAND DRYER
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Bradley

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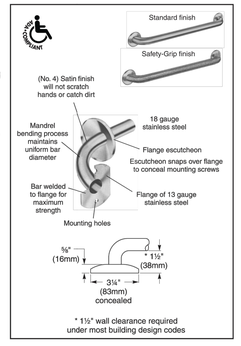

Optional Features

Features	Suffix
☐ Safety-grip finish	-2
☐ High-polish finish	-4
☐ Safety grip with high-polished finish: 001-18, 001-24, 001-36, 001-36-10, 001-42, 001-42-10 only	-7
☐ Antimicrobial finish: 1-1/2" - 001-18, 001-24, 001-36 & 001-42 only	-AM

Bradex® Models

Configuration Number	Shipping Data Cu. Ft.	Wt. Lbs.	Configuration Number	Shipping Data Cu. Ft.	Wt. Lbs.
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001-24*	0.14	3	001-42*-10	3.14	37.67
001-30*	0.15	3	001-48*	0.25	4
001-36*	0.15	3	059**	2.85	7
001-36-10	2.40	30-46			

NOTE: These units must ship via common carrier.
** 059: 40" x 52" Standard Dimensions.

ADA Compliant

☑ Consult local and national accessibility codes for proper installation guidelines.
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Page 1 of 1 3/27/2018
This information is subject to change without notice.
Bradley_GrabBar_812

P.O. Box 309, Menomonee Falls, WI 53052-0309
800 BRADLEY (800 272 3539) +1 262 251 6000
bradleycorp.com

GRAB BAR DETAILS

ISSUE FOR:
FOR INTER REVIEW ONLY ☐
BID ONLY ☐
PERMITS SET ☐
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

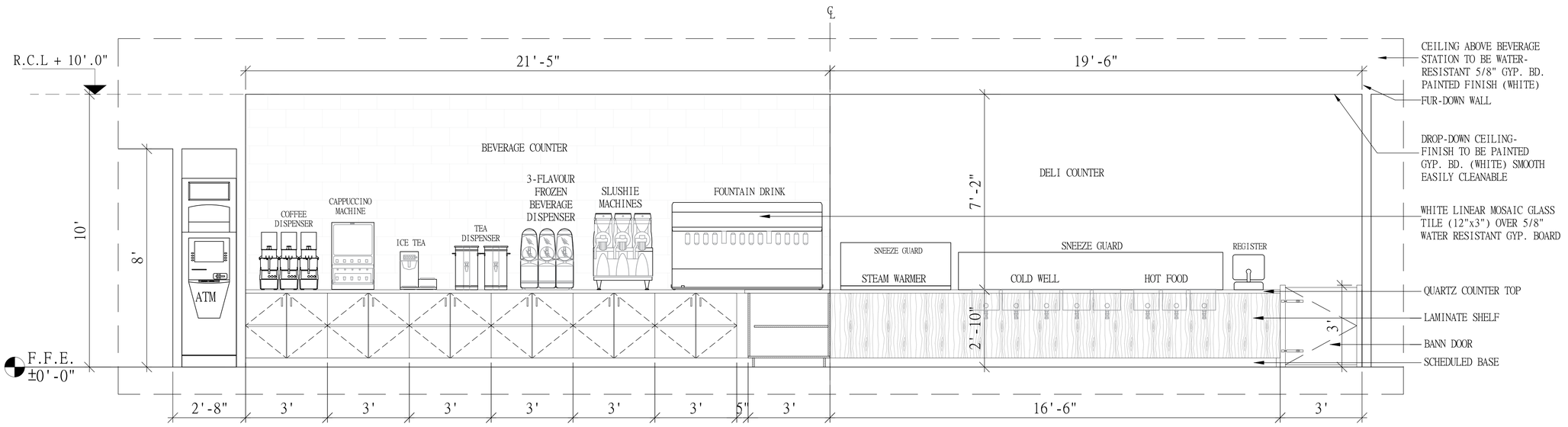
SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	1/2"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

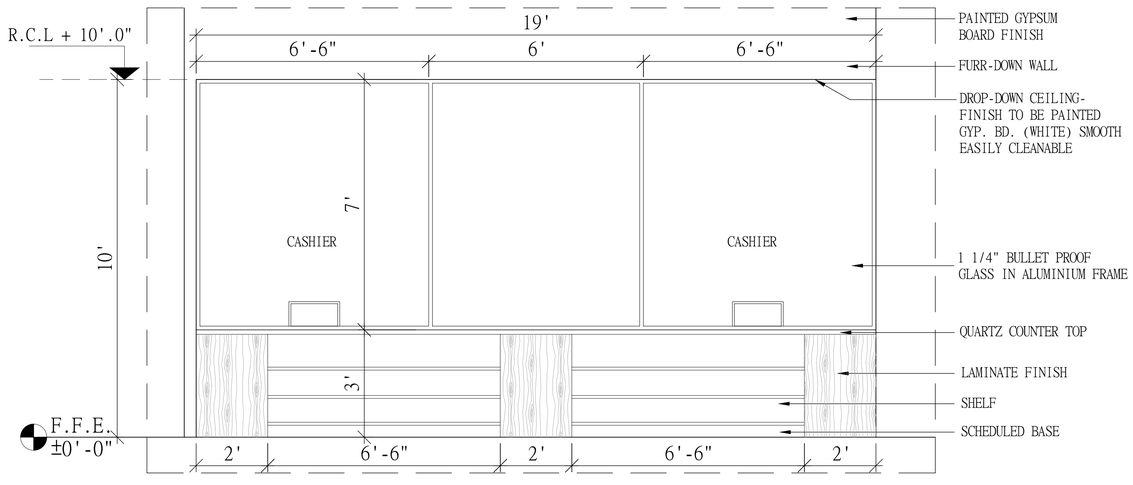
RESTROOM-2 DETAILS

DRAWING NUMBER:
A-4.1



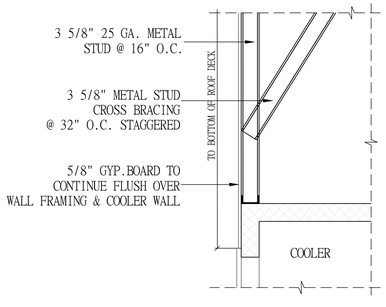
4 DELI COUNTER & BEVERAGE AREA

Scale: 1/2"=1'-0"



