IRONDALE FIRE STATION #3

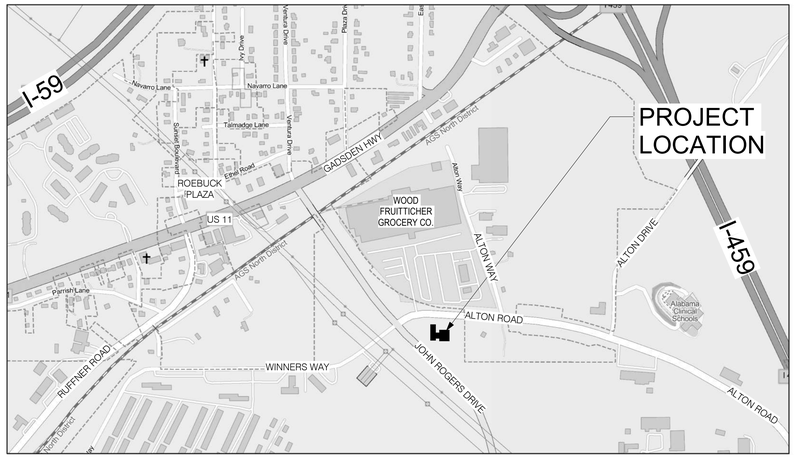
MAYOR: JAMES STEWART

CITY COUNCIL:

JOHN LONDON	DISTRICT 1
DAVID SPIVEY	DISTRICT 2
CINDY CUELLAR	DISTRICT 3
ROBERT BOX	DISTRICT 4
AARON SIMS	DISTRICT 5

DESIGN TEAM

Architect:	Charles Williams & Associates, Inc.
Program Manager:	Kemp Management Solutions
Structural Engineer:	Structural Design Group (SDG)
Civil Engineer:	Kadre Engineering
Mechanical/Plumbing:	Dewberry
Electrical Engineer:	CCE Electrical Engineering
Landscape Architect:	Greg Hansen – Hansen L / A
Interior Designer:	Jill Hicks Design, LLC
Kitchen Consultant:	Culinary Design Support, LLC
Septic Engineer:	Septic System Engineers of the South



VICINITY MAP

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Revisions

No.	Date	Description

STATE OF ALABAMA · CHARLES R. WILLIAMS · NO. 2925 · REGISTERED ARCHITECT · SEAL

100% CDS

IRONDALE FIRE STATION #3
2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: **COVER SHEET**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08/30/24**
DRAWN BY: **CSV** | CHECKED BY: **CW**

SHEET NUMBER
CS

GRAPHIC SYMBOLS

1 / A101 SIM	WALL SECTION INDICATOR
1 / A101 SIM	BUILDING SECTION INDICATOR
1 / A101	SINGLE ELEVATION INDICATOR
1 / 1 / 1 / 1 / A101	MULTI-ELEVATION INDICATOR
1 / A101 SIM	DETAIL INDICATOR
	NORTH ARROWS
1 / A101 View Name 1/8" = 1'-0"	DRAWING VIEW NAME W/ SCALE
	EXIT LIGHT W/ DIRECTIONAL ARROWS
M8AA.1	WALL TYPE TAG
1t	WINDOW TYPE TAG
1	REVISION TAG (REVISION NUMBER BY SHEET)
Room name 101 150 SF	ROOM TAG
101	DOOR TYPE TAG
0	STRUCTURAL GRID IDENTIFIER

TYPICAL ABBREVIATIONS LEGEND

ABV	ABOVE
ACT	ACOUSTIC CEILING TILE
AD	AREA DRAIN
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
APPRX	APPROXIMATE
ARCH	ARCHITECTURAL
AWP	ACOUSTIC WALL PANELS
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BTM	BOTTOM
BYND	BEYOND
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CPT	CARPET
CONC	CONCRETE
CT	CARPET TILE
DBL	DOUBLE
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DP	DEEP
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
EA	EACH
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENCL	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EX	EXTERIOR
EXP	EXPANSION
EXT	EXTERIOR
FA	FIRE ALARM
F.A.	FLUID APPLIED
FB	FLOOR BOX
FLR	FLOOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FFE	FINISH FLOOR ELEVATION
FIN	FINISH
FLR	FLOOR
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FS	FLOOR SINK
FTG	FOOTING
FURR	FURRING
GA	GAUGE
GALV	GALVANIZED
GB	GYPSUM BOARD
GLS	GLASS
GYP	GYPSUM
HC	HANDICAP
HDWD	HARDWOOD
HGT	HEIGHT
HM	HOLLOW METAL
HR	HOUR
HW	HOT WATER
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IF	INSIDE FACE
INCL	INCLUDE
INSUL	INSULATION
INT	INTERIOR
IT	INTERIOR THRESHOLD
JAN	JANITOR
JST	JOIST
JT	JOINT
LA	LAYER
LAV	LAVATORY
LOC	LOCATION
LP	LIGHT POLE
LT	LIGHT
LVT	LUXURY VINYL TILE
MACH	MACHINE
MATL	MATERIAL
MAX	MAXIMUM
MB	MARKER BOARD
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MEMB	MEMBRANE
MIN	MINIMUM
MTL	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIRR	MIRROR
MS	METAL STUD
MTD	MOUNTED
MUL	MULLION
MW	MILLWORK
MWP	METAL WALL PANEL
N	NORTH
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OCH	ON CENTER HORIZONTALLY
OCV	ON CENTER VERTICALLY
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OH	OPPOSITE HAND
ORD	OVERFLOW ROOF DRAIN
PL	PLATE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL(S)	PANEL(S)
PNT	PAINT
PRTN	PARTITION
PT	PRESSURE TREATED
PTD	PAINTED
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCED
REQD	REQUIRED
REQS	REQUIREMENTS
RH	RIGHT HAND
RND	ROUND
RO	ROUGH OPENING
SAB	SOUND ATTENUATION BLANKET
SC	SOLID CORE
SHT	SHEET
SIM	SIMILAR
SLNT	SEALANT
SOG	SLAB ON GRADE
SPEC	SPECIFICATION
SS	SOLID SURFACE
SSTL	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRL	STRUCTURAL
SUSP	SUSPENDED
TB	TACK BOARD
TC	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPORARY
TFF	TOP OF FINISH FLOOR
T&G	TOUNGUE & GROOVE
THK	THICK
THRESH	THRESHOLD
TLT	TOILET
TOBM	TOP OF BEAM
TS	TUBE STEEL
TSTAT	THERMOSTAT
TOS	TOP OF SLAB
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
US	UNDERSIDE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VSTR	VENT STACK THROUGH ROOF
VTR	VENT THROUGH ROOF
W/	WITH
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WD	WOOD
WDW	WINDOW
WF	WATER FOUNTAIN
WH	WALL HYDRANT (EXTERIOR)
W/O	WITHOUT
WP	WATERPROOF
WR	WATER RESISTANT
WWF	WELDED WIRE FABRIC

Revisions

No.	Date	Description

STATE OF ALABAMA REGISTERED ARCHITECT NO. 2925 SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CWA | CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
CALCS., SYMBOLS & ABBREVIATIONS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

DRAWN BY:	CHECKED BY:
CSV	**CW**

SHEET NUMBER
CS.1

NOTE: REFERENCES NOTED ARE BASED ON THE INTERNATIONAL BUILDING CODE UNLESS NOTED OTHERWISE.

1. **APPLICABLE CODES:**
A. BUILDING COMPRISING THIS PROJECT HAS BEEN DESIGNED ACCORDING TO THE FOLLOWING ADOPTED REGULATIONS BY THE STATE OF ALABAMA BUILDING COMMISSION, CITY AND FEDERAL REGULATIONS:

2021 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 INTERNATIONAL MECHANICAL CODE
2020 NATIONAL ELECTRICAL CODE (NFPA 70)
2021 INTERNATIONAL FIRE CODE
ANSI/ASHRAE/IES STANDARD 90.1-2013 ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS, WITH EXCEPTIONS PERMITTED TO: 6.5.1 - ECONOMIZERS, 8.4.2 - AUTOMATIC RECEPTACLE CONTROL, 8.4.3 - ELECTRICAL ENERGY MONITORING

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

THESE REQUIREMENTS SUPERSEDE THE ACCESSIBILITY REQUIREMENTS CONTAINED IN THE INTERNATIONAL BUILDING CODE AND ANSI A117.1.

2020 ICC/NSSA-500 STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS

2019 NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72)

2. **PROJECT DESCRIPTION:**

A. THIS PROJECT CONSISTS OF A NEW ONE-STORY FIRE STATION.

BUILDING TYPE	BUILDING DESCRIPTION	OCCUPANCY (IBC 303.4)		CONSTRUCTION TYPE	SPRINKLERED
FIRE STATION		R-3	RESIDENTIAL	II-B	YES, NFPA 13
APPARATUS BAY		S-2	STORAGE	II-B	YES, NFPA 13

B. BUILDING CALCULATIONS:

OCCUPANCY CLASSIFICATION: RESIDENTIAL R-3, STORAGE S-2
SPRINKLER: YES

ALLOWABLE BLDG HEIGHT (TABLE 504.3)	ACTUAL HEIGHT
75 FEET	20 FEET

STORIES ALLOWED (TABLE 504.4)	STORIES PROVIDED
3	1

AREA ALLOWED (TABLE 506.2)		AREA PROVIDED*
OCCUPANCY S-2	104,000 sf w/ S1	5,940 sf
OCCUPANCY R-3	UNLIMITED w/ S1	6,305 sf

*AREA PROVIDED IS BASED ON SECTION 202 "BUILDING AREA" AND IS THE FOOTPRINT AS FORMED BY THE INSIDE FACE OF THE EXTERIOR WALL

REQ'D SEPARATION OF OCCUPANCIES (TABLE 508.4)	SEPARATION PROVIDED
2 HOUR SEPARATION	

3. **FIRE RESISTANCE REQUIREMENTS:**
A. FIRE RESISTANCE RATINGS PER IBC TABLE 601:
1. FIRE SEPARATION REQUIREMENTS AS FOLLOWS:

STRUCTURAL ELEMENT	RATING (IN HOURS)	
STRUCTURAL FRAME, COLUMNS, GIRDERS		
TRUSSES	0	TABLE 601
EXTERIOR BEARING WALLS	0	TABLE 601
INTERIOR BEARING WALLS	0	TABLE 601
EXTERIOR NON BEARING PARTITIONS	0	TABLE 705.5—WITH FIRE SEPARATION 30'≤X, CONSTRUCTION TYPE II-B, GROUP E
INTERIOR NON BEARING PARTITIONS	0	TABLE 601
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS / JOISTS	0	TABLE 601
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS / JOISTS	0	TABLE 601
UNPROTECTED EXTERIOR WALL OPENINGS	NR	TABLE 705.8 BUILDING IS ONE-STORY, AND FIRE SEPARATION 30'≤X = 0 Hours Allowable
VERTICAL FLAME BARRIERS	0.75	SECTION 705.8.6: 45min 15' AFF and BELOW
FIRE WALLS	0	
FIRE BARRIERS (at area separation)	NA	
FIRE RESISTANCE (at ext. bearing walls)	0	AT INTERIOR WALLS, TABLE 602
	1	AT EXTERIOR, TABLE 602
FIRE RESISTANCE (at shafts)	NA	TABLE 601
DRAFTSTOPPING	NR	SECTION 718.4. NOT REQUIRED WHEN PROTECTED BY SPRINKLER SYSTEM THAT IS IN ACCORDANCE WITH SECTION 903.3.1.1
CONCEALED SPACES	NA	
SMOKE BARRIERS	NA	
HORIZONTAL ASSEMBLIES	NA	
PENETRATIONS	NR	SECTION 714: RATING OF NOT LESS THAN THE REQ'D FIRE-RESISTANCE RATING OF THE WALL PENETRATED
OPENING FIRE PROTECTION ASSEMBLIES	0.75	TABLE 716.1(2)
FIREBLOCKING	-	SECTION 718.2 AS REQUIRED FOR CEILINGS AND ROOFS

2. CORRIDOR RATING REQUIREMENTS - TABLE 1020.2, RATING NOT REQUIRED IN BUILDINGS WITH SPRINKLER SYSTEM THAT IS IN ACCORDANCE WITH SECTION 903.3.1.1 NFPA SPRINKLER SYSTEMS

3. SECTION 705.3: BUILDINGS ON THE SAME LOT: NOT APPLICABLE

4. **EGRESS REQUIREMENTS:**
A. MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT (IBC TABLE 1004.5):

OCCUPANCY	AREA PER OCCUPANT	AREA (sf)	OCCUPANT LOAD
OFFICE	150 gross	817	5.4
EXERCISE	50 gross	498	10.0
MECHANICAL	300 gross	634	2.1
RESIDENTIAL	200 gross	1927	9.6
STORAGE S-2 (APPARATUS BAYS)	200 gross	5284	26.4
STORAGE S-1	716 gross	716	2.4

TOTAL OCCUPANT LOAD **56 PERSONS**

B. EGRESS CALCULATIONS:

BUILDING TYPE	MAX TRAVEL. DIST. ALLOWED (1017.2)	MAX DIST PROVIDED	DEAD END CORR MAX. (1020.4)	DEAD END CORR PROVIDED
R-3	300 FT	SEE LIFE SAFETY PLAN	50 FT	32 FT

BUILDING TYPE	EGRESS WIDTH REQUIRED (PAR 1005.3.2)	EGRESS WIDTH PROVIDED	CORRIDOR WIDTH REQUIRED (1020.3)	CORRIDOR WIDTH PROVIDED	DOOR CLEAR REQUIRED	DOOR CLEAR PROVIDED
A-3	34.5 INCHES	348 IN. (min)	44 INCHES	84 INCHES (min)	32 INCHES	34 INCHES (min)

C. EMERGENCY ESCAPE AND RESCUE (IBC 1007.3 EXCEPTION 3):NOT REQUIRED FOR BUILDINGS WITH AN AUTOMATIC SPRINKLER SYSTEM.

5. ACCESSIBILITY REQUIREMENTS:
A. PARKING:
1) PARKING WILL MEET ALL ACCESSIBILITY REQUIREMENTS
B. PUBLIC BUILDING ENTRIES ARE ACCESSIBLE.

6. EGRESS REQUIREMENTS:

DEAD END CORRIDOR (MAX.) (IBC SECTION 1020.5)	50ft
COMMON PATH OF TRAVEL (MAX.) (IBC TABLE 1006.2.1)	125 ft
SINGLE EXIT ALLOWED (IBC TABLE 1006.2.1)	> 20 OCCUPANTS
EXIT SEPARATION (MIN.) (IBC SECTION 1007.1.1)	1/3 DIAGONAL (w/ SPRINKLER)
MAXIMUM TRAVEL DISTANCE (IBC TABLE 1017.2)	250 ft
MINIMUM STAIR WIDTH (IBC SECTION 1011.2, 1005.3.1)	44 in
MINIMUM CORRIDOR WIDTH (IBC TABLE 1020.3, 1005.3.2)	44 in
MINIMUM NO. OF EXITS REQUIRED (IBC TABLE 1006.3.3)	2

PLUMBING FIXTURE REQUIREMENTS

NOTE: REFERENCES NOTED ARE BASED ON THE 2020 INTERNATIONAL PLUMBING CODE

1. RESIDENTIAL DORMITORY
OCCUPANT LOAD = 27.2

A.	WATER CLOSETS (Female):	1/10	13.6/10=	1.36
B.	WATER CLOSETS (Male):	1/10	13.6/10=	1.36
C.	LAVATORIES (Female):	1/10	13.6/10=	1.36
D.	LAVATORIES (Male):	1/10	13.6/10=	1.36
E.	SHOWERS	1/8	27.2/8=	3.4
F.	WATER FOUNTAINS:	1/100	27.2/500=	1
G.	SERVICE SINKS:	1 REQUIRED		

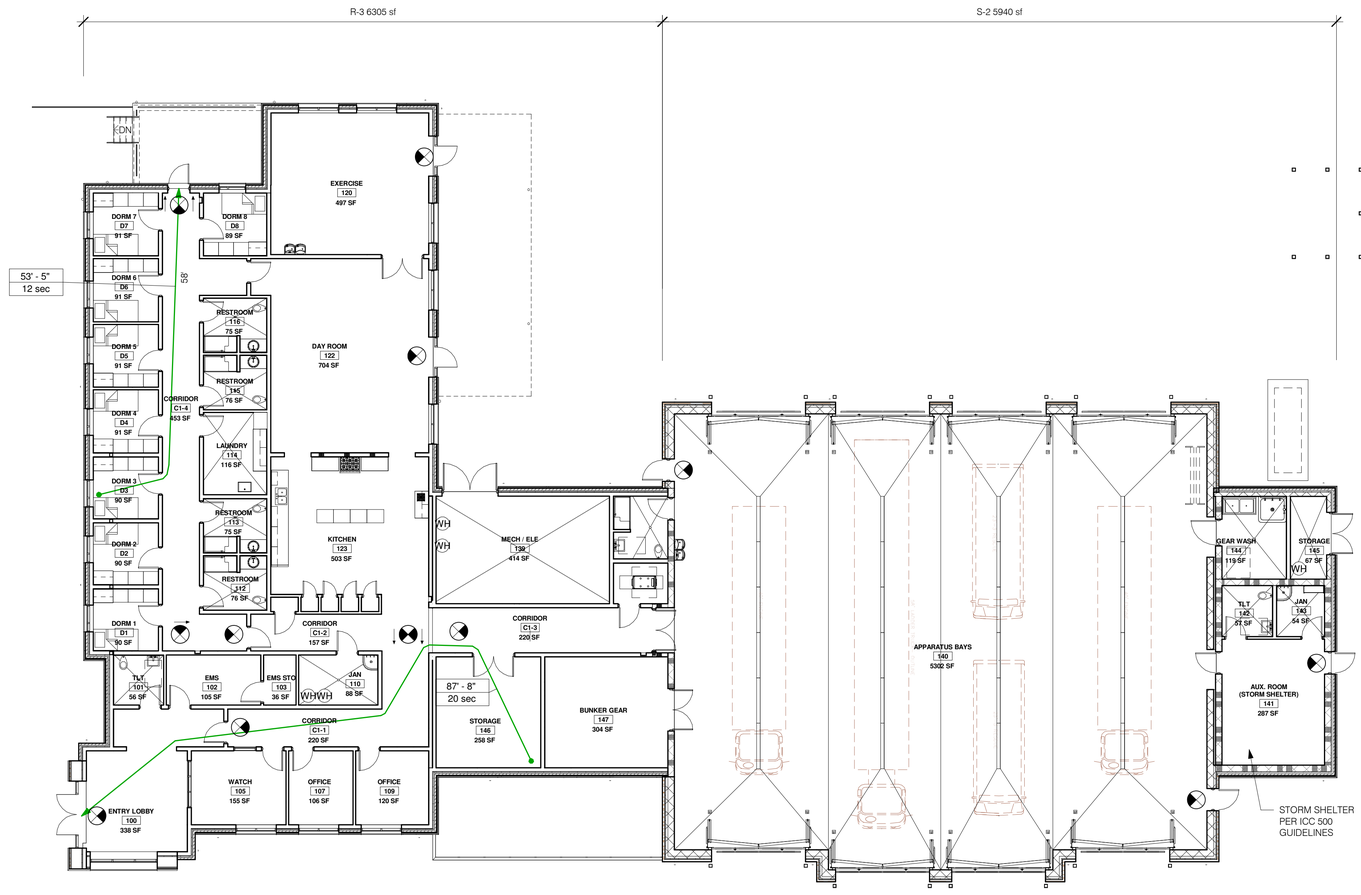
3. STORAGE (APPARATUS BAY)
OCCUPANT LOAD = 28.8

A.	WATER CLOSETS (Female):	14.4/100=	0.14
B.	WATER CLOSETS (Male):	14.4/100=	0.14
C.	LAVATORIES (Female):	14.4/100=	0.14
D.	LAVATORIES (Male):	14.4/100=	0.14
E.	WATER FOUNTAINS:	28.8/100=	
F.	SERVICE SINKS:	1 REQUIRED	

TOTAL FIXTURES		REQUIRED	PROVIDED
A.	WATER CLOSETS (Female):	1.5	0
B.	WATER CLOSETS (Male):	1.5	0
C.	WATER CLOSETS (Unisex):	NR	6
D.	LAVATORIES (Female):	1.5	0
E.	LAVATORIES (Male):	1.5	0
F.	LAVATORIES (Unisex):	NR	6
F.	WATER FOUNTAINS:	1	1
G.	SERVICE SINKS:	1	2

LEGEND

- EXIT LIGHT
- TRAVEL DISTANCE
- 2-HR FIRE RATED WALL-STORM SHELTER
- 67 / 350 — EXIT DISCHARGE: DESIGN CAPACITY/ MAX. CAPACITY
- 3.05 — OCCUPANT LOAD
- 1-HOUR FIRE RATED
- 2-HOUR FIRE RATED
- 3-HOUR FIRE RATED
- 4-HOUR FIRE RATED
- SMOKE RATED



1 LS1 LIFE SAFETY PLAN
3/32" = 1'-0"

Revisions		
No.	Date	Description

STATE OF ALABAMA — CHARLES R. WILLIAMS — NO. 2925 — REGISTERED ARCHITECT — SEAL

100% CDS

IRONDALE FIRE STATION #3

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3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
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SHEET TITLE: **LIFE SAFETY PLAN**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08/30/24**
DRAWN BY: **RM** CHECKED BY: **CSV**

SHEET NUMBER **LS1**

ICC 500-2020 STORM SHELTER REQUIREMENTS

TYPE OF SHELTER: TORNADO
DESIGN WIND SPEED: 250 MPH
FIRE SEPARATION REQD: 2-HOUR
OCCUPANT LOAD (5sf / PERSON) REQUIRED
RISK CATEGORY: IV (IBC TABLE 1604.5)
PEER REVIEW REQUIREMENT: YES (ICC SECTION 109.1)

OCCUPATION CALCULATIONS

WHEELCHAIR OCC. REQUIRED = 50 / 200 = 0.2 = 1 REQUIRED
WHEELCHAIR SPACE REQUIRED = 1 x 10 sf / person = 10 sf
STANDING OCC REQUIRED = 50-1
STANDING SPACE REQUIRED = 49 x 5 sf / person = 245 SF

TOTAL USABLE FLOOR AREA REQUIRED: 255 sf

TOTAL OCCUPATION ALLOWED: 50 PERSONS

AREA CALCULATIONS
SHELTER AREA = 300 sf (TOTAL GROSS)

USABLE FLOOR AREA BASE ON ICC 502.4.1
PART 3: *AREAS OF OPEN PLAN FURNISHING 15% REDUCTION*

USABLE AREA SF CALCULATIONS

ROOM NAME	GROSS AREA	% REDUCTION	USABLE SF
SHELTER	300	15	255 SF

TOTAL USABLE SF OF STORM SHELTER: 255 sf

SHELTER SYSTEMS PROVIDED:
- FIRE EXTINGUISHERS
- FIRST AID KIT WITH FLASHLIGHT (SEE SPECS)
- SHELTER SIGN
- EMERGENCY LIGHTING
- WATER SUPPLY

ICC 500-2008 TESTING CRITERIA

PER THE SUMMARY REPORT ON **DEBRIS IMPACT TESTING at TEXAS TECH UNIVERSITY**, PREPARED BY *WIND SCIENCE AND ENGINEERING RESEARCH CENTER*, JUNE 2003:

MATERIAL TESTED

1. 4-inch THICK PEA-GRAVEL CONCRETE WITH #4 REBAR REINFORCEMENT 12 IN. O.C. EACH WAY.
   - a. 2x4 BOARD MISSILE
   - b. MISSILE WEIGHT: 15 lbf
   - c. MISSILE SPEED: 104.0-162.0 MPH
   - d. MISSILE MOMENTUM: 71-111 lbs-s
   - e. MISSILE ENERGY: 5419-13149 (ft-lbf)

2. 8-inch CMU REINFORCED WITH CONCRETE AND #4 REBAR IN EVERY CELL; TRUSS TYPE HORIZONTAL REINFORCEMENT EVERY 16 inches.
   - a. 2x4 BOARD
   - b. MISSILE WEIGHT: 15 lbf
   - c. MISSILE SPEED: 116.0 MPH
   - d. MISSILE MOMENTUM: 79 lbs-s
   - e. MISSILE ENERGY: 6742 (ft-lbf)

* STORM SHELTER CONSTRUCTION FOR THIS PROJECT CONSIST OF 12" CMU WALLS REINF. W/ CONC..

GENERAL NOTES:

1. STORM SHELTER LOCATION SHALL BE IDENTIFIED ON EACH EGRESS PLAN POSTED THROUGHOUT THE FACILITY.
2. DIRECTIONAL SIGNAGE SHALL BE POSTED ON ROUTE TO STORM SHELTER.
3. PER SECTION 109.1, PEER REVIEW IS REQUIRED FOR RISK CATEGORY IV (ESSENTIAL FACILITIES) BASED ON IBC TABLE 1604.5

STORM SHELTER REQUIREMENTS

A. TYPE OF SHELTER: TORNADO
B. WIND DESIGN CONFORMS TO THE PROVISIONS OF THE ICC/NSSA "STANDARDS FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS", ICC 500 2020.
C. SHELTER DESIGN WIND SPEED: 250 MPH [FIG. 304.2(1)]
D. SHELTER ENVELOPE SHALL MEET THE PRESSURE AND MISSILE IMPACT TEST REQUIREMENTS IDENTIFIED IN CHAPTER 3 & 8 OF ICC 500-2014.
E. ALL EGRESS DOOR ASSEMBLIES, SHUTTERS, AND OTHER IMPACT PROTECTION SHALL MEET IMPACT AND PRESSURE CRITERIA AS SHOWN IN ICC 500-2020, CHAPTER 8.
F. ALL DOOR OPENING ASSEMBLIES AND LOUVERS INTO THE STORM SHELTER SHALL INCLUDE THE APPLICABLE RATING AND LABEL ON EACH COMPONENT. THE LABELS SHALL BE FACTORY APPLIED AND CLEARLY VISIBLE. LABELS SHALL BE RAISED OR EMBOSSED ON METAL LABELS OR STAMPED INTO METAL FRAMES.
G. ALL PREMANUFACTURED ASSEMBLIES USED IN THE SHELTER ENVELOPE MUST BE RATED AS AN ASSEMBLY. SUBMIT ALL TEST REPORTS FOR REVIEW. EXAMPLE: DOOR, FRAME, & HARDWARE; WINDOW FRAME & GLAZING, MUST ALL BE TESTED TOGETHER.
H. ALL 2-HR FIRE BARRIERS SHALL BE PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
I. A "CERTIFICATION OF STRUCTURAL OBSERVATIONS" MUST BE COMPLETED BY THE ARCHITECT OR STRUCTURAL ENGINEER OF RECORD AND SUBMITTED TO THE BUILDING COMMISSION INSPECTOR AT FINAL INSPECTION. A COPY OF THIS FORM CAN BE FOUND IN THE SPECIFICATIONS.
J. A "CONTRACTOR'S STATEMENT OF RESPONSIBILITY" FORM MUST BE COMPLETED BY THE CONTRACTOR AND SUBMITTED TO THE BUILDING COMMISSION INSPECTOR PRIOR TO THE START OF CONSTRUCTION. A COPY OF THE QUALITY ASSURANCE PLAN AS PREPARED BY THE DESIGN PROFESSIONAL MUST BE ATTACHED TO THE CONTRACTOR'S STATEMENT.
K. FIRST AID KITS TO BE PROVIDED AND INSTALLED BY OWNER FOR EACH OCCUPIED AREA OF THE STORM SHELTER.
L. ALL STORM SHELTER SIGNAGE IS TO BE PROVIDED AND INSTALLED BY GC.
M. AT MECHANICALLY HELD OPEN DOORS, POST DIRECTIONS FOR MANUAL CLOSURE.
N. ALL OPENINGS AND PENETRATIONS ARE REQUIRED TO BE FIRE AND IMPACT RATED PER ICC-500.
O. NOT USED.
P. FLOOR/CEILING ASSEMBLY OF STORM SHELTER TO BE COMPLIANT WITH ICC-500 FIRE, IMPACT, AND PROTECTION REQUIREMENTS.
Q. PROTECT ALL PENTRATIONS THROUGH SHELTER CONSTRUCTION FOR PIPES, DUCT, ETC. AS REQUIRED BY ICC-500.
R. IDENTIFYING SIGNAGE FOR STORM SHELTER TO BE MOUNTED 60" A.F.F. TO THE CENTERLINE OF THE SIGN.
S. 3/4" MAXIMUM DOOR UNDERCUT ALLOWED AT SHELTER DOORS.

STORM SHELTER PLAN NOTES

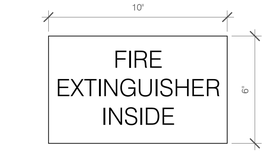
1. TORNADO SHELTER IDENTIFICATION / LOCATION SIGN WITH PLAN. SEE LS2.
2. TORNADO SHELTER EXIT SIGN. SEE LS2.
3. TORNADO SHELTER DESIGN/CONSTRUCTION INFORMATION SIGN. SEE LS2.
4. IMPACT RATED DOOR, FRAME, AND HARDWARE, PER ICC 500-2020.
5. FIRE EXTINGUISHER INSIDE SIGNAGE. PROVIDE FIRE EXINGUISHER W/ MOUNTING BRACKET IN JAN. CLOSET 143
6. STORM SHELTER DOOR SIGN. DETAL 6/LS2
7. FIRST AID KIT - STORED IN JANITORS CLOSET 143.
8. INVERTER FOR EMERGENCY LIGHTS TO BE HOUSED IN JANITORS CLOSET 143.

SHELTER PLUMBING FIXTURE REQUIREMENTS

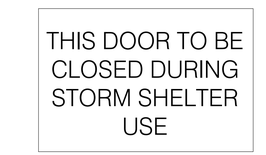
PER ICC 500-2020 TABLE 702.3 REQUIRED WATER CLOSET AND LAVATORIES FOR TORNADO SHELTERS

CATEGORY: RESIDENTIAL, OTHER

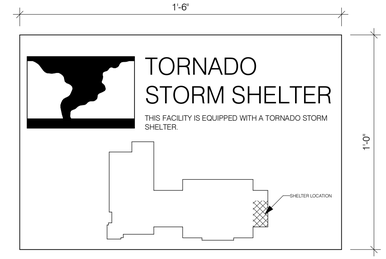
TOTAL FIXTURES		REQUIRED	PROVIDED
A.	WATER CLOSETS (Unisex):	1	1
B.	LAVATORIES (Unisex):	NR	1



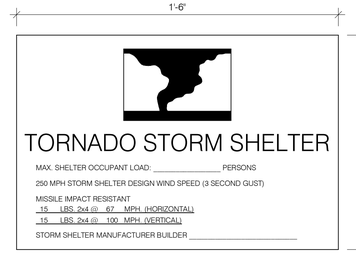
5 LS2 STORM SHELTER FE SIGN
3" = 1'-0"



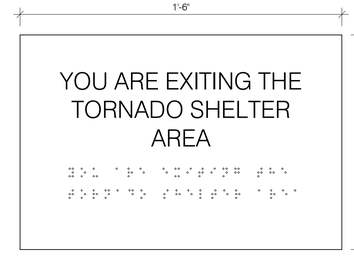
6 LS2 STORM SHELTER DOOR SIGN
3" = 1'-0"



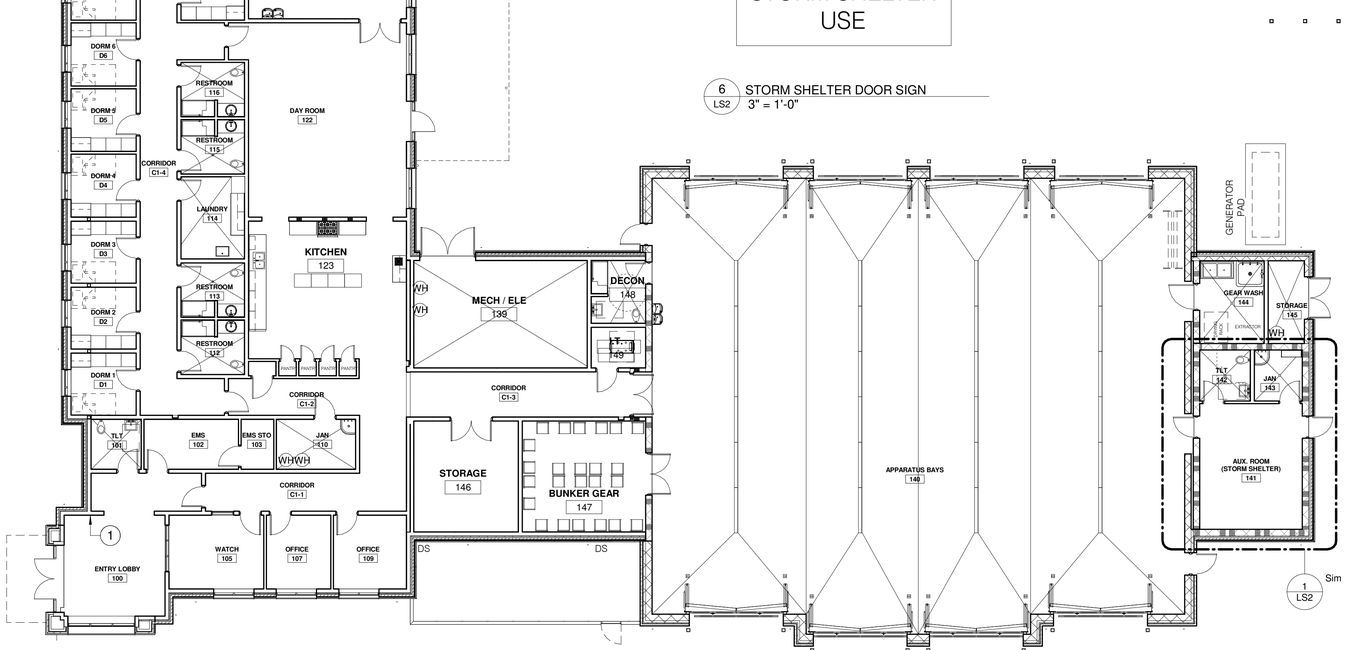
4 LS2 STORM SHELTER IDENTIFICATION LOCATION SIGN
3" = 1'-0"



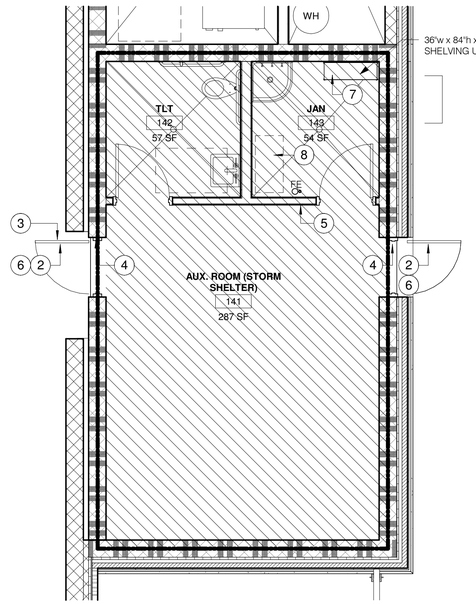
3 LS2 STORM SHELTER SIGNAGE
3" = 1'-0"



2 LS2 STORM SHELTER EXIT SIGN
3" = 1'-0"



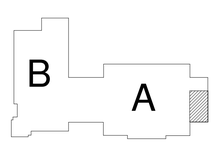
7 LS2 SHELTER SIGNAGE PLAN
3/32" = 1'-0"



1 LS2 STORM SHELTER PLAN
1/4" = 1'-0"

STORM SHELTER LEGEND:

- ROUTE TO SHELTER
- DESIGNATED STORM SHELTER AREA
- 2-HR. FIRE RATED PARTITION WITH ICC-500 IMPACT RATED ASSEMBLY
- 3 SHELTER PLAN NOTE



KEYPLAN
NORTH

Revisions		
No.	Date	Description

STATE OF ALABAMA
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
FAX: 205-250-0515
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

SHEET TITLE: **STORM SHELTER PLAN**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08/30/24**
DRAWN BY: **RM** CHECKED BY: **CSV**

SHEET NUMBER
LS2

KADRE ENGINEERING

PROJECT NO.
24056

PO BOX 101205
IRONDALE, ALABAMA 35210
CONTACT: Curtis Walker
Tel + 205.795.3434

Revisions

No.	Date	Description

GENERAL NOTES:

1. BOUNDARY AND TOPOGRAPHIC SURVEY WAS PROVIDED BY THE OWNER AND PREPARED BY SAIN ASSOCIATES, DATED 08/25/2023. TOPOGRAPHIC INFORMATION WAS PERFORMED VIA GROUND RUN FORMAT. CONTRACTOR SHALL VISIT THE SITE AS NECESSARY TO VERIFY SITE BOUNDARY AND EXISTING TOPOGRAPHY PRIOR TO BIDDING OR CONSTRUCTION. NOTIFY KADRE ENGINEERING OF ANY DISCREPANCIES PRIOR TO SUBMITTING BIDS OR ORDERING OF MATERIALS.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION SITE LAYOUT. IN THE EVENT THE CONTRACTOR WILL PERFORM THEIR OWN LAYOUT AND/OR UTILIZE GPS GRADING CONTROLS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING A LICENSED SURVEYOR TO PROVIDE THE NECESSARY CONTROL POINTS AND PROVIDE 3RD/ PARTY VERIFICATION OF LAYOUT AND GRADE CONTROL WORK PERFORMED BY THE CONTRACTOR.
3. ALL NECESSARY PERMITS AND APPROVALS FROM AGENCIES GOVERNING THE CONSTRUCTION OF THIS WORK SHALL BE SECURED PRIOR TO BEGINNING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL FEES ARE PAID PRIOR TO COMMENCING CONSTRUCTION AND THE CONSTRUCTION INSPECTION SCHEDULED IS ADHERED TO PER AGENCY REQUIREMENTS.
4. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK, INCLUDING LANDSCAPING.
5. THE CONTRACTOR SHALL USE EACH PLAN IN CONJUNCTION WITH THE ENTIRE SET OF DRAWINGS AND JOB SPECIFICATIONS. DO NOT REMOVE OR DEMOLISH ANYTHING WITHOUT VERIFYING AND COORDINATION WITH ALL ELECTRICAL, PLUMBING, MECHANICAL, GENERAL TRADES, AND UTILITY COMPANIES AS THEY EFFECT THE OVERALL PROJECT.
6. PRIOR TO ANY WORK ON-SITE, THE CONTRACTOR SHALL CONTACT THE ONE CALL SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY REMOVALS WHETHER LOCATED BY THE ONE CALL SYSTEM OR NOT.
7. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC.ALL REPAIRS SHALL BE MADE IN A MANNER THAT ENSURES THE REPAIRED ITEM TO BE BE EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION.
8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND SHALL COMPLY WITH ALL REGULATORY AGENCY'S REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
9. CONTRACTOR SHALL REVIEW SOIL REPORTS AND BORINGS PRIOR TO BIDDING THE PROJECT AND COMMENCING CONSTRUCTION.
10. EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ADDITIONAL UTILITIES MAY EXIST WITHIN OR ADJACENT TO THE LIMITS OF CONSTRUCTION. ALL UTILITIES MUST BE LOCATED BY UNDERGROUND LINE LOCATORS AS WELL AS FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCEMENT. REPORT DISCREPANCIES IMMEDIATELY.
11. WORK PERFORMED UNDER THIS CONTRACT SHALL COORDINATE WITH OTHER WORK BEING PERFORMED OR SCHEDULED ON SITE BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT IS NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE ACTIVITIES, WHERE NECESSARY, WITH OTHER CONTRACTOR'S AND UTILITY COMPANIES.

SITE DEMOLITION NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR ALL REGISTRATIONS, NOTIFICATIONS, PERMITS, FEES, DUMP FEES AND CHAIN OF CUSTODY TRACKING REQUIRED TO REMOVE AND LEGALLY DISPOSE OF ALL DEMOLITION MATERIALS OFF OF THE OWNER'S PROPERTY.
2. THE CONTRACTOR IS RESPONSIBLE TO OBTAINING PERMITS AND COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS IN THE REMOVAL/DEMOLITION/DISPOSAL OF ALL DEMOLITION MATERIALS.
3. CONTRACTOR IS RESPONSIBLE FOR VISITING THE PROJECT SITE AND VERIFYING EXTENTS AND ASSOCIATED QUANTITIES OF REQUIRED DEMOLITION WORK AND UTILITY REMOVAL PRIOR TO BID DATE.
4. SALVAGE RIGHTS FOR ALL DEMOLISHED MATERIALS SHALL BE FIRST GIVEN TO THE OWNER. ANY MATERIALS NOT RETAINED BY THE OWNER SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
5. ALL EXISTING PAVING, CURBS, HARDSCAPE, ETC. SHALL BE SAW CUT AT THE LIMITS OF REMOVAL IN ORDER TO PROVIDE A CLEAN EDGE. EXISTING PAVING AT EDGE SHALL BE MILLED BACK A MINIMUM OF 1.5' TO ENSURE SMOOTH TRANSITION. LIMITS OF REMOVALS SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL REMOVE PAVING AS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISCONNECTION OF UTILITY SERVICES TO THE EXISTING STRUCTURES PRIOR TO DEMOLITION OF ANY BUILDINGS. THE CONTRACTOR SHALL COORDINATE WITH OWNER, KADRE ENGINEERING, AND RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL STRUCTURES, UTILITIES AND OTHER EXISTING ITEMS AS REQUIRED TO INSTALL IMPROVEMENTS SHOWN IN THE CONSTRUCTION DOCUMENTS. IF REMOVAL OF EXISTING IMPROVEMENTS RESULTS IN AN LOOSE, SOFT OR OTHERWISE UNSTABLE SUBGRADE CONDITION, UNSUITABLE MATERIALS SHALL BE REMOVED SHALL BE UNDERCUT TO FIRM AND STABLE SUBGRADE AND BROUGHT TO GRADE WITH COMPACTED STRUCTURAL FILL PER THE GEOTECHNICAL ENGINEER, GRADING NOTES AND/OR SPECIFICATIONS.
8. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INVOLVED IN THE REMOVAL OR RELOCATION OF ANY UTILITY.THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH APPLICABLE UTILITY COMPANIES.
9. THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO THE EXISTING ADJACENT PROPERTIES OR TENANTS AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, TENANT AND UTILITY COMPANY FOR THE RELOCATION AND/OR REMOVAL OF UTILITIES IF NECESSARY. SERVICES SHALL NOT BE INTERRUPTED WITHOUT APPROVAL.
10. PROMPTLY DISPOSE OF DEMOLISHED MATERIALS. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. ALL DEMOLITION AND CONSTRUCTION DEBRIS SHALL BE TRANSPORTED AND DISPOSED OF AT LEAST WEEKLY IN A LEGAL AND APPROVED MANNER.
11. IT IS UNDERSTOOD THAT ALL ABOVE GROUND ITEMS TO BE REMOVED INCLUDE THEIR ASSOCIATED BELOW GROUND COMPONENTS (I.E. FOUNDATIONS, UTILITY CONNECTIONS, ETC.).
12. ALL TREES INSIDE THE LIMITS OF DISTURBANCE ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
13. THE CONTRACTOR MUST PROTECT ALL AREAS INDICATED TO REMAIN UNDISTURBED OR TO REMAIN AS BUFFERS, ALL PROPERTY CORNERS, AND ANY REQUIRED COORDINATION OF REGISTERED LAND SURVEYOR TO REPLACE ALL PINS ELIMINATED OR DAMAGED DURING CONSTRUCTION.

SITE LAYOUT NOTES:

1. CONSTRUCTION MUST COMPLY WITH AND BE CONSTRUCTED IN ACCORDANCE WITH ALL REQUIRED AND GOVERNING CODES.
2. ALL ADA AREAS, ROUTES, AND PARKING INCLUDING RAMPS, SIGNS, SYMBOLS, AND PAINTED ISLANDS MUST CONFORM TO THE LATEST ADA REQUIREMENTS.
3. ADA PARKING AREAS MUST NOT EXCEED 2.0% GRADE IN ANY DIRECTION. ADA ACCESS ROUTES MUST NOT EXCEED 5.0% RUNNING SLOPE AND 2.0% CROSS SLOPE.
4. DIMENSIONS SHOWN WITHIN THESE DOCUMENTS ARE TO THE BACK OF CURB OR EDGE OF HARDSCAPE UNLESS NOTED OTHERWISE.
5. DIMENSIONS TO BUILDINGS ARE TO THE OUTSIDE FACE OF BUILDING OR COLUMN LINES AS NOTED. THE CONTRACTOR SHALL VERIFY EXTERIOR BUILDING FACING THICKNESSES PRIOR TO LAYOUT. REFER TO ARCHITECTURAL PLANS FOR SPECIFIC BUILDING INFORMATION.
6. ALL PAVEMENT STRIPING AND ROADWAY SIGNAGE MUST BE PER THE LATEST EDITION OF THE MUTCD UNLESS SPECIFICALLY NOTED.
7. CONTRACTOR MUST REPAIR ANY DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, NOT LIMITED TO DRAINAGE CONVEYANCE OR STRUCTURES, UTILITIES, HARDSCAPE, PAVING, STRIPING, LANDSCAPE, ETC. ALL REPAIRS MUST RETURN THE DAMAGED AREA TO BETTER THAN EXISTING CONDITIONS.
8. CONTRACTOR MUST COORDINATE THE INSTALLATION OF UNDERGROUND WORK WITH ALL FINISHED GRADE. ALL UNDERGROUND INFRASTRUCTURE MUST BE IN PLACE PRIOR TO THE PLACEMENT OF BASE COURSE MATERIALS.
9. CONTRACTOR IS RESPONSIBLE FOR PREPARING ANY REQUIRED CONSTRUCTION TRAFFIC CONTROL PLANS AND ANY REQUIRED APPROVALS FOR GOVERNING AUTHORITIES. ALL TRAFFIC CONTROL PLANS SHALL BE PER THE LATEST EDITION OF THE MUTCD.
10. ALL MATERIALS REQUIRED FOR PAVING IMPROVEMENTS MUST BE TESTED BY A 3RD/ PARTY AGENCY, APPROVED OR PROVIDED BY THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE WORK CONSTRUCTED MEETS THE REQUIREMENTS OF THE PROJECT ACCORDING TO STANDARD TESTING PROCEDURES INCLUDING ANY AUTHORITIES HAVING JURISDICTION TESTING REQUIREMENTS.
11. ALL PAVEMENT STRIPING WITHIN RIGHTS-OF-WAY SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
12. ALL PAINT STRIPING MUST BE APPLIED IN TWO EQUAL COATS WITH A MINIMUM TOTAL THICKNESS OF 15 MILS.