3 CASHIER AREA

Scale: 1/2"=1'-0"



TYPICAL DETAIL WALL ABOVE COOLER

Scale: 3/4"=1'-0"

ISSUE FOR:

FOR INTER REVIEW ONLY	
BID ONLY	
PERMITS SET	
CONSTRUCTION SET	☑

REVISIIONS:

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MAKMO DESIGN
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PROPOSED GAS STATION & C-STORE
LOCATED AT
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SEAL :

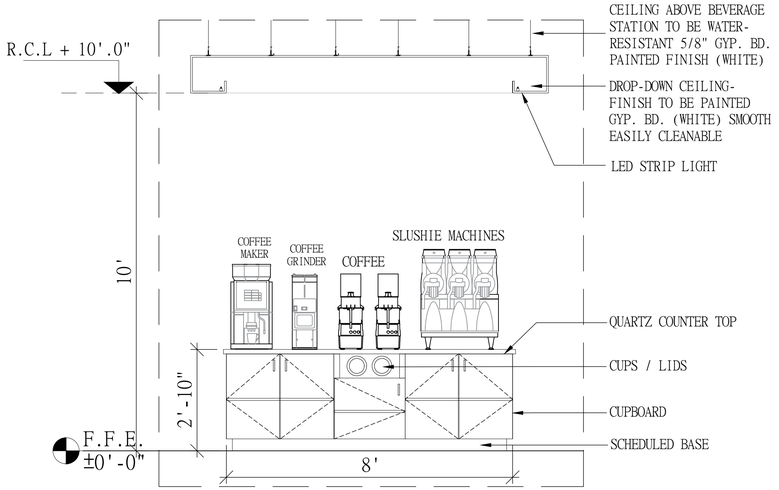
DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	1/2"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

INTERIOR DETAILS (1/3)

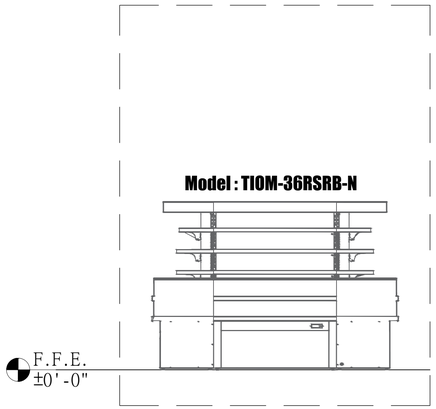
DRAWING NUMBER:

A-4.2



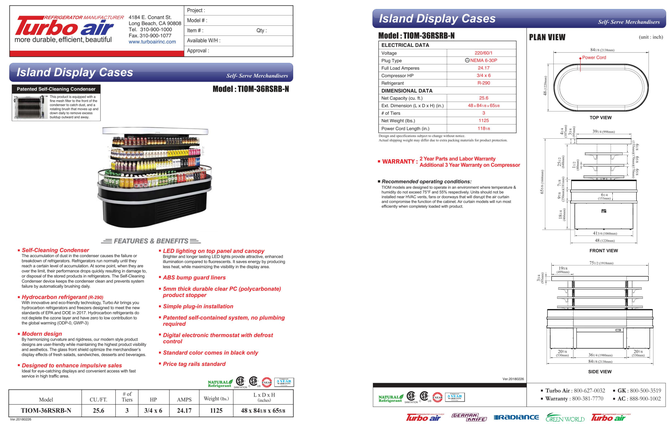
7 BEVERAGE ISLAND

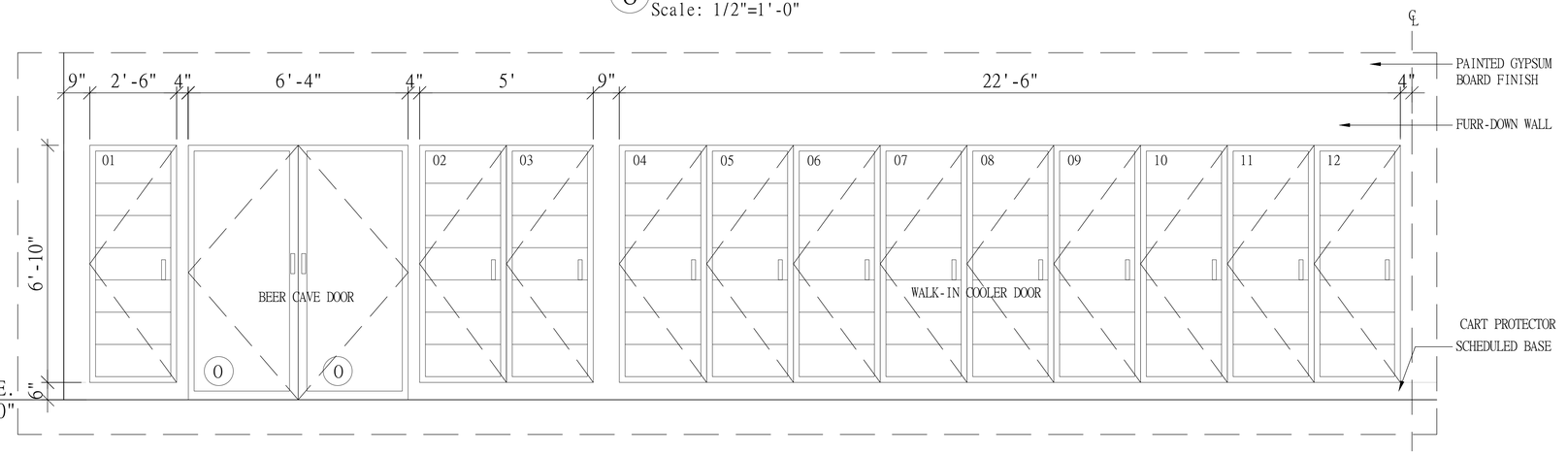
Scale: 1/2"=1'-0"



8 ISLAND DISPLAY CASES

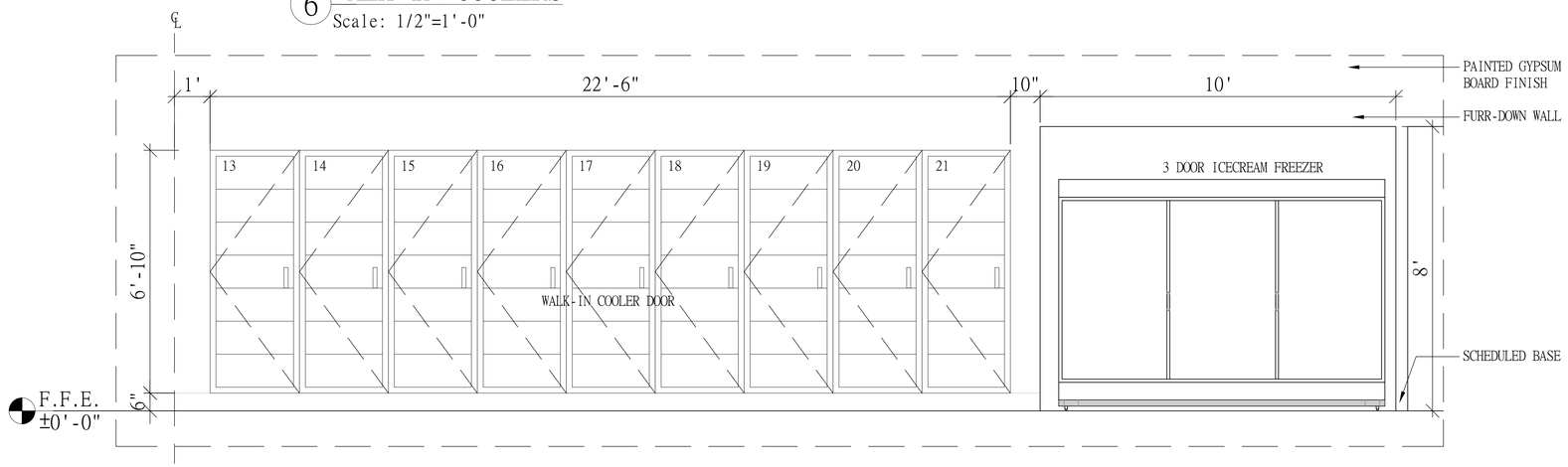
Scale: 1/2"=1'-0"





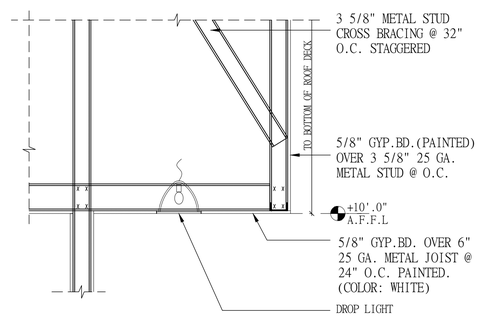
6 WALK-IN COOLERS

Scale: 1/2"=1'-0"



5 WALK-IN COOLERS

Scale: 1/2"=1'-0"



TYP. SEC. DETAIL AT DROP SOFFIT WALL

Scale: 3/4"=1'-0"

ISSUE FOR:

- FOR INTER REVIEW ONLY
- BID ONLY
- PERMITS SET
- CONSTRUCTION SET [x]

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE

LOCATED AT

4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

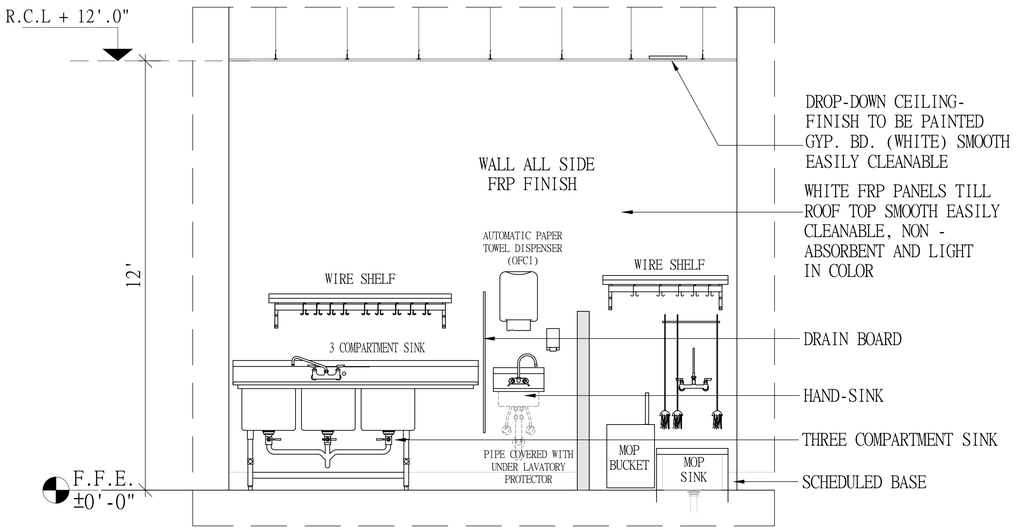
DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	1/2"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

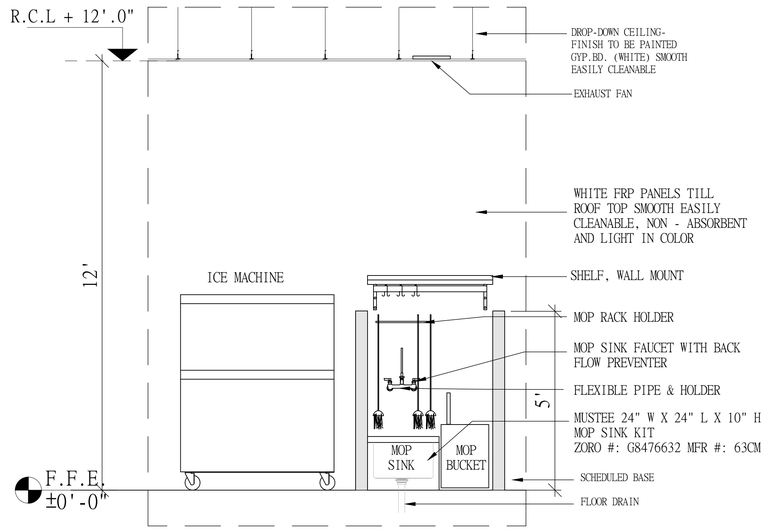
INTERIOR DETAILS (2/3)

DRAWING NUMBER:

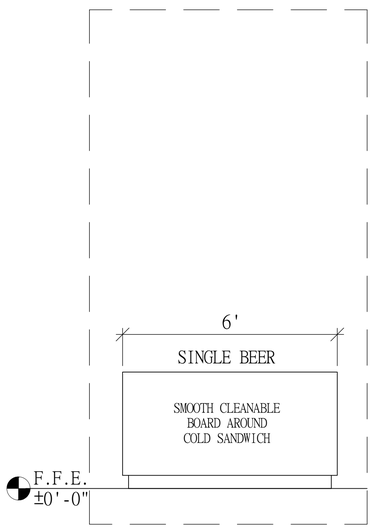
A-4.3



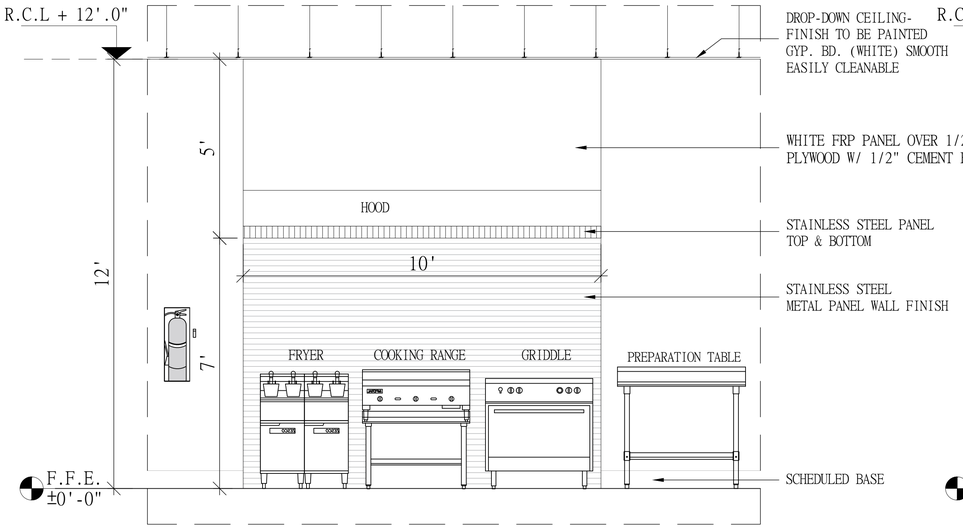
12 STORAGE/UTILITY
Scale: 1/2"=1'-0"



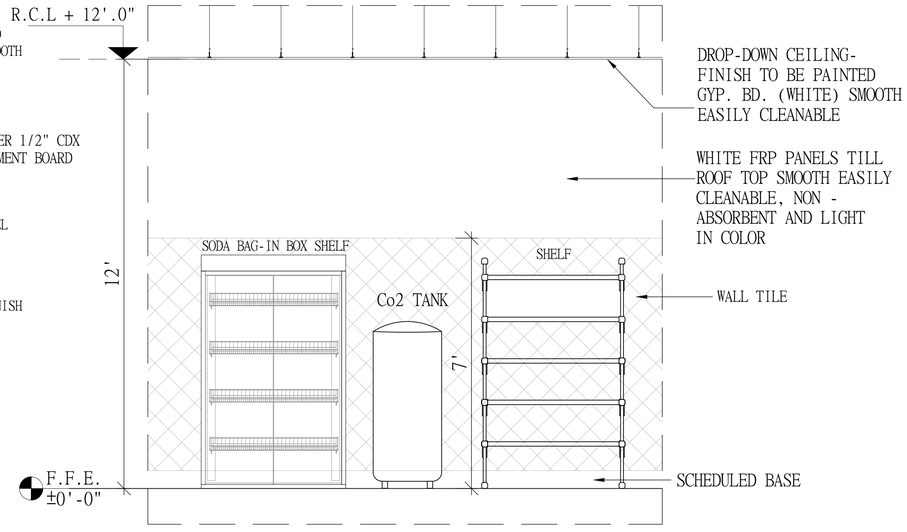
13 UTILITY AREA
Scale: 1/2"=1'-0"



9 SINGLE BEER BOX
Scale: 1/2"=1'-0"



10 FOOD PREPARATION
Scale: 1/2"=1'-0"



11 EMPLOYEES LOCKER
Scale: 1/2"=1'-0"

ISSUE FOR:

FOR INTER REVIEW ONLY	
BID ONLY	
PERMITS SET	
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

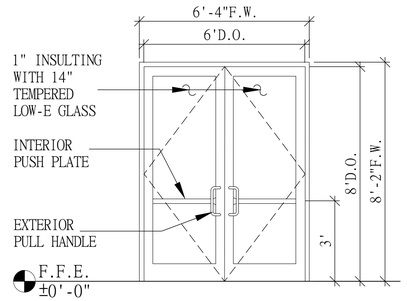
SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	1/2"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

INTERIOR DETAILS (3/3)

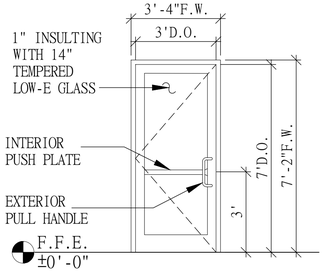
DRAWING NUMBER:
A-4.4



DOOR NO:	MD 01
LOCATION:	ENTRANCE
OPENING:	SIDE HUNG DOOR
FRAME:	METAL DOUBLE GLAZED, (MILL FINISH)
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING

HARDWARE:
HINGES: BY DOOR MANUFACTURER
CLOSER: BY DOOR MANUFACTURER TAS/ ADA
FLOOR STOP: IVES 436B, US26D
LOCK: CYLINDER LOCK OUTSIDE, NO DEAD BOLT.
PANIC DEVICE: PANIC BAR ON THE INSIDE, BY DOOR MANUFACTURER.

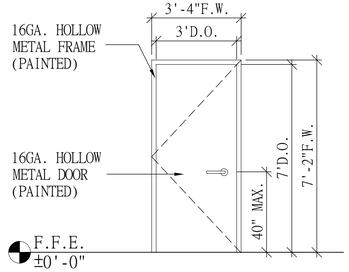
NOTE;
1.MANUFACTURE TO PROVIDE WEATHER STRIPPING BOTTOM SWEEP & OVERHEAD DRIP EDGE.