GRADING NOTES:

1. CONTRACTOR MUST ADJUST THE FINAL ELEVATIONS OF ALL EXISTING AT-GRADE STRUCTURES AND UTILITIES TO MATCH PROPOSED FINISHED GRADES.
2. THE CONTRACTOR MUST VISIT THE SITE AND DO ANY REQUIRED SITE RECONNAISSANCE TO VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND OR PREPARING A QUOTE.
3. A GEOTECHNICAL INVESTIGATION REPORT IS NOT AVAILABLE AT THIS TIME.
4. CONTRACTOR MUST VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION.
5. CONTRACTOR MUST NOTIFY ENGINEER OF ANY EXISTING CONDITION OR UTILITY CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
6. CLEARING LIMITS ARE DEFINED AS 5' OUTSIDE OF ALL PROPOSED GRADED AREAS OR NOT BEYOND THE PROPERTY LINES WHICHEVER IS LESS.
7. CLEARING AND GRUBBING LIMITS INCLUDE ALL AREAS DISTURBED BY CONSTRUCTION OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UNDISTURBED AREAS, ALL PROPERTY MONUMENTS, AND RESTORATION OF ANY AREAS CLEARED OR DEMOLISHED WITHOUT AUTHORIZATION.
8. ALL TOPSOIL SHALL BE STRIPPED PER GEOTECHNICAL RECOMMENDATIONS WITHIN THE LIMITS OF GRADING AND STOCKPILED FOR LATER USE WITH ALL EXCESS TO BE DISPOSED OF OFF-SITE UNLESS OTHERWISE NOTED ON THE PLANS.
9. PROOF ROLL SUBGRADE WITH A LOADED DUMP TRUCK IN A MANNER APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING FILL. ANY DEFICIENT AREAS, OR ANY UNSUITABLE (ORGANIC, SOFT, LOOSE) MATERIAL FOUND MUST BE UNDERCUT AND REPLACED OR MOISTURE CONDITIONED PER THE GEOTECHNICAL ENGINEER.
10. SCARIFY SUBGRADE TO A MINIMUM DEPTH OF 12”. MOISTURE CONDITION AND RECOMPACT AS REQUIRED TO ACHIEVE REQUIRED DENSITY AND MOISTURE CONTENT.
11. CONTRACTOR IS SOLELY RESPONSIBLE TO PROTECT PREPARED SUBGRADES. RESTORE TO PROJECT SPECIFICATIONS IF DAMAGED OR COMPROMISED DUE TO INCLEMENT WEATHER AND/OR CONSTRUCTION TRAFFIC.
12. DEWATERING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS AND PONDING ON PREPARED SUBGRADES. PROTECT SUBGRADES FROM DAMAGE BY RAIN OR WATER ACCUMULATION. INSTALL A DEWATERING SYSTEM AS REQUIRED TO KEEP SUBGRADES DRY AND CONVEY GROUND WATER AWAY FROM GRADING OPERATIONS. MAINTAIN UNTIL DEWATERING IS NO LONGER REQUIRED. CONTRACTOR IS RESPONSIBLE FOR TREATING ANY DISCHARGE FROM DEWATERING OPERATIONS TO ENSURE NO SEDIMENT IS DISCHARGED FROM THE PROJECT SITE. CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DEWATERING EFFLUENT.
13. WHERE ROCK IS ENCOUNTERED WITHIN 18" OF PAVING SUBGRADE AND 36" OF BUILDING SUBGRADE, THE "CUT LINE" SHALL BE PER THE SPECIFICATIONS. SEE THE SPECIFICATIONS FOR "CUT LINE" DIMENSIONS BELOW BUILDING PADS AND PARKING AREAS. SUITABLE MATERIAL SHALL BE REPLACED TO THE PROPOSED SUBGRADE ELEVATION.
14. FILL MATERIAL MUST MAINTAIN THE FOLLOWING PROPERTIES: VIRTUALLY FREE OF ORGANICS, NO ROCK FRAGMENTS GREATER THAN 4" WITHIN 4' OF FINISH GRADE, MAX LIQUID LIMIT OF 50, MAX PLASTICITY INDEX OF 30, MAX DRY DENSITY GREATER THAN 100PCF PER ASTM D-698, STANDARD PROCTOR, AND WITHIN +/- 2.0% OF OPTIMUM MOISTURE CONTENT DURING COMPACTION OPERATIONS.
15. PLACE FILL MATERIAL IN 8" MAXIMUM LOOSE LIFTS AND COMPACT TO PROJECT REQUIREMENTS.
16. COMPACTION TESTS MUST BE TAKEN AT A MINIMUM EVERY 2,500 SQUARE FEET OF AREA PER 8" LIFT OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
17. MINIMUM COMPACTION REQUIREMENTS OF MAX DRY DENSITY PER ASTM D-698, STANDARD PROCTOR.
    a. STRUCTURAL AREAS 98%
      i.a. DEFINED AS ZONES OF INFLUENCE AROUND BUILDING, PAVEMENT AREAS, FILL SLOPES, ETC.
    j. LANDSCAPE AREAS 85% TOP 2' (95%)
    k. LIMITED SPACES 98%
      k.a. DEFINED AS MANHOLES, INLETS, UTILITY TRENCHES
18. STONE BACKFILL SHALL BE INSTALLED IN 12” MAX LOOSE LIFTS AND COMPACTED BY VIBRATORY COMPACTOR.
19. ALL UN-SURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE FOUR INCHES (4") OF TOPSOIL, SEED, MULCH, WATER, ETC. TO ENSURE THE ESTABLISHMENT OF A PERMANENT STAND OF GRASS. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH THE LANDSCAPE PLAN AND CITY/COUNTY SPECIFICATIONS UNTIL HEALTHY STAND OF GRASS IS OBTAINED.
20. PROPOSED ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
21. CONTRACTOR SHALL MILL, TACK, AND ENSURE FLUSH CONDITION WITH NO PONDING OF WATER AT LOCATIONS WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.
22. EXISTING MANHOLE TOPS, VALVE BOXES, ETC. TO REMAIN ARE TO BE ADJUSTED AS REQUIRED TO MATCH PROPOSED GRADES. IF NECESSARY, RE-ADJUSTMENTS SHALL BE PERFORMED UPON COMPLETION OF PAVING AND FINE GRADING TO ENSURE A SMOOTH TRANSITION.
23. EXISTING DRAINAGE STRUCTURES TO REMAIN WITHIN THE PROJECT LIMITS ARE TO BE INSPECTED AND REPAIRED AS NECESSARY. EXISTING PIPES TO BE CLEANED OF ANY SILTS AND DEBRIS.
24. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING AND FOR ALL NATURAL AND PAVED AREAS.
25. MAXIMUM FILL AND CUT SLOPE GRADES MUST BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
26. FILL SLOPES MUST BE BENCHED INTO EXISTING SLOPES PER THE GEOTECHNICAL ENGINEER.
27. RETAINING WALL GRADES:
    a. GTW = FINISHED GRADE AT TOP OF WALL
    b. GBW = FINISHED GRADE AT BOTTOM OF WALL
    c. SEE STRUCTURAL PLANS FOR WALL DESIGN AND FOOTING ELEVATIONS RELATIVE TO FINISHED GRADE.
28. ALL RETAINING WALLS TO BE PROTECTED DURING BACKFILL BY CONTRACTOR. THIS INCLUDES BUT IS NOT LIMITED TO, PROVIDING AND INSTALLING PROPER BRACING DURING BACKFILL BEING PLACED ADJACENT TO RETAINING WALLS.
29. THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING COMPACTION TESTING.

STORM DRAINAGE NOTES:

1. EXISTING STORM INFRASTRUCTURE SHOWN ON PLANS IS APPROXIMATE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND CONNECTION POINTS PRIOR TO ORDERING OF MATERIALS AND CONSTRUCTION.
2. SUBMIT PROJECT SPECIFIC SHOP DRAWINGS TO THE ENGINEER FOR ALL STORM PIPE MATERIALS AND STRUCTURES PRIOR TO FABRICATION.
3. STORM DRAINAGE CONVEYANCE SYSTEMS SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM WITH ALL INLETS BEING LOCATED AT LOWPOINTS.
4. ALDOT REFERENCE SPECIFICATIONS:
    a. RIP RAP: CLASS 2 PER SECTION 610
    b. STORM MANHOLES (PRECAST WITH GASKETS): SPECIAL DWG MH-621-2
    c. SLOPE PAVED HEADWALLS: SPECIAL DWG HW-614-SP
    d. FLARED END SECTIONS: SPECIAL DWG FE-619
    e. PRECAST HEADWALLS: HW-614-B (PC)
    f. IMPACT DISSIPATING HEADWALLS: ID-621
    g. WING CURB INLETS: SPECIAL DWG I-621-S
    i. TYPE S3 FOR 15” TO 30” STORM PIPES
    ii. TYPE S4 FOR 36” TO 54” STORM PIPES
    h. ROADSIDE DITCH INLETS: SPECIAL DWG I-621-C
    i. CONCRETE COLLARS: SPECIAL DWG CC-530
    j. BURIED JUNCTION BOX: JB-620-B/TB-620-C ACCORDING TO FILL HEIGHT
5. STORM PIPES:
    a. 15” AND LESS:
      i.a. HDPE (SMOOTH LINED) OR PVC SCHD 40 WITH WATERTIGHT JOINTS
    j. 18” AND GREATER:
      i.a. RCP CLASS 3 BELL AND SPIGOT WATERTIGHT JOINTS
    j. SEE PLANS FOR SPECIFIC PIPE MATERIAL VARIATIONS NOTED.
    k. BEDDING:
      i.a. 30” AND LESS BEDDED IN 4” OF CRUSHED AGGREGATE
      ii.b. 36” AND GREATER BEDDED IN 6” OF CRUSHED AGGREGATE
6. PROVIDE DOWNSPOUT BOOTS, CLEANOUTS AND ROOF DRAIN PIPING FROM DOWNSPOUTS TO CONNECT TO STORM CONVEYANCE SYSTEM. COORDINATE WITH ARCHITECTURAL PLANS FOR DOWNSPOUT LOCATION AND BOOT MODEL. COORDINATE WITH STRUCTURAL PLANS FOR FOOTING ELEVATIONS TO ENSURE A MINIMUM ROOF DRAIN PIPING COVER OF 18".
7. INSTALL DRAINAGE PIPING (4” MIN PVC) AS REQUIRED FROM BELOW GRADE UTILITY VAULTS TO NEAREST INLET OR DAYLIGHT.
8. THE CONTRACTOR SHALL INSURE THAT POSITIVE AND ADEQUATE DRAINAGE IS MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT CONSTRUCTION. THIS MAY INCLUDE, BUT NOT LIMITED TO, PHASED CONSTRUCTION SEQUENCING WITH GRADING AND STORM DRAINAGE WORK.

EROSION CONTROL NOTES:

1. ALL WORK PERFORMED MUST BE IN CONFORMANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
2. ALL PROJECT SITES WITH GREATER THAN 1 ACRE OF DISTURBANCE SHALL REQUIRE A “NOTICE OF INTENT” (NOI) FROM ADEM. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE NOI AND ANY LOCAL EROSION CONTROL PERMITTING INCLUDING ALL APPLICATION AND PERMITTING FEES. CONTRACTOR IS RESPONSIBLE TO ENSURE COMPLIANCE WITH ALL PERMIT REQUIREMENTS INCLUDING BUT NOT LIMITED TO INSPECTION REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES IN ACCEPTABLE OPERATING CONDITION PER ADEM REQUIREMENTS DURING ALL CONSTRUCTION ACTIVITIES. THIS INCLUDES ALL MAINTENANCE REQUIRED INCLUDING CLEAN-UP, REPAIRS, OR REPLACEMENT AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR SHALL REVIEW AND COORDINATE PROPOSED GRADING SEQUENCE TO LIMIT AS PRACTICAL THE AMOUNT OF LAND DISTURBED AT ANY ONE TIME WITHOUT PERMANENT STABILIZATION.
5. PRIOR TO CONSTRUCTION, CONTRACTOR MUST AT A MINIMUM INSTALL TEMPORARY CONSTRUCTION ENTRANCE AND INITIAL SEDIMENT CONTROL MEASURES SHOWN IN THE PLANS. CLEARING AND GRUBBING MUST ONLY BE ENGAGED AS NECESSARY TO INSTALL INITIAL MEASURES. MINIMIZE LAND DISTURBANCE AND NO LAND DISTURBANCE MAY BE BEYOND LIMITS SHOWN WITHIN THE PLANS.
6. EROSION CONTROL PHASING SHOWN WITHIN THE PLANS ARE INDEPENDENT OF THE CONTRACTOR'S CONSTRUCTION PHASING. CONTRACTOR SHALL REVIEW PLANS AND ADJUST PHASING AS REQUIRED BASED ON THEIR CONSTRUCTION SCHEDULE. ADDITIONAL MEASURES MAY BE REQUIRED TO PREVENT EROSION, CONVEYANCE OF SILTS, DEGRADATION, OR POLLUTION THROUGHOUT THE SITE OR TO ADJACENT PROPERTIES OR CONVEYANCE SYSTEMS. ANY ADDITIONAL MEASURES TO MEET THE REQUIREMENTS OF THE ADEM PERMIT ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE NO ADDITIONAL COST TO THE OWNER.
7. SEDIMENT AND EROSION CONTROL MEASURES MUST BE INSPECTED ON A DAILY BASIS AND PER ADEM REQUIREMENTS. ALL MEASURES MUST BE REPAIRED, ADJUSTED AND MAINTAINED AS NEEDED OR REQUIRED BY GOVERNING AGENCIES AT NO ADDITIONAL EXPENSE TO THE OWNER TO PROVIDE EROSION AND SEDIMENT CONTROL FOR THE DURATION OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS ARE STABILIZED.
8. ALL UNSURFACED AREAS MUST RECEIVE 4 INCHES OF TOPSOIL AND TEMPORARY GRASS OR SOD UNLESS OTHERWISE INDICATED ON THE LANDSCAPE PLAN. IF TEMPORARY GRASS IS APPLIED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO APPLY PERMANENT SEED OR SOD AT THE APPROPRIATE TIME OF YEAR.
9. ALL DISTURBED AREAS LEFT UNDISTURBED FOR 13 DAYS MUST BE SEEDED AND MULCHED PER ADEM REQUIREMENTS AND PER ALDOT SPECIFICATION SECTION 652 AND 656.
10. INLET PROTECTION MUST BE INSTALLED AT INLETS UPON THE COMPLETION OF EACH INLET.
11. OUTLET PROTECTION MUST BE INSTALLED AT EACH HEADWALL UPON THE COMPLETION OF EACH HEADWALL.
12. FILL SLOPES SHOULD BE PLANTED AT THE TIME THE SLOPE IS BROUGHT TO FINAL GRADE. SURFACE RUNOFF MUST BE INTERCEPTED AT THE TOP OF TEMPORARY AND PERMANENT SLOPES AS TO NOT ALLOW WATER FLOW OVER THE SLOPE FACE. GEOTEXTILE MUST BE PLACED ON SLOPE FACES AS FOLLOWS: 2:1 SLOPES - NORTH AMERICAN GREEN SC150; 3:1 SLOPES - NORTH AMERICAN GREEN S150 OR APPROVED EQUALS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
13. STORMWATER CONVEYANCE DITCHES MUST BE STABILIZED AT THE TIME OF INSTALLATION TO PREVENT SILTATION AND THE TRANSPORT OF POLLUTANTS. GEOTEXTILE MUST BE PLACED ON ALL DITCH BOTTOMS AND SIDES. AT A MINIMUM GEOTEXTILE MUST BE NORTH AMERICAN GREEN SC150.
14. ALL TEMPORARY EROSION CONTROL MEASURES MUST BE REMOVED AT THE COMPLETION OF CONSTRUCTION ONCE ALL AREAS ARE STABILIZED AS DEFINED BY ADEM. COMPLETION OF CONSTRUCTION IS NOT DEFINED AS THE COMPLETION OF GRADING AND STORM DRAINAGE CONSTRUCTION ACTIVITIES.
15. ALL CONSTRUCTION WASTE AND TEMPORARY BMPS SHALL BE REMOVED FROM THE SITE UPON PROJECT COMPLETION.
16. THE CONTRACTOR SHALL REMOVE DEBRIS AND SEDIMENT FROM TEMPORARY SEDIMENT PONDS AND PERMANENT PONDS AS REQUIRED BY THE ENGINEER OR LOCAL JURISDICTION INSPECTOR.

UTILITY NOTES:

1. LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES (ABOVE AND BELOW GROUND) SHOWN IN THE PLANS ARE APPROXIMATE AND BASED UPON AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES (ABOVE AND BELOW GROUND) BEFORE BEGINNING ANY CONSTRUCTION. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. CONTRACTOR SHALL UTILIZE GPR, HYDRO VAC AND OR POTHOLING TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF UTILITIES. ANY AND ALL DAMAGE MADE TO ANY EXISTING UTILITY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE OR REMOVE ANY UTILITIES REQUIRED TO CONSTRUCT PROPOSED IMPROVEMENTS. ANY DEVIATIONS FROM DESIGN PLANS MUST BE REPORTED TO THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
3. REFER TO ARCHITECTURAL AND MEP PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES INCLUDING BUT NOT LIMITED TO SANITARY, DOMESTIC AND FIRE WATER, ELECTRICAL, COMMUNICATIONS, ETC. COORDINATE AND SCHEDULE UTILITY INSTALLATION TO ENSURE REQUIRED DEPTHS ARE MET AND TO AVOID CONFLICTS WITH OTHER UTILITIES AND BELOW GRADE CONSTRUCTION.
4. CONTRACTOR MUST COORDINATE INSTALLATION AND FINAL SITE ROUTING WITH AUTHORITIES HAVING JURISDICTION FOR POWER, COMMUNICATIONS, AND GAS SERVICE ROUTINGS PRIOR TO INSTALLATION OF OTHER SUBSURFACE UTILITIES. INFORMATION SHOWN ON THE PLANS IS FOR REFERENCE ONLY.
5. UNDERGROUND ELECTRICAL AND COMMUNICATIONS MUST BE INSTALLED IN PVC SCHD 40 CONDUIT OR DUCT BANK WITH PULL WIRE PER AUTHORITY HAVING JURISDICTION REQUIREMENT. INFORMATION SHOWN ON THE PLANS IS FOR REFERENCE ONLY.
6. CONTRACTOR SHALL REVIEW AND UNDERSTAND AUTHORITIES HAVING JURISDICTION REQUIREMENTS FOR OBSERVATION AND OVERSIGHT ON ALL UTILITIES. COORDINATE INSPECTION WITH THE APPROPRIATE AUTHORITIES PRIOR TO COVERING TRENCHES AT INSTALLATION.
7. THE CONTRACTOR IS REQUIRED TO CONDUCT ALL REQUIRED WORK AND TESTING TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT NO ADDITIONAL COST TO THE OWNER.
8. THE MINIMUM SEPARATION BETWEEN WATER AND SEWER LINES MUST BE THEN (10) FEET HORIZONTALLY OR TWO (2) FEET VERTICALLY.
9. SANITARY SEWER LINES MUST BE DIP CL 350 OR PVC C900 UNLESS OTHERWISE REQUIRED BY AUTHORITY HAVING JURISDICTION.
10. GRAVITY SANITARY SEWER SYSTEMS MUST BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM AND IN ACCORDANCE WITH ALL UTILITY COMPANY STANDARDS AND REQUIREMENTS. ALL EXCAVATION, SHORING AND BRACING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. ALL PIPE ENTRANCE CONNECTIONS TO SANITARY SEWER MANHOLES MUST BE MADE WITH NEOPRENE BOOTS INSTALLED PER MANUFACTURER'S RECOMMENDATIONS TO ASSURE CONNECTION IS WATER TIGHT.
12. WATER LINES MUST BE THE FOLLOWING MATERIALS:
    a. 4” DIAMETER AND LARGER: PVC (C900, DR14)
13. LESS THAN 4” DIAMETER: PVC (SCHD 40)
14. WATER LINES MUST BE INSTALLED PER AUTHORITY HAVING JURISDICTION REQUIREMENTS. ALL MAINS AND SERVICES MUST BE MAINTAIN 36” OF MINIMUM COVER UNLESS SPECIFICALLY NOTED OTHERWISE.
15. METERING AND BACKFLOW PREVENTION MUST BE PROVIDED ON ALL WATER SERVICES (DOMESTIC, FIRE, IRRIGATION) PER AUTHORITY HAVING JURISDICTION REQUIREMENTS.
    a. COMBINED SYSTEM: REDUCED PRESSURE ZONE (RPZ)
    b. DOMESTIC SYSTEM: REDUCED PRESSURE ZONE (RPZ)
    c. FIRE SYSTEM: DOUBLE CHECK VALVE (DCV)
    d. IRRIGATION SYSTEM: REDUCED PRESSURE ZONE (RPZ)
    e. DCV AND DDCV DEVICES MUST BE IN BELOW GRADE BOXES PER LOCAL AUTHORITY REQUIREMENTS
    f. RPZ DEVICES MUST BE IN ABOVE GRADE HEATED ENCLOSURE PER LOCAL AUTHORITY REQUIREMENTS.
    g. CONTRACTOR MUST INCLUDE AND COORDINATE ALL POWER AND COMMUNICATION REQUIREMENTS TO BOXES INCLUDING BUT NOT LIMITED TO SUMP PUMPS, HEATERS, SCADA, ETC.
15. PROVIDE TAMPER SWITCHES AND ASSOCIATED INFRASTRUCTURE ON FIRE SERVICE POST INDICATOR VALVES AND VALVES IN PIT PER LOCAL AUTHORITY REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONDUIT, WIRING, ETC FROM ANY TAMPER SWITCH LOCATION TO POWER SERVICE AND/OR REPORTING LOCATION. COORDINATE WITH FIRE PROTECTION AND ELECTRICAL PLANS FOR POWER SERVICE AND/OR REPORTING LOCATIONS.
16. TRENCHES IN EXISTING UNSURFACED AREAS MUST BE BACKFILLED PER GEOTECHNICAL ENGINEERS RECOMMENDATIONS OR AT A MINIMUM WITH FILL PLACED IN MAX 6” LOOSE LIFTS, COMPACTED TO 98% STANDARD PROCTOR AT +/- 2.0% OPTIMUM MOISTURE CONTENT.
17. TRENCHES IN EXISTING PAVED AREAS MUST BE NEATLY SAWCUT AND BACKFILLED FULL DEPTH WITH CRUSHED AGGREGATE. REPLACE SURFACING AND PAVEMENT SECTION IN LIKE KIND AND RESTRIPE AS NECESSARY TO RETURN AREA TO PRE-CONSTRUCTION CONDITION.
18. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS REQUIRED TO ENSURE ALL AT-GRADE EXISTING AND PROPOSED UTILITY STRUCTURES (MANHOLES, VAULTS, VALVE BOXES, ETC.) MATCH FINISHED GRADE UPON CONSTRUCTION COMPLETION.

TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE LATEST EDITION AND REVISION OF PART VI OF THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE APPROVED TRAFFIC CONTROL PLAN FOR ALL CONSTRUCTION WITHIN WORK AREAS SHOWN AND DESCRIBED IN PART VI OF THE MUTCD.
2. PERMANENT ROADWAY SIGNS OR TEMPORARY CONSTRUCTION SIGNS WHICH ARE NOT APPLICABLE OR INAPPROPRIATE FOR THE CURRENT CONDITIONS SHALL BE COVERED OR REMOVED.
3. THE DIMENSIONS SHOWN OR DESCRIBED FOR LOCATING CONSTRUCTION SIGNS ARE NOMINAL. THE ACTUAL DIMENSIONS SHALL BE ADJUSTED TO BEST FIT LOCAL CONDITIONS AND PROVIDE MAXIMUM VISIBILITY.
4. IF TRAFFIC CONTROL DEVICES ARE NECESSARY FOR PROPER WARNING AND TRAFFIC CONTROL AFTER SUNSET, THEN AS A MINIMUM, TYPE "B" WARNING LIGHTS SHALL BE PLACED ON THE FIRST WARNING SIGN AND CHANNELIZING DRUM AND TYPE "A" REFLECTIVE SHEETING SHALL BE REQUIRED ON ALL SIGNS.
5. HAZARDOUS CONDITIONS ON OPEN ROADWAYS SUCH AS PAVEMENT DROP-OFFS IN EXCESS OF 2"; CONSTRUCTION MATERIALS, VEHICLES, OR EQUIPMENT STORED OR PLACED WITHIN THE ROADWAY RIGHT-OF-WAY; AND OPEN TRENCHES ACROSS OR NEAR THE ROADWAY SHALL NOT BE ALLOWED UNLESS THE CONTRACTOR IS ON SITE AND WORKING, AND PROPER TRAFFIC CONTROL MEASURES ARE BEING TAKEN.
6. THE CONTRACTOR SHALL KEEP OPEN ROADWAYS CLEAN AND FREE OF CONSTRUCTION DEBRIS, DIRT, LOOSE GRAVEL OR OTHER MATERIAL THAT MAY CAUSE HAZARDOUS DRIVING CONDITIONS.
7. TRAFFIC CONTROL DEVICES SHALL MEET THE STANDARD MATERIAL AND INSTALLATION REQUIREMENTS SPECIFIED IN THE CURRENT EDITION OF THE AL.D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
8. ROADWAYS AND DRIVEWAYS SHALL REMAIN OPEN DURING CONSTRUCTION. CHANNELIZING DEVICES SHALL BE PLACED AT 10' ON CENTER ALONG MINIMUM 20' RADII TO CHANNELIZE TRAFFIC INTO AND OUT OF INTERSECTING ROAD AND DRIVES WITHIN AREAS WHERE CHANNELIZING DEVICES ARE REQUIRED. TEMPORARY REGULATORY SIGNS SUCH AS STOP SIGNS AND YIELD SIGNS SHALL BE PLACED AS NECESSARY FOR PROPER TRAFFIC CONTROL IN ACCORDANCE WITH THE MUTCD.

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER
IAM CURTIS WALKER
Curtis Walker
12/20/24

100% CD'S

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
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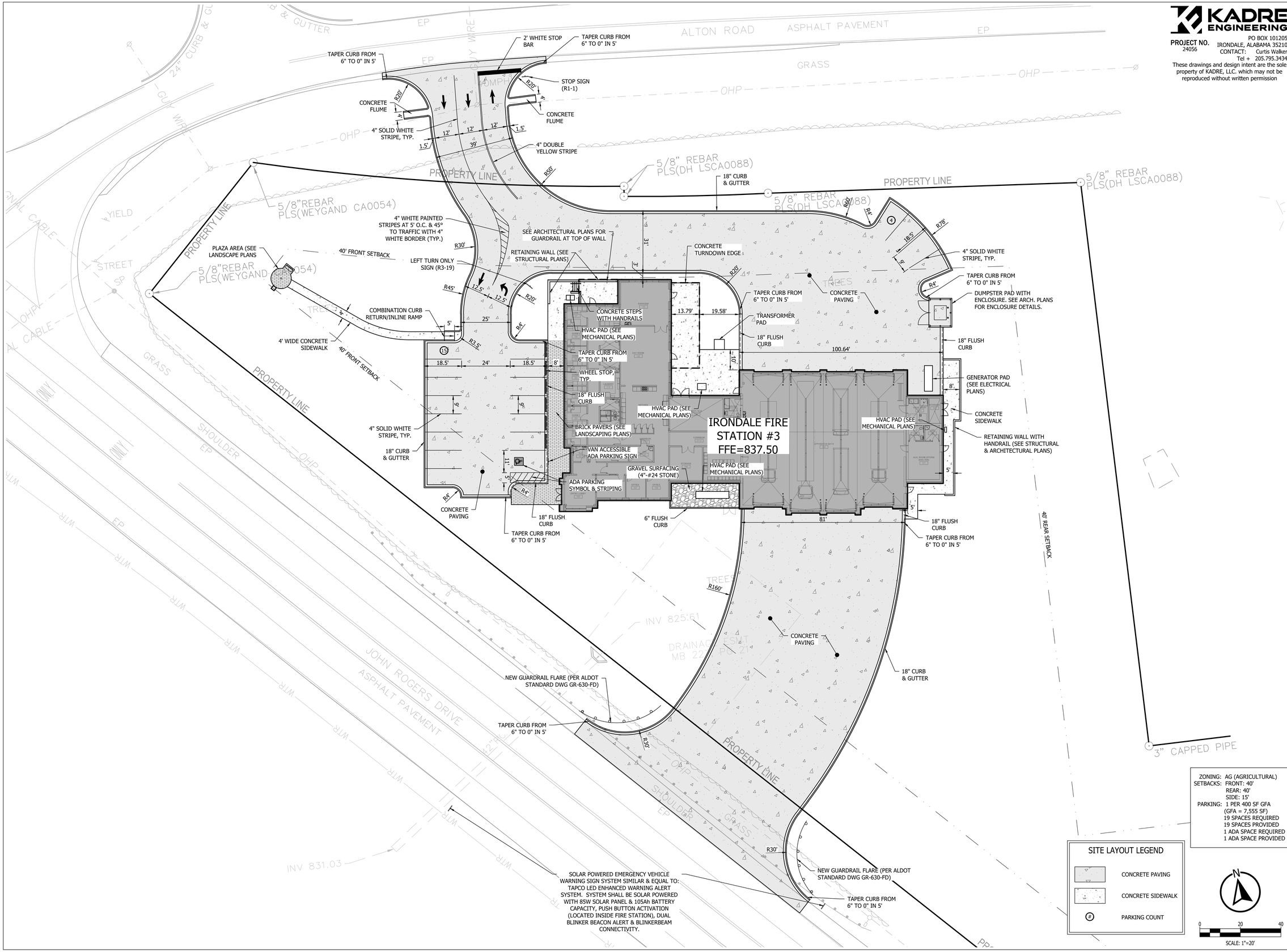
SHEET TITLE:
NOTES

PROJECT NUMBER:
CWA No. 2023-01

DATE:
8/30/24

DRAWN BY:	CHECKED BY:
WCW	CIE

SHEET NUMBER
C0.1



SITE LAYOUT LEGEND	
	CONCRETE PAVING
	CONCRETE SIDEWALK
#	PARKING COUNT

ZONING: AG (AGRICULTURAL)
SETBACKS: FRONT: 40'
REAR: 40'
SIDE: 15'
PARKING: 1 PER 400 SF GFA
(GFA = 7,555 SF)
19 SPACES REQUIRED
19 SPACES PROVIDED
1 ADA SPACE REQUIRED
1 ADA SPACE PROVIDED

0 20 40
SCALE: 1"=20'

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Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS IAN CURTIS WALKER 12/20/24

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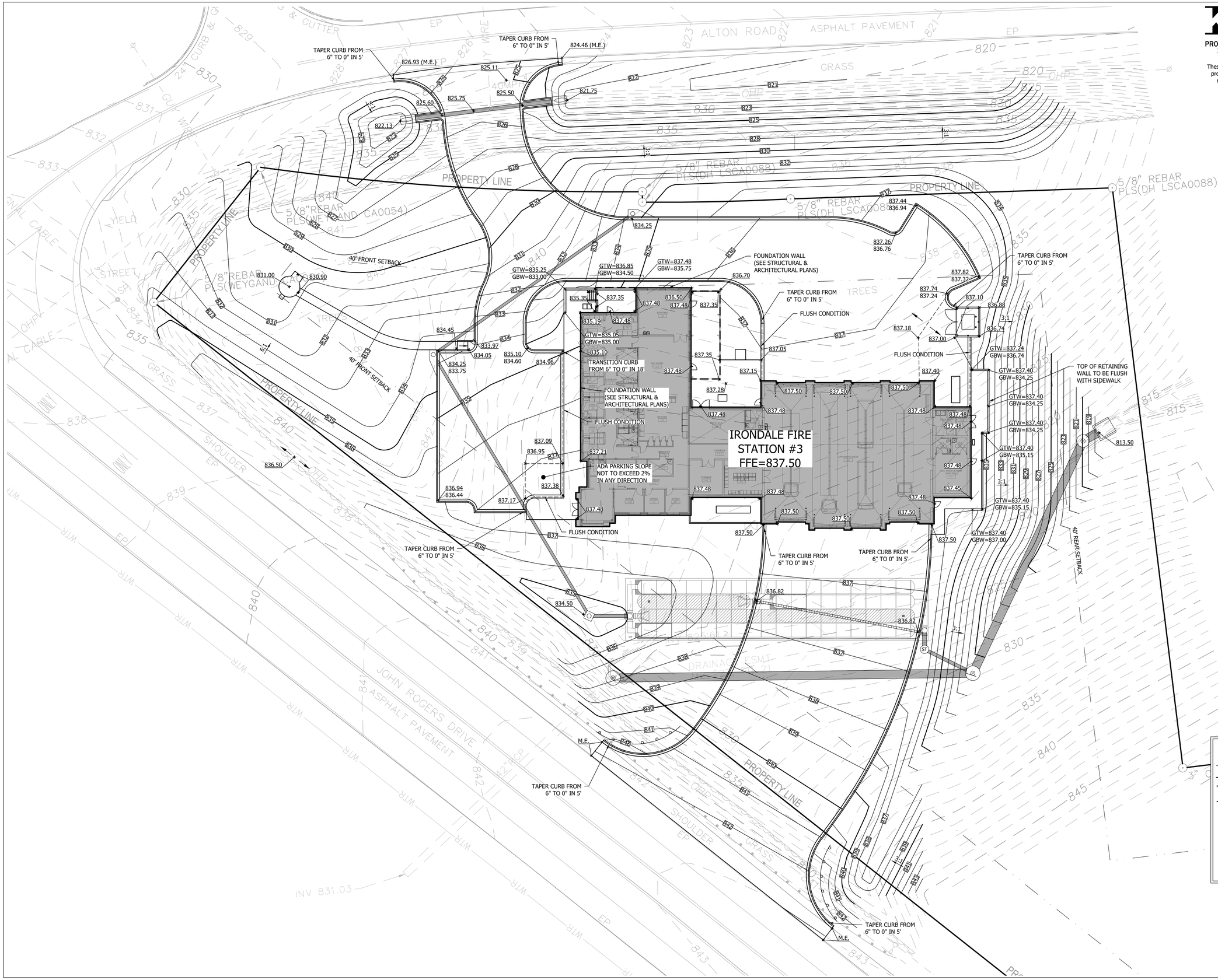
SHEET TITLE: SITE LAYOUT PLAN

PROJECT NUMBER: CWA No. 2023-01

DATE: 8/30/24

DRAWN BY: WCW | CHECKED BY: CIE

SHEET NUMBER C1.0



GRADING LEGEND	
501	MINOR CONTOUR
500	MAJOR CONTOUR
500.00	SPOT ELEVATION
500.50 / 500.00	TOP OR CURB ELEV / BOTTOM OF CURB ELEV
GTW	FINISHED GRADE ELEV ON HIGH SIDE OF WALL
GBW	FINISHED GRADE ELEV ON LOW SIDE OF WALL
M.E.	MATCH EXISTING ELEV

N

0 20 40

SCALE: 1"=20'

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PROJECT NO. 24056

Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS IAN WALKER 12/20/24

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SHEET TITLE: **SITE GRADING PLAN**

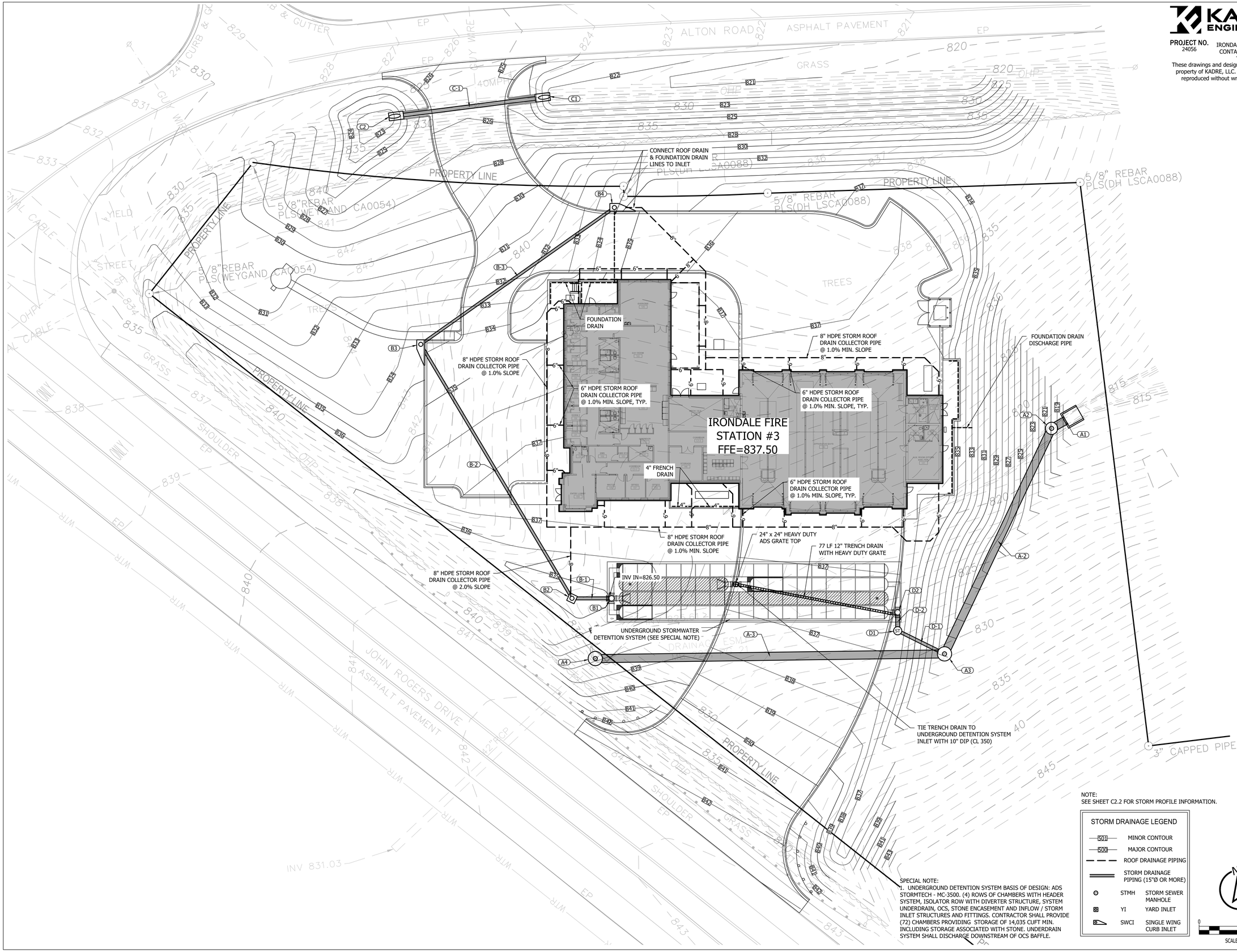
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **8/30/24**

DRAWN BY:	CHECKED BY:
WCW	CIE

SHEET NUMBER

C2.0



NOTE:
SEE SHEET C2.2 FOR STORM PROFILE INFORMATION.

STORM DRAINAGE LEGEND

501	MINOR CONTOUR	
500	MAJOR CONTOUR	
	ROOF DRAINAGE PIPING	
	STORM DRAINAGE PIPING (15"Ø OR MORE)	
STMH	STORM SEWER MANHOLE	
YI	YARD INLET	
SWCI	SINGLE WING CURB INLET	

SPECIAL NOTE:
1. UNDERGROUND DETENTION SYSTEM BASIS OF DESIGN: ADS STORMTECH - MC-3500. (4) ROWS OF CHAMBERS WITH HEADER SYSTEM, ISOLATOR ROW WITH DIVERTER STRUCTURE, SYSTEM UNDERDRAIN, OCS, STONE ENCASEMENT AND INFLOW / STORM INLET STRUCTURES AND FITTINGS. CONTRACTOR SHALL PROVIDE (72) CHAMBERS PROVIDING STORAGE OF 14,035 CUFT MIN. INCLUDING STORAGE ASSOCIATED WITH STONE. UNDERDRAIN SYSTEM SHALL DISCHARGE DOWNSTREAM OF OCS BAFFLE.

0 20 40
SCALE: 1"=20'

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PROJECT NO. 24056

Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS WAYNE WALKER
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SHEET TITLE: SITE DRAINAGE PLAN

PROJECT NUMBER: CWA No. 2023-01

DATE: 8/30/24

DRAWN BY:	CHECKED BY:
WCW	CIE

SHEET NUMBER
C2.1

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PROJECT NO. 24056

Revisions

No.	Date	Description

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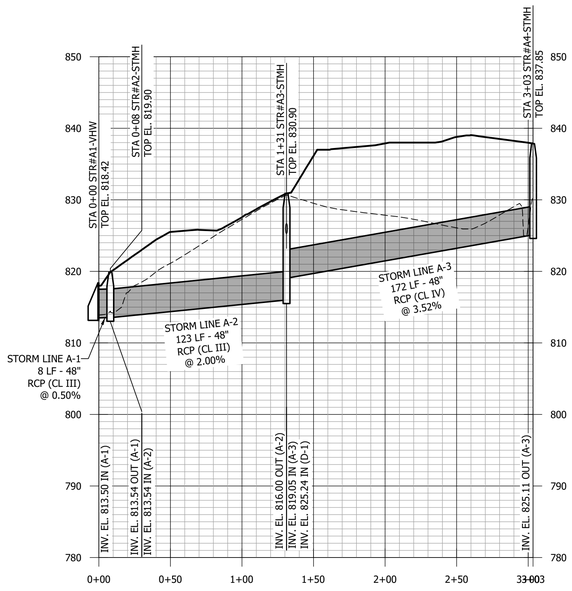
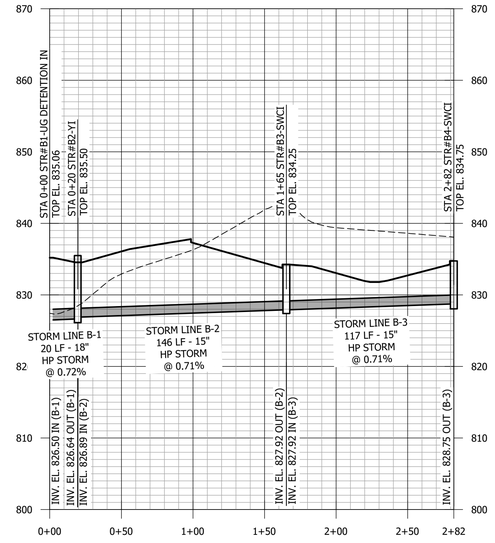
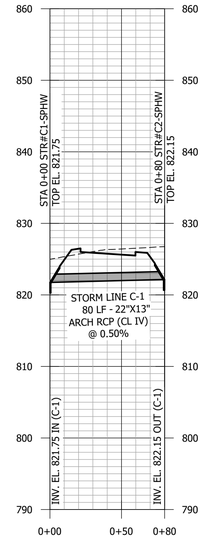
CITY OF IRONDALE



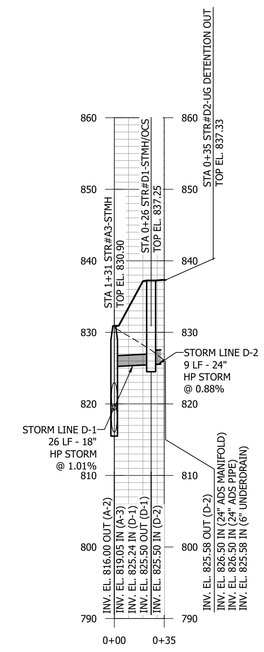
STORM LINE A



STORM LINE B



STORM LINE C



STORM LINE D

LEGEND

– – – –	EXISTING GRADE
———	PROPOSED GRADE
YI	YARD INLET
STMH	STORM MANHOLE
VHW	VERTICAL HEADWALL
SPHW	SLOPE PAVED HEADWALL
OCS	OUTLET CONTROL STRUCTURE
SWCI	SINGLE WING CURB INLET

SCALE: 1" = 50' HORIZONTAL
1" = 10' VERTICAL

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SHEET TITLE: **STORM PROFILES**

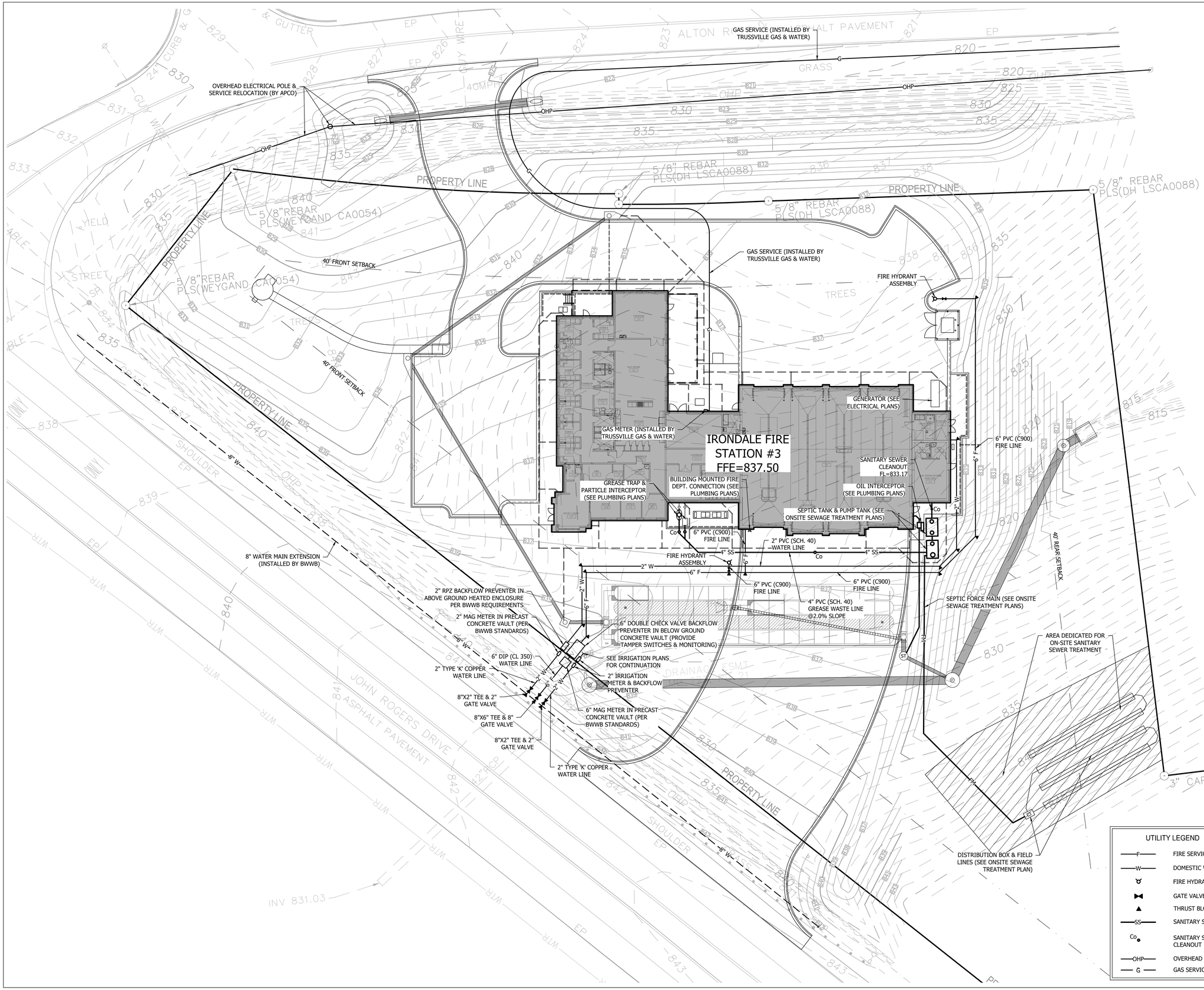
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **8/30/24**

DRAWN BY:	CHECKED BY:
WCW	**CIE**

SHEET NUMBER

C2.2



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Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS IAN WALKER
Curtis Walker
12/20/24

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SHEET TITLE: **SITE UTILITY PLAN**

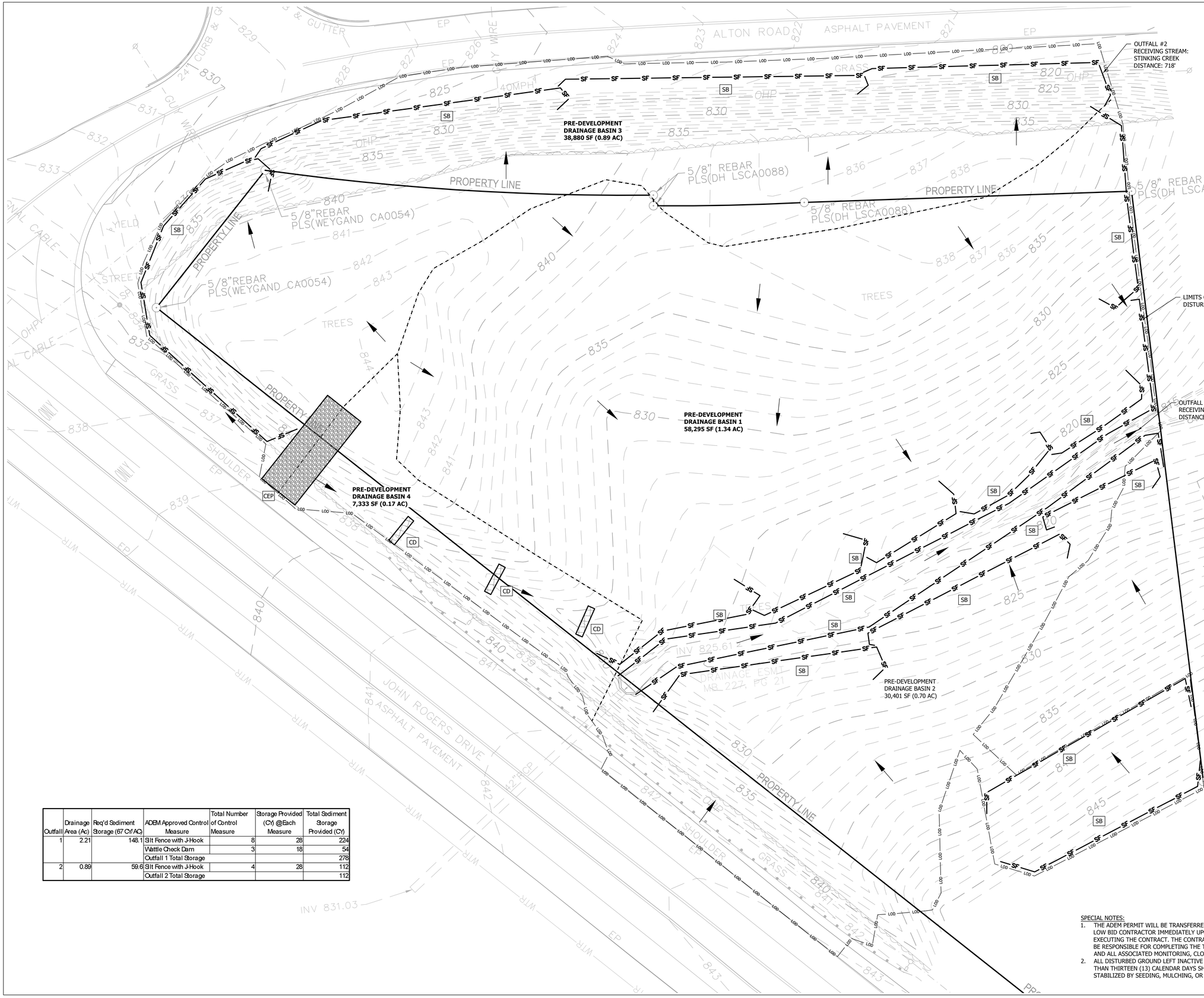
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **8/30/24**

DRAWN BY:	CHECKED BY:
WCW	CIE

SHEET NUMBER

C3.0



Outfall	Drainage Area (Ac)	Req'd Sediment Storage (67 CY/AC)	ADEM Approved Control Measure	Total Number of Control Measure	Storage Provided (CY) @Each Measure	Total Sediment Storage Provided (CY)
1	2.21	148.1	Silt Fence with J-Hook	8	28	224
			Wattle Check Dam	3	18	54
			Outfall 1 Total Storage			278
2	0.89	59.6	Silt Fence with J-Hook	4	28	112
			Outfall 2 Total Storage			112

EROSION CONTROL LEGEND

SF	SB	SILT FENCING
	FS	12" FILTER SOCK
	IP	SILT SAVER / DANDY SACK INLET PROTECTION
	CD	CHECK DAM - WATTLE
	CD	CHECK DAM - ROCK
	SW	SLOPE WATTLE
	CEP	CONSTRUCTION EXIT PAD
	OP	OUTLET PROTECTION
	TSG	TOPSOIL
	ECB	EROSION CONTROL BLANKET
	CW	CONCRETE WASHOUT
	PS	PERMANENT SEEDING
	TS	TEMPORARY SEEDING
	MU	MULCHING
	SU	SURFACE ROUGHENING
	SOD	SODDING
	DV	DIVERSION BERM
	LS	LANDSCAPING

SPECIAL NOTES:
1. THE ADEM PERMIT WILL BE TRANSFERRED TO THE LOW BID CONTRACTOR IMMEDIATELY UPON EXECUTING THE CONTRACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING THE TRANSFER AND ALL ASSOCIATED MONITORING, CLOSEOUT, ETC.
2. ALL DISTURBED GROUND LEFT INACTIVE FOR MORE THAN THIRTEEN (13) CALENDAR DAYS SHALL BE STABILIZED BY SEEDING, MULCHING, OR OTHER BMP.