DOOR NO:	MD 02
LOCATION:	VESTIBULE
OPENING:	SIDE HUNG DOOR
FRAME:	METAL DOUBLE GLAZED, (MILL FINISH)
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING

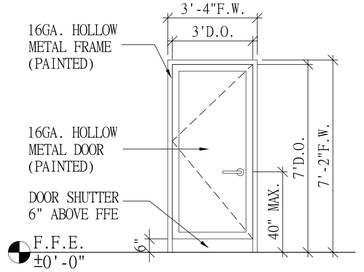
HARDWARE:
HINGES: BY DOOR MANUFACTURER
CLOSER: BY DOOR MANUFACTURER TAS/ ADA
FLOOR STOP: IVES 436B, US26D
LOCK: CYLINDER LOCK OUTSIDE, NO DEAD BOLT.
PANIC DEVICE: PANIC BAR ON THE INSIDE, BY DOOR MANUFACTURER.

NOTE;
1.MANUFACTURE TO PROVIDE WEATHER STRIPPING BOTTOM SWEEP & OVERHEAD DRIP EDGE.



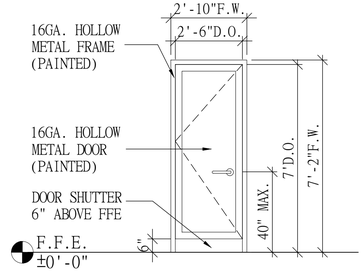
DOOR NO:	MD 03
LOCATION:	OFFICE, STORAGE
OPENING:	SIDE HUNG DOOR
FRAME:	HOLLOW METAL FRAME (MILL FINISH)
LEAF:	METAL SANDWICH PANEL (MILL FINISH)

HARDWARE:
HINGES: 1½ PAIR BUTTS, HAGER - BB-1279 4½ x 4 652.
CLOSER: NORTON 689 8501
LOCK: SCHLAGE AL 80 PD SAT 626.
STOP: HAGAR WALL STOP 236W 630



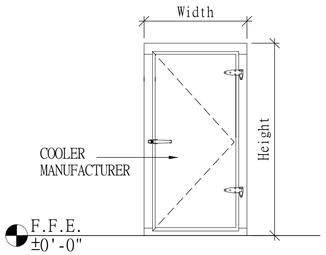
DOOR NO:	MD 04
LOCATION:	RESTROOM
OPENING:	SIDE HUNG DOOR
FRAME:	HOLLOW METAL FRAME (MILL FINISH)
LEAF:	METAL SANDWICH PANEL (MILL FINISH)

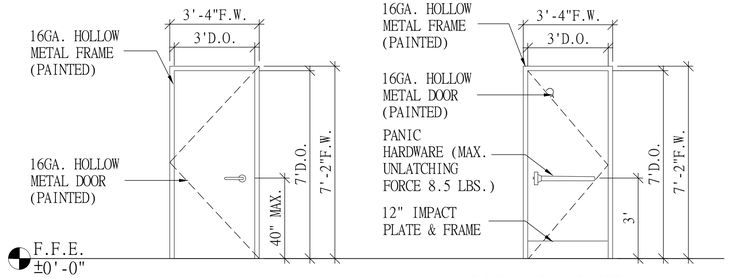
HARDWARE:
HINGES: 1½ PAIR BUTTS, HAGER - BB-1279 4½ X4 652.
CLOSER: NORTON 689 8501
LOCK: SCHLAGE PRIVACY AL 40S SAT 626.
STOP: HAGER WALL STOP 236W 630
KICK PLATE: HAGER 190S 16"x34" 630



DOOR NO:	MD 05
LOCATION:	RESTROOM
OPENING TYPE:	SIDE HUNG DOOR
FRAME:	HOLLOW METAL FRAME (MILL FINISH)
LEAF:	METAL SANDWICH PANEL (MILL FINISH)

HARDWARE:
HINGES: 1½ PAIR BUTTS, HAGER - BB-1279 4½ X4 652.
CLOSER: NORTON 689 8501
LOCK: SCHLAGE PRIVACY AL 40S SAT 626.
STOP: HAGER WALL STOP 236W 630
KICK PLATE: HAGER 190S 16"x34" 630



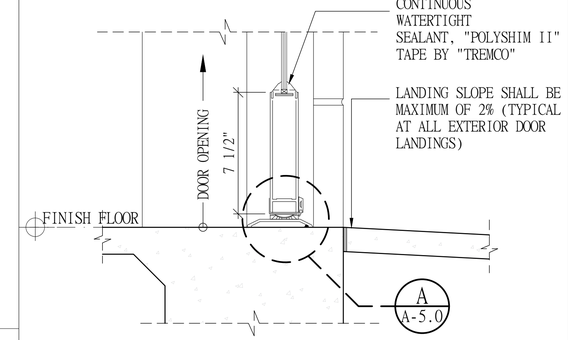


(DOOR VIEWED FROM INSIDE)

DOOR NO:	MD 06
LOCATION:	COOLER & FREEZER
OPENING TYPE:	SIDE HUNG DOOR
FRAME:	COOLER MANUFACTURER
LEAF:	COOLER MANUFACTURER

DOOR NO:	MD 07
LOCATION:	EXIT DOOR
OPENING TYPE:	SIDE HUNG DOOR
FRAME:	HOLLOW METAL FRAME (MILL FINISH)
LEAF:	METAL SANDWICH PANEL (MILL FINISH)

HARDWARE:
HINGES: 1½ PAIR BUTTS, HAGER - BB-1279 4½ X4 652.
CLOSER: NORTON 689 8501
LOCK: SCHLAGE AL 80 PD SAT 626.
SEAL: PEMKO PILE SEAL 369AP84
WEATHERSTRIP: HAGER 770S BOTTOM SWEEP, HAGER 711S OVERHEAD DRIP GUARD.
PANIC DEVICE: PANIC BAR ON THE INSIDE.



DETAIL: TYPICAL DOOR LANDING SCALE: N.T.S.