N

0 20 40

SCALE: 1"=20'

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PROJECT NO. 24056

Revisions		
No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS WALKER 12/20/24

100% CD'S

IRONDALE FIRE STATION #3

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FAX: 205-250-0515

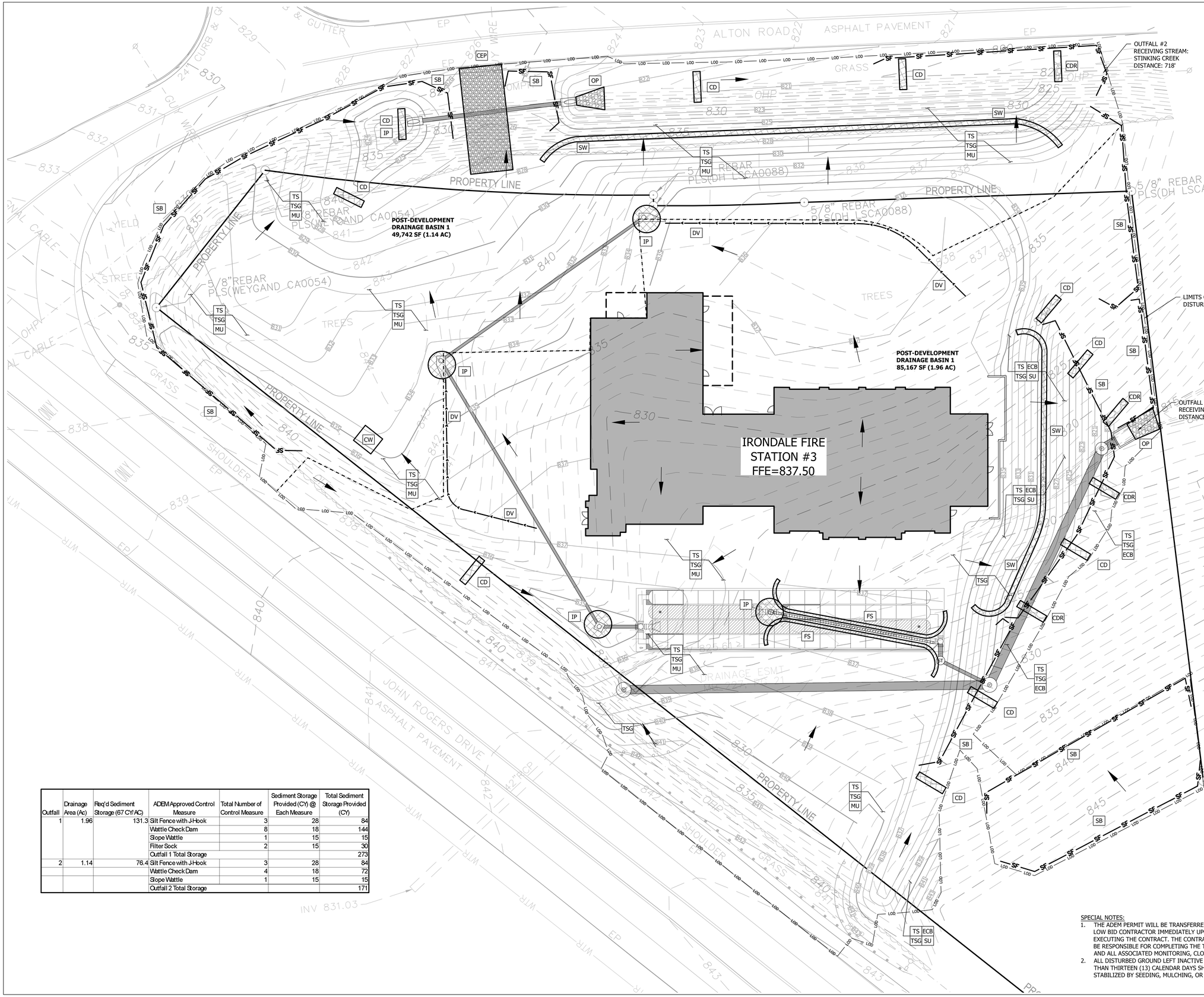
SHEET TITLE:
EROSION CONTROL PLAN - INITIAL

PROJECT NUMBER:
CWA No. 2023-01

DATE:
8/30/24

DRAWN BY:	CHECKED BY:
WCW	CIE

SHEET NUMBER
C4.0



Outfall	Drainage Area (Ac)	Req'd Sediment Storage (67 CY/ AC)	ADEM Approved Control Measure	Total Number of Control Measure	Sediment Storage Provided (CY) @ Each Measure	Total Sediment Storage Provided (CY)
1	1.96	131.3	Silt Fence with J-Hook	3	28	84
			Wattle Check Dam	8	18	144
			Slope Wattle	1	15	15
			Filter Sock	2	15	30
			Outfall 1 Total Storage			273
2	1.14	76.4	Silt Fence with J-Hook	3	28	84
			Wattle Check Dam	4	18	72
			Slope Wattle	1	15	15
			Outfall 2 Total Storage			171

EROSION CONTROL LEGEND

SF	SB	SILT FENCING
	FS	12" FILTER SOCK
	IP	SILT SAVER / DANDY SACK INLET PROTECTION
	CD	CHECK DAM - WATTLE
	CD	CHECK DAM - ROCK
	SW	SLOPE WATTLE
	CEP	CONSTRUCTION EXIT PAD
	OP	OUTLET PROTECTION
	TSG	TOPSOIL
	ECB	EROSION CONTROL BLANKET
	CW	CONCRETE WASHOUT
	PS	PERMANENT SEEDING
	TS	TEMPORARY SEEDING
	MU	MULCHING
	SU	SURFACE ROUGHENING
	SOD	SODDING
	DV	DIVERSION BERM
	LS	LANDSCAPING

SPECIAL NOTES:
1. THE ADEM PERMIT WILL BE TRANSFERRED TO THE LOW BID CONTRACTOR IMMEDIATELY UPON EXECUTING THE CONTRACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING THE TRANSFER AND ALL ASSOCIATED MONITORING, CLOSEOUT, ETC.
2. ALL DISTURBED GROUND LEFT INACTIVE FOR MORE THAN THIRTEEN (13) CALENDAR DAYS SHALL BE STABILIZED BY SEEDING, MULCHING, OR OTHER BMP.

N

0 20 40
SCALE: 1"=20'

KADRE ENGINEERING
PO BOX 101205
PROJECT NO. 24056
IRONDALE, ALABAMA 35210
CONTACT: Curtis Walker
Tel + 205.795.3434

Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS IAN WALKER
Curtis Walker
12/20/24

100% CD'S

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

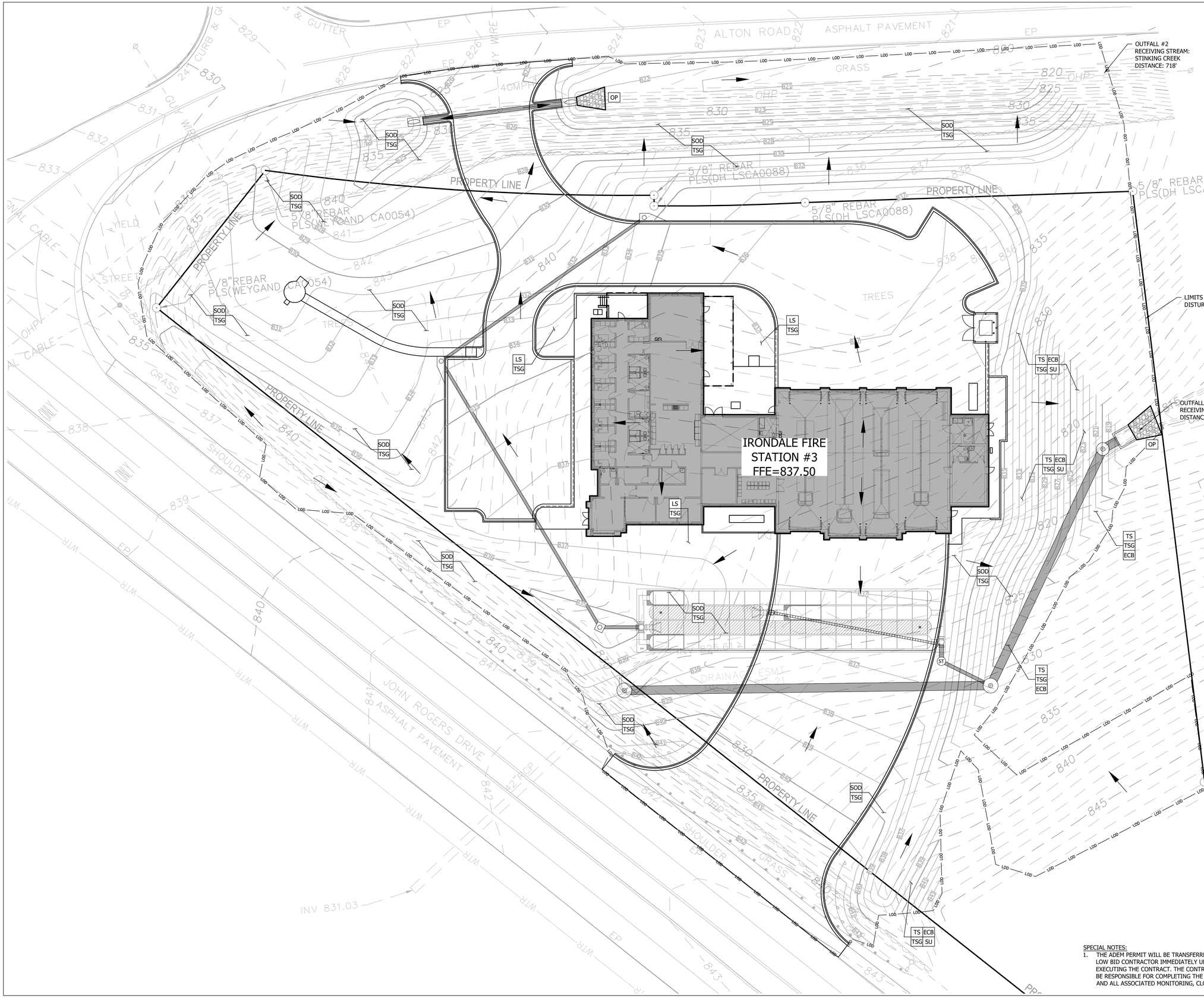
SHEET TITLE:
EROSION CONTROL PLAN - INTERMEDIATE

PROJECT NUMBER:
CWA No. 2023-01

DATE:
8/30/24

DRAWN BY:	CHECKED BY:
WCW	**CIE**

SHEET NUMBER
C4.1



EROSION CONTROL LEGEND

SF	SB	SILT FENCING
	FS	12" FILTER SOCK
	IP	SILT SAVER / DANDY SACK INLET PROTECTION
	CD	CHECK DAM - WATTLE
	CD	CHECK DAM - ROCK
	SW	SLOPE WATTLE
	CEP	CONSTRUCTION EXIT PAD
	OP	OUTLET PROTECTION
	TSG	TOPSOIL
	ECB	EROSION CONTROL BLANKET
	CW	CONCRETE WASHOUT
	PS	PERMANENT SEEDING
	TS	TEMPORARY SEEDING
	MU	MULCHING
	SU	SURFACE ROUGHENING
	SOD	SODDING
	DV	DIVERSION BERM
	LS	LANDSCAPING

SPECIAL NOTES:
1. THE ADEM PERMIT WILL BE TRANSFERRED TO THE LOW BID CONTRACTOR IMMEDIATELY UPON EXECUTING THE CONTRACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING THE TRANSFER AND ALL ASSOCIATED MONITORING, CLOSEOUT, ETC.

N

0 20 40
SCALE: 1"=20'

KADRE ENGINEERING
PO BOX 101205
IRONDALE, ALABAMA 35210
CONTACT: Curtis Walker
Tel + 205.795.3434

PROJECT NO. 24056

Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS WALKER
Curtis Walker
12/20/24

100% CD'S

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

SHEET TITLE:
EROSION CONTROL PLAN - FINAL

PROJECT NUMBER:
CWA No. 2023-01

DATE:
8/30/24

DRAWN BY:	CHECKED BY:
WCW	**CIE**

SHEET NUMBER
C4.2

KADRE ENGINEERING
PO BOX 101205
PROJECT NO. 24056
IRONDALE, ALABAMA 35210
CONTACT: Curtis Walker
Tel + 205.795.3434

Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS WALKER 12/20/24

100% CD'S

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CWA CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
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3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

SHEET TITLE: **DETAILS**

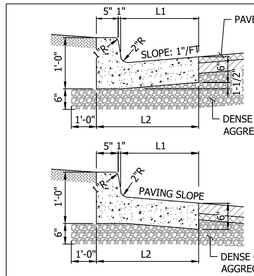
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **8/30/24**

DRAWN BY: **WCW** CHECKED BY: **CIE**

SHEET NUMBER **C5.0**

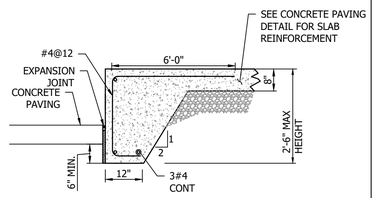
CURB AND GUTTER



DIMENSIONS		
TYPE	L1	L2
18"	12"	18"
24"	18"	24"
30"	24"	30"

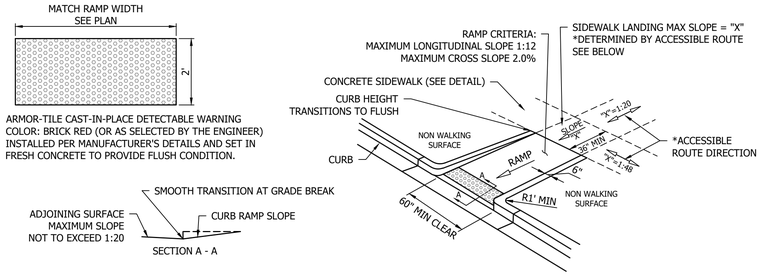
NOTES:
1. CURB AND GUTTER SHALL BE A MINIMUM OF 4,000 PSI CONCRETE
2. CONTRACTOR SHALL MATCH EXISTING CURB AND GUTTER AT TIE IN LOCATIONS.
3. SEE CONCRETE JOINT DETAIL FOR JOINTING INFORMATION.
4. CONTROL AND EXPANSION JOINTS SHALL ALIGN WITH ADJACENT SIDEWALK AND/OR CONCRETE PAVING JOINT PATTERN.
5. PROVIDE 6" MIN DEPTH DENSE GRADE AGGREGATE BASE UNDER ALL CURB AND GUTTERS TO 12" BEYOND BACK OF CURB.

CONCRETE TURNDOWN EDGE



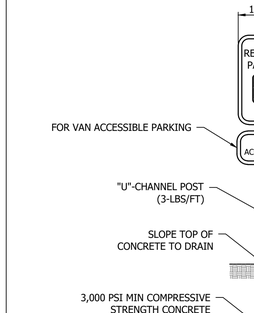
NOTES:
1. CURB SHALL BE A MINIMUM OF 4,000 PSI CONCRETE
2. SEE CONCRETE JOINT DETAIL FOR JOINTING INFORMATION.
3. PROVIDE 6" MIN DEPTH DENSE GRADE AGGREGATE BASE BEDDING.

CURB RETURN RAMP DETAIL



NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN DISABILITIES ACT OF 2010.
2. RAMPS SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.

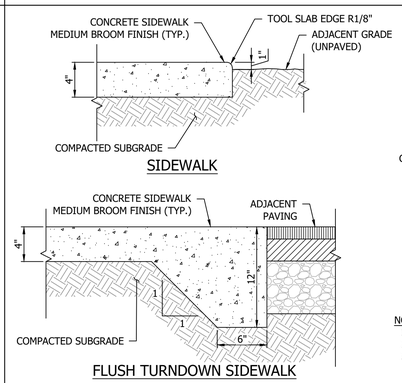
FLUSH CURB

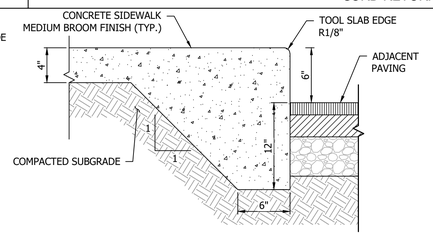


DIMENSIONS		
TYPE	L1	L2
18"	6"	12"
24"	6"	18"
30"	6"	24"

NOTES:
1. CURB SHALL BE A MINIMUM OF 4,000 PSI CONCRETE
2. CONTRACTOR SHALL MATCH EXISTING CURB AND GUTTER AT TIE IN LOCATIONS.
3. SEE CONCRETE JOINT DETAIL FOR JOINTING INFORMATION.
4. CONTROL AND EXPANSION JOINTS SHALL ALIGN WITH ADJACENT SIDEWALK AND/OR CONCRETE PAVING JOINT PATTERN.
5. PROVIDE 6" MIN DEPTH DENSE GRADE AGGREGATE BASE UNDER ALL CURB AND GUTTERS TO 12" BEYOND BACK OF CURB.

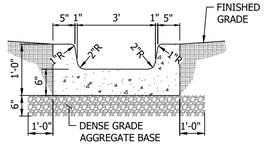
CONCRETE SIDEWALK





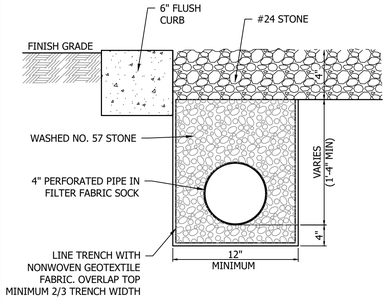
NOTES:
1. CONCRETE TO BE 4,000 PSI COMPRESSIVE STRENGTH.
2. SUBGRADE TO BE COMPACTED TO 98% MAXIMUM STANDARD PROCTOR (ASTM D-698).
3. REFER TO CONCRETE JOINT DETAIL FOR ADDITIONAL REQUIREMENTS.

CONCRETE FLUME

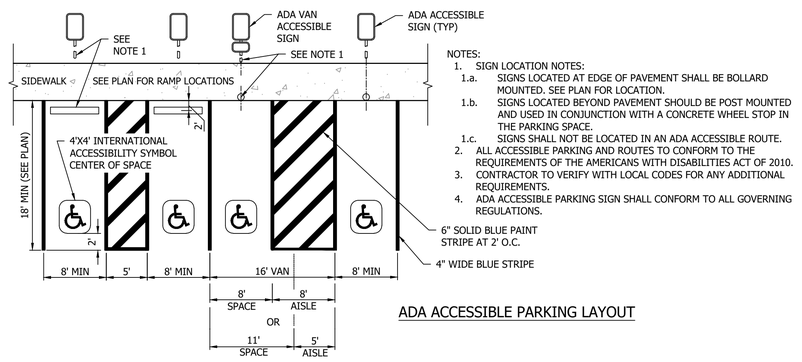


NOTES:
1. FLUME SHALL BE A MINIMUM OF 4,000 PSI CONCRETE
2. CONTRACTOR SHALL MATCH EXISTING CURB AND GUTTER AT TIE IN LOCATIONS.
3. SEE CONCRETE JOINT DETAIL FOR JOINTING INFORMATION.
4. CONTROL AND EXPANSION JOINTS SHALL ALIGN WITH ADJACENT SIDEWALK AND/OR CONCRETE PAVING JOINT PATTERN.
5. PROVIDE 6" MIN DEPTH DENSE GRADE AGGREGATE BASE UNDER ALL FLUMES TO 12" BEYOND BACK OF CURB.

FRENCH DRAIN



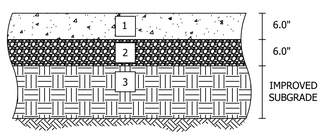
FLUSH CURB



NOTES:
1. SIGN LOCATION NOTES:
   1.a. SIGNS LOCATED AT EDGE OF PAVEMENT SHALL BE BOLLARD MOUNTED. SEE PLAN FOR LOCATION.
   1.b. SIGNS LOCATED BEYOND PAVEMENT SHOULD BE POST MOUNTED AND USED IN CONJUNCTION WITH A CONCRETE WHEEL STOP IN THE PARKING SPACE.
   1.c. SIGNS SHALL NOT BE LOCATED IN AN ADA ACCESSIBLE ROUTE.
2. ALL ACCESSIBLE PARKING AND ROUTES TO CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT OF 2010.
3. CONTRACTOR TO VERIFY WITH LOCAL CODES FOR ANY ADDITIONAL REQUIREMENTS.
4. ADA ACCESSIBLE PARKING SIGN SHALL CONFORM TO ALL GOVERNING REGULATIONS.

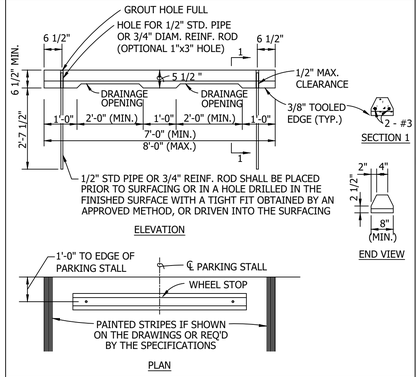
ADA ACCESSIBLE PARKING LAYOUT

CONCRETE PAVING

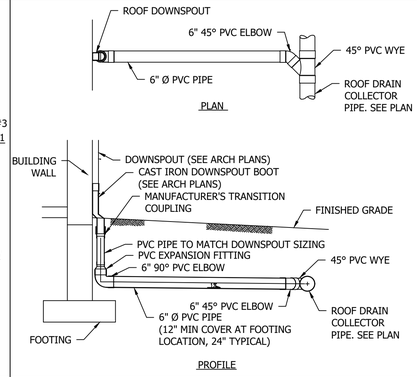


1	PORTLAND CEMENT CONCRETE PAVEMENT (4,000 PSI/650 FLEXURAL)
2	CRUSHED AGGREGATE BASE COURSE, TYPE B, ALDOT SECTION 825, COMPACTED TO 98% (ASTM D 1557)
3	SCARIFY AND RECOMPACT THE UPPER 12" IN CUT AREAS TO 98% MAXIMUM STANDARD PROCTOR (ASTM D-698) OR PER ON-SITE GEOTECHNICAL RECOMMENDATIONS
*	CONCRETE PAVING REINFORCEMENT MUST BE 4X4 W2.9/W2.9 WELDED WIRE FABRIC PLACED AT MID-DEPTH. ¾" DOWELS AT 12"O.C. (ONE END GREASED) LOCATED AT EXPANSION JOINTS AND POUR BREAKS WITH 6" EMBED LENGTH. SEE CONCRETE PAVING JOINT DETAIL FOR ADDITIONAL JOINTING INFORMATION. FIBER REINFORCEMENT MAY BE ALLOWED AS AN ALTERNATE. CONTRACTOR SHALL PROVIDE DESIGN FROM FIBER MANUFACTURER TO KADRE PRIOR TO INSTALLATION.

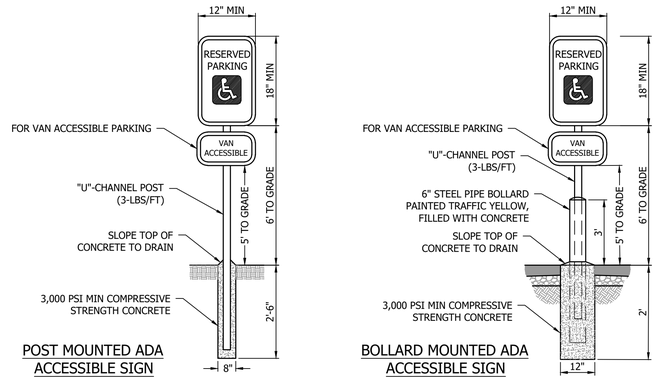
PRECAST CONCRETE WHEEL STOP



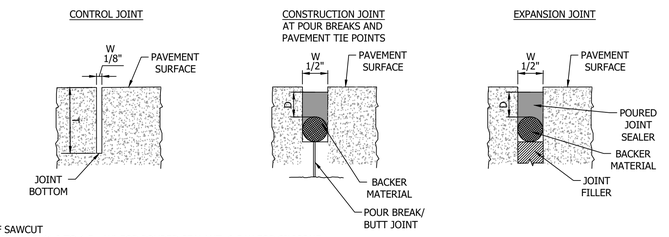
ROOF DRAIN CONNECTOR



ADA ACCESSIBLE PARKING & SIGNAGE DETAILS (N.T.S)



CONCRETE JOINT DETAIL

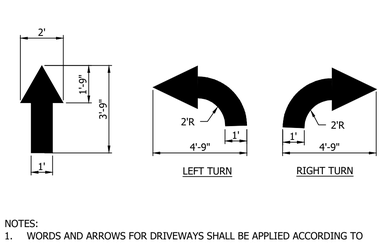


LEGEND:
W = WIDTH OF SAWCUT
D = DEPTH OF SEALANT (1.0 TO 1.5 x W) FOR POURED SEALANT; 0.5 W FOR SILICONE SEALANT; A MINIMUM OF ⅜" REQUIRED
T = DEPTH OF INITIAL SAWCUT TYPE JOINT FORMER (CONTRACTION JOINT)
   a. 1/4" SLAB THICKNESS ±1/2" FOR PAVEMENTS LESS THAN 12 INCHES
   b. DIAMETER OF BACKER MATERIAL = W + 1/8"

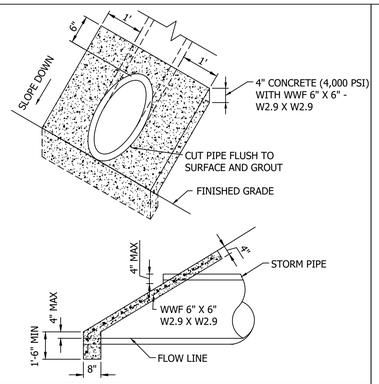
NOTES:
1. TOP OF SEALANT MUST BE 1/16" TO ¼" BELOW TOP OF PAVEMENT.
2. PLACE EXPANSION JOINTS AT POUR BREAKS (80' MAX SPACING FOR CONCRETE PAVING AND 50' MAX SPACING FOR CONCRETE SIDEWALKS) OR WHERE PAVEMENT ABUTS PERMANENT STRUCTURES (BUILDING, POLES, INLETS, ETC.)

JOINT SPACING		
TYPE	EXPANSION	CONTROL
PAVING	80' MAX	12' MAX
SIDEWALK	50' MAX	5'
CURB & GUTTER	30' MIN / 100' MAX	5' MIN / 15' MAX
VALLEY GUTTER	30' MIN / 100' MAX	5' MIN / 15' MAX

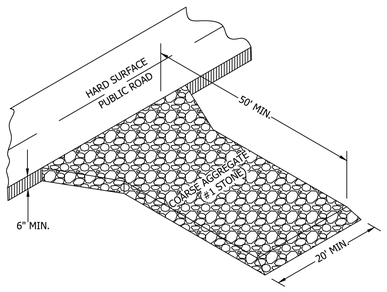
PAVEMENT STRIPING DIRECTIONAL ARROWS (N.T.S)



NOTES:
1. WORDS AND ARROWS FOR DRIVEWAYS SHALL BE APPLIED ACCORDING TO REQUIREMENTS AS OUTLINED IN SECTION 3B-20 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS
2. ALL TRAFFIC FLOW ARROWS TO BE SOLID WHITE REFLECTIVE TRAFFIC PAINT OR MEET LOCAL REQUIREMENTS.
3. DIMENSIONS SHOWN ARE FOR PRIVATE PARKING LOTS AND ACCESS DRIVES. DIMENSIONAL STANDARDS FOR PUBLIC ROADS SHALL BE PER THE LOCAL AUTHORITY HAVING JURISDICTION.

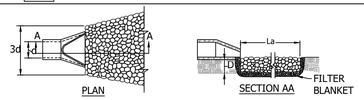


SLOPE PAVED HEADWALL

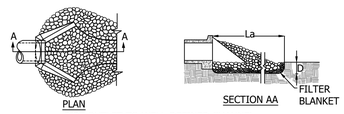


NOTE:
INSTALL GEOTEXTILE FABRIC UNDER THE #1 STONE TO EXTEND THE LIFE OF THE ENTRANCE.

CEP CONSTRUCTION EXIT PAD



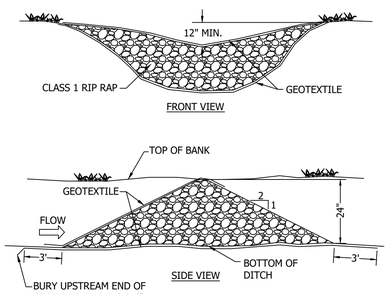
PIPE OUTLET TO FLAT AREA - NO WELL-DEFINED CHANNEL



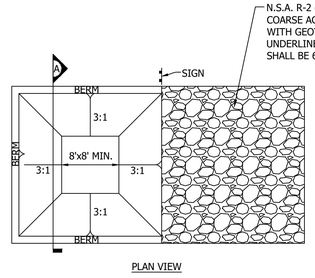
PIPE OUTLET TO WELL-DEFINED CHANNEL

NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.
5. REFER TO FIGURES OP-2 & OP-3 IN THE ALABAMA EROSION CONTROL HANDBOOK FOR SIZING OF APRON AND GRADATION OF RIPRAP TO USED.

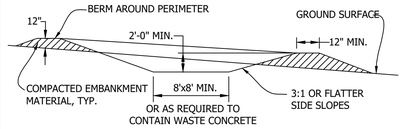
OP OUTLET PROTECTION



CD ROCK CHECK DAM



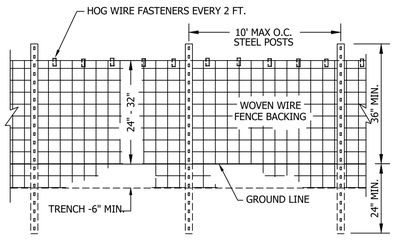
PLAN VIEW



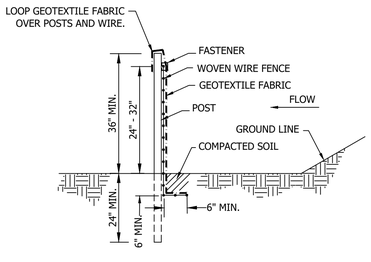
SECTION A

1. THE CONTRACTOR MUST PROVIDE A DESIGNATED AREA FOR CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS, AND THE REAR OF THE VEHICLES. THIS AREA MUST HAVE A CONCRETE WASHDOWN FACILITY AND SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL SHOWN BELOW.
2. THE CONCRETE WASHDOWN FACILITY SHALL BE LOCATED A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES.
3. WASHOUT DISCHARGE FROM THE CLEANING OF CONCRETE TRUCKS, TOOLS AND OTHER EQUIPMENT SHALL NOT BE DISCHARGED INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
4. EXCESS CONCRETE SHALL NOT BE DISPOSED OF ON-SITE. ALL EXCESS CONCRETE SHALL BE TRANSPORTED OFF-SITE AND DISPOSED OF PROPERLY.
5. IT IS PROHIBITED TO WASH OUT THE MIXING DRUM OF CONCRETE TRUCKS ON-SITE.

CW CONCRETE WASHOUT AREA



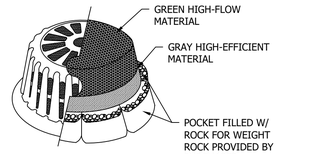
FRONT VIEW



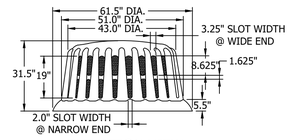
SIDE VIEW

NOTES:
1. WOVEN WIRE FENCE SHALL BE MINIMUM 14 GAUGE, 6" X 6" (ALDOT ALLOWS UP TO 12" HORIZONTAL SPACING).
2. THE WOVEN WIRE FENCING SHALL BE FASTENED TO THE UPSTREAM SIDE OF POSTS BY STAPLES OR WIRE TIES.
3. GEOTEXTILE FABRIC SHALL BE SECURELY FASTENED TO THE WOVEN WIRE FENCING.
4. MACHINE TRENCHED GEOTEXTILE SHALL BE TRENCHED VERTICAL AT LEAST 8" DEEP.

SB SILT FENCE WITH WIRE BACKING



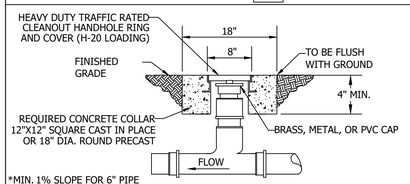
ISOMETRIC VIEW



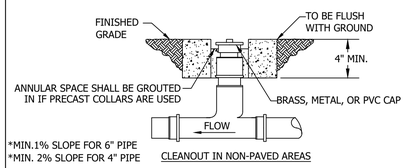
ELEVATION VIEW

NOTES:
1. THE BASE OF THE FABRIC SHOULD BE BURIED WITH COMPACTED EARTH FILL AT LEAST 12" INTO THE SOIL OR EXTEND HORIZONTALLY AND BE ADEQUATELY SECURED WITH BALLAST MATERIAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. INSPECT FABRIC DAILY FOR CUTS, ABRASIONS, AND PROPER INSTALLATION. REPLACE OR REPOSITION AS NECESSARY.
3. WHEN SEDIMENT HAS ACCUMULATED TO ½ THE HEIGHT OF THE STRUCTURE, IT SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

IP FABRIC DROP INLET PROTECTION

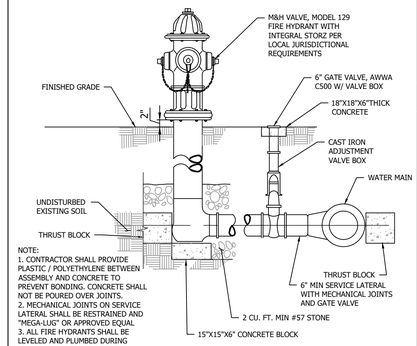


CLEANOUT IN PAVED AREAS



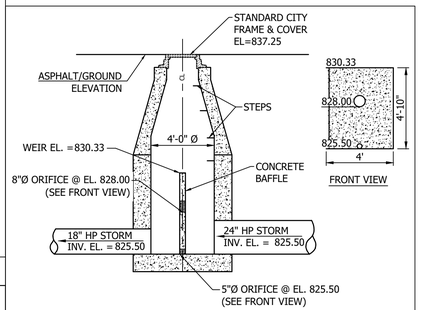
CLEANOUT IN NON-PAVED AREAS

SANITARY SEWER CLEANOUT



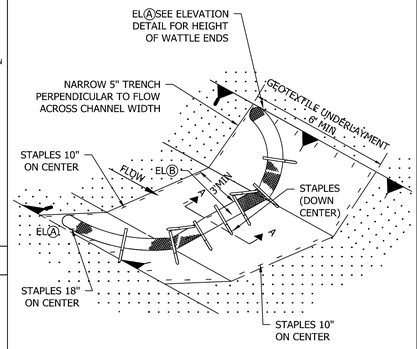
NOTE:
1. CONTRACTOR SHALL PROVIDE PLASTIC / POLYETHYLENE BETWEEN ASSEMBLY AND CONCRETE TO PREVENT BONDING. CONCRETE SHALL NOT BE POURED OVER JOINTS.
2. MECHANICAL JOINTS ON SERVICE LATERAL SHALL BE RESTRAINED AND "MEGA-LUG" OR APPROVED EQUAL
3. ALL FIRE HYDRANTS SHALL BE LEVELED AND PLUMBED DURING INSTALLATION.

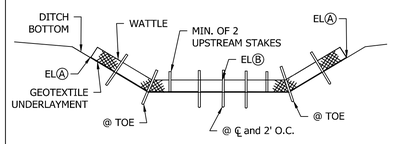
FIRE HYDRANT ASSEMBLY



NOTE:
PRECAST REINFORCED CONCRETE MANHOLES COMPLYING WITH ASTM SPEC. C-478-64T TO BE USED. RISER SECTION OF PRECAST MANHOLES SHALL HAVE AN INSIDE DIAMETER OF 48".

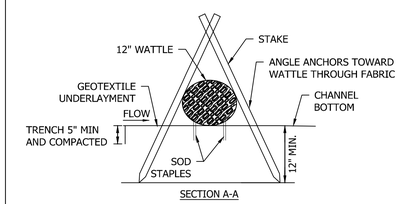
OUTLET CONTROL STRUCTURE





ELEVATION DETAIL

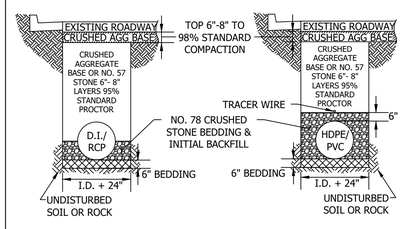
END POINTS Ⓐ MUST BE HIGHER THAN FLOWLINE POINT Ⓑ



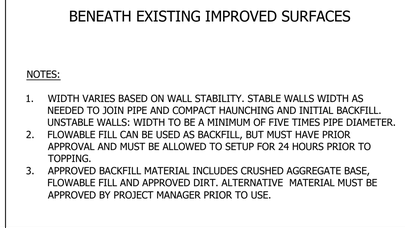
SECTION A-A

NOTES:
1. MINIMUM RECOMMENDED PLACEMENT INTERVAL BETWEEN WATTLE DITCH CHECK IS 100 FEET UNLESS SHOWN OTHERWISE ON THE PLANS OR APPROVED BY THE ENGINEER.
2. ANCHORING STAKES SHALL BE SIZED, SPACED, DRIVEN, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE CHECK. STAKE SPACING SHALL BE A MAXIMUM OF TWO FEET.
3. SECURE GEOTEXTILE UNDERLAYMENT BY PLACING STAPLES 18 INCHES APART ALONG THE CHANNEL EDGES AND DOWN THE CENTER OF THE CHANNEL. SPACE STAPLES 10 INCHES APART ACROSS THE UPSTREAM AND DOWNSTREAM EDGES.
4. PLACE STAPLES ON BOTH SIDES OF WATTLE AT 6" SPACING.

WATTLE CHECK DAM



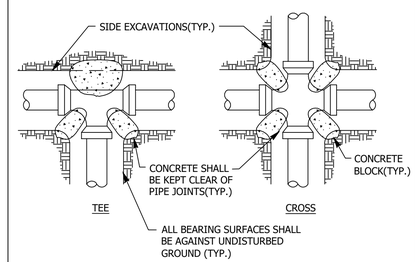
EXISTING UNIMPROVED SURFACES

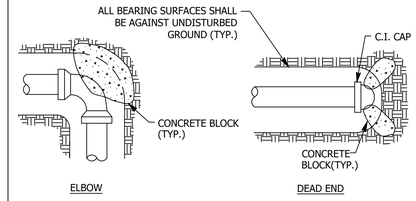


BENEATH EXISTING IMPROVED SURFACES

NOTES:
1. WIDTH VARIES BASED ON WALL STABILITY. STABLE WALLS WIDTH AS NEEDED TO JOIN PIPE AND COMPACT HAUNCHING AND INITIAL BACKFILL. UNSTABLE WALLS: WIDTH TO BE A MINIMUM OF FIVE TIMES PIPE DIAMETER.
2. FLOWABLE FILL CAN BE USED AS BACKFILL, BUT MUST HAVE PRIOR APPROVAL AND MUST BE ALLOWED TO SETUP FOR 24 HOURS PRIOR TO TOPPING.
3. APPROVED BACKFILL MATERIAL INCLUDES CRUSHED AGGREGATE BASE, FLOWABLE FILL AND APPROVED DIRT. ALTERNATIVE MATERIAL MUST BE APPROVED BY PROJECT MANAGER PRIOR TO USE.

PIPE BEDDING DETAIL





BEARING AREAS EACH DIRECTION OF THRUST IN SQUARE FEET				
PIPE SIZE	TEES & DEADENDS	90° ELBOWS	45° ELBOW CROSSES IN DIRECTION OF FLOW	22-1/2° ELBOWS
6"	4.0	5.5	3.0	2.0
8"	7.0	9.5	5.0	3.0
10"	9.5	13.5	7.0	4.0
12"	13.5	19.0	10.0	5.0
14"	18.0	23.5	14.0	7.0
16"	23.0	33.0	18.0	9.0

THRUST BLOCK

KADRE ENGINEERING
PO BOX 101205
IRONDALE, ALABAMA 35210
CONTACT: Curtis Walker
Tel + 205.795.3434

PROJECT NO. 24056

Revisions

No.	Date	Description

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER CURTIS WALKER 12/20/24

100% CD'S

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CWA CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: DETAILS

PROJECT NUMBER: CWA No. 2023-01

DATE: 8/30/24

DRAWN BY: WCW | CHECKED BY: CIE

SHEET NUMBER
C5.1

KADRE ENGINEERING
PROJECT NO. 24056
PO BOX 101205
IRONDALE, ALABAMA 35210
CONTACT: Curtis Walker
Tel + 205.795.3434

Revisions		
No.	Date	Description

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	JOSEPH LEACH 470-432-1615 JOSEPH.LEACH@ADSPIPE.COM
ADS SALES REP	BRAGG KNOTT 205-504-3745 BRAGG KNOTT
PROJECT NO.	S427886

Advanced Drainage Systems, Inc.

SiteAssist FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

IRONDALE FIRE STATION

BIRMINGHAM, AL, USA

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

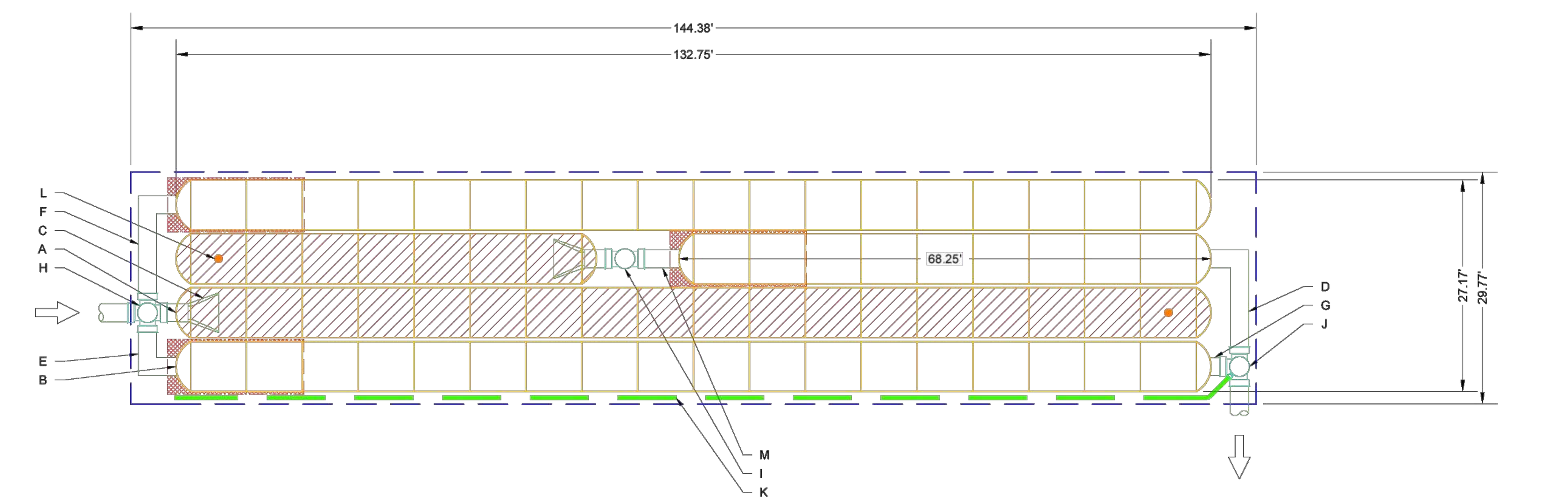
70	STORMTECH MC-3500 CHAMBERS
10	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
14,163	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
4,298	SYSTEM AREA (ft²)
348	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS

838.08	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
832.08	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
831.58	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
831.58	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
831.58	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
831.08	TOP OF STONE
830.08	TOP OF MC-3500 CHAMBER
827.54	24" TOP MANIFOLD/CONNECTION INVERT
826.50	24" ISOLATOR ROW PLUS CONNECTION INVERT
826.50	24" BOTTOM MANIFOLD/CONNECTION INVERT
826.33	BOTTOM OF MC-3500 CHAMBER
825.58	UNDERDRAIN INVERT
825.58	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM CORED END CAP, PART#: MC3500IEPP24BC / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.06"	
PREFABRICATED END CAP	B	24" TOP CORED END CAP, PART#: MC3500IEPP24TC / TYP OF ALL 24" TOP CONNECTIONS	14.48"	
FLAMP	C	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP (TYP 2 PLACES)		
MANIFOLD	D	24" x 24" BOTTOM MANIFOLD, ADS N-12	2.06"	
MANIFOLD	E	24" x 24" TOP MANIFOLD, ADS N-12	14.48"	
MANIFOLD	F	24" x 24" TOP MANIFOLD, ADS N-12	14.48"	
PIPE CONNECTION	G	24" BOTTOM CONNECTION	2.06"	
NYLOPLAST (INLET W/ ISO PLUS ROW)	H	30" DIAMETER (24.00" SUMP MIN)		17.0 CFS IN
NYLOPLAST (INLET W/ ISO PLUS ROW)	I	30" DIAMETER (24.00" SUMP MIN)		8.5 CFS IN
NYLOPLAST (OUTLET)	J	30" DIAMETER (DESIGN BY ENGINEER)		14.0 CFS OUT
UNDERDRAIN	K	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		
INSPECTION PORT	L	4" SEE DETAIL (TYP 2 PLACES)		
CONNECTION	M	24" TOP CONNECTION, ADS N-12	14.48"	



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 17.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

IRONDALE FIRE STATION — BIRMINGHAM, AL, USA — DATE: 08/14/24 — DRAWN: CLB — PROJECT #: S427886 — CHECKED: N/A

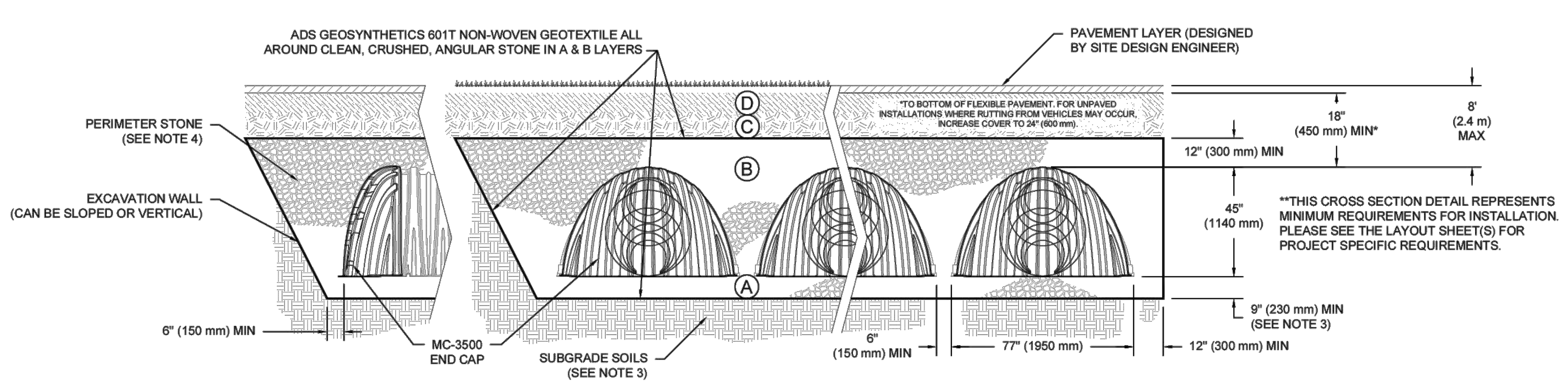
StormTech® Chamber System — 4640 TRUEMAN BLVD, HILLIARD, OH 43026, 1-800-733-7473 — 1-800-821-6710 | WWW.STORMTECH.COM

SHEET 2 OF 6

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

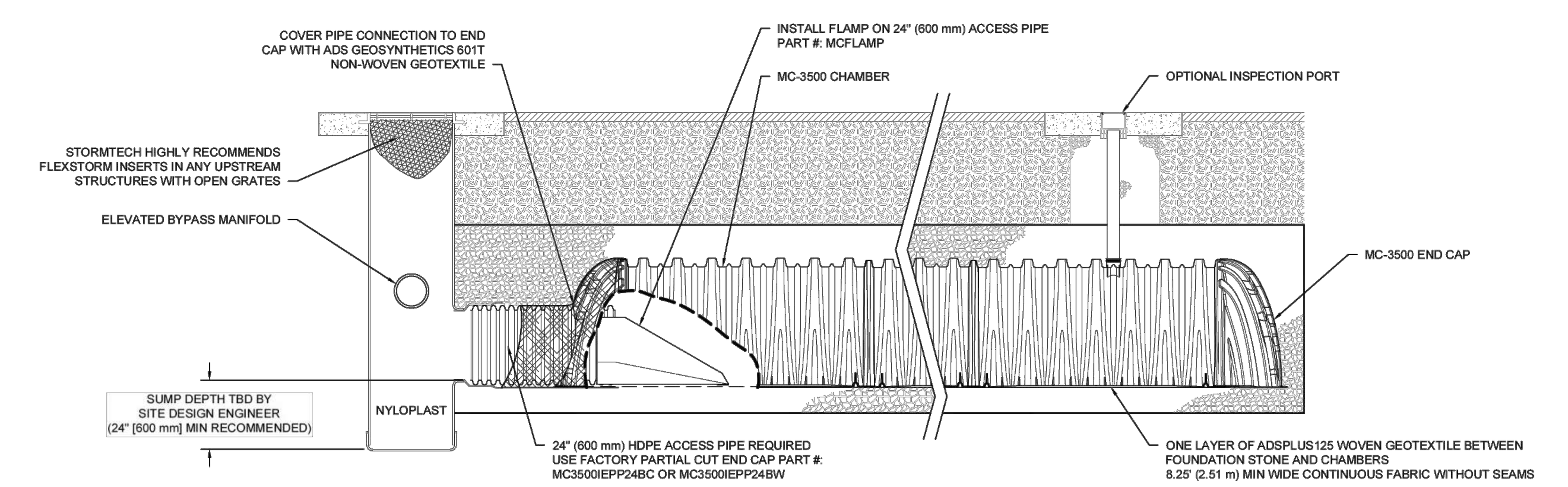
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SHEET 3 OF 6



MC-3500 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

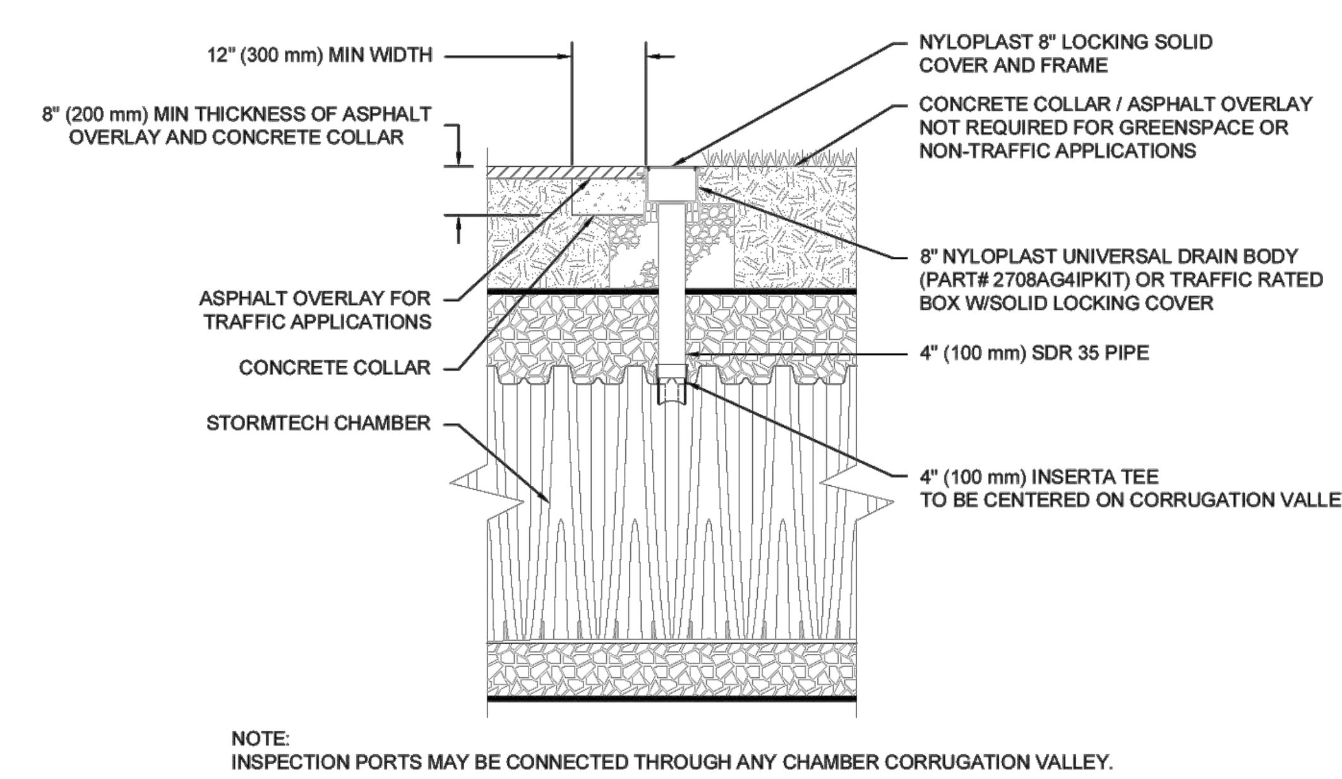
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

SHEET 4 OF 6

08/16/24 — EEH — REVISE PER EOR MARKUP

ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER WILLIAM CURTIS WALKER — 12/20/24

100% CD'S

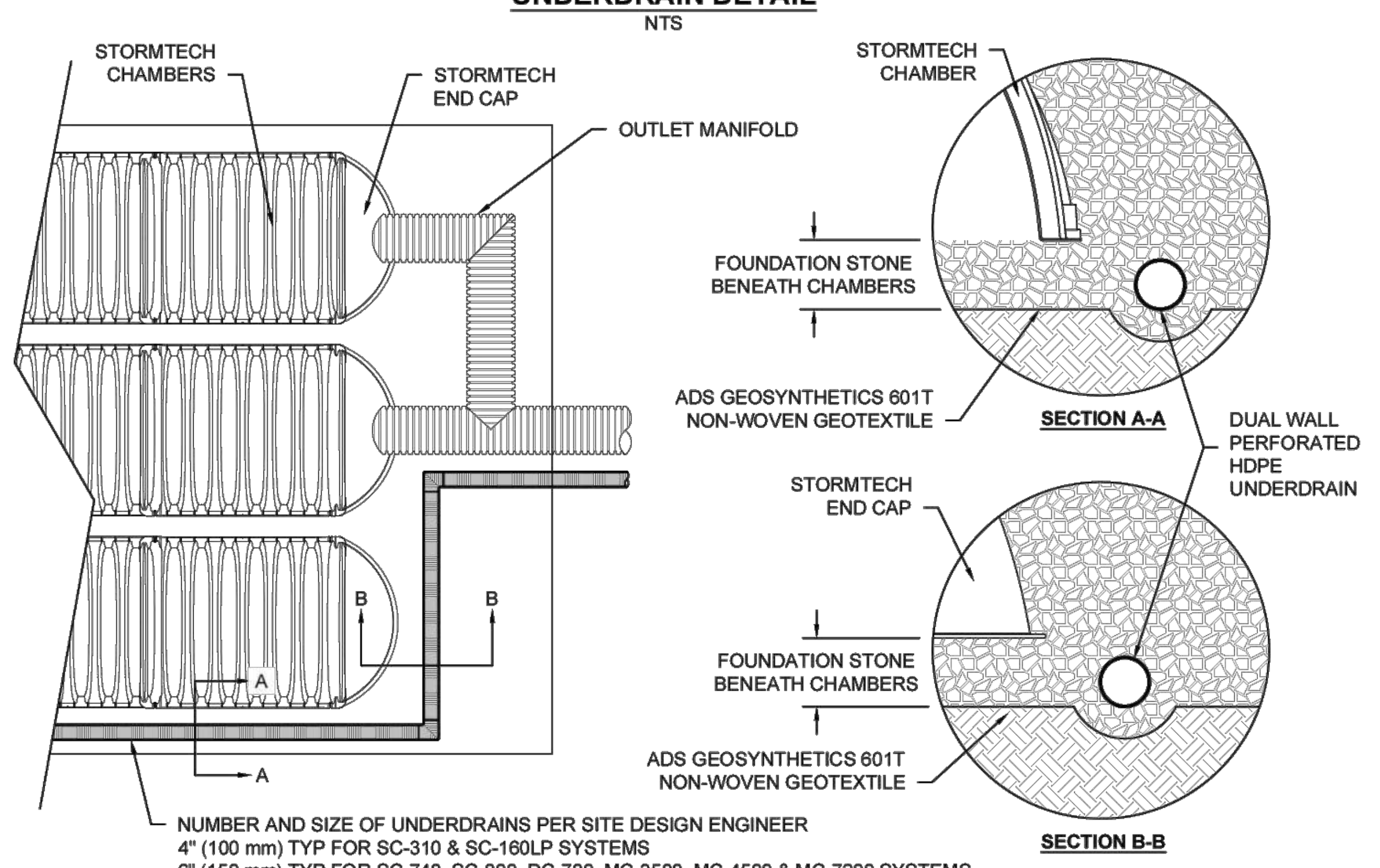
IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CWA — CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

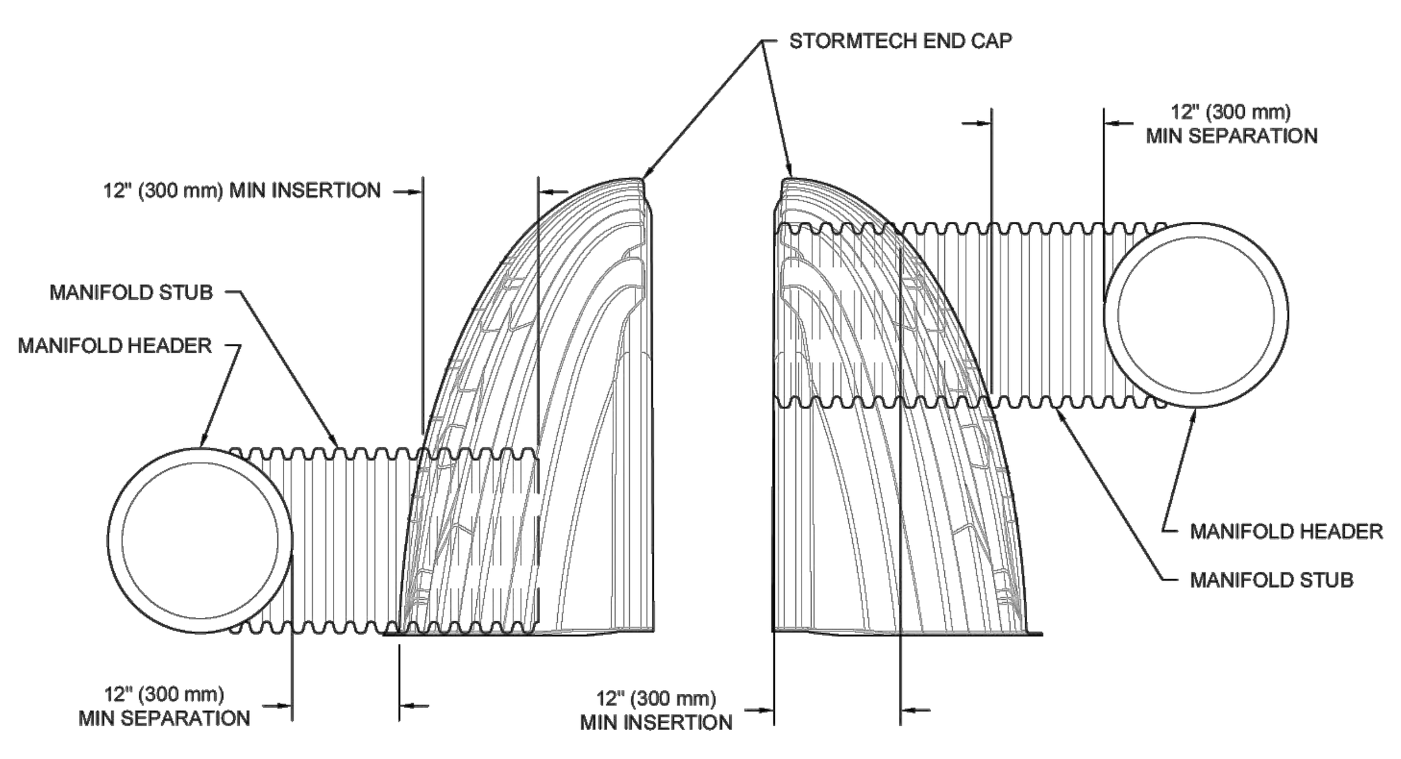
SHEET TITLE: DETAILS
PROJECT NUMBER: CWA No. 2023-01
DATE: 8/30/24
DRAWN BY: WCW
CHECKED BY: CIE
SHEET NUMBER: C5.2

UNDERDRAIN DETAIL
NTS



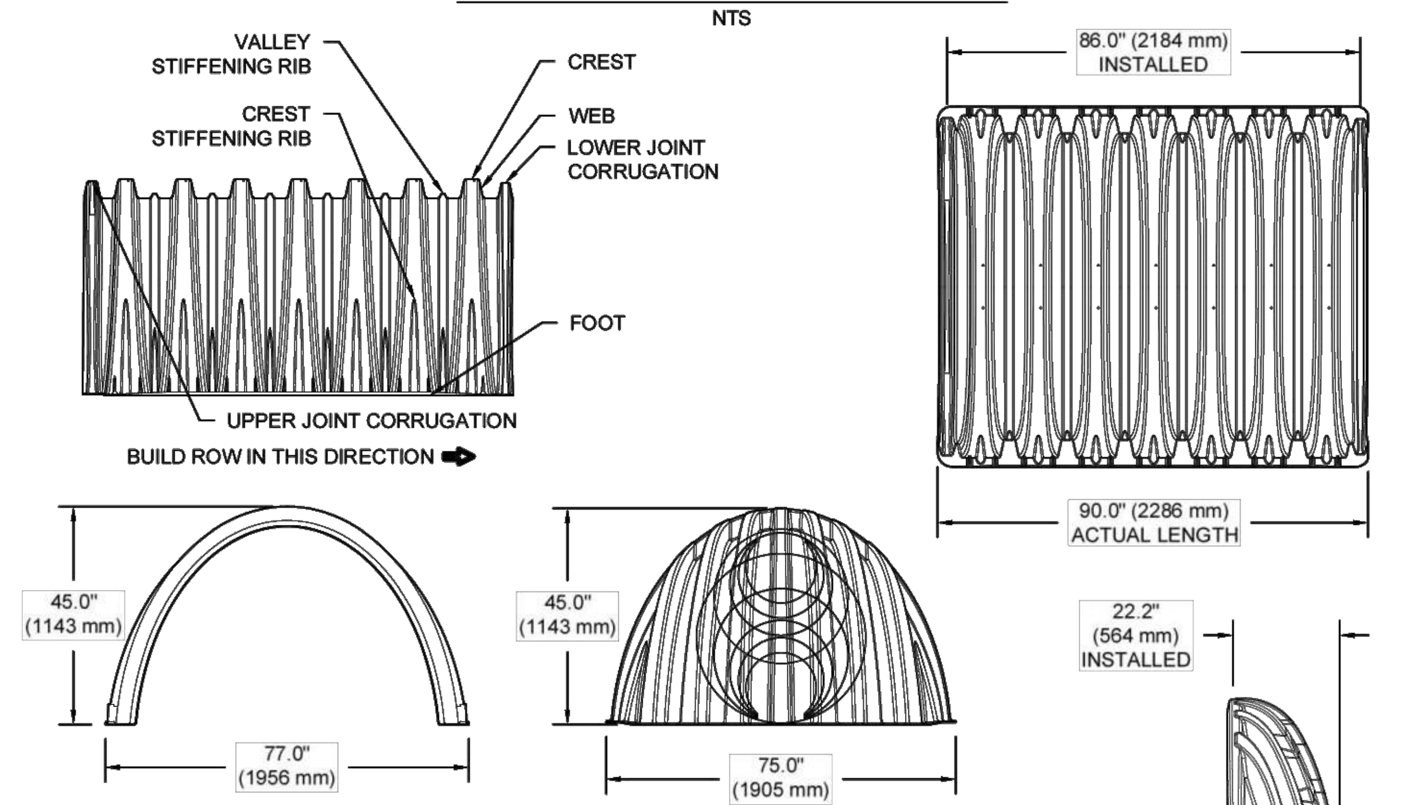
NUMBER AND SIZE OF UNDERDRAINS PER SITE DESIGN ENGINEER
4" (100 mm) TYP FOR SC-310 & SC-160LP SYSTEMS
6" (150 mm) TYP FOR SC-740, SC-800, DC-780, MC-3500, MC-4500 & MC-7200 SYSTEMS

MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-3500 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

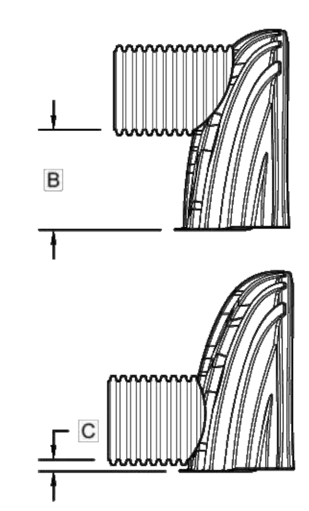
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

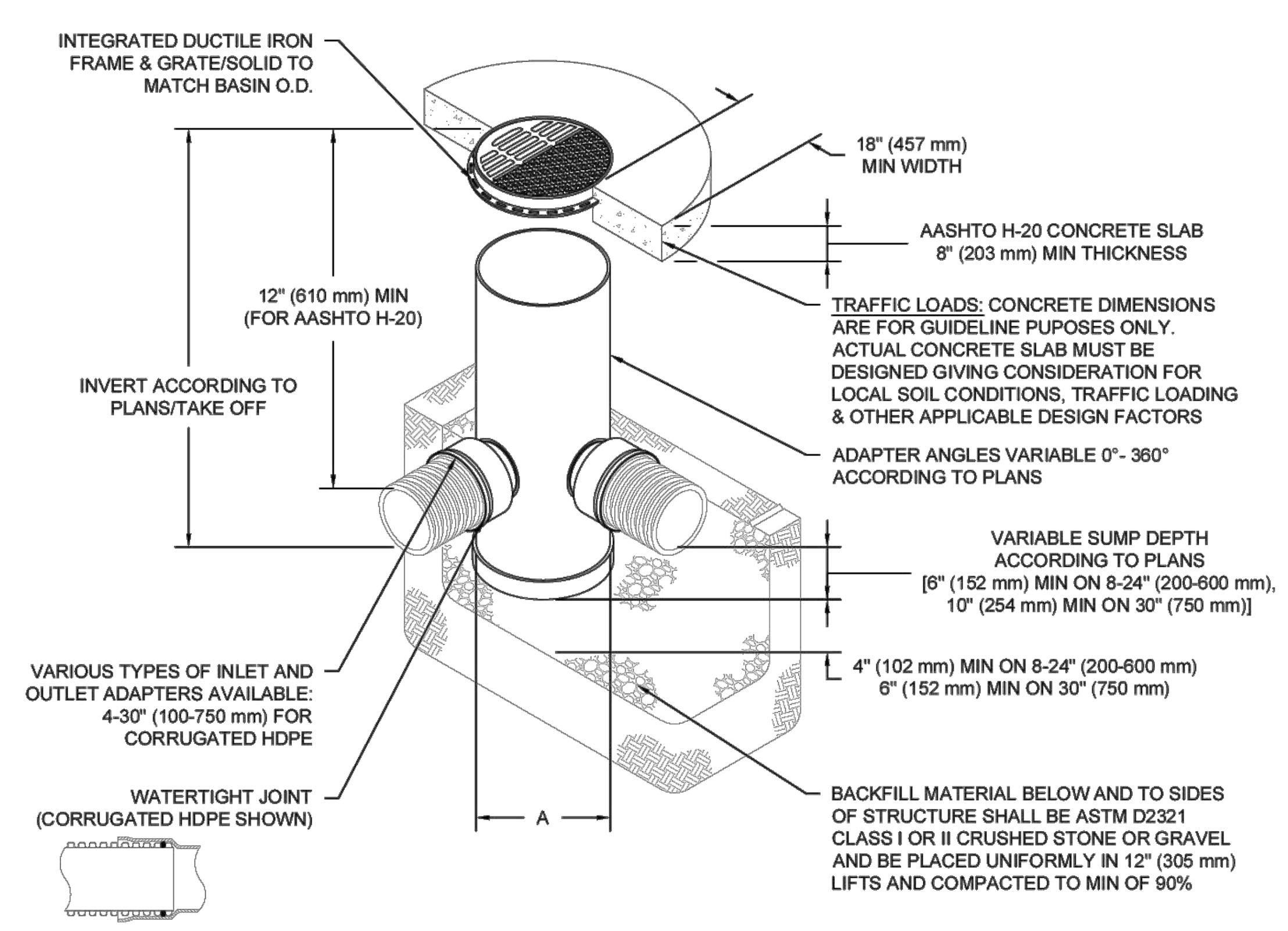
IRONDALE FIRE STATION
BIRMINGHAM, AL, USA
DATE: 08/14/24 DRAWN: CLB
PROJECT #: S427886 CHECKED: N/A

StormTech® Chamber System
1-800-821-6710 | WWW.STORMTECH.COM

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473

SHEET 5 OF 6

NYLOPLAST DRAIN BASIN
NTS



NOTES
1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

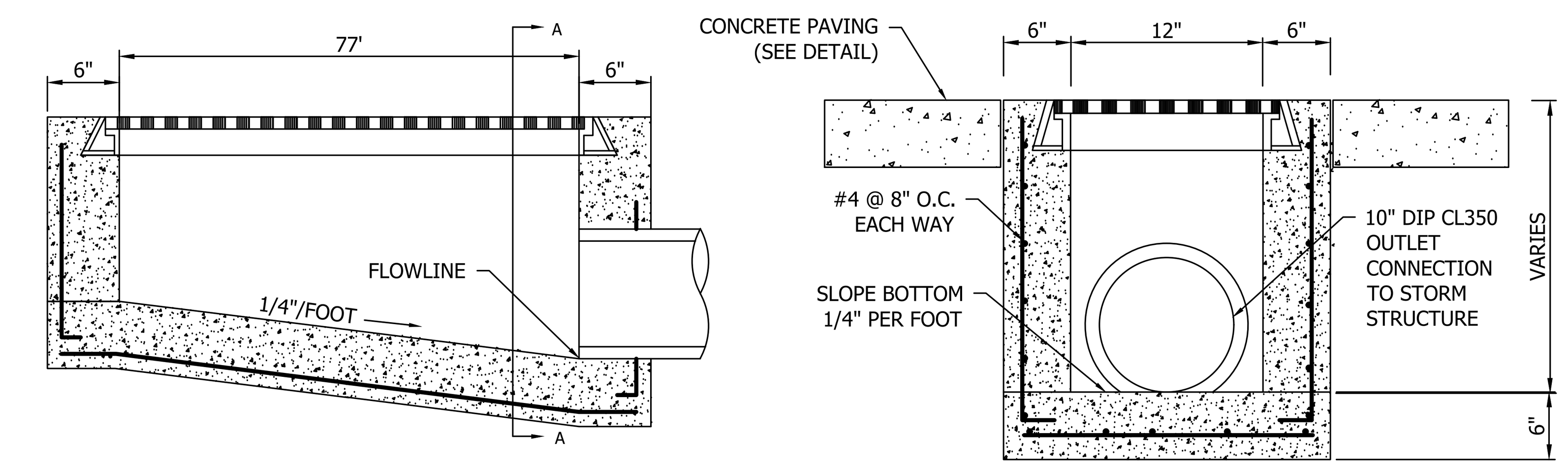
A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

IRONDALE FIRE STATION
BIRMINGHAM, AL, USA
DATE: 08/14/24 DRAWN: CLB
PROJECT #: S427886 CHECKED: N/A

Nyloplast®
770-932-2443 | WWW.NYLOPLAST-US.COM

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473

SHEET 6 OF 6



NOTE:
TRENCH DRAIN FRAME AND GRATE SHALL BE EAST JORDAN IRON WORKS 6953M2 OR SIMILAR AND EQUAL. PROVIDE TYPE "A" GRATE FOR VEHICULAR TRAFFIC AREAS.

TRENCH DRAIN

KADRE ENGINEERING
PROJECT NO. 24056
PO BOX 101205
IRONDALE, ALABAMA 35210
CONTACT: Curtis Walker
Tel + 205.795.3434

Revisions		
No.	Date	Description

STATE OF ALABAMA LICENSED No. 31679 PROFESSIONAL ENGINEER IAN CURTIS WALKER
12/20/24

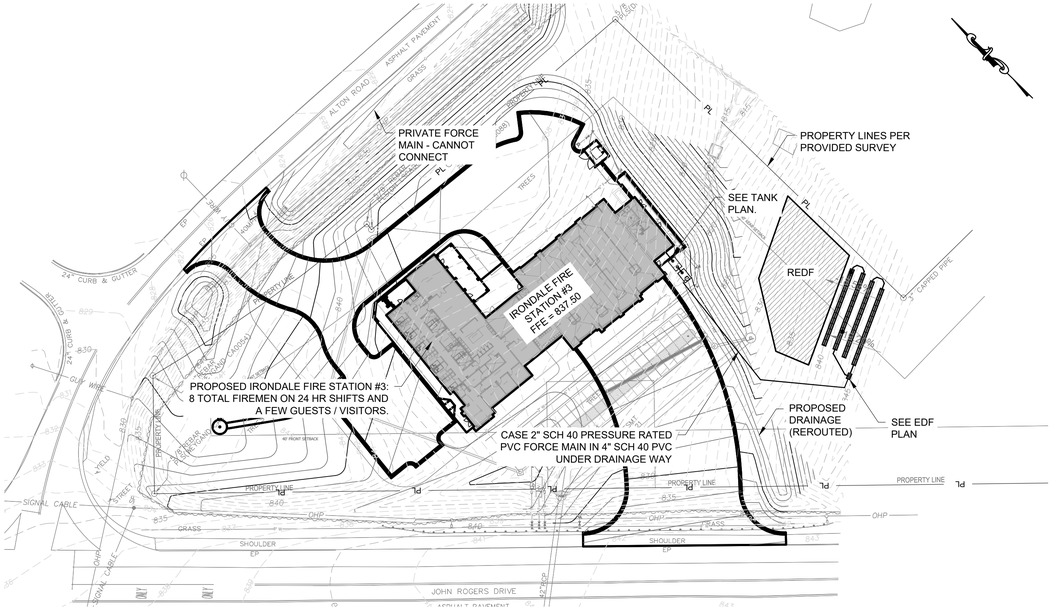
100% CD'S

IRONDALE FIRE STATION #3
2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

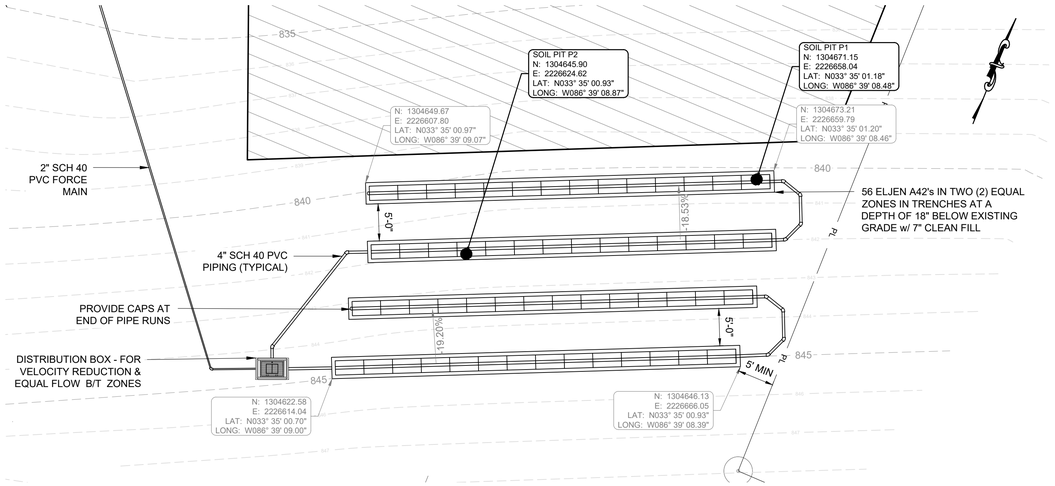
CWA CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: DETAILS
PROJECT NUMBER: CWA No. 2023-01
DATE: 8/30/24
DRAWN BY: WCW CHECKED BY: CIE

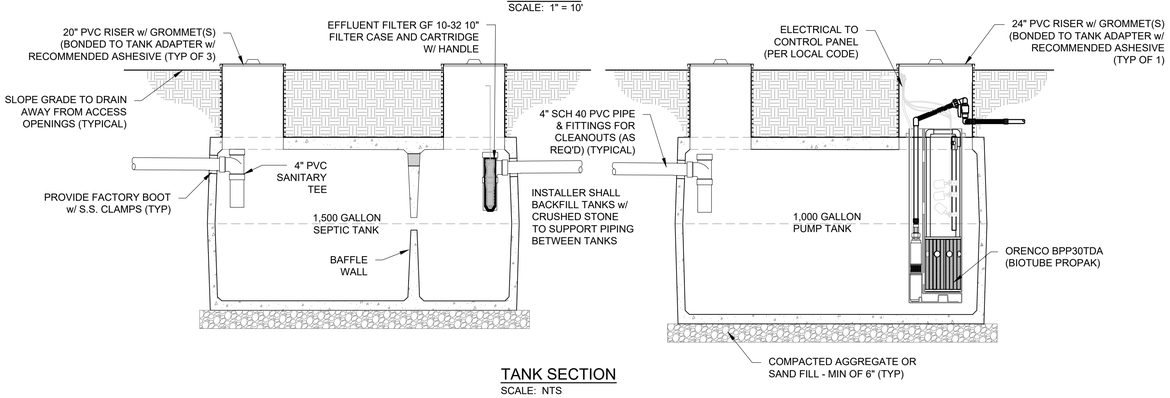
SHEET NUMBER
C5.3



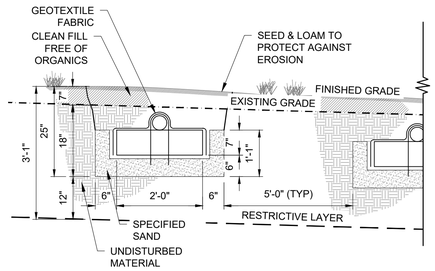
PLOT PLAN
SCALE: 1" = 50'



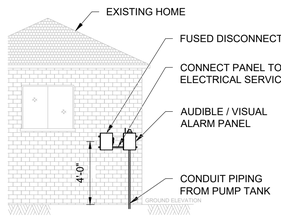
EDF PLAN
SCALE: 1" = 10'



TANK SECTION
SCALE: NTS



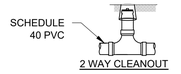
TYPICAL ELJEN A42 SECTION
SCALE: NTS



TYPICAL CONTROL PANEL AND DISCONNECT PANEL
SCALE: NTS

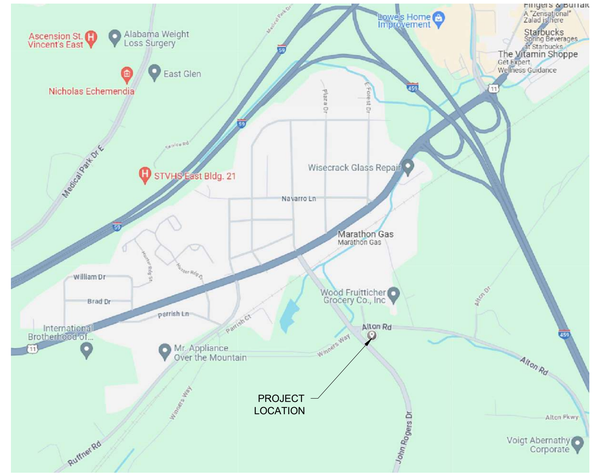
COVER DETAIL

TWO WAY CLEANOUT ALLOWED IF DEPTH IS NO MORE THAN 24 INCHES



2 WAY CLEANOUT

SANITARY SEWER CLEANOUT DETAIL
SCALE: NTS



VICINITY MAP
SCALE: NTS

TANK PLAN
SCALE: 1" = 5'

ASTM C33 SAND SPECIFICATION		
SIEVE SIZE	SIEVE SQUARE OPENING SIZE (mm)	SPECIFICATION % PASSING (WET SIEVE)
⅜ INCH	9.52 mm	100
No. 4	4.76 mm	95-100
No 8	2.38 mm	80-100
No 16	1.19 mm	50-85
No 30	590 Um	25-60
No 50	297 Um	5-30
No 100	149 Um	<10
No 200	75 Um	<3

LEGEND:
- SOIL PIT LOCATIONS
- SLOPE DIRECTION
- CLEAN OUT
- EXISTING CONTOURS
- W — WATER SERVICE LINE
- WATER METER
- WATER SHUT-OFF
- EXISTING WELL
- FM — 2" SCH 40 PVC FORCE MAIN
- UTILITY POLE
- GAS METER
- G — GAS SERVICE LINE

ADDITIONAL NOTES:
1. INSTALLER TO COORDINATE FINAL TANK LOCATIONS IN THE FIELD WITH OWNER.
2. DUAL 45 DEGREE BENDS SHALL BE USED - NO HARD 90 DEGREE BENDS - TO ALLOW FOR FUTURE MAINTENANCE.

DESIGN CRITERIA AND RECOMMENDATIONS:

DESIGN FLOW:
8 TOTAL FIREMEN (24HR SHIFTS) @ 65 GPD/EA + 16 TOTAL VISITORS @ 5 GPD/EA
TOTAL FLOW = (8 * 65) + (16 * 5) = 600 GPD

600 GPD = 4 BEDROOM
PERC RATE: 60 MPI = 300 SF / BEDROOM
300 SF / BEDROOM * 4 BEDROOMS = 1,200 SF

1,200 S.F. X 0.55 / 12 = 55 A42 ELJEN UNITS

INSTALL 56 ELJEN A42's IN TWO (2) EQUAL ZONES IN TRENCHES AT A DEPTH OF 18" BELOW EXISTING GRADE w/ 7" CLEAN FILL - SEE SECTION CUT.

INSTALL ONE (1) 1,500 GALLON SEPTIC TANK
INSTALL ONE (1) 1,000 GALLON PUMP TANK

SEED AND MULCH SHALL BE PLACED OVER THE ENTIRE DISPOSAL FIELD ONCE FINAL GRADING IS COMPLETE. FINAL GRADES OF DISPOSAL AREA SHOULD BE CROWNED TO ALLOW SURFACE DRAINAGE AWAY FROM DISPOSAL FIELD.

GENERAL NOTES:

1. THESE PLANS ARE NOT A BOUNDARY SURVEY AND DO NOT PURVEY LEGAL BOUNDARIES.
2. THE EDF AND REDF SHALL BE FLAGGED AND EQUIPMENT AND/OR VEHICULAR TRAFFIC SHALL NOT BE ALLOWED TO TRANSVERSE THE DISPOSAL FIELD AREA BEFORE OR AFTER INSTALLATION, CARE SHOULD BE TAKEN PRIOR TO, DURING, AND AFTER INSTALLATION TO AVOID OVER-COMPACTION OF SOILS.
3. THE ONSITE SEWAGE SYSTEM SHALL BE INSTALLED USING TRACK EQUIPMENT IN LIEU OF RUBBER TIRE EQUIPMENT TO AVOID OVER-COMPACTION OF SOILS.
4. WHEN SCARIFYING EXISTING SOIL IN FIELD LINE AREA, RIP PARALLEL WITH CONTOURS. FIELD LINES ARE TO BE INSTALLED ON SLOPE WITH THE EXISTING CONTOURS.
5. CONTROL FILL LIMITS SHALL EXTEND A MINIMUM OF 5'-0" OUTSIDE TRENCHES ON ALL SIDES WITH A MAXIMUM 3:1 SLOPE.
6. NO SURFACE WATER SHALL POND ON DISPOSAL AREA. ADD FILL AS REQUIRED TO PREVENT PONDING. MINOR SWALES MAY BE NECESSARY TO DIVERT UPSTREAM STORMWATER AROUND DISPOSAL AREA.
7. THE ONSITE SEWER DISPOSAL SYSTEM MUST BE INSTALLED BY AN ADVANCED LICENSED INSTALLER.
8. ENGINEERS OF THE SOUTH IS NOT RESPONSIBLE FOR METHODS OR PROCEDURES OF CONSTRUCTION SELECTED BY THE CONTRACTOR, OR FOR SAFETY PRECAUTIONS INCIDENT TO THE WORK OF THE CONTRACTOR, OR FOR ANY FAILURE OF THE CONTRACTOR TO COMPLY WITH LAWS, RULES, REGULATIONS, ORDINANCES, OR CODES APPLICABLE TO THE CONTRACTOR FURNISHINGS AND PERFORMING THE WORK.
9. UNLESS OTHERWISE INDICATED ON THE PLANS, ALL CONSTRUCTION ACTIVITIES, CONSTRUCTION MATERIALS, AND LABOR SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE STATE OF ALABAMA DEPARTMENT OF HEALTH.
10. AN INSPECTION BY THE ENGINEER IS REQUIRED BY THE HEALTH DEPARTMENT FOR FINAL APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ENGINEERS OF THE SOUTH AT (205) 327-9140 AT LEAST 48-HOURS PRIOR TO BACKFILLING THE SYSTEM FOR INSTALLATION APPROVAL.
11. THE HEALTH DEP'T WILL REQUIRE "COVENANTS TO RUN WITH THE LAND," (CEP-7) TO BE RECORDED FOR THIS SYSTEM TO BE APPROVED FOR USE.
12. IF ANY CUTTING OR FILLING OF SOIL HAS BEEN DONE ON SITE SINCE DATE OF SOIL TESTING THIS DESIGN SHOULD NOT BE USED - CONTACT ENGINEER.
13. INSTALLER, HOMEOWNER, GENERAL CONTRACTOR, ETC. SHALL REVIEW THE NOTIFICATION REQUIREMENTS IN THE INSTALLER'S NOTES. FAILURE TO NOTIFY THE ENGINEER VOIDS THE DESIGN.

OWNER NOTES
1. SYSTEM IS NOT DESIGNED FOR USE WITH GARBAGE GRINDERS OR DISPOSALS.
2. HOMEOWNER SHALL TAKE CAUTION TO NOT FLUSH OR DISPOSE OF ANY ITEMS NOT SPECIFICALLY RATED FOR SEPTIC SYSTEMS. SPECIFIC EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, WIPES, GREASE, SANITARY NAPKINS, WASTE FOOD, ETC.
3. THE USE OF LOW FLOW FIXTURES IS STRONGLY ENCOURAGED.

TANK NOTES:
1. ALL TANKS SHALL CONFORM TO THE SPECIFICATIONS OF THE JEFFERSON COUNTY HEALTH DEPARTMENT AND THE ALABAMA DEPARTMENT OF PUBLIC HEALTH.
2. ALL TANKS SHALL BE PRECAST CONCRETE. PLASTIC TANKS ARE NOT ALLOWED.
3. ALL RISERS SHALL BE ONE PIECE TO CONFORM WITH SITE ELEVATIONS, SHALL HAVE LOCKABLE LIDS AND SHALL CONFORM WITH SADIE'S LAW.
4. ALL RISERS SHALL INCLUDE UNIVERSAL TYPE SAFETY SCREEN OR SAFETY NETTING.
5. RISER HEIGHT SHALL BE ADJUSTED FOR FINAL GRADE.
6. TANKS SHALL BE SET ON A MINIMUM OF 6" OF COMPACTED CRUSHED STONE (#57) OR COMPACTED SAND TO MINIMIZE SETTLEMENT,
7. INSTALLER SHALL USE 45D BENDS WITH CLEAN-OUTS AS SHOWN ON THE PLANS TO ALLOW FOR CAMERA AND CLEANING EQUIPMENT. HARD 90D BENDS SHALL NOT BE USED.
8. INSTALLER SHALL SUPPORT PIPING TO PROTECT AGAINST SETTLEMENT.

PUMP & CONTROL NOTES:
1. PUMP SYSTEM SHALL BE SIMPLEX.
2. CONTROLS SHALL BE DEMAND DOSE W/ HIGH & LOW LEVEL OVERRIDE.
3. CONTROL PANEL SHALL BE NEMA 4X, FIBERGLASS IN ACCORDANCE W/ LOCAL ELECTRICAL CODES.
4. PANEL SHALL INCLUDE STATUS LIGHTS, VISUAL ALARM LIGHTS & AUDIBLE ALARM.

SITE LAYOUT NOTES:
1. COORDINATES PROVIDED ARE IN AL83-WF
2. INSTALLER MUST COORDINATE ANY CHANGE OF MATERIALS OR LOCATION WITH ENGINEER. FAILURE TO COORDINATE ANY CHANGES VOIDS THIS DESIGN.

INSTALLER NOTES:

1. FIELD LINES SHALL NOT BE LAID UNDER ASPHALT OR CONCRETE.
2. GRAVITY SERVICE LINE SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE PLUMBING CODES. SERVICE LINES SHALL MAINTAIN A MINIMUM OF 1% SLOPE AND BE BALL AND HYDROSTATICALLY TESTED PRIOR TO ACCEPTANCE. ALL PIPING SHALL BE GLUED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
3. INSTALLER SHALL MAINTAIN A COPY OF THE APPROVED PERMIT ONSITE AT ALL TIMES AND SHALL NOT START WITHOUT A COPY OF THE APPROVED PERMIT IN HAND AND NOTIFYING THE ENGINEER.
4. INSTALLER SHALL MAINTAIN A CLEAN COPY OF APPROVED PLANS AND NOTE ANY VARIATIONS FROM THE DESIGN. A COPY OF THE AS-BUILT PLANS SHALL BE RETURNED TO THE ENGINEER.
5. INSTALLER SHALL PROVIDE 48 HOURS WRITTEN NOTICE TO ENGINEER PRIOR TO INSTALLATION. NOTICE SHALL BE PROVIDED IN WRITING TO GREG@ENGINEERSOFTHESOUTH.COM. FAILURE TO NOTIFY ENGINEER OF INSTALLATION SHALL VOID DESIGN.

ENGINEERS OF THE SOUTH

ALABAMA No. 26356 PROFESSIONAL ENGINEER GREG THOMPSON
2022/07/23

REVISIONS

NO	DATE	DESCRIPTION
1	2024/07/23	ISSUED FOR APPLICATION ONLY (NOT FOR CONSTRUCTION)

☒ FOR REVIEW AND COMMENT ☐ AS-BID ☐ CONSTRUCTION REVISIONS ☐ AS-BUILT

CITY OF IRONDALE, AL
2101 JOHN ROGERS DRIVE, IRONDALE, AL

IRONDALE FIRE STATION #3

ONSITE SEWER SYSTEM (OSS) PLANS & DETAILS

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO	2023-01
DATE:	07/2024
DESIGNED BY:	GST
DRAWN BY:	GST
DWG:	10-C-01
SHEET NUMBER	C6.0

PRELIMINARY

SDG
STRUCTURAL DESIGN GROUP
300 Chase Park South, Suite 125
Hoover, AL 35244
tel 205-824-5200
fax 205-824-5280
Job Number **23-277**

Revisions		
No.	Date	Description

GENERAL NOTES

1.0 DESIGN CRITERIA

1.1 CODES AND SPECIFICATIONS:

A. GENERAL BUILDING CODE:
INTERNATIONAL BUILDING CODE, 2021 EDITION

B. CONCRETE:
BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-19)

C. PRECAST CONCRETE:
PCI DESIGN HANDBOOK, LATEST EDITION

PCI MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTIONS FOR PRECAST CONCRETE PRODUCTS, LATEST EDITION

D. ARCHITECTURAL PRECAST CONCRETE:
PCI MNL-122 ARCHITECTURAL PRECAST CONCRETE, LATEST EDITION

PCI MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF ARCHITECTURAL PRECAST CONCRETE PRODUCTS, LATEST EDITION

E. STRUCTURAL STEEL:
SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (ANSI/AISC 360-16)

F. STEEL DECK:
STEEL DECK INSTITUTE DESIGN MANUALS FOR COMPOSITE DECKS, NON-COMPOSITE DECKS, AND ROOF DECKS, LATEST EDITIONS

G. MASONRY:
SPECIFICATIONS FOR MASONRY STRUCTURES (TMS 602-16)

BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (TMS 402-16)

NATIONAL CONCRETE MASONRY ASSOCIATION'S STANDARD PRACTICES AND "SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF LOAD BEARING CONCRETE MASONRY", LATEST EDITION

H. COLD-FORMED STEEL FRAMING:
NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, AMERICAN IRON AND STEEL INSTITUTE (AISI S100-16(2020) W/S2-20)

OTHER APPLICABLE AISI STANDARDS, AMERICAN IRON AND STEEL INSTITUTE, LATEST EDITION

I. STORM SHELTER SAFE SPACE:
ICC/NSSA STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS (ICC 500-2020)

1.2 DESIGN GRAVITY LOADS (PSF):

A. DEAD LOADS:
ANY CHANGES IN CONSTRUCTION MATERIALS FROM THOSE SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS SHALL BE REPORTED BY THE GENERAL CONTRACTOR TO THE STRUCTURAL ENGINEER FOR VERIFICATION OF LOAD-CARRYING CAPACITY OF THE STRUCTURE.

B. FLOOR LIVE LOADS:
NON-REDUCIBLE PARTITION LIVE LOAD OF 20 PSF HAS BEEN INCLUDED PER IBC SECTION 1607.5.

LIVE LOAD REDUCTIONS AS DETERMINED BY IBC SECTION 1607.12 HAVE BEEN TAKEN WHERE PERMITTED.

FLOOR (REDUCIBLE)--100

C. ROOF LIVE LOADS:
WHERE PERMITTED ROOF LIVE LOADS ARE REDUCED FROM THE BASE VALUE SHOWN BELOW IN ACCORDANCE WITH IBC SECTION 1607.14.

ROOF--20
SHELTER ROOF (UNREDUCIBLE)------------------------------100
SHELTER COLLAPSE LOAD (UNREDUCIBLE)---------------------665

D. ROOF SNOW LOADS:
GROUND SNOW LOAD (Pg)-----------------------------------5.0
IMPORTANCE FACTOR (I)-----------------------------------1.1
EXPOSURE FACTOR (Ce)------------------------------------1.0
THERMAL FACTOR (Ct)-------------------------------------1.0

1.3 DESIGN LATERAL LOADS:

A. WIND LOADS:
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST)------------119MPH
NOMINAL WIND SPEED (3-SECOND GUST)---------------------90MPH
RISK CATEGORY---IV
WIND IMPORTANCE FACTOR (I)------------------------------1.00
WIND EXPOSURE CATEGORY----------------------------------C
ENCLOSURE CATEGORY--------------------------------------ENCLOSED
INTERNAL PRESSURE COEFFICIENTS--------------------- +/- 0.18
SEE TYPICAL DETAILS FOR COMPONENT AND CLADDING LOADS

B. SEISMIC LOADS:
OCCUPANCY CATEGORY IV (FIRE AND EMERGENCY RESPONSE SERVICES)
SEISMIC IMPORTANCE FACTOR-------------------------------1.50
MAPPED SPECTRAL RESPONSE ACCELERATIONS:
SS--0.287
S1--0.101
SITE CLASS--C
SPECTRAL RESPONSE COEFFICIENTS:
SDS---0.249
SD1---0.101
SEISMIC DESIGN CATEGORY---------------------------------C
BASIC SEISMIC-FORCE-RESISTING SYSTEM:
INTERMEDIATE REINFORCED MASONRY SHEAR WALLS AND LIGHT-FRAMED (COLD-FORMED STEEL) WALL SYSTEMS USING FLAT STRAP BRACING NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE.
DESIGN BASE SHEAR:
AUX. ROOM (STORM SHELTER) --------------------20 KIPS
APPARATUS BAYS ------------------------------ 70 KIPS
DORMS, HOUSING, ETC. ------------------------ 85 KIPS
SEISMIC RESPONSE COEFFICIENT,
REINFORCED WALLS: Cs--------------------------0.0978
LIGHT FRAME WALLS: Cs-------------------------0.1865
RESPONSE MODIFICATION FACTOR,
REINFORCED WALLS: R---------------------------3.5
LIGHT FRAME WALLS: R--------------------------2.0
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

C. STORM SHELTER SAFE SPACE WIND LOADS:
TYPE OF SHELTER---TORNADO
SHELTER DESIGN WIND SPEED-------------------------------250 MPH
WIND IMPORTANCE FACTOR (I)------------------------------1.0
WIND EXPOSURE CATEGORY----------------------------------C
INTERNAL PRESSURE COEFFICIENTS (GCpi)-------------- +/- 0.55
TOPOGRAPHIC FACTOR (Kzt)--------------------------------1.0
DIRECTIONALITY FACTOR (Kd)------------------------------1.0

HOST BUILDING CONNECTIONS TO SHELTER HAVE BEEN DESIGNED PER INTENT OF ICC 500-2020

STORM SHELTER HAS NOT BEEN CONSTRUCTED IN AN AREA SUSCEPTIBLE TO FLOODING PER ICC 500 SECTION 402.1.

PER ICC 500, SPECIAL INSPECTION AND QUALITY ASSURANCE REQUIREMENTS HAVE BEEN INCLUDED WITHIN THE PROJECT SPECIFICATIONS – REFER TO SPEC. SECTION 01410.

2.0 GENERAL CONDITIONS

2.1 THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE A PORTION OF THE CONSTRUCTION DOCUMENTS. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL REFERENCE AND COORDINATE WITH OTHER DISCIPLINE'S DRAWINGS. ANY DISCREPANCIES OR OMISSIONS SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT AND STRUCTURAL DESIGN GROUP.

2.2 ALL REPORTS, PLANS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES, AND OTHER DOCUMENTS AND INSTRUMENTS PREPARED BY STRUCTURAL DESIGN GROUP AS INSTRUMENTS OF SERVICE SHALL REMAIN THE PROPERTY OF STRUCTURAL DESIGN GROUP. STRUCTURAL DESIGN GROUP SHALL RETAIN ALL COMMON LAW, STATUTORY, AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THERETO.

2.3 CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS AND SITE CONDITIONS PRIOR TO FABRICATION/CONSTRUCTION. NOTIFY STRUCTURAL ENGINEER AND ARCHITECT OF ANY DISCREPANCIES PRIOR TO FABRICATION/CONSTRUCTION.

2.4 WHERE SHOP DRAWINGS, CALCULATIONS, OR SUBMITTALS ARE CALLED FOR IN THE PROJECT DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND ARE NOT PROVIDED BY THE CONTRACTOR, THE CONTRACTOR ASSUMES TOTAL RESPONSIBILITY FOR THE DESIGN AND ASSOCIATED WORK.