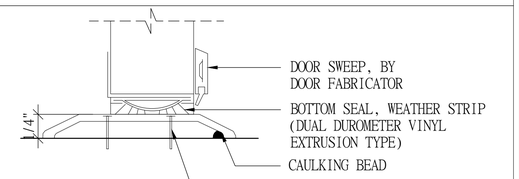
GENERAL NOTES: DOORS

EGRESS DOORS

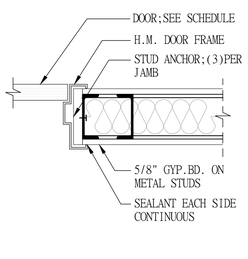
GENERAL CONTRACTOR SHALL POST A READILY-VISIBLE DURABLE SIGN ON THE EGRESS SIDE OR ADJACENT TO THE DOOR STATING: "THIS EXIT TO REMAIN UNLOCKED WHEN THIS BUILDING IS OCCUPIED". THE SIGN SHALL BE IN LETTERS I INCH HIGH ON CONTRASTING BACKGROUND.

HARDWARE

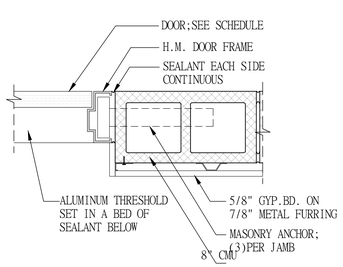
* ALL HARDWARE SHALL BE PROVIDED & INSTALLED BY DOOR SUPPLIER.
* CLOSERS SHALL COMPLY WITH ADA REQUIREMENTS AND SHALL NOT REQUIRE MORE THAN 8.5 LBS TO OPERATE.
* DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON DOORS ARE REQUIRED TO BE ACCESSIBLE (IBC 2021 SEC. 1008.1.9)
* EGRESS BACK DOORS TO PROVIDE A PANIC EXIT DEVICE WITH LOCKING LEVER TRIM OR EQUIVALENT (IBC 2021 SEC. 1008. 1.8.5)



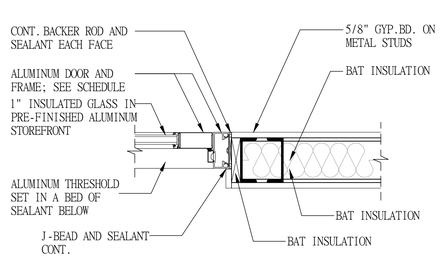
DETAIL: TYPICAL ADA ALUMINUM THRESHOLD INSTALLATION INSTRUCTIONS SCALE: N.T.S.



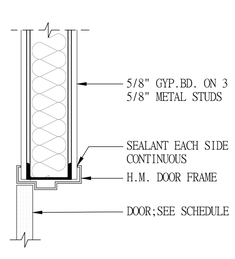
TYP. JAMB DETAIL -1
Scale: NTS.



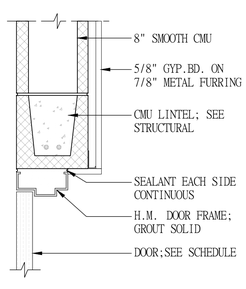
TYP, JAMB DETAIL -2
Scale: NTS.



TYP. JAMB DETAIL -3
Scale: 1 1/2"=1'-0"



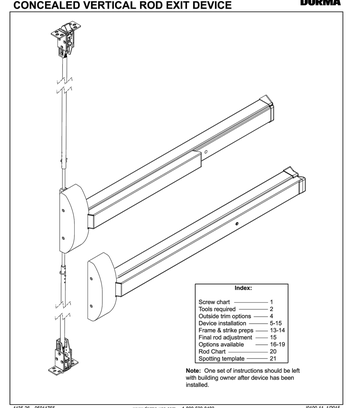
TYP. HEAD DETAIL -1
Scale: NTS.



TYP. HEAD DETAIL -2
Scale: NTS.

9100/F9100 & 9100FL/F9100FL SERIES
CONCEALED VERTICAL ROD EXIT DEVICE

DORMA



1135-26 9501755 www.dorma-usa.com 1-800-523-8483 9100-11 10/15

INTERIOR PUSH PLATE

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PERMITS SET
CONSTRUCTION SET ☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

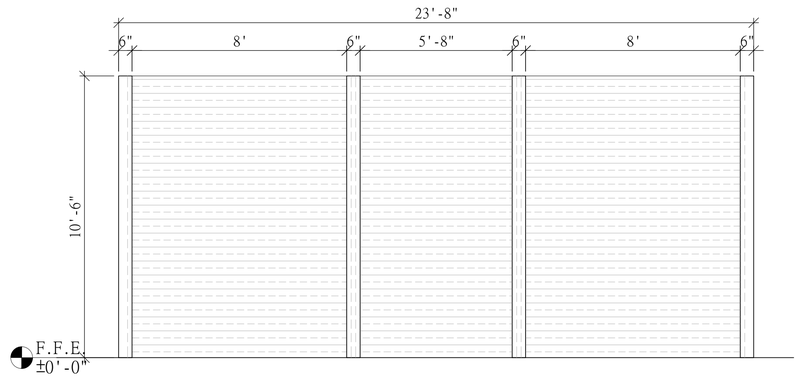
SEAL :

DATE: 05/16/2025

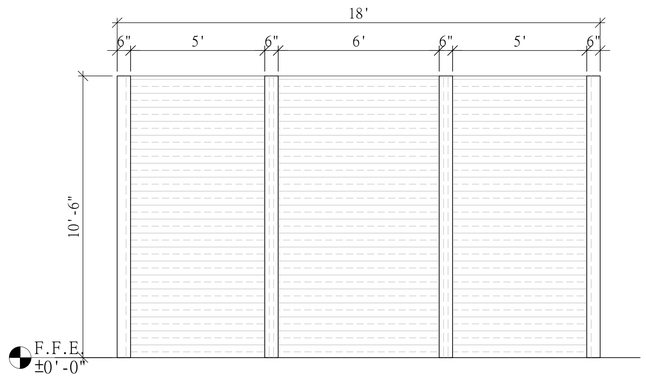
PROJECT NUMBER :	25-006
SCALE :	3/8"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