2.5 ENGINEER'S SHOP DRAWING REVIEW IS LIMITED TO REVIEW FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT REFLECTED IN THE STRUCTURAL PORTION OF THE CONTRACT DOCUMENTS. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE DRAWINGS, SPECIFICATIONS OR OTHER PROJECT CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSUMED OR IMPLIED FOR THE CORRECTNESS OF DIMENSIONS OR DETAILS. THIS REVIEW DOES NOT AUTHORIZE CHANGES TO THE CONTRACT SUM UNLESS STATED IN A SEPARATE WRITTEN FORM OR CHANGE ORDER. CONTRACTOR SHALL CONFIRM AND CORRELATE ALL QUANTITIES AND DIMENSIONS, SELECT FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATE HIS WORK WITH THAT OF OTHER TRADES, AND PERFORM HIS WORK IN A SAFE AND SATISFACTORY MANNER. CONTRACTOR SHALL ALSO REFER TO THE REQUIREMENTS OF THE GENERAL AND SUPPLEMENTARY GENERAL CONDITIONS.

2.6 ALL DETAILS SHOWN ARE TYPICAL. SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS, UNLESS NOTED.

2.7 VERIFY ALL DIMENSIONS AND DETAILS SHOWN ON THESE DRAWINGS. ANY DISCREPANCIES OR OMISSIONS FOUND SHALL BE REPORTED TO THE ENGINEER AND OTHER DESIGN PROFESSIONALS AS APPROPRIATE FOR RESOLUTION PRIOR TO PROCEEDING WITH ANY RELATED WORK.

2.8 THESE DRAWINGS DO NOT INCLUDE PROVISIONS TO SATISFY JOB SITE SAFETY REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING SAFETY DURING CONSTRUCTION AND FOR CONFORMANCE TO ALL APPLICABLE OSHA STANDARDS. JOBSITE VISITS BY ENGINEER SHALL NOT CONSTITUTE APPROVAL, AWARENESS OR LIABILITY FOR ANY HAZARDOUS CONDITIONS.

2.9 STRUCTURAL DESIGN GROUP IS NOT RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, SAFETY PROCEDURES, CONSTRUCTION SUPERVISION OR SITE SAFETY, AND DOES NOT HAVE THE AUTHORITY TO STOP WORK FOR THESE ITEMS. DRAWINGS FURTHER DO NOT PROVIDE ENGINEERING CONTROLS FOR SILICA STANDARD OR ANY OTHER SAFETY STANDARD.

2.10 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR BRACING AND SHORING ALL EXCAVATIONS, DEWATERING OF EXCAVATION FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE, TEMPORARY AND EXISTING STRUCTURES, AND PARTIALLY COMPLETED PORTIONS OF THE WORK TO ASSURE THE SAFETY OF ANY PERSON COMING IN CONTACT WITH THE WORK.

2.11 THE STRUCTURAL INTEGRITY OF THE BUILDING IS DEPENDENT UPON COMPLETION ACCORDING TO THE PLANS AND SPECIFICATIONS. THE STRUCTURAL ENGINEER OF RECORD ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. THE METHOD OF CONSTRUCTION AND SEQUENCE OF OPERATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUPPLY ANY NECESSARY BRACING, GUYS, ETC. TO PROPERLY BRACE THE STRUCTURE AGAINST WIND, DEAD AND LIVE LOADS UNTIL THE BUILDING IS COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS. ANY QUESTIONS REGARDING TEMPORARY BRACING REQUIREMENTS SHOULD BE FORWARDED TO A STRUCTURAL ENGINEER FOR REVIEW.

2.12 MECHANICAL UNITS AND ANY OTHER EQUIPMENT SUPPORTED BY THE STRUCTURE WITH WEIGHTS IN EXCESS OF 200 LBS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION.

2.13 WHERE NOTED IN DRAWINGS AND SPECIFICATIONS TO INSTALL PRODUCTS PER THE MANUFACTURER'S RECOMMENDATIONS, IT SHALL BE REQUIRED THAT THE CONTRACTOR FOLLOWS THE MANUFACTURER'S RECOMMENDATIONS.

2.14 STRUCTURAL OBSERVATION IS VISUAL OBSERVATION OF THE IN PLACE STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT THE TIME OF THE OBSERVATION AND SHALL NOT BE CONSTRUED AS INSPECTION OR APPROVAL OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING TESTING AND SPECIAL INSPECTIONS PER THE REQUIREMENTS IN THE PROJECT DOCUMENTS.

2.15 OBSERVATION BY THE STRUCTURAL ENGINEER OF RECORD'S OFFICE DOES NOT REPLACE INSPECTIONS AND TESTING BY THE TESTING AGENCY OR SPECIAL INSPECTOR.

3.0 FOUNDATIONS

3.1 GEOTECHNICAL REPORT: FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT BY BECC, TITLED "REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION FOR IRONDALE FIRE STATION #3, PROJECT NO. 224043, DATED JULY 10, 2024" ALONG WITH ANY SUPPLEMENTAL CORRESPONDENCE. THE GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE OWNER AND FOLLOW ALL REQUIREMENTS AND RECOMMENDATIONS. GEOTECHNICAL RECOMMENDATIONS SHALL TAKE PRECEDENCE OVER THE ITEMS THAT FOLLOW IN THIS SECTION OF THE STRUCTURAL GENERAL NOTES.

3.2 MAXIMUM ALLOWABLE BEARING PRESSURES (PSF) PER GEOTECHNICAL REPORT:
BUILDING FOUNDATIONS-----------------------------------2500

NOTE: ALL FOOTING BEARING ELEVATIONS SHALL BE BEARING IN SIMILAR MATERIAL (NATIVE SOILS OR WEATHERED BEDROCK), EXTEND FOOTINGS AS NECESSARY WITH LEAN CONCRETE OR FLOWABLE FILL.

3.3 ALL FOUNDATION BEARING SURFACES SHALL BE REVIEWED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE TO ENSURE THEIR COMPLIANCE WITH PRESSURES NOTED. ALL FOOTING ELEVATIONS ARE ESTIMATED AND MAY BE ADJUSTED IN THE FIELD BY THE GEOTECHNICAL ENGINEER.

3.4 COMPACTED FILL WITHIN THE BUILDING AREA (AND EXTENDING 10'-0" OUTSIDE THE EXTERIOR BUILDING LINE) SHALL MEET THE REQUIREMENTS NOTED IN THE GEOTECHNICAL REPORT.

3.5 BACKFILL FOR FOUNDATION AND RETAINING WALLS SHALL BE A FREE DRAINING GRANULAR MATERIAL, SUCH AS SIZE #57 STONE. BACKFILL SHALL BE COMPACTED SUFFICIENTLY TO PREVENT SUBSIDENCE OF SURFACE ADJACENT TO WALL. THE GRANULAR MATERIAL SHALL BE PLACED IN A 45 DEGREE WEDGE EXTENDING FROM THE BASE OF THE FOOTING TO WITHIN 18" OF FINISH GRADE ON EXTERIOR AND TO UNDERSIDE OF SLAB ON INTERIOR. AT EXTERIOR, CAP GRANULAR BACKFILL WITH 18" OF SOIL.

3.6 GRANULAR BACKFILL SUPPORTING A FOOTING SHALL BE COMPACTED UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER OR HIS APPROVED REPRESENTATIVE. PROVIDE A 12" THICK CAP OF PROPERLY COMPACTED CRUSHER RUN STONE BETWEEN THE FOOTING AND THE PROPERLY COMPACTED GRANULAR BACKFILL. EXTEND CRUSHER RUN CAP TWO FEET BEYOND THE PERIMETER OF THE FOOTING OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

3.7 FOUNDATION AND RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL CONCRETE HAS ATTAINED THE REQUIRED 28 DAY COMPRESSIVE STRENGTH.

3.8 DO NOT PLACE BACKFILL AGAINST FOUNDATION WALLS UNTIL UPPER BRACING FLOORS ARE IN PLACE FOR AT LEAST SEVEN DAYS AND HAVE ATTAINED 75% OF DESIGN STRENGTH.

3.9 REINFORCING STEEL IN CONTINUOUS WALL FOOTINGS SHALL EXTEND THRU SPREAD FOOTINGS AT THE SAME ELEVATION AS WALL FOOTING. STEP WALL FOOTING DOWN ON SPREAD FOOTING WHERE SPREAD FOOTING IS BELOW CONTINUOUS WALL FOOTINGS.

3.10 SUBGRADE AND GRANULAR FILL SUPPORTING SLABS ON GRADE SHALL BE AS RECOMMENDED BY THE GEOTECHNICAL REPORT AND COMPACTED UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER OR HIS APPROVED REPRESENTATIVE. SEE SPECIFICATIONS FOR VAPOR RETARDER BENEATH SLABS ON GRADE

3.11 GRANULAR FILL BENEATH SLABS, UNLESS NOTED OTHERWISE, SHALL BE 4" COMPACTED #57 STONE.

3.12 VAPOR RETARDER BENEATH SLABS ON GRADE, UNLESS NOTED, SHALL MEET ASTM E 1745, CLASS A, 15 MIL MINIMUM THICKNESS WITH MANUFACTURER'S RECOMMENDED ADHESIVE OR PRESSURE-SENSITIVE TAPE AND PIPE BOOTS, SUCH AS W.R. MEADOWS INC. PRODUCT PERMINATOR 15.

3.13 NO EXCAVATION SHALL BE CLOSER THAN AT A SLOPE OF 2:1 (TWO HORIZONTAL TO ONE VERTICAL) TO A FOOTING.

4.0 CONCRETE

4.1 CONCRETING OPERATIONS SHALL COMPLY WITH ACI STANDARDS.

4.2 CONCRETE STRENGTH AND DURABILITY REQUIREMENTS: MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS (PSI), TYPE OF CONCRETE, MAXIMUM WATER/CEMENTITIOUS RATIO, AIR CONTENT, SLUMP, CONCRETE USE, AND EXPOSURE CATEGORY:

STRENGTH	TYPE	MAX W/C	AIR	SLUMP	USE	EXPOSURE CATEGORY
3000	NORMAL WT.	0.57	----	3" TO 5"	FOOTINGS	C1
3500	NORMAL WT.	0.50	----	3" TO 5"	SLAB ON GRADE (TYPICAL)	F0
4000	NORMAL WT.	0.50	----	3" TO 5"	CONCRETE ON STEEL DECK	F0
4000	NORMAL WT.	0.45	----	3" TO 5"	SLAB ON GRADE (ENGINE BAY)	F0
4000	NORMAL WT.	0.45	----	3" TO 5"	CONCRETE BEAM	F0
4000	NORMAL WT.	0.45	4-6%	3" TO 5"	UNLESS NOTED	C0

A. CONCRETE MIX DESIGN SHALL BE WORKABLE WITH LOWEST TOTAL WATER PER CUBIC YARD USING LARGEST PRACTICAL MAXIMUM SIZE OF COURSE AGGREGATE.
B. AIR CONTENT FOR CONCRETE FOR SLABS WITH HARD TROWELED FINISHES SHALL NOT EXCEED 3%.
C. CONCRETE FOR BELOW GRADE WALLS SHALL INCLUDE XYPEX ADMIXTURE.
D. CONCRETE USED FOR POLISHED CONCRETE FLOORS SHALL HAVE #78 STONE SIZE MAX COARSE AGGREGATE, HAVE 4000 PSI MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS, AND BE LOW SHRINKAGE CONCRETE MIX WITH 28 DAY MAXIMUM SHRINKAGE OF 0.015% PER ASTM C157 WHEN WET CURED 3 DAYS.
E. EXPOSED CONCRETE COLUMNS AND SLABS, EPXOSURE CATEGORY TO BE F2.
F. EXPOSURE CLASS DESCRIPTIONS:

F0: CONCRETE NOT EXPOSED TO FREEZING AND THAWING CYCLES AND PROTECTED FROM MOISTURE.
C0: CONCRETE DRY AND PROTECTED FROM MOISTURE

4.3 REINFORCING BARS: ASTM A615 GRADE 60.

4.4 WATERSTOPS: FLEXIBLE PVC WATERSTOPS, CE CRD-C 572, UNLESS NOTED OTHERWISE, WITH FACTORY-INSTALLED METAL EYELETS, FOR EMBEDDING IN CONCRETE TO PREVENT PASSAGE OF FLUIDS THROUGH JOINTS. FACTORY FABRICATE CORNERS, INTERSECTIONS, AND DIRECTIONAL CHANGES. ACCEPTABLE MANUFACTURER IS THE GREENSTREAK GROUP, INC, 800-325-9504, OR EQUAL. PROFILE SHALL BE FLAT, DUMBBELL WITH CENTER BULB WITH DIMENSIONS OF 6 INCHES BY 3/8 INCH THICK.

A. FLEXIBLE WATERSTOP INSTALLATION: INSTALL IN CONSTRUCTION JOINTS AND AT OTHER JOINTS INDICATED TO FORM A CONTINUOUS DIAPHRAGM. INSTALL IN LONGEST LENGTHS PRACTICABLE. SUPPORT AND PROTECT EXPOSED WATERSTOPS DURING PROGRESS OF THE WORK.

4.5 REINFORCING STEEL SHOWN IN SECTIONS AND DETAILS ARE A SCHEMATIC INDICATION THAT REINFORCING EXISTS. SEE SCHEDULES, SECTION NOTES AND GENERAL NOTES FOR ACTUAL REINFORCING REQUIRED.

4.6 REINFORCING BAR PLACING ACCESSORIES IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE. WHERE CONCRETE IS EXPOSED IN FINISHED BUILDING, PROVIDE ACCESSORIES WITH RUSTPROOF LEGS. WHERE CONCRETE IS SAND-BLASTED OR BUSH-HAMMERED, PROVIDE ACCESSORIES OF STAINLESS STEEL.

4.7 DETAIL REINFORCEMENT IN ACCORDANCE WITH ACI 315. REINFORCEMENT SHALL NOT BE WELDED, UNLESS NOTED OR APPROVED BY THE ENGINEER.

4.8 ALL SPLICES SHALL BE CLASS "B" TENSION LAP SPLICE, UNLESS NOTED.

4.9 ALL REINFORCING MARKED "CONT." INDICATES REINFORCING SHALL BE "CONTINUOUS" AND SHALL BE SPLICED WITH CLASS "B" TENSION LAP SPLICE, UNLESS NOTED.

4.10 PROVIDE CORNER BARS AT ALL CORNERS OF CONTINUOUS REINFORCING IN FOOTINGS, SLABS, OR WALLS. CORNER BARS SHALL BE LONG ENOUGH TO PROVIDE A CLASS "B" LAP SPLICE OF REINFORCING BARS.

4.11 CONCRETE COVERAGE OF REINFORCEMENT, UNLESS NOTED:

FOOTINGS--------------------------------2" TOP & 3" BOTTOM & SIDES
COLUMNS------------------------------------1-1/2" CLEAR OF TIES
FOUNDATION RETAINING WALLS---------------------------2" BOTH FACES
SLAB FACES NOT EXPOSED TO WEATHER OR EARTH---------------------3/4"
SLAB FACES EXPOSED TO WEATHER
A. #5 AND LESS---1-1/2"
B. #6 AND GREATER--2"
BEAMS------------------------------------1-1/2" CLEAR OF STIRRUPS

NOTE: SLAB ON GRADE WWR OR REINFORCEMENT EACH WAY SHALL BE 2L CLEAR FROM TOP OF SLAB. SEE EARTH SUPPORTED SLABS SECTION BELOW.

4.12 PEDESTAL, COLUMN AND WALL VERTICAL REINFORCING: DOWEL TO FOUNDATION WITH HOOKED BARS OF SAME SIZE AND SPACING AS VERTICAL REINFORCING.

4.13 WELDED WIRE REINFORCEMENT (WWR): ASTM A1064, MINIMUM LAP AND EMBEDMENT TO BE THE GREATER OF ONE CROSS WIRE SPACING PLUS 2 INCHES OR 6 INCHES.

4.14 EARTH SUPPORTED SLABS:

TYPICAL, 4" THICK, REINFORCED WITH 6X6 W2.9/W2.9 WWR FLAT SHEETS SUPPORTED 2" CLEAR OF TOP OF SLAB, UNLESS NOTED. WWR TO BE CHAIRED AT 36 INCHES EACH WAY MINIMUM. SEE FOUNDATION NOTES FOR SUBGRADE REQUIREMENTS.

WHERE NOTED AS 8" THICK (SEE PLAN): REINFORCE WITH #4@12 EW IN THE TOP OF THE SLAB. REBAR TO BE SUPPORTED 2" CLEAR OF THE TOP OF THE SLAB AND CHAIRED AT 36 INCHES EACH WAY MINIMUM. SEE FOUNDATION NOTES FOR SUBGRADE REQUIREMENTS.

PROVIDE CONTROL AND CONSTRUCTION JOINTS AT 3-4 TIMES SLAB THICKNESS IN FEET MAXIMUM OR AS REQUIRED TO PREVENT UNCONTROLLED CRACKING PER ACI RECOMMENDATIONS. AS AN EXAMPLE, FOR A 4" THICK SLAB PROVIDE JOINTS SPACED 12 – 16 FEET MAXIMUM. PANELS TO BE RECTANGULAR WITH LONG SIDE NOT TO EXCEED 1-1/2 TIMES SHORT SIDE. CUTTING SHOULD BE STARTED AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATE FROM BEING DISLODGE. CONTRACTOR SUBMIT PLAN SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS.

FLOOR DESIGN AND CONSTRUCTION BASIS IS ACI 302 AND 360, AND IT IS UNREALISTIC TO EXPECT CRACK-FREE OR CURL-FREE FLOORS. IT IS NORMAL TO EXPECT SOME AMOUNT OF CRACKING AND CURLING IN THE SLAB ON GRADE, AND SUCH OCCURRENCE DOES NOT NECESSARILY REFLECT ADVERSELY ON EITHER THE ADEQUENCY OF THE FLOOR DESIGN OR THE QUALITY OF ITS CONSTRUCTION.

EARTH SUPPORTED SLABS SHALL BE MOIST CURED FOR A MINIMUM OF SEVEN DAYS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. CURING COMPOUNDS, UNLESS NOTED, SHALL BE A MINIMUM OF CLEAR, WATERBORNE, MEMBRANE-FORMING CURING COMPOUND MEETING ASTM C 309, TYPE 1, CLASS B, SELF-DISSIPATING, CERTIFIED BY CURING COMPOUND MANUFACTURER TO NOT INTERFERE WITH BONDING OF FLOOR COVERING.

WHERE CONTROL JOINTS TERMINATE INTO NON-PARALLEL CONTROL JOINTS, PROVIDE 2#4 X 6'-0" BARS MID DEPTH OF SLAB PERPENDICULAR TO TERMINAL CONTROL JOINT.

PROVIDE 2#4 X 6'-0" BARS MID DEPTH OF SLAB AT REENTRANT CORNERS.

WHERE CONTROL JOINTS TERMINATE AT EMBEDDED STEEL ELEMENTS (SUCH AS EDGE REINFORCEMENT AT LOADING DOCKS), PROVIDE JOINT IN STEEL ELEMENT.

4.15 PLATE DOWELS AND DOWEL BASKETS:

A. CONSTRUCTION JOINTS:
1. PLATE DOWELS SHALL CONSIST OF SMOOTH STEEL GALVANIZED PLATE BARS, ASTM A36 STEEL BY ONE OF THE FOLLOWING:
a. GREENSTREAK GROUP, INC., ST. LOUIS, MO (800) 325-9504 – "SPEED PLATE"
b. PNA – "DIAMOND DOWEL"

B. CONTRACTION JOINTS:
1. PLATE DOWEL BASKET ASSEMBLY SHALL CONSIST OF SMOOTH STEEL GALVANIZED PLATE BARS, ASTM A36, AND WIRE SIDE FRAME SUPPORTS BY ONE OF THE FOLLOWING:
a. GREENSTREAK GROUP, INC., ST. LOUIS, MO (800) 325-9504 – DOUBLE TAPERED BASKET"
b. PNA – "PD3 BASKET"

C. DOWELED JOINT INSTALLATION: INSTALL DOWEL BARS AND SUPPORT ASSEMBLIES AT JOINTS WHERE INDICATED. LUBRICATE OR ASPHALT COAT ONE-HALF OF DOWEL LENGTH TO PREVENT CONCRETE BONDING TO ONE SIDE OF JOINT. FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS FOR PLACEMENT OF PLATE TYPE DOWELS AND DOWEL BASKETS.

4.16 CONTRACTION JOINTS IN WALLS: WALL JOINTS SHALL NOT BE SPACED FARTHER THAN 15 FEET FOR 8" WALLS, 20 FEET FOR 10" WALLS AND 30 FEET FOR 12" WALLS. WALL JOINTS SHALL ADDITIONALLY NOT BE LOCATED WITHIN 4'-0" OF EMBED PLATES OR CORNERS OF THE WALL. DISCONTINUE 50% OF THE WALL HORIZONTAL REINFORCING THROUGH JOINTS; TRIMMING BACK THE REINFORCING BARS 2" FROM THE CONTROL JOINT LOCATION. LOCATE CONTROL JOINTS EACH SIDE OF THE WALL. SEAL JOINTS WITH ELASTOMERIC SEALANT. SEE WALL CONTRACTION JOINT TYPICAL DETAIL.

4.17 WALL AND SLAB OPENINGS AND SLEEVES SMALLER THAN 12" (IN LARGER DIMENSION) ARE NOT SHOWN ON PLANS. CONTRACTOR SHALL SUBMIT ALL OPENINGS (SIZE AND LOCATIONS) AS A SINGLE COORDINATED SLEEVE PLAN FOR REVIEW AND APPROVAL.

4.18 CAST IN PLACE ALL SLEEVES AND INSERTS.

4.19 SLAB CRACKS THAT DEVELOP ON EXPOSED LEVELS SHOULD BE INJECTED WITH EPOXY TO LIMIT DETERIORATION OF THE REBAR.

4.20 FOR ALL CONCRETE EXPOSED TO VIEW IN THE FINISHED CONFIGURATION OF THE STRUCTURE, PROVIDE RUBBED FINISH AT A MINIMUM. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

5.0 ARCHITECTURAL AND STRUCTURAL PRECAST CONCRETE

5.1 REFER TO ARCHITECT'S DRAWINGS AND SPECIFICATIONS FOR DIMENSIONAL, FINISHING, AND OTHER REQUIREMENTS OF THE ARCHITECTURAL PRECAST.

5.2 PRECAST MANUFACTURER IS TO BE RESPONSIBLE FOR THE DESIGN OF ALL PRECAST MEMBERS AND THEIR CONNECTIONS TO THE STRUCTURE. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

5.3 ANY CONNECTIONS SHOWN ON CONTRACT DRAWINGS ARE SHOWN FOR GENERAL ARRANGEMENT ONLY. THE CONTRACTOR SHALL COORDINATE ALL PRECAST CONNECTIONS AND EMBEDDED ITEMS WITH THE PRECAST MANUFACTURER.

A. CONNECTIONS OF THE PRECAST TO THE STRUCTURE SHALL NOT RESTRAIN THE STRUCTURE'S 1" DOWNWARD MOVEMENT AT ALL BEAMS AND 1" UPWARD MOVEMENT AT ROOF BEAMS.

5.4 ERECTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TEMPORARY BRACING UNTIL ALL CONNECTIONS HAVE BEEN MADE AND TOPPING HAS BEEN CAST.

5.5 PRECAST MANUFACTURER SHALL PROVIDE STABILIZING ANGLES AND SIMILAR MISCELLANEOUS METALS, AS REQUIRED, FOR ALL PRECAST WORK.

5.6 ALL EXPOSED STEEL CONNECTIONS AND SUPPORT ANGLES, PLATES, BARS AND BOLTS IN CONJUNCTION WITH ALL PRECAST CONCRETE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION AND FIELD TOUCHED UP WITH ZINC RICH PAINT.

5.7 ADJUSTMENT AND POSSIBLY RESETTING OF PRECAST MAY BE REQUIRED TO ALIGN PRECAST DUE TO SUPPORT DEFLECTION AND/OR ROTATION.

5.8 SUPPORTING BEAMS AND STRUCTURE WILL DEFLECT AND/OR ROTATE. PRECAST MANUFACTURER AND ERECTOR SHALL COORDINATE CONNECTION/ERECTION SEQUENCE TO ACCOUNT FOR THIS MOVEMENT AND MAKE FINAL ADJUSTMENTS TO ALIGN AND PLUMB PRECAST. THIS MAY REQUIRE ADJUSTING CONNECTIONS OR RECONNECTING.

6.0 STRUCTURAL STEEL

6.1 FABRICATE AND ERECT ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS". FABRICATOR SHALL BE QUALIFIED BY PARTICIPATING IN THE AISC QUALITY CERTIFICATION PROGRAM AND HOLD THE AISC BUILDING FABRICATOR QMS CERTIFICATION (BU).

6.2 THE STEEL FRAME IS "NON-SELF-SUPPORTING". ADEQUATE TEMPORARY SUPPORT MUST BE PROVIDED BY THE CONTRACTOR UNTIL THE REQUIRED CONNECTIONS OR ELEMENTS ARE IN PLACE.

6.1 STRUCTURAL STEEL: ASTM A992 FOR WIDE FLANGE BEAMS AND COLUMNS AND STEEL CHANNELS; A572 FOR S, M, HP SHAPES AND STEEL ANGLES; ASTM A36 FOR STIFFENER PLATES, BASE PLATES, COLUMN CAP PLATES, BEAM CONNECTION PLATES.

6.2 HOLLOW STRUCTURAL SECTIONS (HSS): ASTM A500, GRADE C.

6.3 WELDED CONNECTIONS: E70XX ELECTRODES, MINIMUM SIZE FILLET WELD 3/16". WELDING QUALIFICATION, PROCEDURES AND PERSONNEL SHALL BE CERTIFIED ACCORDING TO AWS D1.1, THE STRUCTURAL WELDING CODE - STEEL.

6.4 THREADED AND PLAIN STEEL RODS: ASTM A36

6.5 HIGH STRENGTH THREADED RODS: ASTM A193 B7

6.6 ANCHOR RODS: ASTM F1554 GRADE 36 ANCHOR AND HEAVY HEX NUT OR ASTM F1554 GRADE 55 ANCHOR AND HEAVY HEX NUT WITH SUPPLEMENTARY REQUIREMENT S1, UNLESS OTHERWISE INDICATED.

A. IF ANCHOR ROD ASSEMBLIES ARE NOT ENCASED IN MINIMUM OF 3" OF CONCRETE, ANCHOR ROD ASSEMBLIES ARE TO BE HOT-DIP GALVANIZED.

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER H. CRAIG WINN
H. Craig Winn P.E.
8/30/2024
SEAL

100% CDs

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SHEET TITLE:	**GENERAL NOTES**
PROJECT NUMBER:	**CWA No. 2023-01**
DATE:	**08.30.24**
DRAWN BY:	**TRM**
CHECKED BY:	**HCW**

SHEET NUMBER
S1.0

GENERAL NOTES

6.7 HEADED STUDS: TYPE B SHEAR STUD CONNECTORS MADE FROM ASTM A108, GRADE 1015 OR 1020, COLD-FINISHED CARBON, AND COMPLYING WITH AWS D1.1.

6.8 CONNECTIONS:

- A. BEARING TYPE A325-N ACCORDANCE WITH RCSC (LRFD OR ASD VERSION) "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". BOLTS THROUGH 4" WIDE BEAM FLANGES SHALL BE 5/8" DIAMETER. OTHERWISE, BOLTS SHALL BE 3/4" DIAMETER.
- B. BOLTS SHOWN IN SECTIONS AND DETAILS ARE A SCHEMATIC INDICATION THAT BOLTS MAY BE USED. ACTUAL NUMBER, UNLESS SPECIFIED, TO BE IN ACCORDANCE WITH AISC.
- C. ALL STRUCTURAL STEEL CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE DESIGNED TO RESIST FORCES INDICATED, BY THE CONTRACTOR.
  1. WHERE BEAM REACTIONS ARE SHOWN ON THE DRAWINGS, THE CONNECTIONS SHALL DEVELOP THE REACTIONS SHOWN. WHERE CONNECTIONS ARE SUBJECT TO ECCENTRICITY, SUCH ECCENTRICITY SHALL BE TAKEN INTO ACCOUNT WHEN DESIGNING AND DETAILING THE CONNECTION.
  2. WHERE BEAM REACTIONS OR DESIGN FORCES ARE NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL CONTACT STRUCTURAL DESIGN GROUP FOR DIRECTION.
- D. DESIGN CALCULATIONS FOR THE CONNECTIONS DESIGNED BY THE CONTRACTOR SHALL BE SUBMITTED FOR THE FILES OF THE ARCHITECT AND ENGINEER. CALCULATIONS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. SHOP DRAWINGS CONTAINING CONNECTIONS FOR WHICH CALCULATIONS HAVE NOT BEEN RECEIVED WILL BE RETURNED UNCHECKED AS AN INCOMPLETE SUBMITTAL.

6.9 ALL STRUCTURAL STEEL, INCLUDING EXPOSED BOLTS, NUTS, WASHERS OR ANCHOR RODS, EXPOSED TO WEATHER IN THE FINAL CONFIGURATION OF THE STRUCTURE SHALL BE HOT-DIP GALVANIZED, UNLESS NOTED, PER ASTM A 123/A 123M. VENT HOLES SHALL BE FILLED AND GROUND SMOOTH AFTER GALVANIZING. DAMAGE TO GALVANIZING SHALL BE PAINTED WITH GALVANIZING REPAIR PAINT, SSPC-PAINT 20. SEE 05120 SPECIFICATION FOR PAINT REQUIREMENTS FOR STEEL THAT IS GALVANIZED AND PAINTED.

6.10 WHERE STEEL BEAMS ARE CONTINUOUS OVER COLUMNS, PROVIDE WEB STIFFENER PLATES EACH SIDE OF BEAM WEB, OF THICKNESS EQUAL TO BEAM FLANGE THICKNESS, LOCATED IN ALIGNMENT WITH COLUMN WEB OR FLANGES OR CENTER LINE OF HSS COLUMNS.

6.11 PROVIDE 3/4" THICK CLOSURE PLATES ON THE ENDS OF HSS BEAMS. SHOP WELD ALL AROUND TO BEAM WITH 1/4" PARTIAL PENETRATION WELDS.

6.12 ALL STEEL EXPOSED TO WEATHER, INCLUDING STEEL LINTELS FOR MASONRY OPENINGS, EXCEPT WHERE FABRICATED OF APPROVED CORROSION-RESISTANT STEEL OR OF STEEL HAVING A CORROSION RESISTANT OR OTHER APPROVED COATING, SHALL BE PROTECTED AGAINST CORROSION WITH AN APPROVED COAT OF PAINT, ENAMEL, OR OTHER APPROVED PROTECTION.

6.13 ALL HANDRAILS, GUARDRAILS, AND EMBEDS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE DESIGNED IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE NOTED ABOVE, BY THE CONTRACTOR, UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. CALCULATIONS SHALL BEAR THE SEAL OF THE PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED AND SHALL BE SUBMITTED FOR THE FILES OF THE ARCHITECT/ENGINEER AND SHALL BE INCLUDED WITH THE SHOP DRAWINGS.

7.0 STEEL DECK

7.1 DECK PROPERTIES AND ATTACHMENTS SHALL BE IN ACCORDANCE WITH THE STEEL DECK INSTITUTE (SDI).

7.2 DECK SHALL BE CONTINUOUS OVER THREE OR MORE SPANS. WHERE DECK SPANS LESS THAN THREE SPANS ARE REQUIRED, THEY SHOULD BE CLEARLY MARKED ON THE SHOP DRAWINGS.

7.3 ROOF DECK SHALL BE CONNECTED TO SUPPORTING STRUCTURE AS SHOWN IN THE TYPICAL DETAILS AND/OR PLAN NOTES.

- A. MANUFACTURER SHALL VERIFY ROOF DECK ATTACHMENT IS ADEQUATE TO RESIST THE WIND UPLIFT LOADING FROM THE COMPONENTS AND CLADDING WIND LOAD TABLE PROVIDED IN THE TYPICAL DETAILS.

7.4 WELDED CONNECTIONS: E60XX ELECTRODES: WELDING QUALIFICATION, PROCEDURES AND PERSONNEL SHALL BE CERTIFIED ACCORDING TO AWS D1.3, THE STRUCTURAL WELDING CODE - SHEET STEEL.

7.5 COLD-FORMED STEEL FRAMING, SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, PIPING, AND/OR OTHER UTILITIES SHALL NOT BE SUPPORTED BY THE STEEL ROOF DECK.

7.6 ROOF DECK:

- A. WHERE NOTED AS 1-1/2", WIDE RIB TYPE "WR", STEEL ROOF DECK, SEE PLANS FOR GAGE, 1-1/2" DEEP, GALVANIZED.

7.7 COMPOSITE STEEL STORM SHELTER ROOF DECK:

- A. 5" THICK CONCRETE SLAB ON STEEL COMPOSITE FLOOR DECK, UNLESS NOTED OTHERWISE, SEE PLAN. DECK SHALL CONFORM TO 3" VLI, 18 GAGE, GALVANIZED, AS MANUFACTURED BY **VULCRAFT** OR APPROVED EQUAL. SEE PLAN NOTES AND SECTION NOTES FOR SPECIFIC DECK REQUIREMENTS FOR INDIVIDUAL AREAS.
- B. REINFORCE SLAB WITH #5 REBAR SPACED 9" ON CENTER, EACH WAY SUPPORTED BY "UPPER CONTINUOUS HIGH CHAIRS" OVER BEAMS AND GIRDERS TO MAINTAIN 2 1/2" COVERAGE OF WWR.
- C. DECK SHALL BE WELDED TO SUPPORTS WITH A 5/8" DIAMETER PUDDLE WELD OR EQUIVALENT AT ALL EDGE RIBS PLUS A SUFFICIENT NUMBER OF INTERIOR RIBS TO PROVIDE A MAXIMUM AVERAGE SPACING OF 12 INCHES. THE MAXIMUM SPACING BETWEEN ADJACENT POINTS OF ATTACHMENT SHALL NOT EXCEED 18 INCHES.
- D. IF STUDS ARE BEING APPLIED THROUGH THE DECK ONTO STRUCTURAL STEEL, THE STUD WELDS CAN BE USED TO REPLACE THE PUDDLE WELDS ON A ONE-FOR-ONE BASIS.
- E. DECK UNITS WITH SPANS GREATER THAN FIVE FEET SHALL HAVE SIDE LAPS AND PERIMETER EDGES FASTENED AT MIDSPAN OR 36" O.C. - WHICHEVER IS SMALLER.
- F. IF A BENT PLATE OR EDGE ANGLE IS PROVIDED ON TOP OF THE SUPPORTING BEAM, IT IS NOT ACCEPTABLE TO WELD HEADED STUDS TO THE BENT PLATE OR EDGE ANGLE, STUDS MUST BE WELDED DIRECTLY TO THE SUPPORTING BEAM FLANGE.

7.8 SHEAR CONNECTORS: 3/4" DIAMETER, SEE PLANS / SECTIONS FOR LENGTH (AFTER WELD), HEADED STUDS ASTM A108. SPACE UNIFORMLY ALONG MEMBER WHERE SINGLE VALUE IS GIVEN. FOR SPACING OF CONNECTIONS, SEE SECTIONS.

7.9 CONTRACTOR OPTION TO USE HILTI S-SLC 02 M HWH IN LIEU OF #10 SIDELAP SCREWS AND HILTI FASTENERS IN LIEU OF #12 TEK SCREWS AS FOLLOWS: HILTI S-MD 12-24x1-5/8 HWH5 SCREWS FOR STUDS, JOISTS AND BEAMS 16 GA ≤ tf ≤ 1/4" HILTI X-HSN 24 PINS FOR JOISTS AND BEAM 1/8" ≤ tf ≤ 3/8" HILTI X-ENP 19 L15 PINS FOR BEAMS tf ≥ 1/4".

7.10 WELDED CONNECTIONS: E60XX ELECTRODES: WELDING QUALIFICATION, PROCEDURES AND PERSONNEL SHALL BE CERTIFIED ACCORDING TO AWS D1.3, THE STRUCTURAL WELDING CODE - SHEET STEEL.

7.11 NO CONDUIT OR PIPE SHALL BE CAST IN THE SLAB WITHOUT THE WRITTEN APPROVAL OF STRUCTURAL DESIGN GROUP. CONDUIT SHALL NOT BE PLACED IN SLABS REQUIRING A FIRE RESISTANCE RATING OR UL RATING.

8.0 MASONRY

8.1 MASONRY CONSTRUCTION SHALL CONFORM TO TMS 602-16 SPECIFICATION.

8.2 ALL MASONRY MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE RECOMMENDATIONS OF BRICK INSTITUTE OF AMERICA (BIA) AND NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA) AND MINIMUM REQUIREMENTS ESTABLISHED BY THE LOCAL BUILDING CODE.

8.3 MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNIT (f'm) SHALL BE 2000 PSI AT 28 DAYS.

8.4 NET COMPRESSIVE STRENGTH FOR EACH CMU UNIT SHALL MEET OR EXCEED 2000 PSI AT 28 DAYS. FOR TYPE N MORTAR, NET COMPRESSIVE STRENGTH FOR BLOCK SHALL BE GREATER THAN 2650 PSI.

8.5 GROUT COMPRESSIVE STRENGTH SHALL BE 2500 PSI AT 28 DAYS. GROUT SHALL ADDITIONALLY COMPLY WITH TABLE 6 OF TMS 602 FOR DIMENSIONS OF GROUT SPACES AND POUR HEIGHTS. COURSE GROUT SHALL BE USED WHERE POSSIBLE.

8.6 ALL MASONRY SHALL BE NORMAL WEIGHT IN ACCORDANCE WITH ASTM C90.

8.7 MORTAR: EXCEPT OTHERWISE SET FORTH HERIN ALL MORTARS AND THE MATERIALS THERIN SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR MORTAR OF MASONRY UNITS, ASTM C270.

- A. THE TYPE OF MORTAR BASED ON CONSIDERATION OF THE LOCATION OF THE UNIT MASONRY CONSTRUCTION SHALL BE AS FOLLOWS:

USE OF LOCATION	TYPE OF MORTAR
BELOW GRADE FOUNDATION AND WALLS	M
RETAINING WALLS	M
FIRE RESISTIVE WALLS RATED 2 HOURS OR MORE	M OR S
EXTERIOR WALLS AND LOAD BEARING WALLS	M OR S
PARTITIONS	M, S OR N
SOLID MASONRY UNITS	ONE CLASSIFICATION LESS THAN THE ABOVE
MORTAR OR GROUT UNDER CONCENTRATED LOADS	M
FENCES OR SITE WALLS	M OR S

8.8 ALL MASONRY SHALL BE STACK BOND, UNLESS NOTED.

8.9 ALL BLOCK CELLS AND CAVITIES BELOW GRADE SHALL BE FILLED WITH CONCRETE OR GROUT.

8.10 MASONRY REINFORCING LAP SPLICE LENGTHS PER SCHEDULE, SEE MASONRY LAP SPLICE LENGTHS TYPICAL DETAIL.

8.11 THE CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWINGS OF THE CMU REINFORCEMENT.

- A. SHOP DRAWINGS SHALL INCLUDE AN ELEVATION VIEW OF EACH REINFORCED (LOAD BEARING OR NON-LOAD BEARING) WALL WITH ALL VERTICAL AND HORIZONTAL REINFORCING AS WELL AS WALL OPENINGS/PENETRATIONS SHOWN. REINFORCING SHOP DRAWINGS NOT CONTAINING THESE ELEVATION DRAWINGS WILL BE RETURNED AS AN INCOMPLETE SUBMITTAL.
- B. SHOP DRAWINGS SHALL UNDERGO A QUALITY REVIEW BY THE REBAR DETAILER & SUPERVISOR, AS WELL AS THE CONTRACTOR. SUBMITTALS SHALL INCLUDE ALL OPENINGS, REINFORCING, AND ELEVATIONS NOTED. SUBMITTALS REVIEWED MORE THAN A 2ND TIME MAY RESULT IN DELAYS TO THE CONTRACTOR. ANY ADDITIONAL TIME REQUIRED TO REVIEW A SUBMITTAL FOR A 3RD OR MORE TIME WILL BE BILLED TO THE CONTRACTOR AS ADDITIONAL SERVICES.
- C. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A REBAR DETAILER CAPABLE OF HAVING THE SAME TEAM OF DETAILERS THROUGHOUT THE PROJECT. A LETTER WITH A LIST OF THE DETAILERS AND THE QUALITY SUPERVISOR AND THEIR INITALS SHALL BE SUBMITTED BEFORE ANY SHOP DRAWINGS HAVE BEEN SUBMITTED. THE INTIALS OF THE DETAILS AND THE QUALITY SUPERVISOR SHALL BE NOTED ON EACH SHOP DRAWINGS.

8.12 MODIFY CMU BLOCKS AS REQUIRED TO INSTALL REINFORCING AS NOTED/SHOWN.

8.13 PROVIDE CONTRACTION (CONTROL) JOINTS IN ALL CONCRETE MASONRY WALLS AT LOCATIONS APPROVED BY THE ARCHITECT AT A MAXIMUM SPACING OF 2.0 TIMES THE WALL HEIGHT OR 25'-0", WHICHEVER IS LESS.

8.14 CONTROL JOINTS IN CMU WALLS SHALL BE DISCONTINUOUS AT MASONRY BOND BEAMS. BOND BEAM REINFORCING SHALL EXTEND CONTINUOUS WITH MASONRY LAP SPLICES AND CORNER BARS. SEE TYPICAL DETAILS FOR ADDITIONAL INFORMATION.

8.15 WHEN REINFORCING IS SPECIFIED, PROVIDE REINFORCING AT EACH SIDE OF CONTROL JOINTS, OPENINGS AND WALL ENDS.

8.16 EXTEND REBAR AT WALL OPENINGS A MINIMUM OF 2'-0" PAST THE OPENING AT ALL CORNERS, UNLESS NOTED OTHERWISE. AT WINDOWS, PROVIDE A MINIMUM OF 2#4 BARS AT THE SILLS OF THE WINDOWS, UNLESS NOTED OTHERWISE.

8.17 AT CMU PARTITIONS OVER 8'-0" TALL, SUPPORTED BY SLAB ON GRADE, PROVIDE THICKENED SLAB PER TYPICAL DETAILS.

8.18 WHERE ANY CMU WALL IS NOT SUPPORTED AT THE TOP, PROVIDE MINIMUM #5@16 VERTICAL REINFORCING, UNLESS NOTED OTHERWISE.

8.19 PROVIDE WALL TOP SUPPORT AT 8'-0" O.C. FOR ALL INTERIOR NON-LOAD BEARING CMU WALLS WHERE CONTINUOUS WALL SPAN BETWEEN PERPENDICULAR BRACING WALLS EXCEEDS 20'-0". SEE TYPICAL DETAILS FOR ADDITIONAL INFORMATION.

8.20 PROVIDE HORIZONTAL JOINT REINFORCING IN REINFORCED MASONRY WALLS AS DIRECTED BY THE ARCHITECT. AT WALL CORNERS AND INTERSECTIONS, PROVIDE PREFABRICATED T AND L SHAPES, FIELD BENDING IS NOT PREMITTED. MINIMUM OF LADDER TYPE ZINC COATED CONFORMING TO ASTM A82 HOHMANN & BARNARD 220 LADDER-MESH OR EQUIVALENT AT EVERY OTHER BLOCK COURSE ABOVE FOOTING. REINFORCEMENT SHOULD CONSIST OF TWO OR MORE LONGITUDINAL WIRES, NO. 9 GAUGE OR LARGER, WELDED WITH NO. 9 GAUGE OR LARGER CROSS WIRES. LAP SPLICE HORIZONTAL JOINT REINFORCING A MINIMUM OF 12".

8.21 PROVIDE DOVETAIL ANCHORS AT 16" O.C., UNLESS NOTED OTHERWISE, WHERE MASONRY WALLS ABUT CONCRETE SURFACES.

8.22 PROVIDE GROUT FILLED LINTEL BLOCKS AT TOP OF ALL CMU WALLS REINFORCED WITH 2#4 BARS CONTINUOUS, UNLESS NOTED OTHERWISE.

8.23 CONDUITS, REFRIGERANT PIPING (WITH ANY REQUIRED INSULATION INCLUDED), CONDENSATE DRAIN LINES, ETC. UP TO 2" IN OUTSIDE DIAMETER MAY EXTEND CONTINUOUS THRU MASONRY WALLS & BOND BEAMS. COORDINATE WITH MECHANICAL, ELECTRICAL, PLUMBING, ETC. DRAWINGS FOR SIZE AND LOCATION. DO NOT INTERRUPT CONTINUOUS REINFORCING STEEL IN PLACEMENT OF CONDUITS, PIPING, DRAIN LINES, ETC.

8.24 WHERE MASONRY WALLS SUPPORT EARTH ON BOTH SIDES, BACKFILL EACH SIDE SIMULTANEOUSLY.

8.25 WHERE TOP OF FOOTING SUPPORTING MASONRY WALLS IS MORE THAN 2'-8" BELOW FINISH FLOOR, PROVIDE #6 AT 16" O.C., UP TO THE FIRST COURSE ABOVE FINISH FLOOR ELEVATION, IN ADDITION TO THE SPECIFIED REINFORCEMENT, UNLESS NOTED OTHERWISE.

8.26 THE MASONRY WALLS ARE "NON-SELF-SUPPORTING". ADEQUATE TEMPORARY SUPPORT MUST BE PROVIDED BY THE CONTRACTOR UNTIL REQUIRED CONNECTIONS OR ELEMENTS ARE IN PLACE. BRACING SHALL BE PER THE FOLLOWING, AND CONTRACTOR SHALL PROVIDE ADDED REINFORCING AND GROUT IF REQUIRED BY THE BRACING.

- A. THE "2012 STANDARD PRACTICE FOR BRACING MASONRY WALLS UNDER CONSTRUCTION".
- B. THE "MASONRY WALL BRACING HANDBOOK" AS PUBLISHED BY THE MASON CONTRACTORS ASSOCIATION OF AMERICA (MCAA) SHOULD BE USED IN CONJUNCTION WITH THE "STANDARD PRACTICE".

8.27 PROVIDE 2 COURSES OF GROUT FILLED OPEN BOTTOM BOND BEAM BLOCKS REINFORCED WITH 2#5 BARS CONTINUOUS AT ALL STEEL STAIR ATTACHMENT LOCATIONS, UNLESS NOTED OTHERWISE. CONTRACTOR COORDINATE EXACT LOCATIONS WITH STEEL STAIR DESIGNER.

9.0 COLD-FORMED STEEL (CFS) FRAMING (NON-LOAD BEARING)

9.1 STRUCTURAL PROPERTIES OF FRAMING MEMBERS SHALL BE COMPUTED IN ACCORDANCE WITH AISI "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING".

9.2 UNLESS SPECIFICALLY DESIGNED AND DETAILED IN DRAWINGS, GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL CFS FRAMING. SEE ARCHITECTURAL DETAILS FOR FRAMING LAYOUT AND SECTIONS. CFS FRAMING SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SUBMITTED FOR FILES OF THE STRUCTURAL ENGINEER. CALCULATIONS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

9.3 DEFLECTION LIMITS FOR MEMBERS:
SOFFITS: DL L/240 LL L/240 TL L/180
WALL SUPPORTING BRICK: HORIZONTAL DEFLECTION OF L/600
WALL SUPPORTING STUCCO: HORIZONTAL DEFLECTION OF L/360
WALL SUPPORTING EIFS: HORIZONTAL DEFLECTION OF L/240
WALL PARTITIONS: HORIZONTAL DEFLECTION OF L/180

9.4 ALL CFS WALL STUDS SHALL BE A MINIMUM OF 20 GAGE AND SPACED AT 16 OC MAXIMUM AS PER DESIGN-BUILD PERFORMANCE REQUIREMENTS.

9.5 CFS FRAMING MEMBERS SHALL NOT BE SUPPORTED BY THE STEEL ROOF DECK.

9.6 CFS FRAMING MEMBERS ABUTTING STRUCTURE SHALL HAVE VERTICAL SLIP TRACKS TO ACCOMMODATE UP TO 1/2" VERTICAL MOVEMENT UP OR DOWN.

9.7 VERTICAL STUDS INTERRUPTED BY WALL OPENINGS SHALL BE LOCATED EQUALLY ON EACH SIDE OF THE OPENING. PROVIDE EVEN NUMBER OF FULL HEIGHT STUDS ON EACH SIDE OF OPENING. WELD STUD FLANGES TOGETHER WITH 1/8" FILLET WELD 1" LONG SPACED AT 16" OC.

9.8 WELDED CONNECTIONS: E60XX ELECTRODES, MINIMUM SIZE FILLET WELD 1/8": WELDING QUALIFICATION, PROCEDURES AND PERSONNEL SHALL BE CERTIFIED ACCORDING TO AWS D1.3, THE STRUCTURAL WELDING CODE - SHEET STEEL.

9.9 PROVIDE SHOP DRAWINGS SHOWING PLANS, ELEVATIONS AND CONNECTION DETAILS AT ALL NON-LOAD BEARING STEEL FRAMING.

10.0 PANELIZED STRUCTURAL COLD-FORMED STEEL (CFS) FRAMING (LOAD BEARING)

10.1 DETAILS SHOWN ARE FOR LOAD BEARING PANELIZED WALLS AND NON-LOAD BEARING WALLS. LOAD BEARING WALLS TO BE SHOP WELDED WITH FILLET WELDS OR PREAPPROVED MACHINE DIMPLED SCREW SYSTEM. LOAD BEARING CFS FRAMING TO BE PANELIZED AND FACTORY FABRICATED PER SPECIFICATION 05 4000.