DOORS SCHEDULE & DETAILS

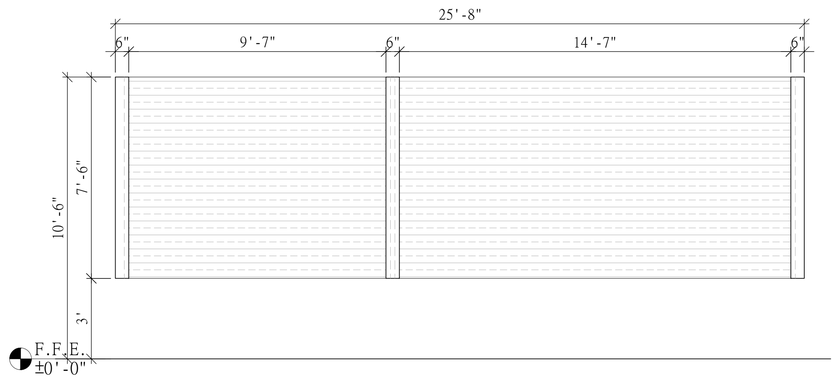
DRAWING NUMBER:
A-5.0



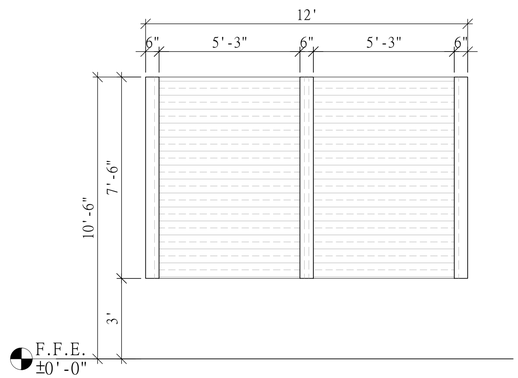
WINDOW NO:	RS 01
LOCATION:	ENTRANCE
OPENING TYPE:	MOTORIZED ROLLING SHUTTER
FRAME:	M.S./ G.I. / GALVALUME
LEAF:	CORRUGATED PROFILE PAINTED FINISH



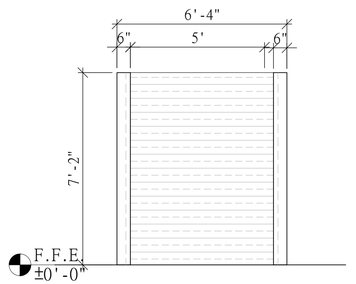
WINDOW NO:	RS 02
LOCATION:	ENTRANCE
OPENING TYPE:	MOTORIZED ROLLING SHUTTER
FRAME:	M.S./ G.I. / GALVALUME
LEAF:	CORRUGATED PROFILE PAINTED FINISH



WINDOW NO:	RS 03
LOCATION:	ENTRANCE
OPENING TYPE:	MOTORIZED ROLLING SHUTTER
FRAME:	M.S./ G.I. / GALVALUME
LEAF:	CORRUGATED PROFILE PAINTED FINISH



WINDOW NO:	RS 04
LOCATION:	ENTRANCE
OPENING TYPE:	MOTORIZED ROLLING SHUTTER
FRAME:	M.S./ G.I. / GALVALUME
LEAF:	CORRUGATED PROFILE PAINTED FINISH



WINDOW NO:	RS 05
LOCATION:	REAR ENTRANCE
OPENING TYPE:	MOTORIZED ROLLING SHUTTER
FRAME:	M.S./ G.I. / GALVALUME
LEAF:	CORRUGATED PROFILE PAINTED FINISH

ISSUE FOR:

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BID ONLY	☐
PERMITS SET	☐
CONSTRUCTION SET	☑

REVISIIONS:

NO.	DATE	DESCRIPTION

MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM # 21236

PROPOSED GAS STATION & C-STORE

LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

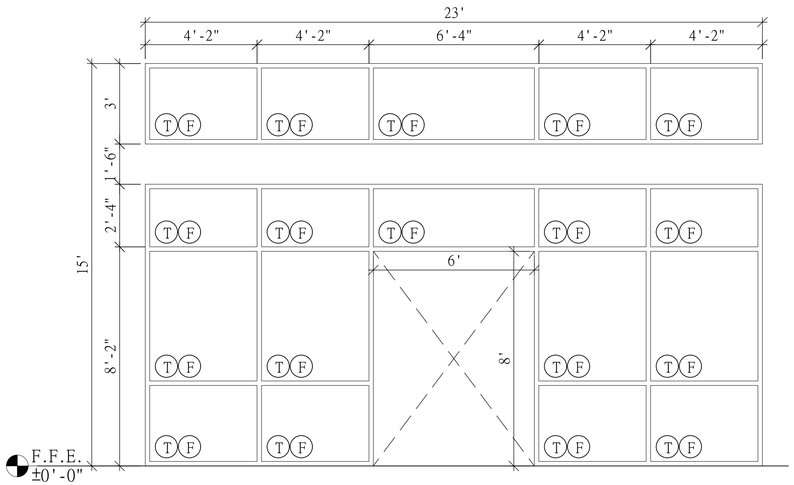
SEAL :

DATE: 05/16/2025

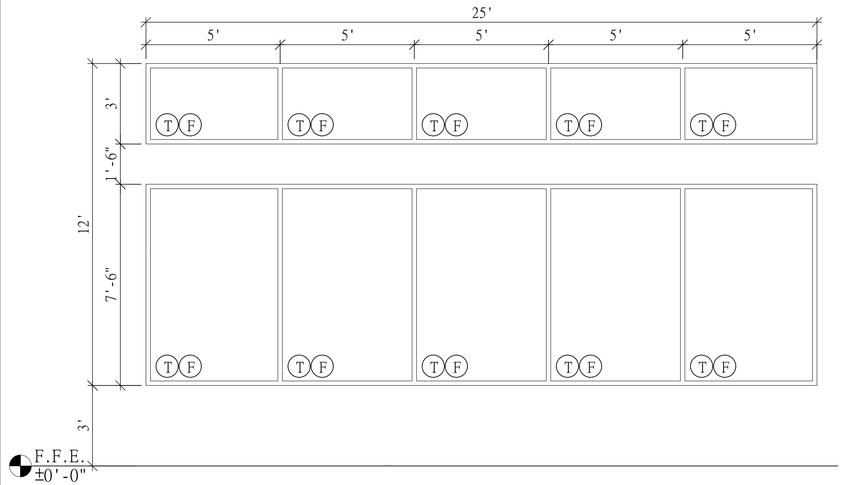
PROJECT NUMBER :	25-006
SCALE :	3/8"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