10.2 STRUCTURAL PROPERTIES OF CFS FRAMING SHALL BE COMPUTED IN ACCORDANCE WITH AISI "SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".

10.3 UNLESS SPECIFICALLY DESIGNED AND DETAILED IN DRAWINGS, GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL LOAD BEARING CFS FRAMING. SEE ARCHITECTURAL DETAILS FOR FRAMING LAYOUT AND SECTIONS, ALSO SEE TYPICAL DETAILS AND SPECIFICATION 05 4000. CFS FRAMING SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SUBMITTED FOR FILES OF THE STRUCTURAL ENGINEER. CALCULATIONS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

- A. SUBMIT DESIGN LOAD CRITERIA PRIOR TO COMPLETING DESIGN CALCULATIONS TO CONFIRM/ENSURE UNDERSTANDING OF LOAD CRITERIA AND TO AVOID REDESIGN AND SCHEDULE DELAYS.
- B. CONTRACTOR COORDINATE THE DESIGN AND LAYOUT OF ALL CFS WALL PANELS WITH OTHER TRADES TO PROVIDE ADEQUATE CLEARANCES FOR MECHANICAL, ELECTRICAL, AND PLUMBING PRIOR TO DESIGN AND SHOP DRAWING SUBMITTAL.

10.4 ADEQUATE TEMPORARY LATERAL SUPPORT OF THE BUILDING WALLS MUST BE PROVIDED BY THE CONTRACTOR UNTIL REQUIRED PERMANENT CONNECTIONS OR ELEMENTS ARE IN PLACE.

- A. PROVIDE OUT-OF-PLANE BRACING FOR CFS WALL PANELS DURING CONSTRUCTION/PRIOR TO SLAB PLACEMENT.
- B. WHERE CFS FLAT STRAP BRACING IS TO BE SHIPPED LOOSE AT BOTTOM CONNECTIONS AND IS TO BE USED AS BUILDING TEMPORARY BRACING, THE CFS DESIGN ENGINEER IS TO PROVIDE A MINIMUM SCREWED CONNECTION WHICH IS TO BE REMOVED TO FACILITATE PERMANENT WELDED CONNECTIONS.

10.5 DEFLECTION LIMITS FOR MEMBERS:
SOFFITS: DL L/240 LL L/360 TL L/180
WALL SUPPORTING BRICK: HORIZONTAL DEFLECTION OF L/600
WALL SUPPORTING STUCCO: HORIZONTAL DEFLECTION OF L/360
WALL SUPPORTING EIFS: HORIZONTAL DEFLECTION OF L/240
WALL PARTITIONS: HORIZONTAL DEFLECTION OF L/240
X-STRAP SHEAR WALLS: HORIZONTAL WIND DRIFT LIMIT H/500
X-STRAP SHEAR WALLS: HORIZONTAL SEISMIC DRIFT LIMIT H/175

10.6 LOAD-BEARING CFS STUDS SHALL BE A MINIMUM OF 20 GAGE, 6" WIDE AND SPACED AT 16 OC MAXIMUM AS PER DESIGN-BUILD PERFORMANCE REQUIREMENTS. TRACKS SHALL BE EQUAL TO STUD WIDTH AND GAGE AND HAVE A MINIMUM FLANGE OF 1-1/2".

10.7 PROVIDE WALL BRACING, CONNECTION DETAILS, AND WINDOW HEADERS AS RECOMMENDED BY THE STUD MANUFACTURER FOR LOAD-BEARING STUDS.

10.8 TRACK SHALL BE WELDED WITH MINIMUM FILLET WELD PER AISI (SEE TYPICAL DETAIL) TO STUD FOR LOAD BEARING FRAMING.

10.9 FASTEN TRACKS TO CONCRETE SLAB WITH HILTI 3/8" X 3" HUS-H SCREW ANCHOR AT STUD AND HALFWAY BETWEEN STUDS WITH 2-3/4" EMBEDMENT. LOCATE A MINIMUM OF TWO (2) ANCHORS AT JAMBS.

10.10 VERTICAL STUDS SHALL BE 100% END BEARING. GAP BETWEEN THE LOAD BEARING STUD AND THE TRACK SHALL NOT EXCEED 1/8 INCH.

10.11 VERTICAL STUDS INTERRUPTED BY WALL OPENINGS SHALL BE LOCATED EQUALLY ON EACH SIDE OF THE OPENING OR AS PER DESIGN. PROVIDE EVEN NUMBER OF FULL HEIGHT STUDS ON EACH SIDE OF OPENING. WELD STUD FLANGES TOGETHER WITH MINIMUM FILLET WELD PER AISI (SEE TYPICAL DETAIL). WELD 1" LONG SPACED AT 16" OC MINIMUM.

10.12 WELDED CONNECTIONS: E60XX ELECTRODES, MINIMUM SIZE FILLET WELD PER AISI (SEE TYPICAL DETAIL). WELDING QUALIFICATION, PROCEDURES AND PERSONNEL SHALL BE CERTIFIED ACCORDING TO AWS D1.3, THE STRUCTURAL WELDING CODE - SHEET STEEL.

10.13 AT ALL FLOOR BEAM OR GIRDER TRUSS BEARINGS PROVIDE MINIMUM (3) STUDS DIRECTLY UNDER BEARING. PROVIDE ADDITIONAL STUDS AS REQUIRED PER DESIGN. MAINTAIN STUD CONTINUITY TO FOUNDATION. WELD STUD FLANGES TOGETHER WITH MINIMUM FILLET WELD PER AISI (SEE TYPICAL DETAIL). WELD 1" LONG SPACED AT 16" OC MINIMUM".

10.14 WALLS SHALL BE SHEATHED WITH EITHER GYPSUM OR PLYWOOD SHEATHING. FOR WALLS WITHOUT SHEATHING, SEE TYPICAL DETAILS.

10.15 PROVIDE SHOP DRAWINGS SHOWING PLANS, ELEVATIONS AND CONNECTION DETAILS AT ALL CFS LOAD-BEARING STUD WALLS.

10.16 ALL SLAB EDGE MISALIGNMENTS, TOP OF SLAB ELEVATION VARIATIONS, MISLOCATED EMBED PLATES AT HOLD DOWN LOCATIONS, ETC., EVEN THOSE THAT ARE WITHIN ACI TOLERANCES, ARE THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT AND MUST ACCOMMODATE THE CFS WALL PANEL SYSTEM. EXAMPLES OF SUCH RETROFIT INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING: CONCRETE SLAB GRINDING, SHIMMING AND GROUTING UNDER WALL PANELS, EMBED PLATE REPAIRS, SLAB EDGE RETROFIT, ETC. SUBMIT APPLICABLE SOLUTIONS FOR REVIEW.

11.0 PRE-MANUFACTURED COLD-FORMED STEEL TRUSSES

11.1 STRUCTURAL PROPERTIES OF FRAMING SHALL BE COMPUTED IN ACCORDANCE WITH AISI "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING".

11.2 GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL COLD FORMED STEEL TRUSSES AND RAFTERS, ALSO SEE SPECIFICATION 05400.

11.3 IN ADDITION TO PROVIDING THE COLD-FORMED STEEL TRUSS SYSTEM CALLED FOR IN THESE DOCUMENTS THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:

- A. DESIGN OF THE TRUSS SYSTEM AND RAFTER SYSTEM, COLLECTIVELY THE 'TRUSSES'.
- B. ENGINEERING PROVIDED BY MANUFACTURER SHALL BE A COMPLETE PACKAGE SIMILAR TO THE "WORKS" PACKAGE PROVIDED BY AEGIS METAL FRAMING OR EQUAL.
- C. DESIGN OF ALL TRUSS COMPONENTS, TEMPORARY AND PERMANENT BRACING, TRUSS TO TRUSS CONNECTIONS, AND TRUSS TO STRUCTURE CONNECTIONS.
- D. WHERE TRUSSES ARE SUPPORTED BY CONCRETE, AND THE TRUSS TO STRUCTURE CONNECTION DESIGNED BY THE CONTRACTOR CALLS FOR EMBED STEEL PLATES, SUCH PLATES SHALL ALSO BE DESIGNED BY THE CONTRACTOR. THE DESIGN SHALL MEET THE PROVISIONS OF ACI 318-14.
- E. DIMENSIONED TRUSS FRAMING PLAN.
- F. TRUSS ERECTION PLAN.
- G. PLAN SHOWING LAYOUT AND DETAILS OF ANY TEMPORARY AND PERMANENT BRACING REQUIRED.
- H. DETAILED AND DIMENSIONED PLAN SHOWING THE LOCATION AND TYPE OF EMBEDS OR CONNECTION MATERIAL REQUIRED TO ANCHOR THE TRUSSES TO THE STRUCTURE. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS REQUIRED TO ANCHOR THE TRUSS TO THE STRUCTURE.
- I. CALCULATIONS FOR THE ABOVE SHALL BE SUBMITTED FOR THE FILES OF THE ARCHITECT AND ENGINEER. CALCULATIONS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. THE ENGINEER SHALL HAVE PERSONALLY SUPERVISED THE DESIGN AND PREPARATIONS OF THE CALCULATIONS. SHOP DRAWINGS CONTAINING CONNECTIONS FOR WHICH THESE CALCULATIONS HAVE NOT BEEN RECEIVED WILL BE RETURNED UNCHECKED AS AN INCOMPLETE SUBMITTAL.

11.4 TRUSS MANUFACTURER SHALL DESIGN FOR THE FOLLOWING SUPERIMPOSED LOADS:

- A. TOP CHORD DEAD LOAD ---------------------------------10 PSF
- B. BOTTOM CHORD DEAD LOAD ------------------------------10 PSF
- C. TOP CHORD LIVE LOAD ---------------------------------20 PSF

11.5 DEFLECTION LIMITS FOR MEMBERS:

A.	SOFFITS:	DL L/240	LL L/360	TL L/180
B.	ROOF:	DL L/240	LL L/360	TL L/180
C.	END WALL GABLE SUPPORTING BRICK:	HORIZONTAL DEFLECTION OF L/600		
D.	END WALL GABLE SUPPORTING STUCCO:	HORIZONTAL DEFLECTION OF L/360		
E.	END WALL GABLE SUPPORTING EIFS:	HORIZONTAL DEFLECTION OF L/240		

11.6 DESIGN TRUSSES TO RESIST THE WIND UPLIFT LOADING FROM THE COMPONENT AND CLADDING WIND LOAD TABLE PROVIDED IN THE TYPICAL DETAILS.

11.7 IN ADDITION TO THE ABOVE LOADS, TRUSSES SHALL BE DESIGNED FOR CONCENTRATED LOADS HUNG FROM OR SUPPORTED ON TRUSSES. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND SPECIFICATIONS FOR LOADING INFORMATION AND LOCATION. LOADING AS REQUIRED BY OTHER SUBCONTRACTORS, SUCH AS FIRE PROTECTION, SHALL BE COORDINATED BY THE GENERAL CONTRACTOR.

11.8 ALL TEMPORARY AND PERMANENT BRACING MEMBERS AND CONNECTIONS REQUIRED FOR TRUSSES SHALL BE DETAILED ON THE TRUSS MANUFACTURER'S ERECTION PLANS. BRACING MEMBERS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

11.9 TEMPORARY BRACING SHALL NOT IMPOSE ANY FORCE ON THE SUPPORTING STRUCTURE. PERMANENT BRACING FORCES SHALL BE TRANSFERRED TO THE ROOF DIAPHRAGM BY THE BRACING DESIGN PROVIDED BY THE TRUSS MANUFACTURER.

11.10 WELDED CONNECTIONS: E60XX ELECTRODES, MINIMUM SIZE FILLET WELD 1/8". WELDING QUALIFICATION, PROCEDURES, AND PERSONNEL SHALL BE CERTIFIED ACCORDING TO AWS D1.3, THE STRUCTURAL WELDING CODE - SHEET STEEL.

12.0 POST-INSTALLED REINFORCING, ANCHORS AND FASTENERS

12.1 POST-INSTALLED ANCHORS AND/OR REINFORCING SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS AND/OR REINFORCING IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS AND/OR REINFORCING.

12.2 THE BELOW PRODUCTS ARE THE DESIGN BASIS FOR THIS PROJECT. PRODUCT DIAMETER AND EMBEDMENT SHALL BE SHOWN IN THE DETAILS.

12.3 FOR ANCHORING INTO CONCRETE:

- A. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. PRE-APPROVED PRODUCTS INCLUDE:
  1. SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-2713 & IAPMO-UES ER-493)
  2. SIMPSON STRONG-TIE "STRONG-BOLT 2" (ICC-ES ESR-3037)
  3. SIMPSON STRONG-TIE "TITEN-HD ROD HANGER" (ICC-ES ESR-2713)
  4. SIMPSON STRONG-TIE "TITEN TURBO" (IAPMO-UES ER-712) – FOR UNCRACKED CONCRETE ONLY
  5. HILTI KWIK HUS-EZ (KH-EZ), KH-EZ CRC, KH-EZ SS316, KH-EZ C, KH-EZ E, KH-EZ-I, AND KH-EZ P SCREW ANCHOR SAFE SET SYSTEM WITH HOLLOW DRILL BIT AND VACUUM (ICC ESR-3027)
  6. HILTI KWIK BOLT-TZ2 EXPANSION ANCHOR SAFE SET SYSTEM WITH HOLLOW DRILL BIT AND VACUUM AND SI-AT-A22 TOOL WITH ADAPTIVE TORQUE FOR APPLICABLE SIZES (ICC ESR-4266)
  7. HILTI KWIK BOLT 1 EXPANSION ANCHOR SAFE SET SYSTEM WITH HOLLOW DRILL BIT AND VACUUM AND SI-AT-A22 TOOL WITH ADAPTIVE TORQUE FOR APPLICABLE SIZES (ICC ESR-678)
  8. HILTI HDA UNDERCUT ANCHORS (ICC ESR 1546)
  9. HILTI HSL-4 EXPANSION ANCHORS (ICC ESR 4386)
  10. DEWALT SCREW-BOLT+ (ICC-ES ESR-3889)
  11. DEWALT POWER-STUD+ SD2 (ICC-ES ESR-2502)
  12. DEWALT POWER-STUD SD1 (ICC-ES ESR-2818)
  13. DEWALT HANGERMATE+ (ICC-ES ESR-3889)
  14. DEWALT CCU+ UNDERCUT (ICC-ES ESR-4810)
  15. DEWALT POWER-BOLT+ (ICC-ES ESR-3260)
- B. MECHANICAL ANCHORS FOR USE IN THE UNDER SIDE OF NORMAL WEIGHT HOLLOW CORE AND POST TENSION SLAB WHERE EMBEDMENT DEPTH MUST NOT EXCEED ¾". PRE-APPROVED PRODUCTS INCLUDE:
  1. DEWALT MINI-UNDERCUT+ (ICC-ES ESR-3912)
  2. HILTI HDP-P TZ DROP-IN ANCHOR (ICC ESR-4236)

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STRUCTURAL DESIGN GROUP
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Job Number 23-277

Revisions

No.	Date	Description

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER H. CRAIG WINN
H. Craig Winn, P.E.
8/30/2024 SEAL

100% CDs

IRONDALE FIRE STATION #3
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES
ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
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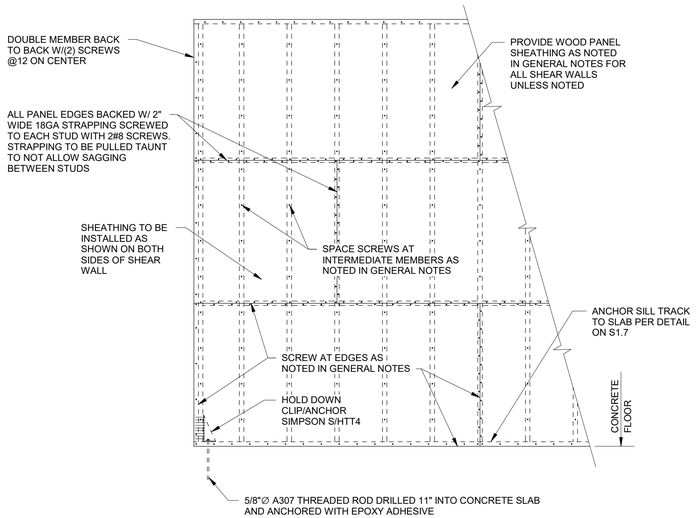
SHEET TITLE: **GENERAL NOTES**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08.30.24**
DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S1.1



NOTES:
1. SHEATHING PANELS TO BE INSTALLED HORIZONTALLY ON BOTH SIDES OF THE WALL.
2. HOLD DOWN CLIPS ARE REQUIRED AT THE END OF EACH SHEAR WALL AS NOTED ON SHEET S2.1. HOLD DOWN CLIPS ARE NOT REQUIRED AT OPENINGS OCCURRING ALONG THE SHEAR WALL.
3. SHEATHING SHALL EXTEND TO THE TOP OF WALLS AND BE CONTINUOUS ABOVE OPENINGS.

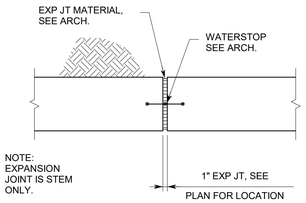
SHEAR WALL PANEL CONSTRUCTION

TYPICAL

SITE CANTILEVER RETAINING WALLS

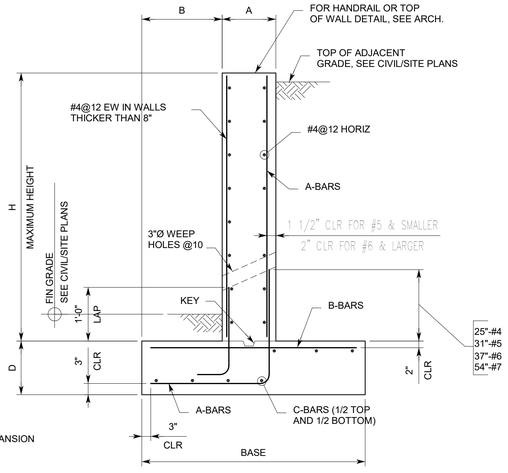
CONCRETE DIMENSIONS					REINFORCEMENT		
H	A	B	BASE	D	A-BARS	B-BARS	C-BARS
3'-0"	8"	6"	3'-0"	1'-0"	#4@12	#4@18	4#5
4'-0"	8"	6"	3'-6"	1'-0"	#4@12	#4@18	4#5
5'-0"	8"	8"	4'-0"	1'-0"	#4@12	#4@18	4#5
6'-0"	8"	10"	5'-0"	1'-0"	#4@12	#4@15	5#5

NOTE:
DIMENSION "A" GIVEN (WALL THICKNESS) IS MINIMUM. FOR REQD THICKNESS, SEE PLAN.



NOTE:
EXPANSION JOINT IS STEM ONLY.

SITE WALL EXPANSION JOINT DETAIL



NOTE:
PROVIDE WALL EXPANSION JOINTS AT 25'-0" MAXIMUM.

SITE RETAINING WALL SECTION

FOR BACKFILL MATERIAL, SEE GENERAL NOTES.

GENERAL NOTES

C. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE DRILL BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS, SUCH AS HORIZONTAL TO UPWARD INCLINED ORIENTATION UNDER SUSTAINED TENSION LOADING, SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-19 26.7.2 & 26.7.2(e). INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-19 26.7.2 & 26.7.2(e). PRE-APPROVED PRODUCTS INCLUDE:

1. SIMPSON STRONG-TIE "SET-3G" (ICC-ES ESR-4057)
2. SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-263)
3. SIMPSON STRONG-TIE "SET-XP" (ICC-ES ESR-2508)
4. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM WITH CONTINUOUSLY DEFORMED REBAR (ICC ESR-4868)
5. HILTI HIT-RE 500 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM WITH CONTINUOUSLY DEFORMED REBAR (ICC ESR-3814)
6. HILTI KWIK-X DUAL ACTION ANCHOR SAFESET SYSTEM WITH KHC CAPSULE ADHESIVE AND KWIK-HUS EZ (ICC ESR-5065)
7. DEWALT PURE110+ FOR WARM WEATHER/SLOW CURE (ICC-ES ESR-3298); FOR ANCHORS AND REBAR: WHEN DEWALT DUSTX+ EXTRACTION SYSTEM IS USED, TRADITIONAL HOLE CLEANING METHODS USING STEEL BRUSHES AND COMPRESSED DRY AIR MAY BE COMPLETELY OMITTED PER ICC-ES ESR-3298
8. DEWALT AC200+ FOR COLD WEATHER/RAPID CURE (ICC-ES ESR-4027); FOR ANCHORS AND REBAR: WHEN DEWALT DUSTX+ EXTRACTION SYSTEM IS USED, TRADITIONAL HOLE CLEANING METHODS USING STEEL BRUSHES AND COMPRESSED DRY AIR MAY BE COMPLETELY OMITTED PER ICC-ES ESR-4027

D. POWER-ACTUATED FASTENERS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:

1. SIMPSON STRONG-TIE "GAS ACTUATED PINS" (ICC-ES ESR-2811)
2. SIMPSON STRONG-TIE "POWDER ACTUATED PINS" (ICC-ES ESR-2138)
3. HILTI "UNIVERSAL KNURLED SHANK FASTENERS" X-U (ICC ESR-2269)
4. DEWALT "POWER DRIVEN FASTENERS", POWDER ACTUATED (ICC-ES-ESR 2024)
5. DEWALT "TRAK-IT C5", GAS ACTUATED (ICC-ES-ESR 3275)

12.4 FOR ANCHORING INTO MASONRY:

A. SOLID-GROUTED CONCRETE MASONRY

1. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC01 OR ICC-ES AC106. PRE-APPROVED PRODUCTS INCLUDE:

   a. SIMPSON STRONG-TIE "TITEN-HD" & "STAINLESS STEEL TITEN HD" (ICC-ES ESR-1056)
   b. SIMPSON STRONG-TIE "STRONG-BOLT 2" (IAPMO-UES ER-240)
   c. SIMPSON STRONG-TIE "WEDGE-ALL" (ICC-ES ESR-1396)
   d. SIMPSON STRONG-TIE "TITEN TURBO" (IAMPO-UES ER-716)
   e. HILTI KH-EZ, KH-EZ CRC, KH-EZ SS316, KH-EZ C, AND KH-EZ P SCREW ANCHORS (ICC ESR-3056)
   f. HILTI KWIK BOLT-1 EXPANSION ANCHOR (ICC ER-677)
   g. HILTI KWIK BOLT-TZ2 EXPANSION ANCHOR (ICC ESR-4561)
   h. DEWALT "SCREW-BOLT+" (ICC-ES ESR 4042)
   i. DEWALT "POWER-STUD+ SD1" (ICC-ES ESR 2966)

2. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC58. PRE-APPROVED PRODUCTS INCLUDE:

   a. SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-281)
   b. SIMPSON STRONG-TIE "SET-XP" (IAPMO-UES ER-265)
   c. HILTI HIT-HY 270 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM (ICC ESR-4143); STEEL ANCHOR ELEMENT SHALL BE HILTI-HAS CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR
   d. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM (ICC ESR-4878)
   e. DEWALT AC100+ GOLD (ICC-ES ESR-3200)

3. POWER-ACTUATED FASTENERS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:

   a. SIMPSON STRONG-TIE "GAS ACTUATED PINS" (ICC-ES ESR-2811)
   b. SIMPSON STRONG-TIE "POWDER ACTUATED PINS" (ICC-ES ESR-2138)
   c. HILTI "UNIVERSAL KNURLED SHANK FASTENERS" X-U (ICC ESR-2269)
   d. DEWALT "TRAK-IT C5", GAS ACTUATED (ICC-ES-ESR 3275)

B. HOLLOW CONCRETE MASONRY

1. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC106. PRE-APPROVED PRODUCTS INCLUDE:

   a. SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-1056)
   b. SIMPSON STRONG-TIE "TITEN TURBO" (IAPMO-UES ER-716)

2. ADHESIVE FOR REBAR AND ANCHORS WITH SCREEN TUBES SHALL HAVE BEEN TESTED FOR USE IN ACCORDANCE WITH ICC-ES AC58. THE APPROPRIATE SCREEN TUBE SHALL BE USED AS RECOMMENDED BY THE ADHESIVE MANUFACTURER. PRE-APPROVED PRODUCTS INCLUDE:

   a. SIMPSON STRONG-TIE "SET-XP" (IAPMO-UES ER-265)
   b. HILTI HIT-HY 270 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM (ICC ESR-4143); STEEL ANCHOR ELEMENT SHALL BE HILTI-HAS CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR. THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
   c. DEWALT AC100+ GOLD (ICC-ES ESR-3200)

3. POWER-ACTUATED FASTENERS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:

   a. SIMPSON STRONG-TIE "GAS ACTUATED PINS" (ICC-ES ESR-2811)
   b. SIMPSON STRONG-TIE "POWDER ACTUATED PINS" (ICC-ES ESR-2138)
   c. HILTI "DRYWALL TRACK FASTENERS" X-DW (ICC ESR-1663)

C. UNREINFORCED BRICK MASONRY (URM): ADHESIVE FOR REBAR AND ANCHORS WITH SCREEN TUBES SHALL HAVE BEEN TESTED FOR USE IN ACCORDANCE WITH ICC-ES AC60. THE APPROPRIATE SCREEN TUBE SHALL BE USED AS RECOMMENDED BY THE ADHESIVE MANUFACTURER. PRE-APPROVED PRODUCTS INCLUDE:

1. SIMPSON STRONG-TIE "ET-HP" (ICC-ES ESR-3638)
2. HILTI HIT-HY 270 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM (ICC ESR-4143); STEEL ANCHOR ELEMENT SHALL BE HILTI-HAS CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR. THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
3. DEWALT "AC100+ GOLD" (ICC-ES ESR-4105)

12.5 FOR FASTENING INTO STEEL: POWER-ACTUATED FASTENERS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:

A. SIMPSON STRONG-TIE "GAS ACTUATED PINS" (ICC-ES ESR-2811)
B. SIMPSON STRONG-TIE "POWDER ACTUATED PINS" (ICC-ES ESR-2138)
C. HILTI FASTENERS IN LIEU OF #12 TEK SCREWS:

   1. HILTI S-MD 12-24X1-5/8 HWH5 SCREWS FOR STUDS, JOISTS AND BEAMS 16 GA ≤ TF ≤ 1/4"
   2. HILTI X-HSN 24 PINS FOR JOISTS AND BEAM 1/8" ≤ TF ≤ 3/8"
   3. HILTI X-ENP 19 L15 PINS FOR BEAMS TF ≥ 1/4".

D. DEWALT "POWER DRIVEN FASTENERS", POWDER ACTUATED (ICC-ES-ESR 2024)
E. DEWALT "TRAK-IT C5", GAS ACTUATED (ICC-ES-ESR 3275)

12.6 REFER TO THE PROJECT BUILDING CODE AND/OR EVALUATION REPORT FOR SPECIAL INSPECTIONS AND PROOF LOAD REQUIREMENTS.

12.7 SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE LISTED MAY BE SUBMITTED BY THE CONTRACTOR TO THE EOR FOR REVIEW NO LESS THAN TWO WEEKS PRIOR TO BID. SUBSTITUTIONS WILL ONLY BE CONSIDERED FOR PRODUCTS HAVING A RESEARCH REPORT RECOGNIZING THE PRODUCT FOR THE APPROPRIATE APPLICATION UNDER THE PROJECT BUILDING CODE. SUBSTITUTION REQUESTS SHALL INCLUDE CALCULATIONS PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATE THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, AND INSTALLATION TEMPERATURE.

12.8 INSTALL ANCHORS PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII), OR AS INCLUDED IN THE ANCHOR PACKAGING.

12.9 THERE IS TO BE NO GAP BETWEEN CONNECTED PARTS, UNLESS SHIMS ARE PROVIDED. ANCHORS ARE TO SECURE CONNECTED PARTS TOGETHER SNUGLY AND SECURELY.

12.10 OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING THE MANUFACTURER'S INSTRUCTIONS AND INSTALLER MUST BE ACI CERTIFIED.

12.11 THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

12.12 THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S SPECIAL INSPECTION AGENCY FOR CONTINUOUS SPECIAL INSPECTION OF ADHESIVE ANCHORS AND PERIODIC INSPECTION OF MECHANICAL ANCHORS, SEE SPECIAL INSPECTION SCHEDULE FOR ADDITIONAL INFORMATION.

12.13 ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

12.14 EXISTING REINFORCING BARS AND/OR CONDUIT IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS AND/OR REINFORCING TO AVOID CONFLICTS WITH EXISTING REBAR AND/OR CONDUIT. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS BY GPR, X-RAY, HILTI PS 1000 X-SCAN, CHIPPING, OR OTHER MEANS.

13.0 PREFABRICATED CANOPY

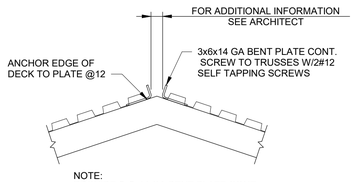
13.1 PROTECTIVE COVER WALKWAYS AND PREFABRICATED CANOPIES SHALL BE CONSIDERED A DEFERRED SUBMITTAL TO THE BUILDING INSPECTION AGENCY.

13.2 PROTECTIVE COVER WALKWAYS AND PREFABRICATED CANOPIES SHALL BE FULLY ENGINEERED BY THE CANOPY MANUFACTURER AND CONTRACTOR UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

13.3 CALCULATIONS SHALL ACCOMPANY THE SHOP DRAWINGS AND SHALL INCLUDE DESIGN OF ALL WALKWAY/CANOPY SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO, FOOTINGS, MEMBERS, CONNECTIONS AND ATTACHMENT TO STRUCTURE.

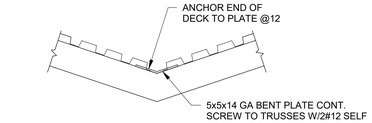
13.4 PROTECTIVE COVER WALKWAY AND PREFABRICATED CANOPY SHOP DRAWINGS SHALL BE SUBMITTED TO INCLUDE A FULL DESCRIPTION OF ALL CANOPY MEMBERS, INCLUDING COLUMNS, BEAMS, FOOTINGS, FACIA, ETC. SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

13.5 IF PROTECTIVE COVER WALKWAYS AND PREFABRICATED CANOPIES SHALL BE ATTACHED TO BUILDING, MINIMUM 16" DEEP BOND BEAM IS TO BE PROVIDED WITHIN THE LOAD-BEARING MASONRY WALL FOR WALKWAY AND CANOPY ANCHORAGE AS REQUIRED. MINIMUM 16" DEEP BOND BEAM IS TO BE CONSTRUCTED ON (2) 8" DEEP FORM BLOCKS WITH 2#5 CONTINUOUS IN EACH COURSE. CONNECTIONS TO BUILDING BY CANOPY MANUFACTURER, CONTRACTOR COORDINATE. DO NOT ANCHOR WALKWAY AND CANOPY TO VENEER. ANCHOR WALKWAY AND CANOPY INTO LOAD-BEARING MASONRY WALL WITH THREADED RODS IN PIPE SLEEVES. FOR ADDITIONAL INFORMATION, SEE ARCHITECTURAL DRAWINGS.



NOTE:
PROVIDE 5x5x14 GA BENT PLATE CONT IN AREAS W/NO VENT. SCREW TO TRUSSES W/2#12 SELF TAPPING SCREWS EACH LEG.

RIDGE OR HIP AT VENT



VALLEY

RIDGE, HIP AND VALLEY SUPPORTS FOR METAL DECK

TYPICAL

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tel 205-824-5200
fax 205-824-5280
Job Number **23-277**

Revisions

No.	Date	Description

ALABAMA REGISTERED PROFESSIONAL ENGINEER No. 22596 CHARLES WILLIAMS
8/30/2024
SEAL

100% CDs

IRONDALE FIRE STATION #3
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

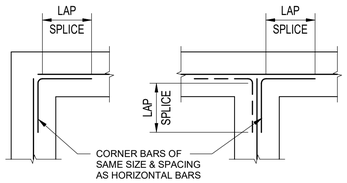
SHEET TITLE:
GENERAL NOTES AND TYPICAL DETAILS

PROJECT NUMBER:
CWA No. 2023-01

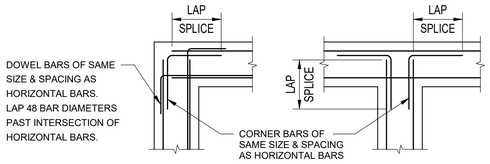
DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S1.2



SINGLE LAYER REINFORCEMENT

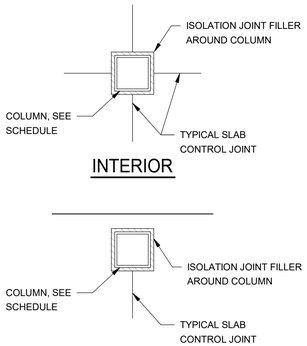


DOUBLE LAYER REINFORCEMENT

NOTE: ALL LAP SPLICES CLASS "B" TENSION

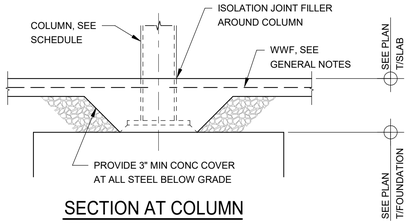
WALL CORNER REINFORCING DETAIL

TYPICAL



ISOLATION JOINT DETAIL

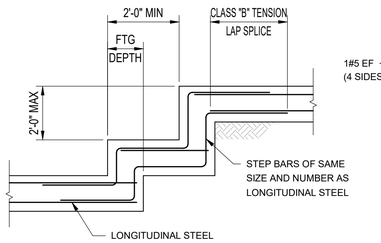
TYPICAL



SECTION AT COLUMN

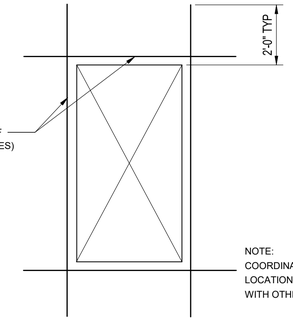
COLUMN/SLAB-JOINT DETAIL

TYPICAL



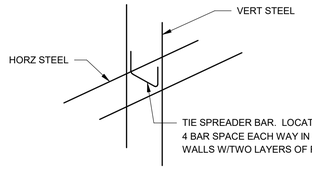
FOOTING STEP DETAIL

TYPICAL



WALL OPENING REINFORCMENT DETAIL

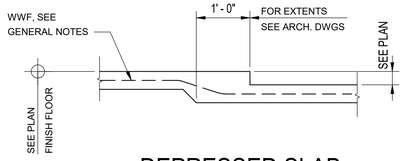
TYPICAL



WALL STEEL TIE-SPREADER DETAIL

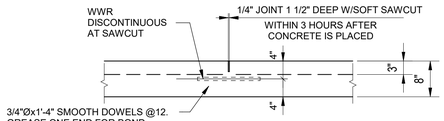
TYPICAL

NOTE:
CONTRACTOR COORDINATE W/ARCHITECT FOR ALL DEPRESSED SLAB AREAS BEFORE SLAB ON GRADE IS PLACED.



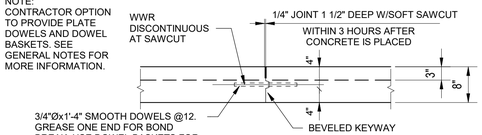
DEPRESSED SLAB ON GRADE DETAIL

TYPICAL



SAWED JOINT

NOTE:
CONTRACTOR OPTION TO PROVIDE PLATE DOWELS AND DOWEL BASKETS. SEE GENERAL NOTES FOR MORE INFORMATION.

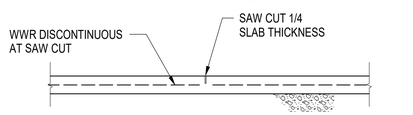


KEYED JOINT

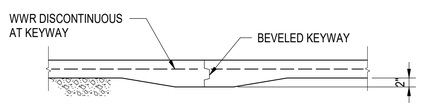
NOTE:
CONTROL JOINT FILLER SEMI-RIGID EPOXY.

8" SLAB ON GRADE CONTROL JOINT DETAILS

TYPICAL
JOINT TYPE IS OPTIONAL



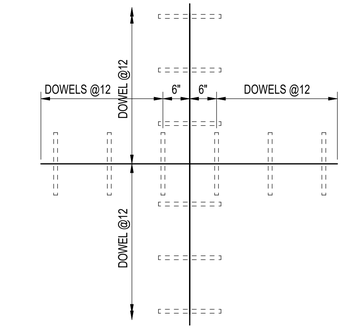
SAWED JOINT



KEYED JOINT

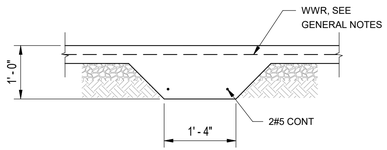
4" SLAB CONTROL JOINT DETAILS

TYPICAL
JOINT TYPE IS OPTIONAL



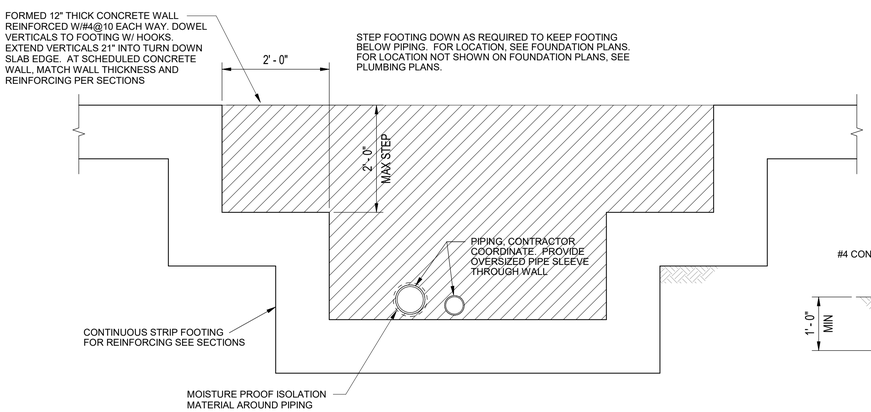
PLAN AT SLAB CONTROL JOINT

TYPICAL



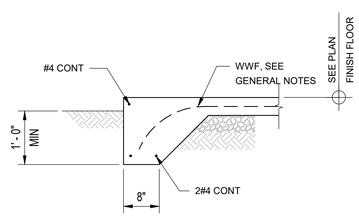
THICKENED SLAB ON GRADE DETAIL

TYPICAL



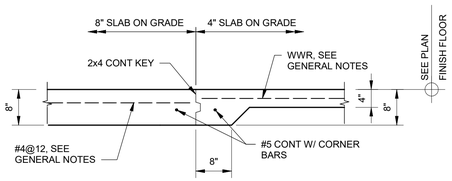
FOOTING/FOUNDATION WALL AT PIPING

TYPICAL



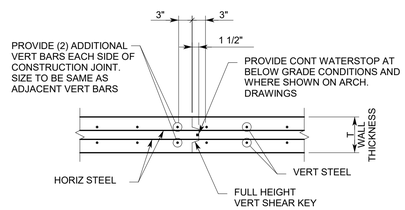
SLAB EDGE DETAIL

TYPICAL



CONSTRUCTION JOINT AT SLAB ON GRADE THICKNESS TRANSITION

TYPICAL



NOTES:
1. SUBMIT PROPOSED WALL JOINT LOCATIONS FOR APPROVAL PRIOR TO POURING WALL. WALL CONSTRUCTION JOINTS SHALL NOT BE LOCATED WITHIN 4'-0" OF WALL CORNERS, EMBED PLATES, OPENINGS, PIPE SLEEVES, BLOCK OUTS, ETC.
2. WHERE WALLS SPAN HORIZONTALLY, JOINTS SHALL BE LOCATED IN MIDDLE THIRD OF WALL SPANS, UNLESS NOTED OTHERWISE. SEE PLANS FOR LOCATIONS WHERE WALLS SPAN HORIZONTALLY.
3. SEE ARCHITECTURAL DRAWINGS FOR TREATMENT OF EXPOSED CONSTRUCTION JOINTS.

WALL CONSTRUCTION JOINT DETAIL

TYPICAL

SDG
STRUCTURAL DESIGN GROUP
300 Chase Park South, Suite 125
Hoover, AL 35244
tel 205-824-5200
fax 205-824-5280
Job Number 23-277

Revisions

No.	Date	Description

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER HCW CRAIG WINN
8/30/2024
SEAL

100% CDs

IRONDALE FIRE STATION #3
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

SHEET TITLE: **TYPICAL DETAILS**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08.30.24**
DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S1.3

MASONRY LINTEL SCHEDULE

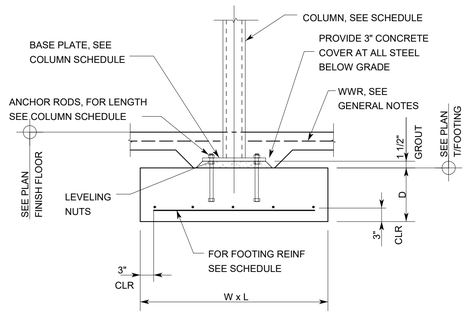
MAXIMUM OPENING WIDTH	STEEL FOR EACH 4" OF WALL THICKNESS	LINTEL DIMENSIONS AND REINFORCING		
		DEPTH	8" WALL	12" WALL
2'-0"	L3 1/2x3 1/2x3/8	8	1#4 BOT	1#4 BOT
4'-0"	L3 1/2x3 1/2x3/8	8	1#4 BOT	2#4 BOT
6'-0"	L3 1/2x3 1/2x3/8	8	1#5 BOT & 1#4 TOP	2#5 BOT & 2#4 TOP
8'-0"	L5x3 1/2x3/8 (LONG LEG VERTICAL)	16	1#6 BOT & 1#5 TOP	2#5 BOT & 2#4 TOP
10'-0"	L6x3 1/2x3/8 (LONG LEG VERTICAL)	16	1#7 BOT & 1#5 TOP	2#6 BOT & 2#4 TOP
12'-0"	L6x4x7/16 (LONG LEG VERTICAL)	16	1#8 BOT & 1#5 TOP	2#7 BOT & 2#5 TOP

1. DO NOT USE THIS SCHEDULE IF CONCENTRATED LOAD IS APPLIED TO THE LINTEL AT A HEIGHT LESS THAN HALF THE SPAN ABOVE THE LINTEL, OR IF STACK BOND IS SPECIFIED.
2. PROVIDE 8" MINIMUM BEARING FOR ALL LINTELS. FOR LINTELS GREATER THAN 6'-0" FILL CELLS SOLID AT EACH SIDE OF OPENING.
3. ALL EXPOSED LINTEL ANGLES TO BE HOT-DIP GALVANIZED.
4. SHORE LINTEL UNTIL MORTAR AND GROUT HAVE SET AND CURED.
5. ANGLE SIZES SHOWN ABOVE ARE MINIMUM SIZES FOR OPENING WIDTH. CONTRACTOR COORDINATE WITH ARCH. DRAWINGS FOR WALL THICKNESS AND ADJUST ANGLE SIZE AS NECESSARY TO PROVIDE VENEER SUPPORT.
6. FOR LINTELS SUPPORTING PRECAST, PROVIDE L7x4x7/16 (LLV).

TENSION LAP SPLICE LENGTHS

BAR SIZE	f_C = 3000 PSI				f_C = 4000 PSI			
	TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
	A	B	A	B	A	B	A	B
#3	22"	28"	17"	22"	19"	24"	15"	19"
#4	29"	37"	22"	29"	25"	32"	19"	25"
#5	36"	47"	28"	36"	31"	40"	24"	31"
#6	43"	56"	33"	43"	37"	48"	29"	37"
#7	63"	81"	48"	63"	54"	70"	42"	54"
#8	72"	93"	55"	72"	62"	80"	48"	62"
#9	81"	105"	62"	81"	70"	91"	54"	70"
#10	91"	118"	70"	91"	79"	102"	61"	79"
#11	101"	131"	78"	101"	87"	113"	67"	87"

TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF CONCRETE CAST BELOW THE REINFORCEMENT.



COLUMN BASE AND FOOTING DETAIL

TYPICAL

COLUMN SCHEDULE

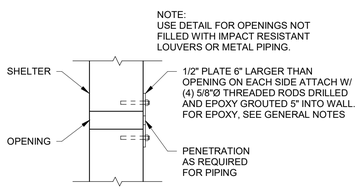
COLUMN DESIGNATION		C1	C2	C3
COLUMN	SIZE	HSS 6x6x3/8	HSS 6x6x1/2	HSS 10x10x1/2
	BASE PLATE	3/4x12x12	3/4x12x12	3/4x16x16
	ANCHOR RODS	(4) 3/4"Ø W/ 9" EMBEDMENT	(4) 3/4"Ø W/ 12" EMBEDMENT	(4) 3/4"Ø W/ 12" EMBEDMENT
	NOTES	1	1	1

NOTES:
1. PROVIDE 3" CONCRETE COVER AT ALL STEEL BELOW GRADE.

MASONRY REINFORCING LAP SPLICE LENGTHS

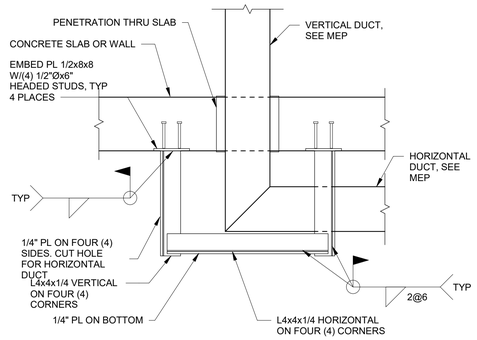
BAR SIZE (#)	CENTERED (IN.)	EDGE (IN.)
3	18.0	18.0
4	24.0	29.0
5	30.0	45.0
6	43.0	54.0
7	60.0	63.0
8	72.0	72.0
9	82.0	82.0

NOTES:
1. LAP SPLICE LENGTHS APPLY TO BOTH HORIZONTAL AND VERTICAL REINFORCING.
2. REINFORCEMENT LARGER THAN NO. 9 BAR SHALL BE SPLICED USING MECHANICAL CONNECTIONS IN ACCORDANCE WITH ACI 530 & ACI 530.1.



SHELTER PIPE PENETRATION

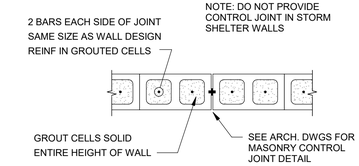
TYPICAL



STORM SHELTER LARGE PIPE CLUSTER OR DUCT PENETRATION

TYPICAL

NOTE:
THESE DETAILS ARE FOR REFERENCE ONLY, SEE MEP DRAWINGS FOR ACTUAL DETAILS. MAY NOT BE REQUIRED IF FEMA RATED LOUVERS ARE PROVIDED.



PLAN

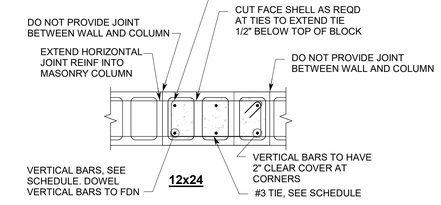
MASONRY CONTROL JOINT

3/4"=1'-0"

FOOTING SCHEDULE

FOOTING DESIGNATION		F3.0	F4.0	F6.0	
FOOTING	SIZE (LxW)	3'-0"x3'-0"	4'-0"x4'-0"	6'-0"x6'-0"	
	DEPTH (D)	1'-0"	1'-0"	1'-6"	
	REINF EW (BOT)	4#4	4#5	6#5	
	NOTES	1	1	1	

NOTES:
1. PROVIDE SCHEDULED REINFORCEMENT ON TOP AND BOTTOM OF FOOTING.



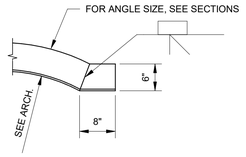
MASONRY COLUMN (MC)

TYPICAL

MASONRY COLUMN SCHEDULE

COLUMN DESIGNATION		MC1	
COLUMN	SIZE	12x16	
	VERICALS	4#5	
	TIES	#3@8	
	NOTES	1,2,3	

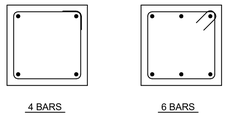
NOTES:
1. SEE COLUMN TIE DETAIL THIS SHEET.
2. DOWEL VERTICAL STEEL INTO FOOTING THE THICKNESS OF THE FOOTING MINUS 3" WITH STANDARD HOOK. LAP DOWELS WITH VERTICALS 72 BAR DIA.
3. EXTEND VERTICALS FULL HEIGHT OF WALL UNLESS NOTED.



CURVED LINTEL DETAIL

TYPICAL

NOTE:
CONTRACTOR COORDINATE CURVED LINTEL WITH ARCH. DRAWINGS.



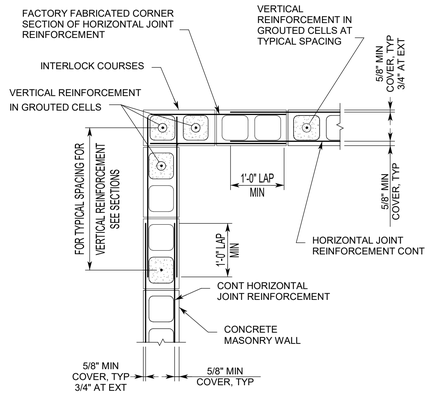
4 BARS 6 BARS

NOTE: ALTERNATE POSITION OF TIE HOOKS IN PLACING SUCCESSIVE SETS OF TIES

COLUMN TIE DETAILS

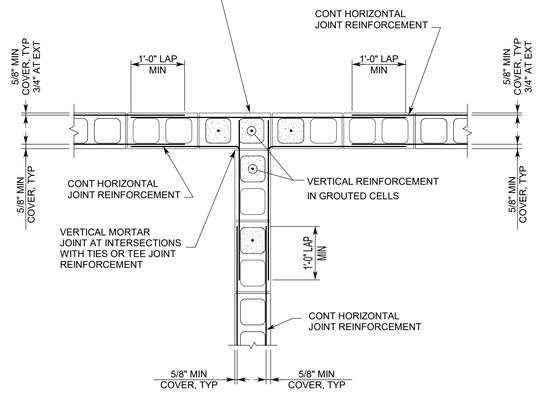
TYPICAL

ANCHOR WALLS BY:
1. INTERSECTING 50% OF UNITS OVERLAPPING WITH ALTERNATE UNITS BEARING 3" MINIMUM ON THE UNIT BELOW.
2. GALV PL 1/4x1 1/2x2'-4" TIE @ 4'-0" OC WITH ENDS BENT 2", ALTERNATING ENDS UP AND DOWN.
3. FACTORY FABRICATED TEE JOINT REINFORCING SPACED 8" OC AND EXTENDING 30" MINIMUM IN EACH DIRECTION AT THE INTERSECTION.



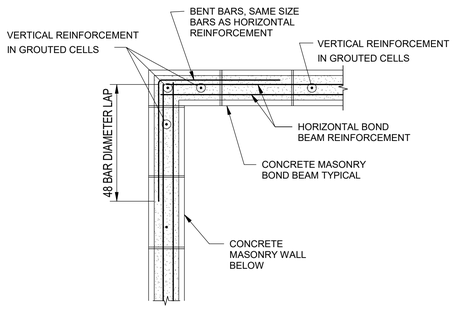
PLAN SHOWING JOINT REINFORCEMENT AT WALL CORNER

TYPICAL



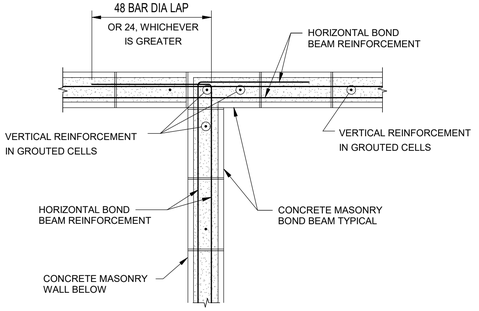
PLAN SHOWING JOINT REINFORCING AT STRUCTURAL WALL INTERSECTION

TYPICAL



PLAN SHOWING BOND BEAM REINFORCEMENT AT WALL CORNER

TYPICAL



PLAN SHOWING BOND BEAM AT STRUCTURAL WALL INTERSECTION

TYPICAL

SDG
STRUCTURAL DESIGN GROUP
300 Chase Park South, Suite 125
Hoover, AL 35244
tel 205-824-5200
fax 205-824-5280
Job Number **23-277**

Revisions

No.	Date	Description

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER CRAIG WINN
8/30/2024
SEAL

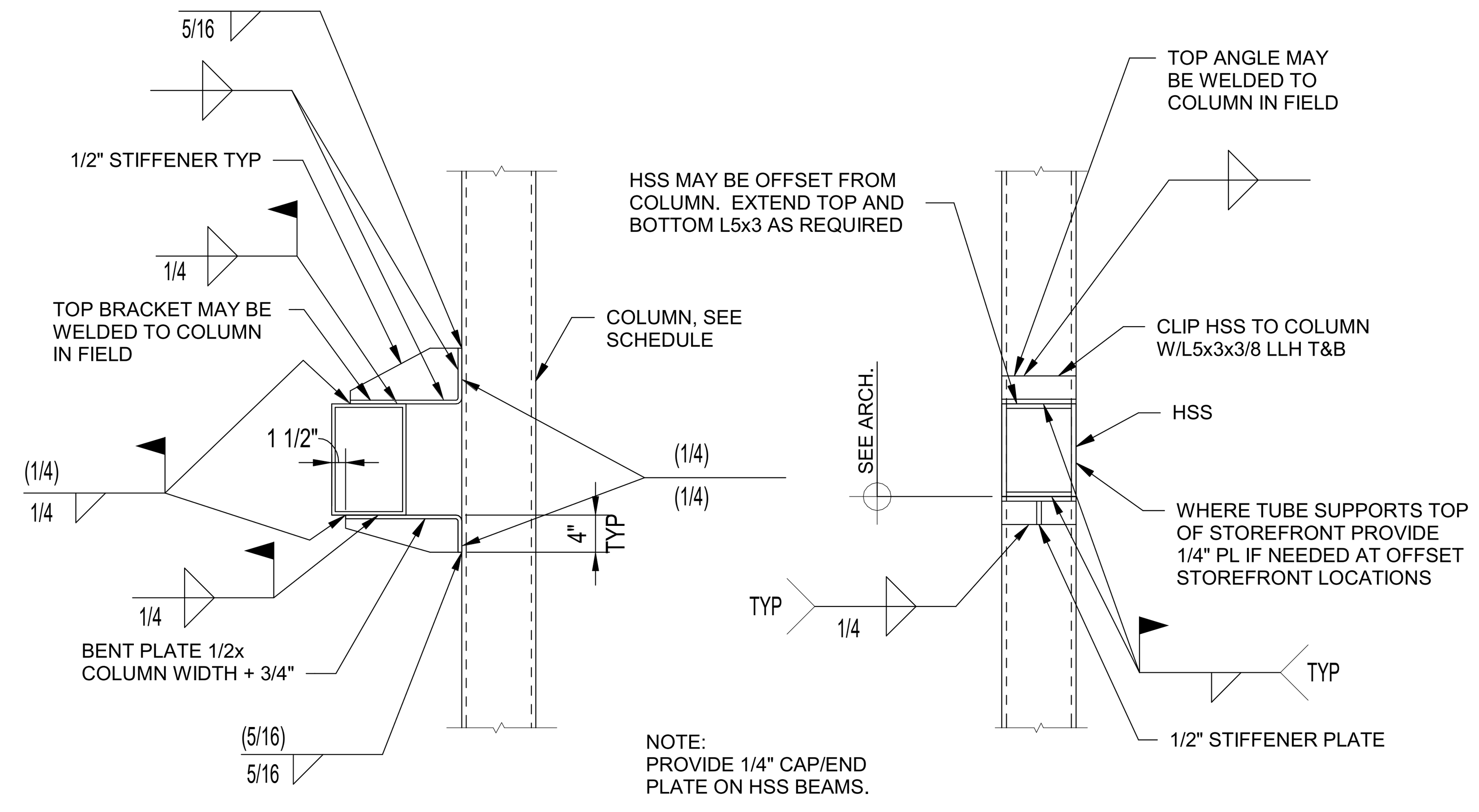
100% CDs

IRONDALE FIRE STATION #3
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CWA
CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

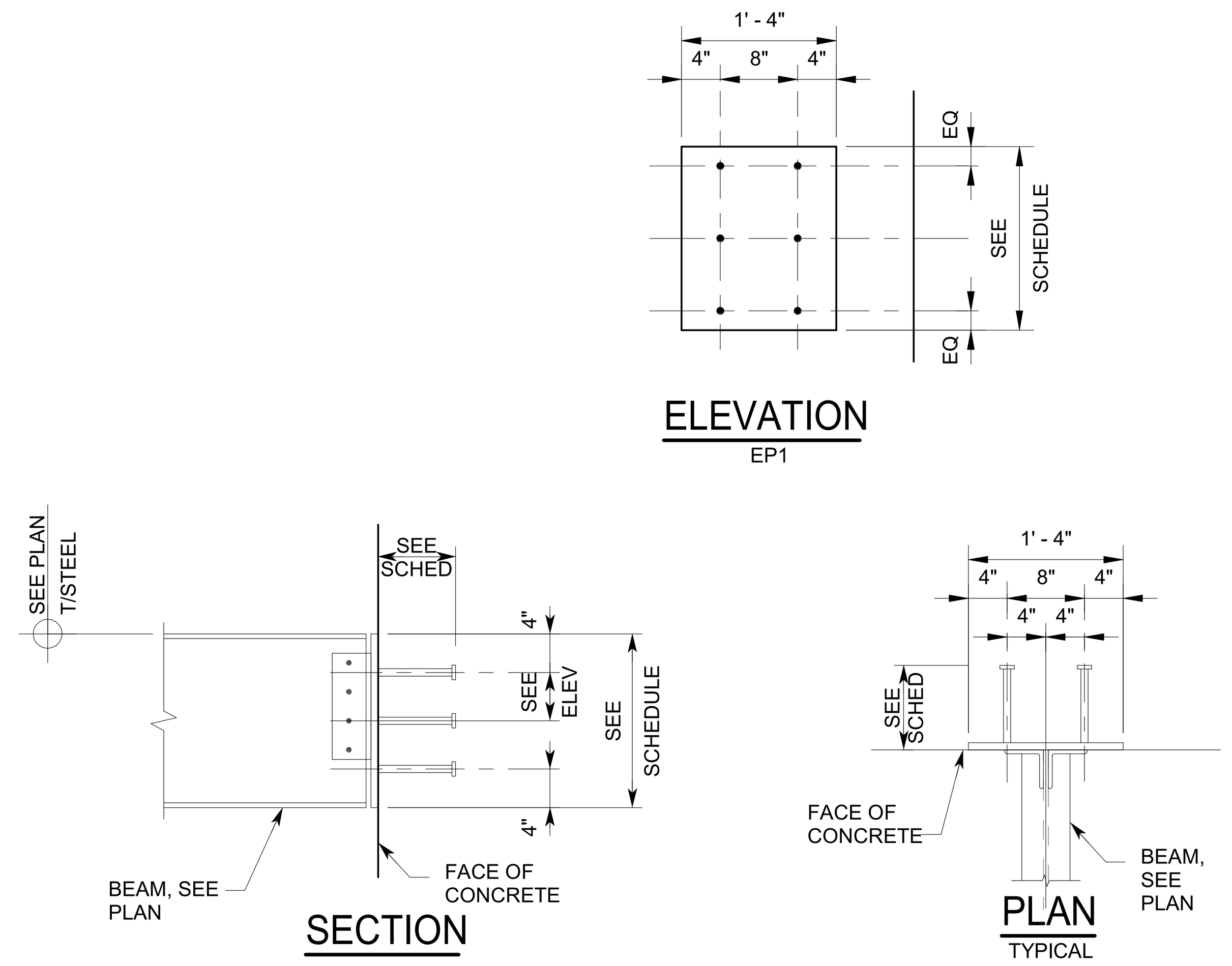
SHEET TITLE: **TYPICAL DETAILS**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08.30.24**
DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S1.4



HSS TO COLUMN CONNECTION

TYPICAL



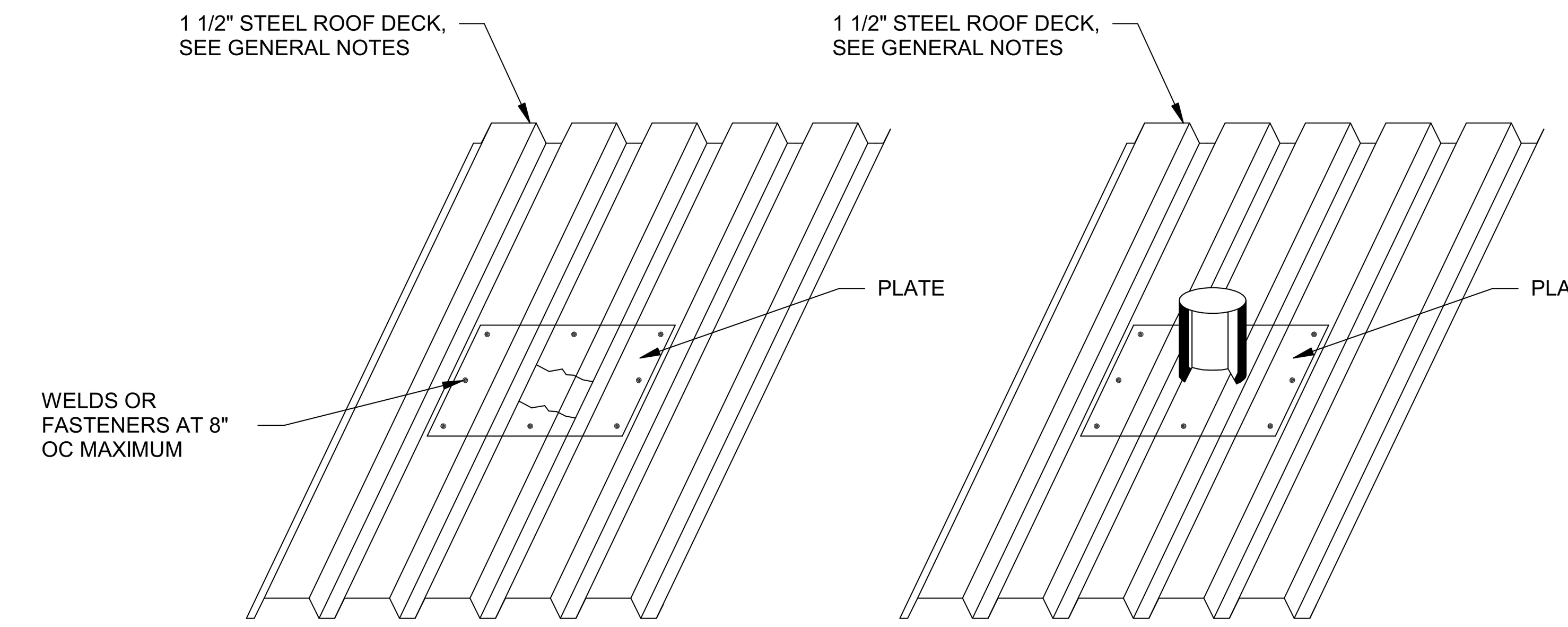
NOTE:
BEAM CONNECTION TO BE FIELD WELDED TO EMBED PLATE. CONNECTION DESIGN BY CONTRACTOR. CONTRACTOR TAKE EXTREME CARE NOT TO OVER HEAT EMBED PLATE DURING WELDING PROCESS.

EMBED PLATE DETAIL AND SCHEDULE

TYPICAL

EMBED PLATE SCHEDULE

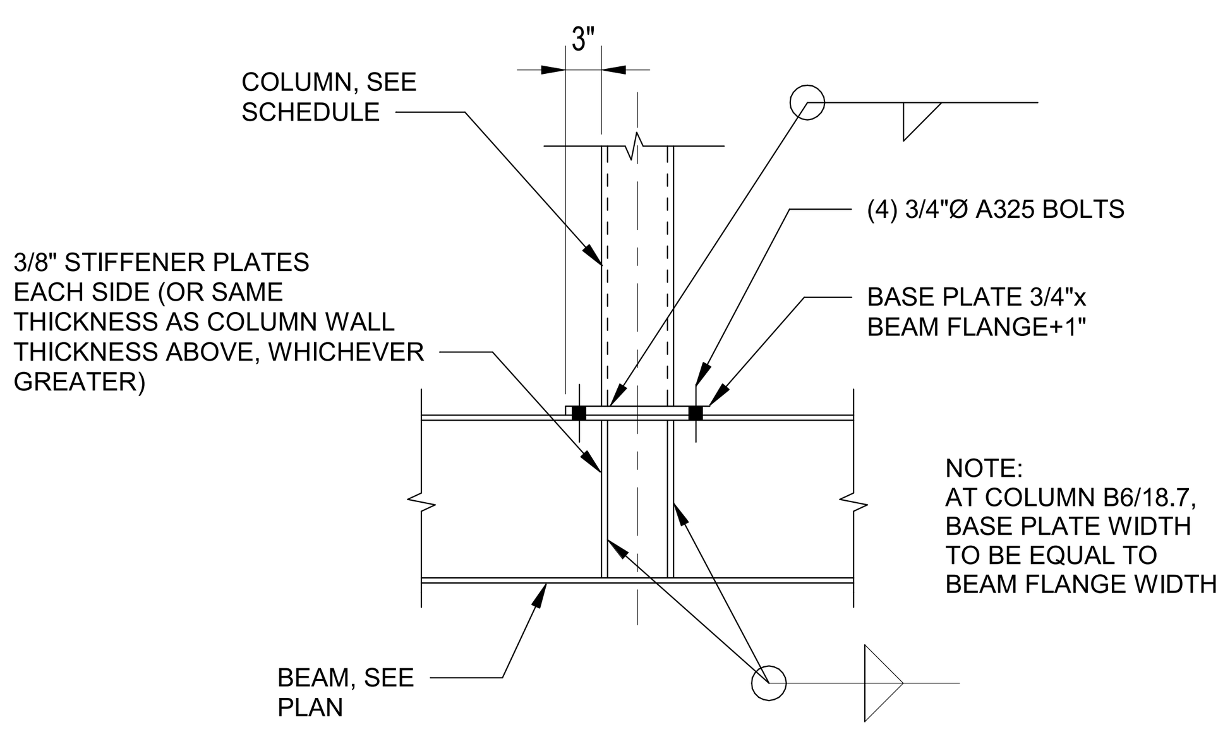
TYPE	PLATE SIZE	HEADED STUDS
EP1	3/4x16x2'-0"	(6) 3/4"Øx9"



NOTE:
1. UP TO 6" - NO REINFORCING OR 0.045" (18 GA) MINIMUM PLATE THICKNESS.
2. 6" TO 8" DIAMETER - 0.045" (18 GA) MINIMUM PLATE THICKNESS.
3. 8" TO 13" DIAMETER - 0.057" (16 GA) MINIMUM PLATE THICKNESS.
4. OVER 13" - PROVIDE FRAME OPENING PER TYPICAL DETAIL.

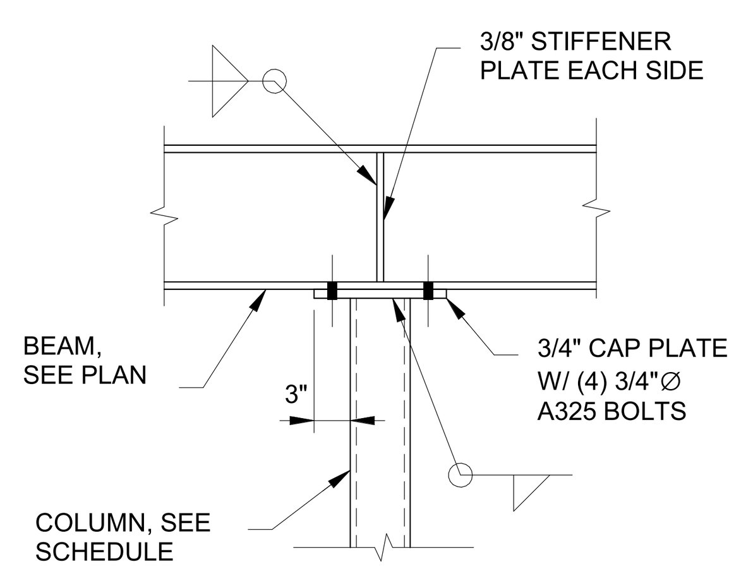
ROOF DECK PENETRATIONS

TYPICAL



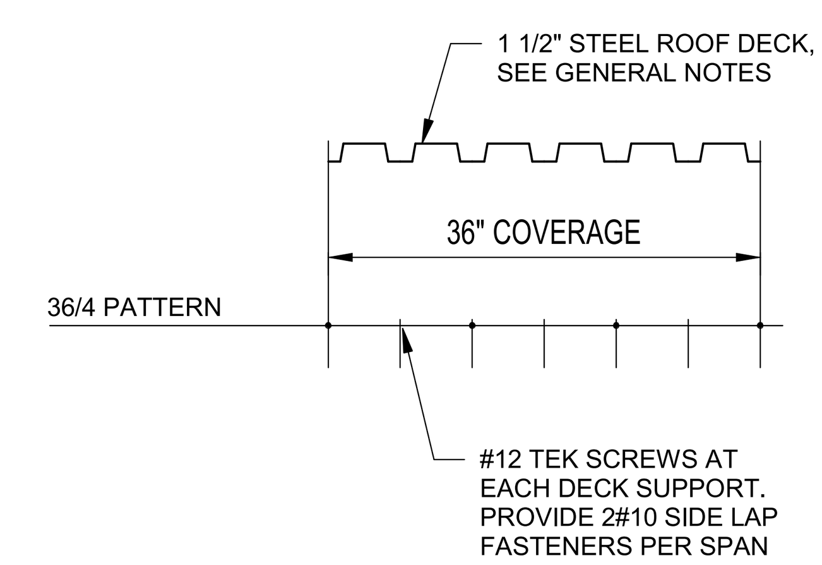
COLUMN TRANSFER DETAIL

TYPICAL



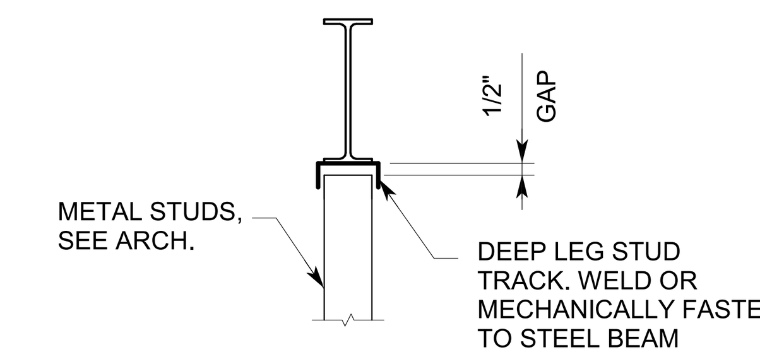
COLUMN CAP DETAIL

TYPICAL



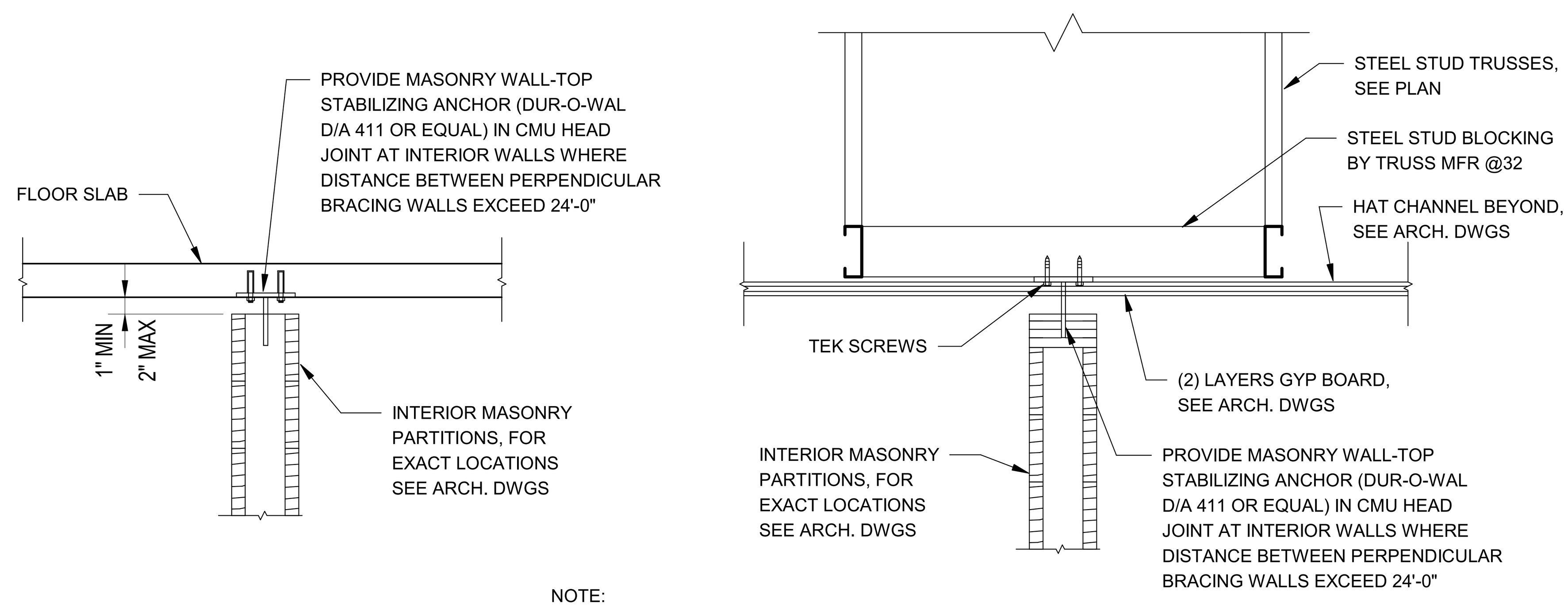
1 1/2" STEEL ROOF DECK ATTACHMENT PATTERN LAYOUT

FOR DECK OVER COLD-FORMED TRUSSES



STUD WALL ANCHORAGE TO STEEL BEAM

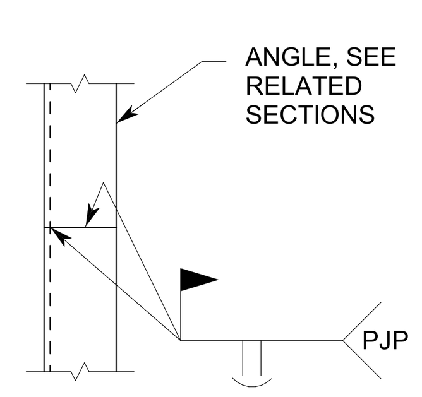
TYPICAL



NOTE:
1. ALL INTERIOR WALLS TO BE BUILT TIGHT TO UNDERSIDE OF CONCRETE ABOVE.

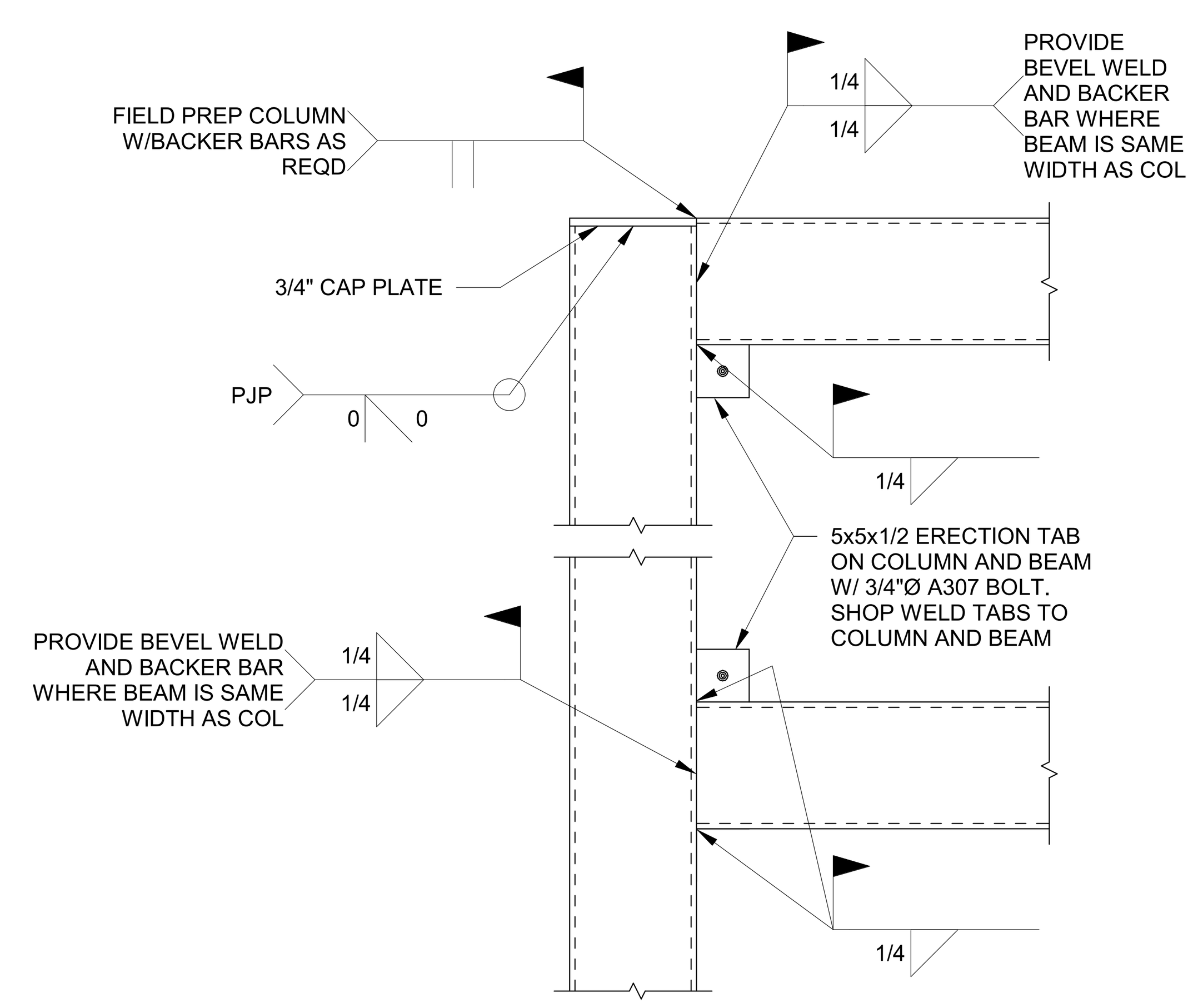
INTERIOR MASONRY WALL BRACING DETAILS

TYPICAL



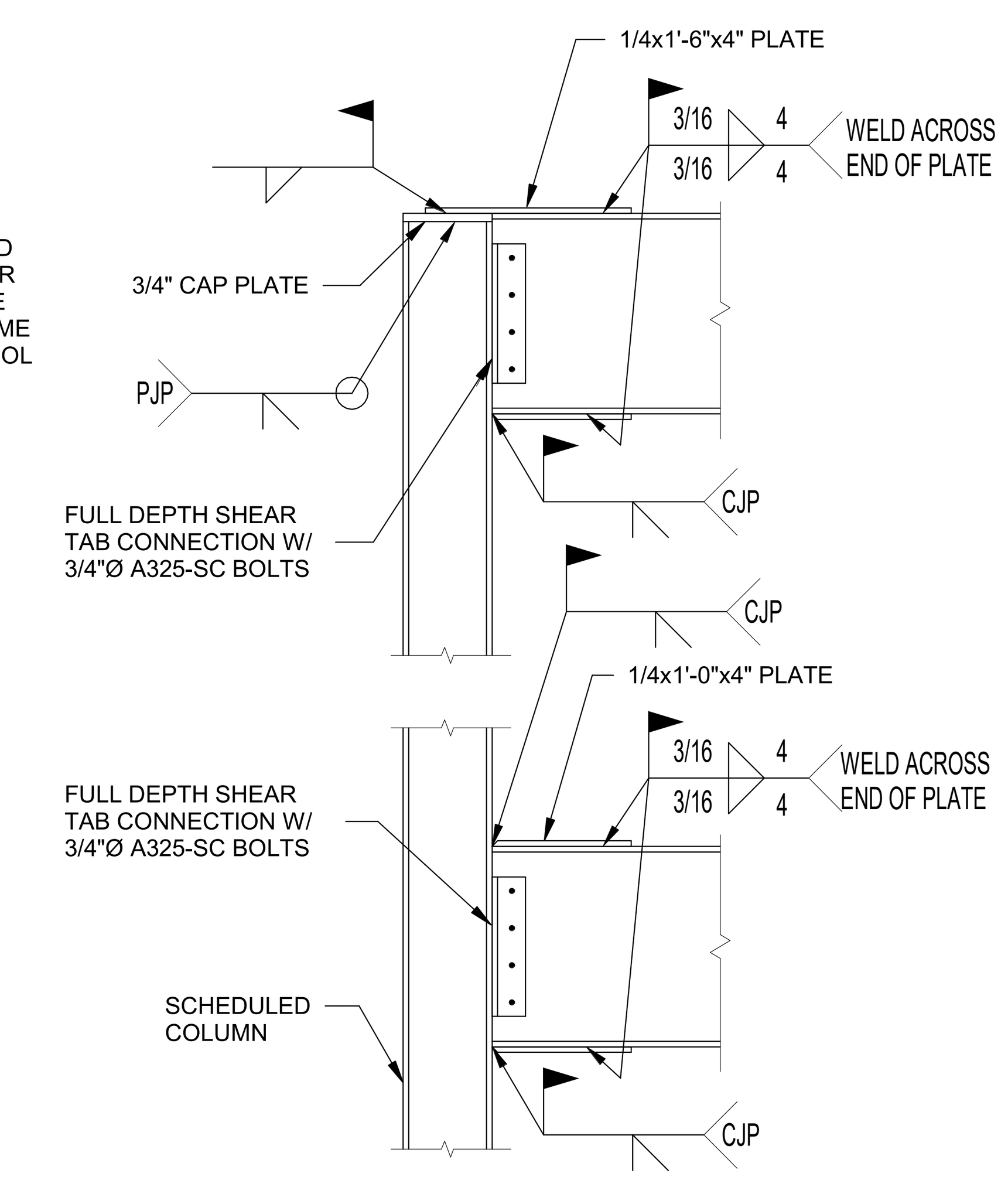
ANGLE OR PLATE SPLICE DETAIL

TYPICAL AT ALL SPLICES



HSS MOMENT CONNECTION

3/4"=1'-0"



WIDE FLANGE BEAM TO TUBE COLUMN MOMENT CONNECTION (MC)

TYPICAL

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Job Number 23-277

Revisions		
No.	Date	Description

SEAL: H. CRAIG WINN, P.E. — No. 22596 — 8/30/2024

100% CDs

IRONDALE FIRE STATION #3
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
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SHEET TITLE: TYPICAL DETAILS
PROJECT NUMBER: CWA No. 2023-01
DATE: 08.30.24
DRAWN BY: TRM
CHECKED BY: HCW

SHEET NUMBER
S1.5

SDG
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Revisions

No.	Date	Description

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER CRAIG WINN
8/30/2024
SEAL

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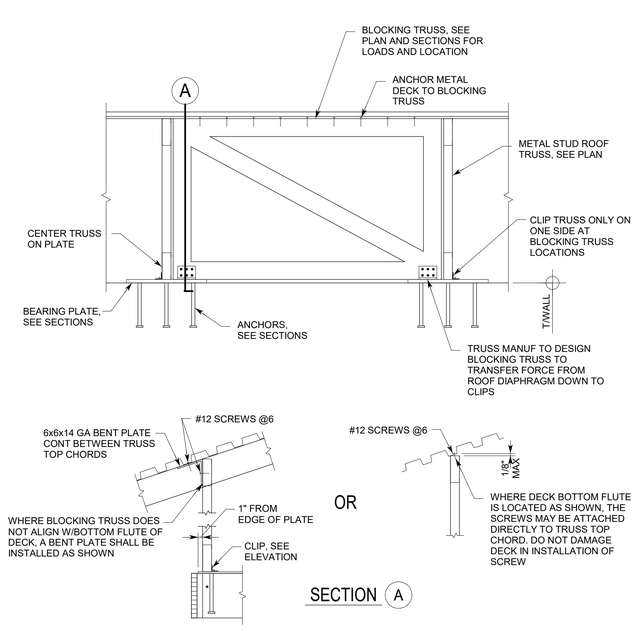
PIPING WEIGHTS

PIPE DIAMETER	PIPE WT PER/FOOT (PLF)	FLUID WT PER/FOOT (PLF)	INSULATION & HANGERS (PLF)	TOTAL WT PER/FOOT (PLF)
4"	10.80	6.10	2.00	18.90
6"	19.00	13.80	3.00	35.80
8"	28.60	23.90	4.00	56.50
10"	40.50	37.50	4.00	82.00
12"	49.60	54.00	5.00	108.60
14"	54.60	65.70	5.00	125.30
16"	62.60	87.10	5.00	154.70

NOTES:
1. FROM ANVIL INTERNATIONAL PIPE FITTERS HANDBOOK.
2. ALL PIPES ASSUMED TO BE SCHEDULE 40.
3. FLUID WEIGHT INCLUDES ALLOWANCE FOR GLYCOL CONCENTRATION.
4. PIPING SUPPORT AND THRUST BRACING REQUIREMENTS SHALL BE COORDINATED BY THE GENERAL CONTRACTOR WITH THE STEEL/JOIST FABRICATOR. SEE MECHANICAL/PLUMBING DRAWINGS FOR PIPING SUPPORT AND THRUST BRACING REQUIREMENTS.
5. FOR PIPE SIZES NOT LISTED, CONTACT STRUCTURAL ENGINEER.



COLD-FORMED STEEL TRUSS BLOCKING TRUSS DETAIL

NOT TO SCALE
ALTERNATE CONDITION

COMPONENTS AND CLADDING WIND LOADS FOR WALLS (PSF)

H = 27'-6" 0:12 Roof Slope	EFFECTIVE WIND AREA (FT2)	119 MPH VELOCITY (3-SEC. GUST) ZONES 4 & 5	ZONES 4 (Int.)	ZONES 5 (Edge)
	10	37.7	-40.9	-50.3
	20	36.1	-39.2	-47.0
	50	33.9	-37.0	-42.6
	100	32.2	-35.3	-39.3
	200	30.5	-33.6	-35.9
	500	28.3	-31.5	-31.5

NOTES:
1. WIDTH OF EDGE STRIP 'a' = 7'-10".
2. VALUES SHOWN ABOVE HAVE BEEN ADJUSTED FOR BUILDING HEIGHT AND EXPOSURE ACCORDING TO ASCE 7-16 STANDARD TABLE 30.3-1. VALUES SHOWN ARE ULTIMATE.
3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES.
4. EFFECTIVE WIND AREA IS THE SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN ONE-THIRD THE SPAN LENGTH.
5. WIND PRESSURES IN THESE TABLES SHALL BE MULTIPLIED BY 0.6 TO OBTAIN NOMINAL WIND PRESSURES.

COMPONENTS AND CLADDING WIND LOADS FOR ROOF (PSF)

119 MPH VELOCITY (3-SEC. GUST)		ROOF					OVERHANG				
H = 27'-6" 0:12 Roof Slope	EFFECTIVE WIND AREA (FT2)	Positive Max. Net Pressure 'p' (PSF)	Zone 1' (Int.) (PSF)	Zone 1 (Int.) (PSF)	Zone 2 (Edge) (PSF)	Zone 3 (Corner) (PSF)	Zone 1' & 1 (Int.) - Max. Net Pressure 'p' (PSF)	Zone 2 (Edge) - Max. Net Pressure 'p' (PSF)	Zone 3 (Corner) - Max. Net Pressure 'p' (PSF)		
	10	16.8	-37.7	-65.7	-86.7	-118.1	-59.4	-80.4	-111.8		
	20	16.0	-37.7	-61.4	-81.1	-107.0	-58.4	-72.9	-98.8		
	50	16.0	-37.7	-55.6	-73.7	-92.2	-57.0	-63.1	-81.6		
	100	16.0	-37.7	-51.3	-68.2	-81.1	-55.9	-55.7	-68.6		
	200	16.0	-32.5	-47.0	-62.6	-69.9	-46.9	-48.3	-55.6		
	500	16.0	-25.5	-41.2	-55.2	-55.2	-34.9	-38.4	-38.4		

NOTES:
1. WIDTH OF EDGE STRIP 'a' = 7'-10".
2. VALUES SHOWN ABOVE HAVE BEEN ADJUSTED FOR BUILDING HEIGHT AND EXPOSURE ACCORDING TO ASCE 7-16 STANDARD TABLE 30.3-1. VALUES SHOWN ARE ULTIMATE.
3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES.
4. EFFECTIVE WIND AREA IS THE SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN ONE-THIRD THE SPAN LENGTH.
5. WIND PRESSURES IN THESE TABLES SHALL BE MULTIPLIED BY 0.6 TO OBTAIN NOMINAL WIND PRESSURES.

COMPONENTS AND CLADDING WIND LOADS FOR STORM SHELTER WALLS (PSF)

H = 12'-0" 0:12 Roof Slope	EFFECTIVE WIND AREA (FT2)	250 MPH VELOCITY (3-SEC. GUST) ZONES 4 & 5	ZONES 4 (Int.)	ZONES 5 (Edge)
	10	197.0	-209.2	-245.9
	20	190.5	-202.6	-233.0
	50	181.9	-194.0	-215.9
	100	175.4	-187.4	-202.9
	200	168.9	-180.9	-189.9
	500	160.3	-172.5	-172.5

NOTES:
1. WIDTH OF EDGE STRIP 'a' = 3'-0".
2. VALUES SHOWN ABOVE HAVE BEEN ADJUSTED FOR BUILDING HEIGHT AND EXPOSURE ACCORDING TO ASCE 7-16 STANDARD TABLE 30.3-1. VALUES SHOWN ARE ULTIMATE.
3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES.
4. EFFECTIVE WIND AREA IS THE SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN ONE-THIRD THE SPAN LENGTH.
5. WIND PRESSURES IN THESE TABLES SHALL BE MULTIPLIED BY 0.6 TO OBTAIN NOMINAL WIND PRESSURES.

COMPONENTS AND CLADDING WIND LOADS FOR STORM SHELTER ROOF (PSF)

250 MPH VELOCITY (3-SEC. GUST)		ROOF					OVERHANG				
H = 12'-0" 0:12 Roof Slope	EFFECTIVE WIND AREA (FT2)	Positive Max. Net Pressure 'p' (PSF)	Zone 1' (Int.) (PSF)	Zone 1 (Int.) (PSF)	Zone 2 (Edge) (PSF)	Zone 3 (Corner) (PSF)	Zone 1' & 1 (Int.) - Max. Net Pressure 'p' (PSF)	Zone 2 (Edge) - Max. Net Pressure 'p' (PSF)	Zone 3 (Corner) - Max. Net Pressure 'p' (PSF)		
	10	115.5	-197.0	-305.6	-387.1	-509.4	-230.9	-312.4	-434.7		
	20	111.4	-197.0	-288.8	-365.5	-466.1	-226.8	-283.6	-384.1		
	50	106.0	-197.0	-266.5	-336.8	-408.8	-221.4	-245.4	-317.3		
	100	101.9	-197.0	-249.7	-315.2	-365.5	-217.3	-216.5	-266.8		
	200	101.9	-176.5	-232.8	-293.5	-322.2	-182.2	-187.6	-216.2		
	500	101.9	-149.5	-210.6	-264.9	-264.9	-135.8	-149.4	-149.4		

NOTES:
1. WIDTH OF EDGE STRIP 'a' = 3'-0".
2. VALUES SHOWN ABOVE HAVE BEEN ADJUSTED FOR BUILDING HEIGHT AND EXPOSURE ACCORDING TO ASCE 7-16 STANDARD TABLE 30.3-1. VALUES SHOWN ARE ULTIMATE.
3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES.
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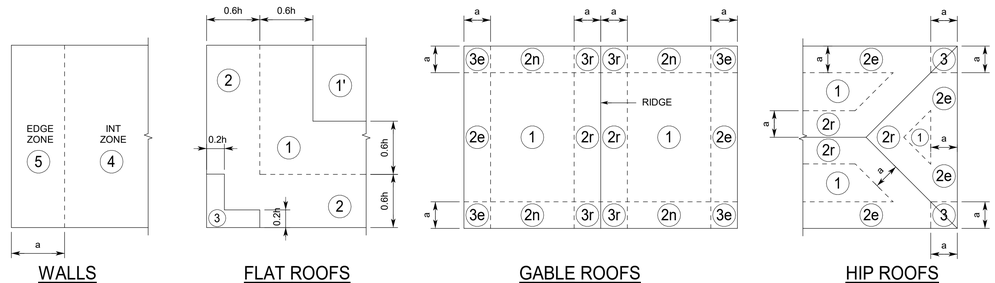
5. WIND PRESSURES IN THESE TABLES SHALL BE MULTIPLIED BY 0.6 TO OBTAIN NOMINAL WIND PRESSURES.



WALLS FLAT ROOFS GABLE ROOFS HIP ROOFS

WALL AND ROOF WIND PRESSURE ZONE DIAGRAMS

TYPICAL

IRONDALE FIRE STATION #3

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FAX: 205-250-0515

SHEET TITLE: **TYPICAL DETAILS**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08.30.24**
DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S1.6

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Job Number **23-277**

Revisions		
No.	Date	Description

100% CDs

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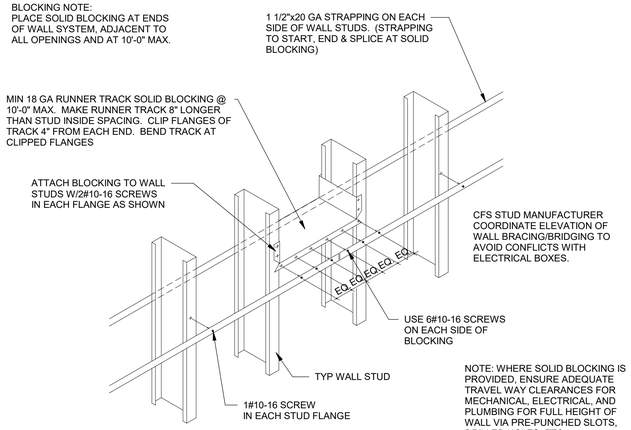
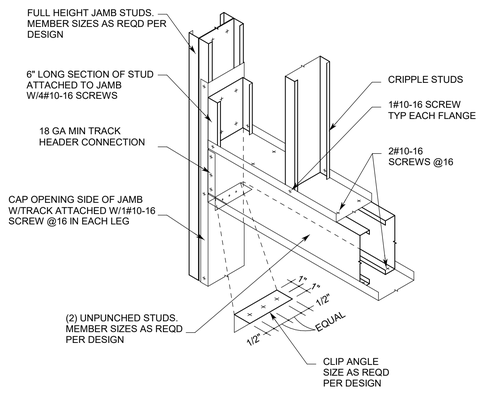
BLOCKING NOTE:
PLACE SOLID BLOCKING AT ENDS OF WALL SYSTEM, ADJACENT TO ALL OPENINGS AND AT 10'-0" MAX.



NOTE: WHERE SOLID BLOCKING IS PROVIDED, ENSURE ADEQUATE TRAVEL WAY CLEARANCES FOR MECHANICAL, ELECTRICAL, AND PLUMBING FOR FULL HEIGHT OF WALL VIA PRE-PUNCHED SLOTS, DRILLED HOLES, ETC.

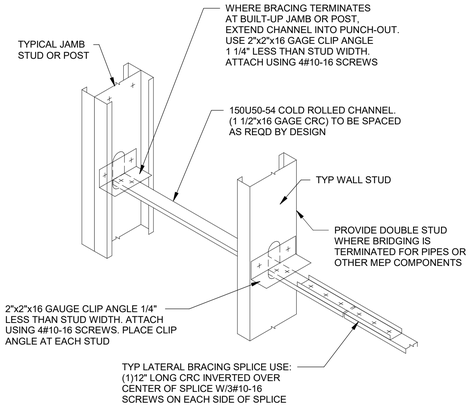
STRAP BRIDGING LATERAL BRACING

TYPICAL



BOX HEADER

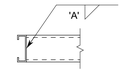
TYPICAL



STUD BRIDGING WITH BRIDGING CLIP

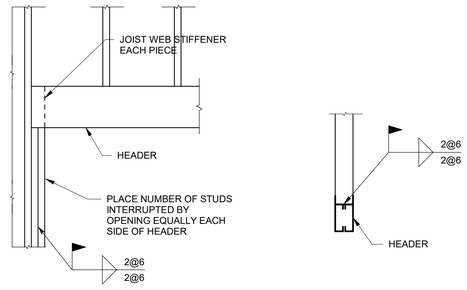
TYPICAL

SECTION THICKNESS (MILS)	(IN.)	(GA.)	'A' WELD SIZE (IN.)	Fy (KSI)	Fu (KSI)
43	0.0451	18	0.0451	33	45
54	0.0566	16	0.0566	33	45
68	0.0713	14	0.0713	33	45
97	0.1017	12	0.1017	33	45
43	0.0451	18	0.0451	50	65
54	0.0566	16	0.0566	50	65
68	0.0713	14	0.0713	50	65
97	0.1017	12	0.1017	50	65



NOTES:
1. Fy = THE MINIMUM YIELD STRENGTH OF THE CONNECTED PARTS
2. Fu = THE MINIMUM TENSILE STRENGTH OF THE CONNECTED PARTS
3. WHEN CONNECTING MATERIALS OF DIFFERENT THICKNESS OR TENSILE STRENGTHS, USE THE WELD SIZE FOR THE LIGHTER GA. SECTION.
4. WELD PROCEDURES ARE BASED ON SECTION E2 OF THE AISI CODE AND AWS D1.3.
5. STEEL STUD SECTIONS MUST BE AT LEAST 18 GA MINIMUM FOR WELDING.