ROLLING SHUTTER DETAILS

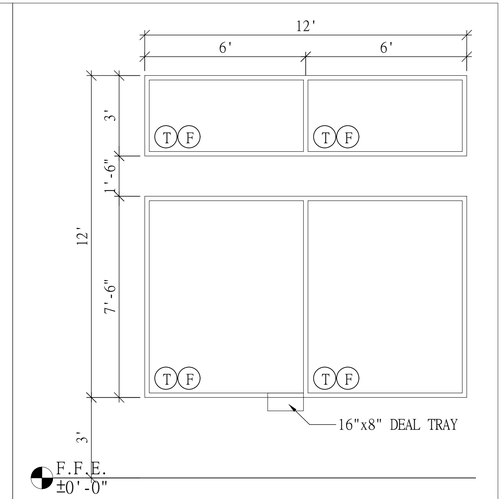
DRAWING NUMBER:
A-5.1



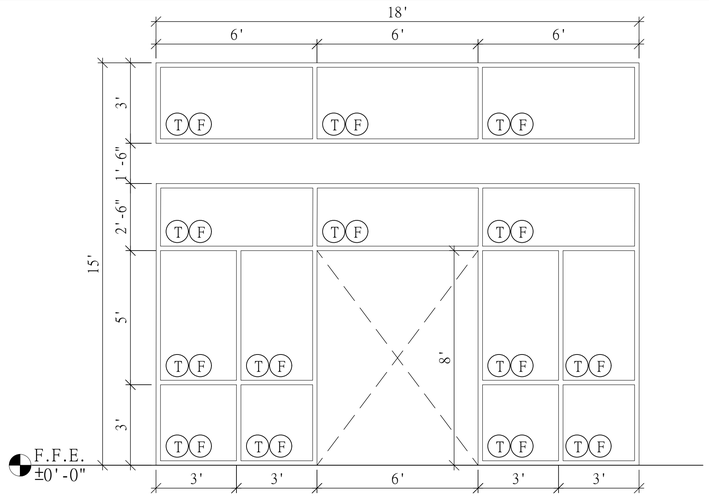
WINDOW NO:	
LOCATION:	ENTRANCE
OPENING TYPE:	FIXED WINDOW
FRAME:	ALUMINUM DOUBLE GLAZED, MILL FINISH
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING



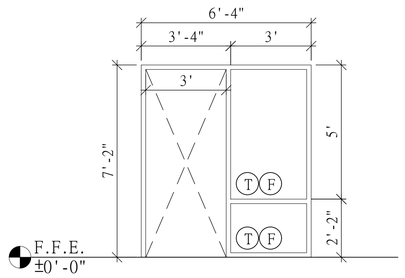
WINDOW NO:	AW 02
LOCATION:	ENTRANCE
OPENING TYPE:	FIXED WINDOW
FRAME:	ALUMINUM DOUBLE GLAZED, MILL FINISH
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING



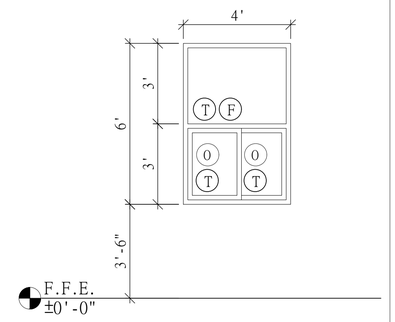
WINDOW NO:	AW 04
LOCATION:	ENTRANCE
OPENING TYPE:	FIXED WINDOW
FRAME:	ALUMINUM DOUBLE GLAZED, MILL FINISH
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING



WINDOW NO:	AW 03
LOCATION:	ENTRANCE
OPENING TYPE:	FIXED WINDOW
FRAME:	ALUMINUM DOUBLE GLAZED, MILL FINISH
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING



WINDOW NO:	AW 05
LOCATION:	VESTIBULE
OPENING TYPE:	FIXED WINDOW
FRAME:	ALUMINUM DOUBLE GLAZED, MILL FINISH
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING



WINDOW NO:	AW 06
LOCATION:	DRIVE THRU
OPENING TYPE:	FIXED WINDOW
FRAME:	ALUMINUM DOUBLE GLAZED, MILL FINISH
LEAF:	1" THERMAL INSULATION WITH 1/4" DOUBLE PANE LOW E CLEAR & TEMPERED GLAZING

WINDOW SCHEDULE - STOREFRONT

MARK	*HEIGHT*	*WIDTH*	*NUMBER OF LITES*	*MANUFACTURER*	*MODEL*
AW.01	15'-0"	23'-0"	18	OLDCASTLE GLASS VISTAWALL	3000 SERIES STOREFRONT SYSTEM
AW.02	12'-0"	25'-0"	10	OLDCASTLE GLASS VISTAWALL	3000 SERIES STOREFRONT SYSTEM
AW.03	12'-0"	12'-0"	4	OLDCASTLE GLASS VISTAWALL	3000 SERIES STOREFRONT SYSTEM
AW.04	15'-0"	18'-0"	14	OLDCASTLE GLASS VISTAWALL	3000 SERIES STOREFRONT SYSTEM
AW.05	7'-2"	6'-4"	2	OLDCASTLE GLASS VISTAWALL	3000 SERIES STOREFRONT SYSTEM
AW.06	6'-0"	4'-0"	3	OLDCASTLE GLASS VISTAWALL	3000 SERIES STOREFRONT SYSTEM

WINDOW LEGEND

(T) TEMPERED GLAZING (R) REGULAR

(F) FIXED (O) OPENABLE

GENERAL NOTES: WINDOWS

1. ALL GLASS SHALL BE STANDARD CLEAR 1" INSULATING GLASS U.N.O.
2. ALL GLASS SHALL BE U-FACTOR: 0.40 AND SHGC: 0.25

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REVISIIONS:

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MAKMO DESIGN
86 ZENITH LANE, SUGAR LAND, TX 77498
PH # 832-231-7047 TBPE FIRM. # 21236

PROPOSED GAS STATION & C-STORE
LOCATED AT
4311 N, TEXAS AVENUE, BRYAN, TX 77803

SEAL :

DATE: 05/16/2025

PROJECT NUMBER :	25-006
SCALE :	3/8"=1'-0"
DRAWN BY :	R.R
CHECKED BY:	A.B
SHEET TITLE :	

WINDOWS SCHEDULE & DETAILS

DRAWING NUMBER:
A-5.2