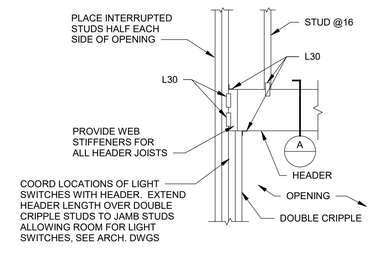
STEEL STUD/JOIST WELDING



ELEVATION SECTION

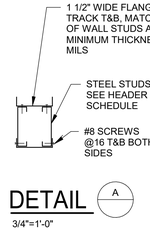
HEADER DETAIL

TYPICAL



OPENING FRAMING

TYPICAL



DETAIL A

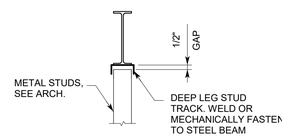
3/4"=1'-0"

HEADER SCHEDULE

LENGTH	3 5/8", 6" AND 8" WALL
4'-0"	(2) 800S162-54
6'-0"	(2) 800S162-54
8'-0"	(2) 800S162-54
10'-0"	(2) 1000S162-54
12'-0"	(2) 1000S162-54
14'-0"	(2) 1200S162-68

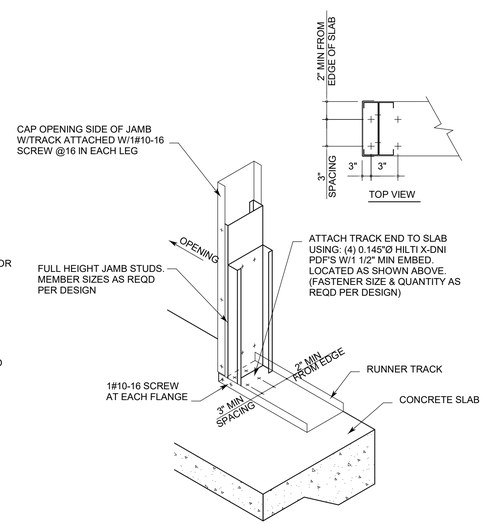
WALL PANEL MAXIMUM PENETRATION REQUIREMENTS

TYPICAL



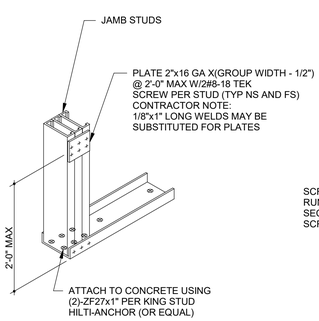
STUD WALL ANCHORAGE TO STEEL BEAM

TYPICAL



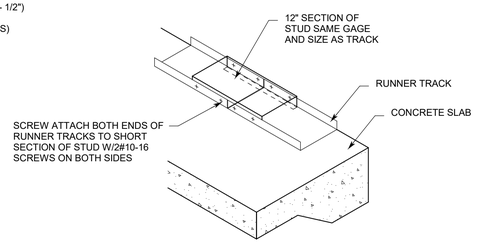
DOOR JAMB ANCHORAGE

TYPICAL



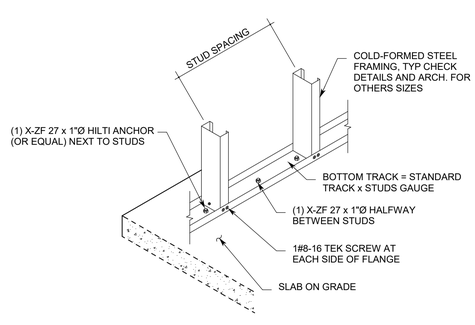
JAMB STUD GROUP CONNECTION

TYPICAL



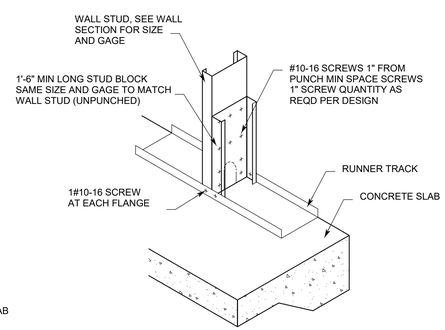
BOTTOM TRACK SPLICE

TYPICAL



SLAB CONNECTION DETAIL

TYPICAL



NOTE:
WHERE FIELD CUTS CAUSE PUNCHOUT TO OCCUR AT STUD/RUNNER INTERSECTION REINFORCE STUD AS SHOWN FOR SCREW ATTACHMENT.

REINFORCEMENT AT STUD END

TYPICAL

SHEET TITLE:
TYPICAL DETAILS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S1.7

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Job Number **23-277**

Revisions		
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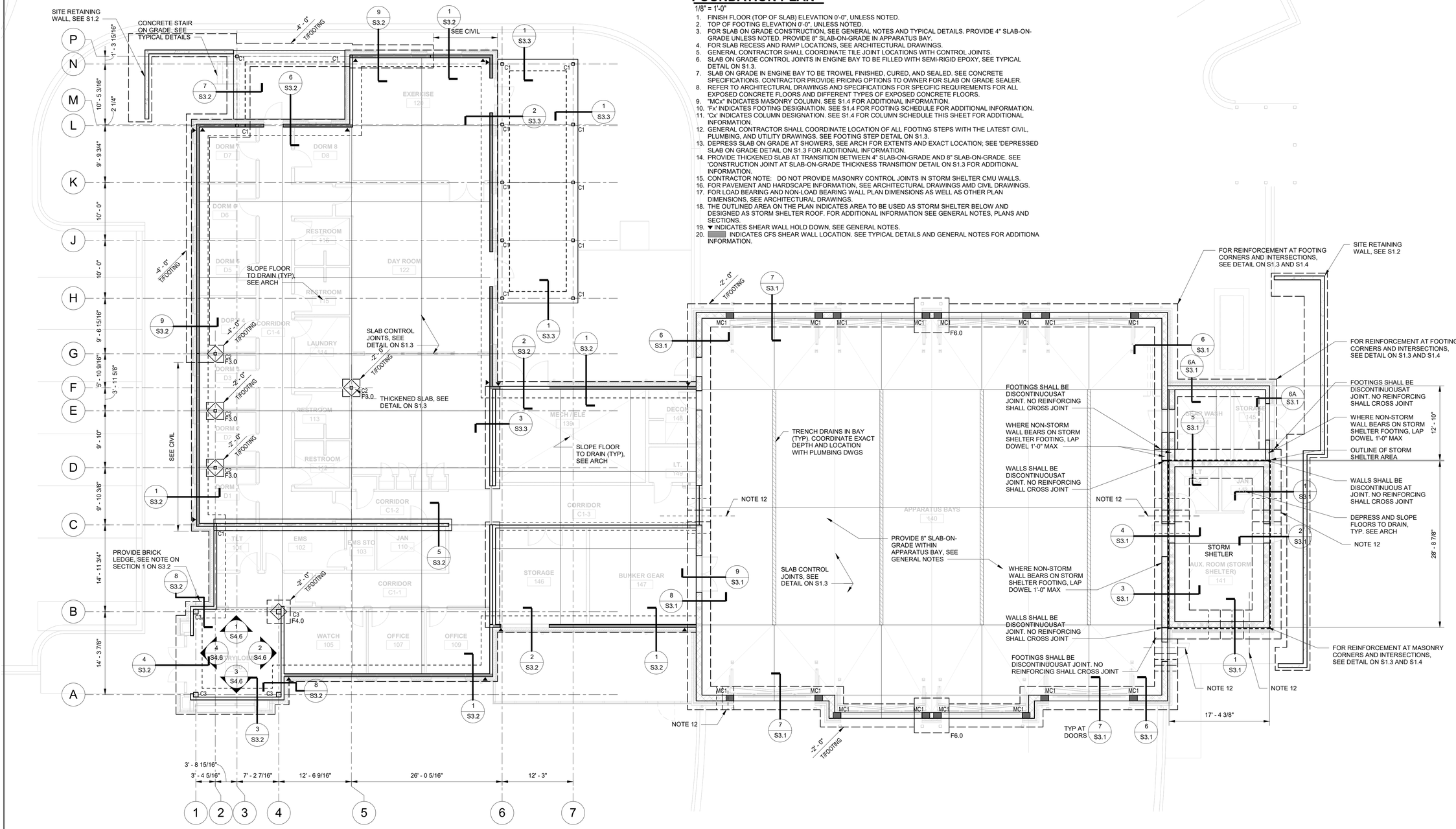
ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER
HOWARD CRAIG WINN P.E.
8/30/2024
SEAL

100% CDs

FOUNDATION PLAN

1/8" = 1'-0"

1. FINISH FLOOR (TOP OF SLAB) ELEVATION 0'-0", UNLESS NOTED.
2. TOP OF FOOTING ELEVATION 0'-0", UNLESS NOTED.
3. FOR SLAB ON GRADE CONSTRUCTION, SEE GENERAL NOTES AND TYPICAL DETAILS. PROVIDE 4" SLAB-ON-GRADE UNLESS NOTED. PROVIDE 8" SLAB-ON-GRADE IN APPARATUS BAY.
4. FOR SLAB RECESS AND RAMP LOCATIONS, SEE ARCHITECTURAL DRAWINGS.
5. GENERAL CONTRACTOR SHALL COORDINATE TILE JOINT LOCATIONS WITH CONTROL JOINTS.
6. SLAB ON GRADE CONTROL JOINTS IN ENGINE BAY TO BE FILLED WITH SEMI-RIGID EPOXY, SEE TYPICAL DETAIL ON S1.3.
7. SLAB ON GRADE IN ENGINE BAY TO BE TROWEL FINISHED, CURED, AND SEALED. SEE CONCRETE SPECIFICATIONS. CONTRACTOR PROVIDE PRICING OPTIONS TO OWNER FOR SLAB ON GRADE SEALER.
8. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR SPECIFIC REQUIREMENTS FOR ALL EXPOSED CONCRETE FLOORS AND DIFFERENT TYPES OF EXPOSED CONCRETE FLOORS.
9. "MCx" INDICATES MASONRY COLUMN. SEE S1.4 FOR ADDITIONAL INFORMATION.
10. "Fx' INDICATES FOOTING DESIGNATION. SEE S1.4 FOR FOOTING SCHEDULE FOR ADDITIONAL INFORMATION.
11. 'Cx' INDICATES COLUMN DESIGNATION. SEE S1.4 FOR COLUMN SCHEDULE THIS SHEET FOR ADDITIONAL INFORMATION.
12. GENERAL CONTRACTOR SHALL COORDINATE LOCATION OF ALL FOOTING STEPS WITH THE LATEST CIVIL, PLUMBING, AND UTILITY DRAWINGS. SEE FOOTING STEP DETAIL ON S1.3.
13. DEPRESS SLAB ON GRADE AT SHOWERS. SEE ARCH FOR EXTENTS AND EXACT LOCATION; SEE 'DEPRESSED SLAB ON GRADE DETAIL ON S1.3 FOR ADDITIONAL INFORMATION.
14. PROVIDE THICKENED SLAB AT TRANSITION BETWEEN 4" SLAB-ON-GRADE AND 8" SLAB-ON-GRADE. SEE 'CONSTRUCTION JOINT AT SLAB-ON-GRADE THICKNESS TRANSITION' DETAIL ON S1.3 FOR ADDITIONAL INFORMATION.
15. CONTRACTOR NOTE: DO NOT PROVIDE MASONRY CONTROL JOINTS IN STORM SHELTER CMU WALLS.
16. FOR PAVEMENT AND HARDSCAPE INFORMATION, SEE ARCHITECTURAL DRAWINGS AMD CIVIL DRAWINGS.
17. FOR LOAD BEARING AND NON-LOAD BEARING WALL PLAN DIMENSIONS AS WELL AS OTHER PLAN DIMENSIONS, SEE ARCHITECTURAL DRAWINGS.
18. THE OUTLINED AREA ON THE PLAN INDICATES AREA TO BE USED AS STORM SHELTER BELOW AND DESIGNED AS STORM SHELTER ROOF. FOR ADDITIONAL INFORMATION SEE GENERAL NOTES, PLANS AND SECTIONS.
19. ▼ INDICATES SHEAR WALL HOLD DOWN, SEE GENERAL NOTES.
20. ▬ INDICATES CFS SHEAR WALL LOCATION. SEE TYPICAL DETAILS AND GENERAL NOTES FOR ADDITIONA INFORMATION.



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SHEET TITLE: **FOUNDATION PLAN**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08.30.24**
DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S2.1

SDG
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Revisions		
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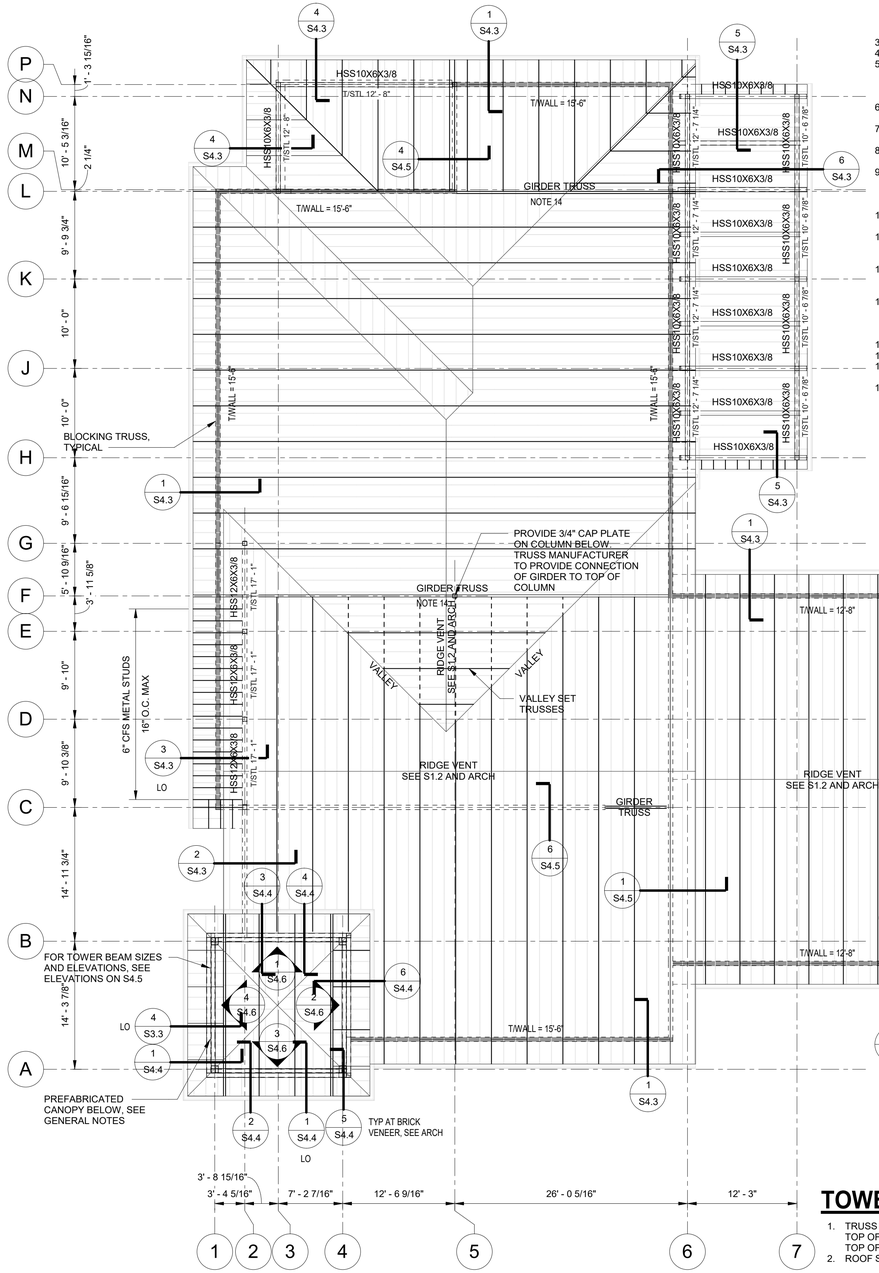


ROOF FRAMING PLAN

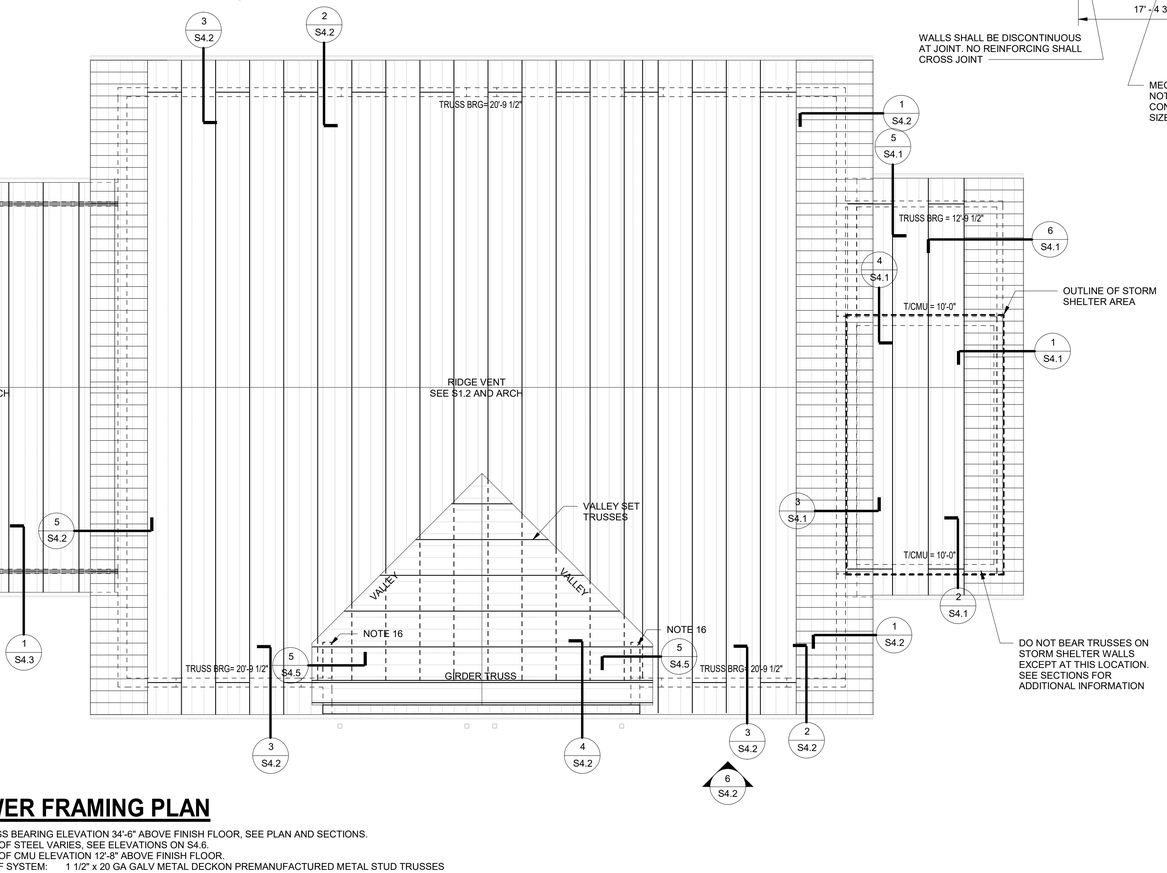
1/8" = 1'-0"

1. TRUSS BEARING ELEVATION VARIES, SEE PLAN AND SECTIONS.
   TOP OF CMU WALL ELEVATION 20'-0" ABOVE FINISH FLOOR, UNLESS NOTED.
   TOP OF METAL STUD WALL VARIES, SEE PLAN AND SECTIONS.
   TOP OF STEEL ELEVATION VARIES, SEE PLAN AND SECTIONS.
2. ROOF SYSTEM:
   SLOPED TRUSSES:1 1/2" x 20 GA GALV METAL DECK ON PREMANUFACTURED METAL STUD TRUSSES AT 4'-0" O.C. MAXIMUM, UNLESS NOTED. SEE GENERAL NOTES. ANCHOR METAL DECK TO TRUSSES WITH #12 SCREWS IN A 36/4 PATTERN WITH 2#10 SIDELAP SCREWS BETWEEN TRUSSES.
   LOWER STEEL FRAME:
   1 1/2" x 20 GA GALV METAL DECK ON STRUCTURAL STEEL BEAMS AT 5'-6" O.C. MAXIMUM, UNLESS NOTED. SEE GENERAL NOTES. ANCHOR METAL DECK TO BEAMS WITH 5/8"ø PUDDLE WELDS IN A 36/4 PATTERN WITH 2#10 SIDELAP SCREWS BETWEEN TRUSSE
3. TOP OF CMU AND TOP OF STEEL IS EITHER LEVEL OR SLOPING UNIFORMLY BETWEEN NOTED ELEVATIONS.
4. FOR WALL LOCATIONS, SEE ARCHITECTURAL DRAWINGS.
5. GENERAL CONTRACTOR SHALL COORDINATE THE LOAD MAGNITUDE AND LOCATION OF ANY EQUIPMENT SUPPORTED FROM THE METAL STUD TRUSSES. THESE LOADS AND LOCATIONS ARE TO BE SHOWN ON THE TRUSS SHOP DRAWINGS. ANY ATTACHMENT OF THE EQUIPMENT TO THE TRUSSES SHALL BE BY THE EQUIPMENT PROVIDER.
6. PROVIDE MASONRY AND VENEER LINTELS AT ALL OPENINGS IN CMU. SEE SCHEDULES ON S1.4. PROVIDE HEADERS AT ALL OPENINGS IN METAL STUD WALLS, SEE SCHEDULE ON S1.7.
7. GENERAL CONTRACTOR SHALL COORDINATE METAL STUD TRUSS LAYOUT WITH MECHANCIAL EQUIPMENT AND DUCT LOCATIONS.
8. TRUSS MANUFACTURER TO PROVIDE ALL MISC STEEL CLOSURE PLATES, SUCH AS RIDGE, HIP AND VALLEY PLATES.
9. BLOCKING TRUSS/PLATE SHALL BE LOCATED AS SHOWN ON PLAN. TRUSS/PLATE SHALL BE DESIGNED BY TRUSS MANUFACTURER TO TRANSFER 2000 LBS (SERVICE) OF FORCE DOWN TO TOP OF WALL. SEE DETAIL ON S1.4. ANCHOR TOP CHORD OF BLOCKING TRUSS TO ROOF DECK AS DIRECTED BY TRUSS MANUFACTURER TO TRANSFER 500 LBS/FT (SERVCE) SHEAR FORCE.
10. HANGER LOCATIONS FOR PIPING LARGER THAN 3 INCHES IN DIAMETER MUST BE COORDINATED BY THE GENERAL CONTRACTOR WITH THE TRUSS MANUFACTURER. FOR PIPING WEIGHTS, SEE SCHEDULE ON S1.6.
11. BLOCKING TRUSSES/PLATES, BRIDGING PERMANENT BRACING, MISC STEEL CLOSURE PLATES, ETC. SHALL BE DESIGNED AND INDICATED ON THE TRUSS LAYOUT SHOP DRAWINGS. FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES.
12. METAL STUD SUPPORT FRAMING SHALL BE DESIGNED BY CONTRACTOR TO SUPPORT INTAKE HOODS, RELIEF HOODS, ETC. CONTRACTOR SHALL ENGAGE METAL STUD ENGINEER AND PROVIDE CALCULATIONS AND SHOP DRAWINGS FOR ALL NECESSARY METAL STUD FRAMING DESIGNS.
13. METAL STUD SOFFIT FRAMING SHALL BE DESIGNED BY CONTRACTOR TO HANG FROM ROOF STRUCTURE. CONTRACTOR SHALL ENGAGE METAL STUD ENGINEER AND PROVIDE CALCULATIONS AND SHOP DRAWINGS FOR SOFFIT DESIGN. DESIGN SOFFIT FOR DEAD WEIGHT PLUS ANY SUSPENDED EQUIPMENT AND A 5 PSF HORIZONTAIL LOAD OVER SURFACE.
14. DESIGN TRUSS TO CARRY 325 PLF (SERVICE) AXIAL LOAD.
15. SEE TYPICAL DETAIL ON S1.5 FOR BRACING AT TOP OF INTERIOR WALLS.
16. PROVIDE SPECIAL 24" DEEP MASONRY CANTILEVER WITH 2#6 CONTINUOUS FROM FACE OF CMU WALL. EXTEND BARS INTO BONDBEAM AND PROVIDE INTERSECTING BARS PER TYPICAL DETAIL ON S1.3.
17. FOR RIDGE AND VALLEY PLATE INFORMATION, SEE TYPICAL DETAIL ON S1.2.

SHELTER ROOF FRAMING PLAN

1/8" = 1'-0"

1. TOP OF ROOF SLAB ELEVATION 12'-8 ABOVE FINISH FLOOR, UNLESS NOTED.
   TOP OF STEEL ELEVATION 8" BELOW TOP OF ROOF SLAB, UNLESS NOTED.
   TOP OF CMU ELEVATION 10'-0" ABOVE FINISH FLOOR, UNLESS NOTED.
2. ROOF SYSTEM: 5" NORMAL WEIGHT CONCRETE ON 3" COMPOSITE STEEL DECK (8" TOTAL) REINFORCED WITH #5@9 EACH WAY ON STEEL BEAMS EQUALLY SPACED 4'-7 1/2" O.C. MAXIMUM, SEE GENERAL NOTES.
3. SPACE STEEL BEAMS EQUALLY BETWEEN FACE OF WALLS, UNLESS NOTED. DO NOT EXCEED 4'-7 1/2" O.C.
4. SPACE HEADED (SHEAR) STUDS ON STEEL BEAMS AT 12" O.C. MAXIMUM, UNLESS NOTED.
5. EQUIPMENT LOCATION AND WEIGHTS SHOWN ARE APPROXAMATE. THE GENERAL CONTRACTOR SHALL COORDINATE AND VERIFY SIZE, WEIGHT, AND LOCATION OF ALL MECHANICAL UNITS.
6. COORDINATE MECHANICAL OPENINGS (SIZE AND LOCATION) WITH MECHANICAL DRAWINGS AND UNIT MANUFACTURER.
7. COORDINATE ELEVATION OF CMU/CONCRETE WALL SEGMENT(S) WITH ARCHITECTURAL DRAWINGS.
8. PROVIDE MASONRY AND VENEER LINTELS AT ALL OPENINGS, SEE SCHEDULE ON S1.4.
9. CONTRACTOR SHALL COORDINATE EMBEDS INTO MASONRY WITH LOUVER OR DOOR MANUFACTURER. PROVIDE MODIFICATIONS TO STRUCTURE AS REQUIRED TO FULLY COMPLY WITH MANUFACTURERS INSTALATION DETAILS. SUBMIT AND MODIFICATIONS TO DESIGN TEAM FOR REVIEW.
10. CONTRACTOR NOTE: ALL OPENING SIZES AND LOCATIONS IN LOAD BEARING MASONRY WALLS SHOULD BE COORDINATED BY THE CONTRACTOR AND INDICATED ON THE MASONRY WALL SHOP DRAWINGS. SEE GENERAL NOTES.
11. PROVIDE MINIMUM 32" WIDE MASONRY JAMB BETWEEN ADJACENT OPENINGS (LOUVERS, DOORS, ETC). ALL OPENINGS ARE TO BE BELOW THE BOTTOM OF THE 24" DEEP CONCRETE RING BEAM.
12. PROVIDE MECHANICAL STORM LOUVER FOR MECHANICAL OPENINGS. FOR ADDITIONAL INFORMATION, SEE MECHANICAL DRAWINGS.
13. CONTRACTOR NOTE: DO NOT PROVIDE MASONRY CONTROL JOINTS IN STORM SHELTER CMU WALLS.
14. THE OUTLINED AREA ON THE PLAN INDICATES AREA TO BE USED AS STORM SHELTER BELOW AND DESIGNED AS STORM SHELTER ROOF. FOR ADDITIONAL INFORMATION SEE GENERAL NOTES, PLANS AND SECTIONS.



TOWER FRAMING PLAN

1. TRUSS BEARING ELEVATION 34'-6" ABOVE FINISH FLOOR, SEE PLAN AND SECTIONS.
   TOP OF STEEL VARIES, SEE ELEVATIONS ON S4.6.
   TOP OF CMU ELEVATION 12'-8" ABOVE FINISH FLOOR.
2. ROOF SYSTEM: 1 1/2" x 20 GA GALV METAL DECKON PREMANUFACTURED METAL STUD TRUSSES AT 4'-0" O.C. MAXIMUM, UNLESS NOTED. SEE GENERAL NOTES. ANCHOR METAL DECK TO TRUSSES WITH #12 SCREWS IN A 36/4 PATTERN WITH 2#10 SIDELAP SCREWS BETWEEN TRUSSES.
3. PROVIDE MASONRY AND VENEER LINTELS AT ALL OPENINGS. SEE TYPICAL DETAILS AND SCHEDULES ON S1.4 AND S1.7.
4. GENERAL CONTRACTOR SHALL COORDINATE THE LOAD MAGNITUDE AND LOCATION OF ANY EQUIPMENT SUPPORTED FROM THE METAL STUD TRUSSES. THESE LOADS AND LOCATIONS ARE TO BE SHOWN ON THE TRUSS SHOP DRAWINGS. ANY ATTACHMENT OF THE EQUIPMENT TO THE TRUSSES SHALL BE BY THE EQUIPMENT PROVIDER.
5. PRE-MANUFACTURED CANOPY. FOR ADDITIONAIL INFORMATION, SEE ARCHITECTURAL DRAWINGS. CONNECTIONS TO BUILDING BY CANOPY MANUFACTURER, CONTRACTOR TO COORDINATE. DO NOT ANCHOR CANOPY TO VENEER.
6. FOR SOFFIT FRAMING, PROVIDE 6"x18 GA GAGE METAL STUDS AT 12" ON CENTER. EXTEND STUDS TO CONNECT TO STORE FRONT WITH 2#10 SCREWS. FOR ADDITIONAL INFORMATION, SEE ARCHITECTURAL DRAWINGS.

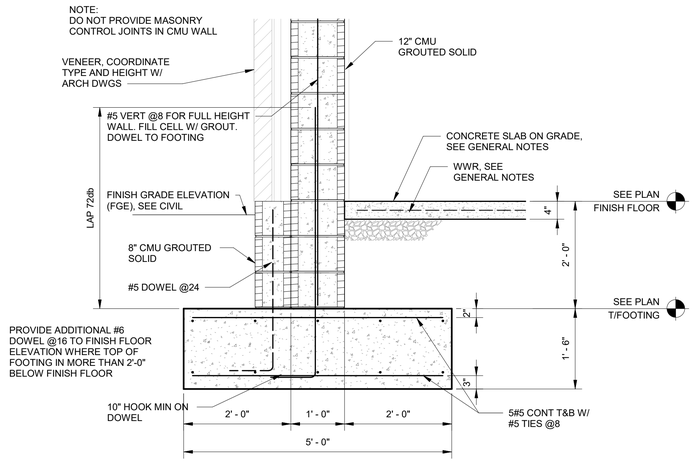
SHEET TITLE:
ROOF FRAMING & SHELTER ROOF FRAMING PLAN

PROJECT NUMBER:
CWA No. 2023-01

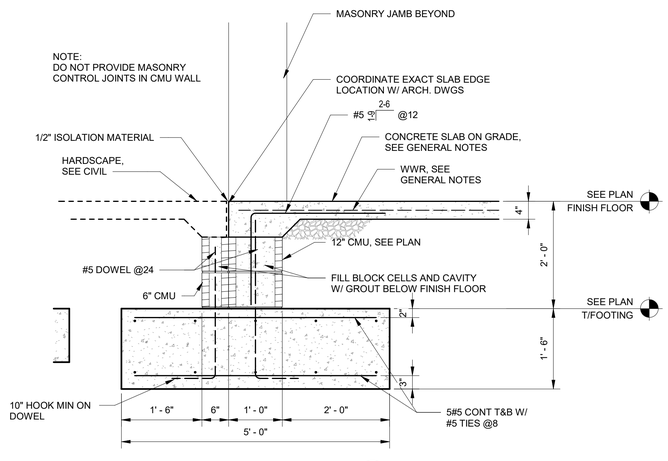
DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S2.2



SECTION 1 S3.1
3/4" = 1'-0"



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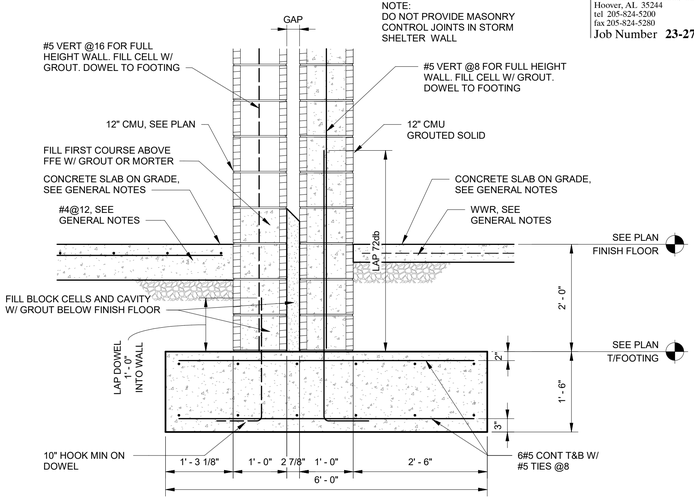
3/4" = 1'-0"



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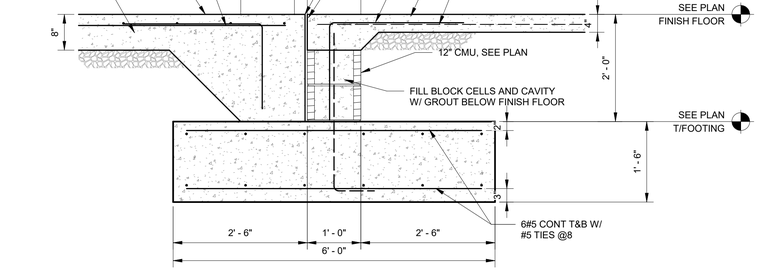

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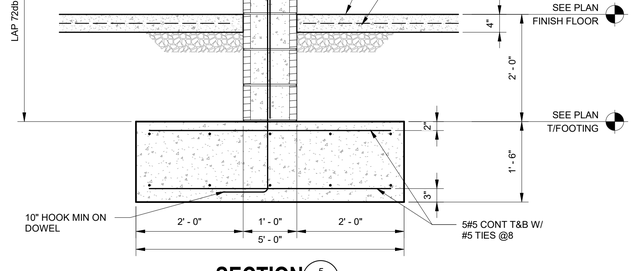

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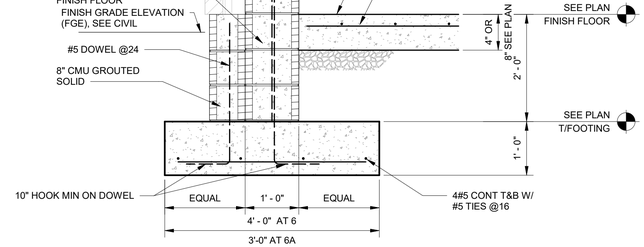
3/4" = 1'-0"



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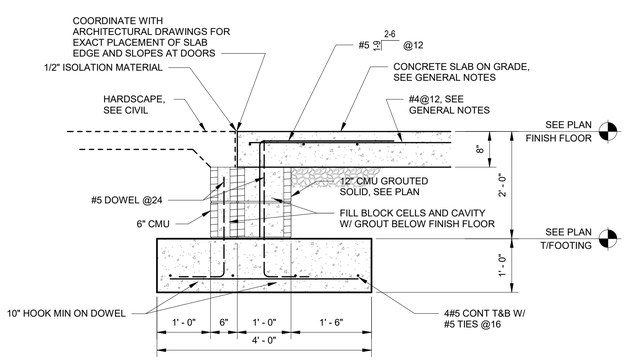

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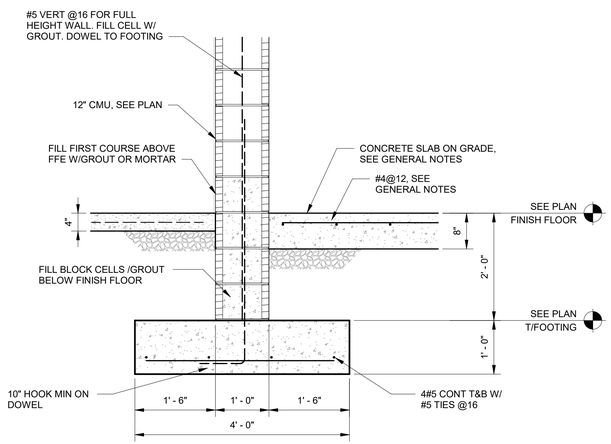
3/4" = 1'-0"



SECTION 8 S3.1
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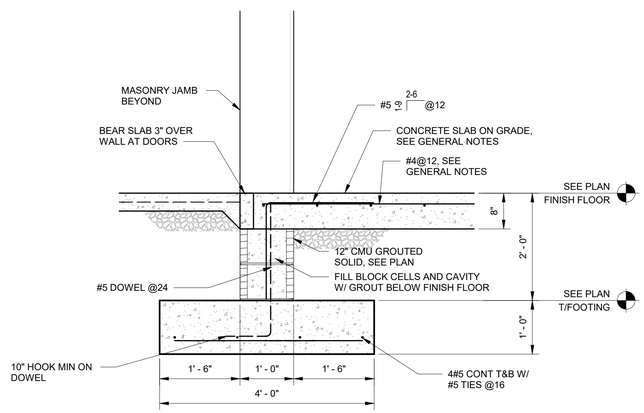

SECTION 9 S3.1
3/4" = 1'-0"

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Job Number **23-277**

Revisions		
No.	Date	Description

ALABAMA REGISTERED
No. 22596
PROFESSIONAL
ENGINEER
CRAIG WINN
8/30/2024
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IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
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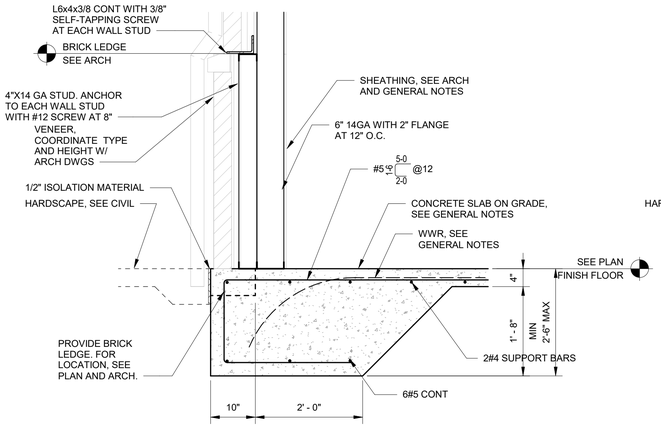
SHEET TITLE:
SECTIONS AND DETAILS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S3.1



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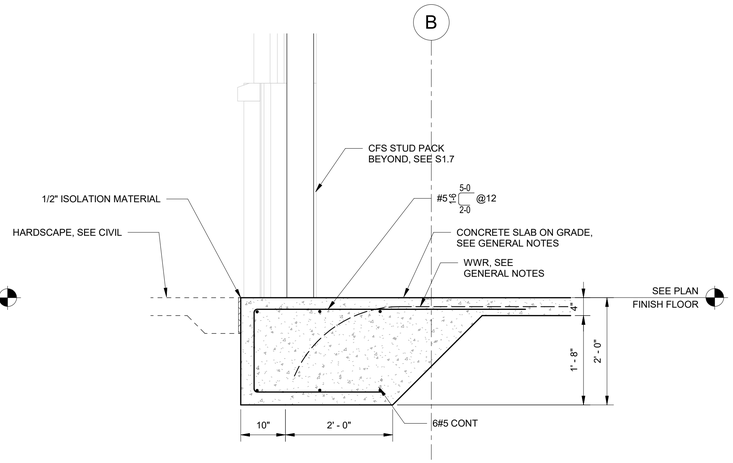

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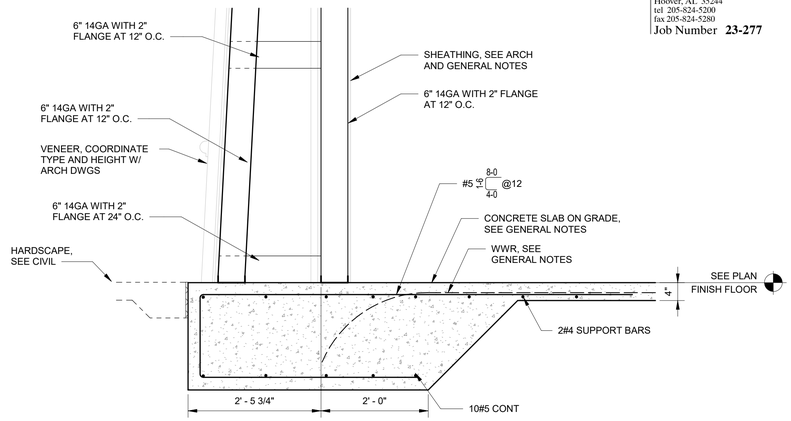

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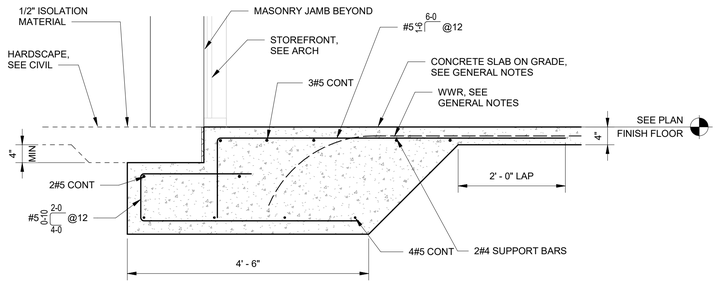

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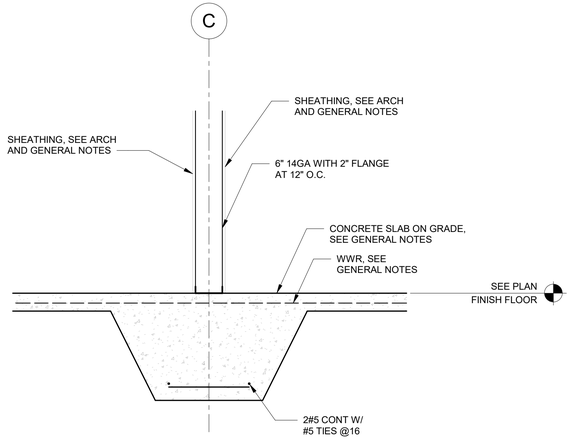
3/4" = 1'-0"



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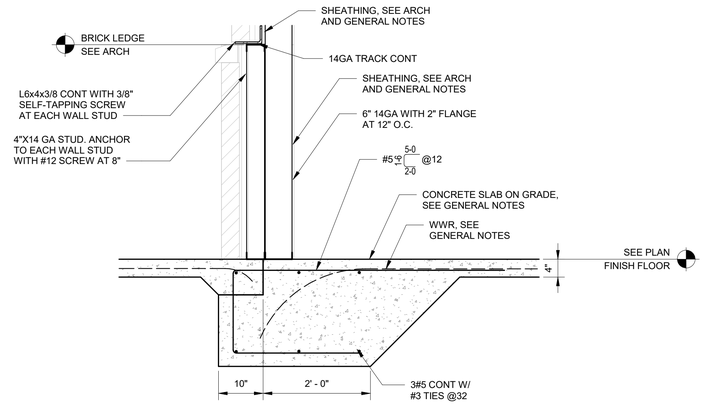

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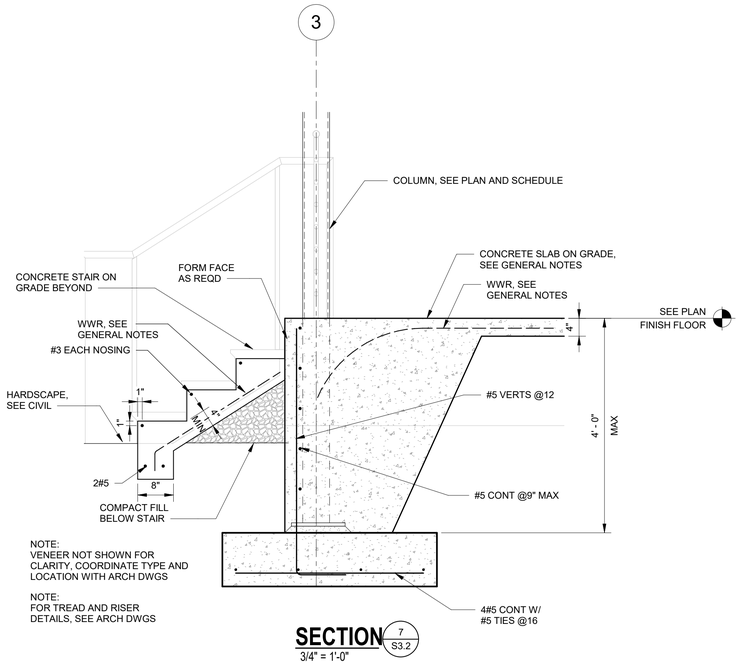

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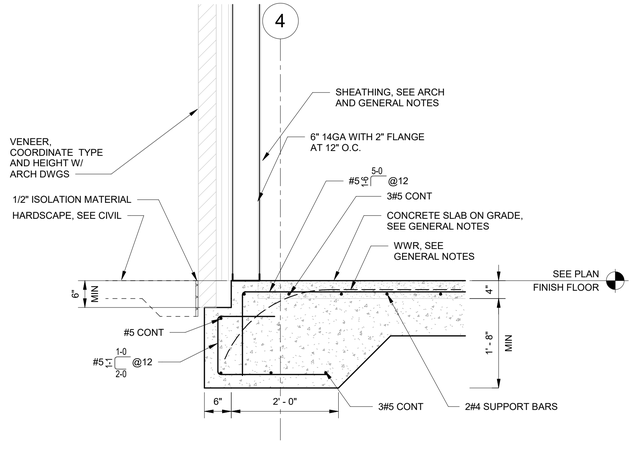

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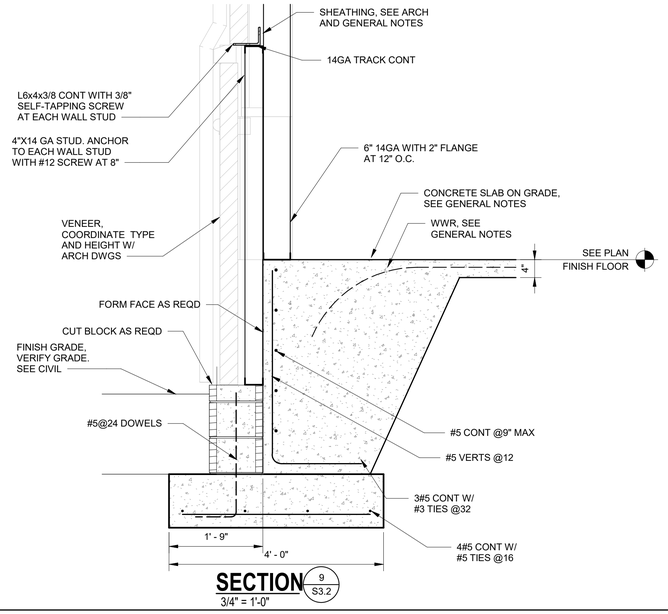

SECTION 9 S3.2
3/4" = 1'-0"

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Job Number **23-277**

Revisions

No.	Date	Description

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Craig Winn P.E.
8/30/2024
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INT. OF JOHN ROGERS DRIVE & ALTON ROAD
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CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

SHEET TITLE: **SECTIONS AND DETAILS**
PROJECT NUMBER: **CWA No. 2023-01**
DATE: **08.30.24**
DRAWN BY: **TRM**
CHECKED BY: **HCW**

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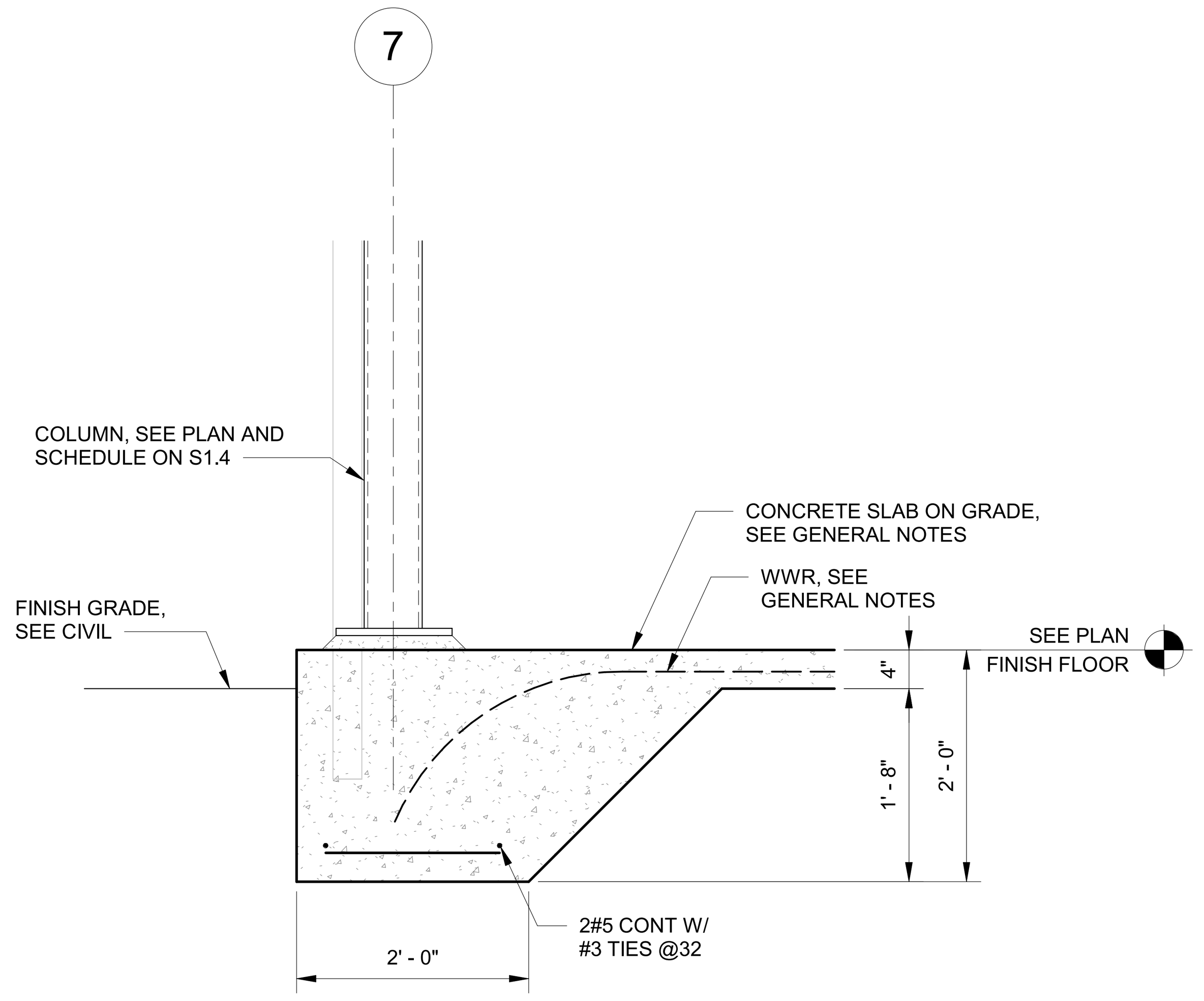
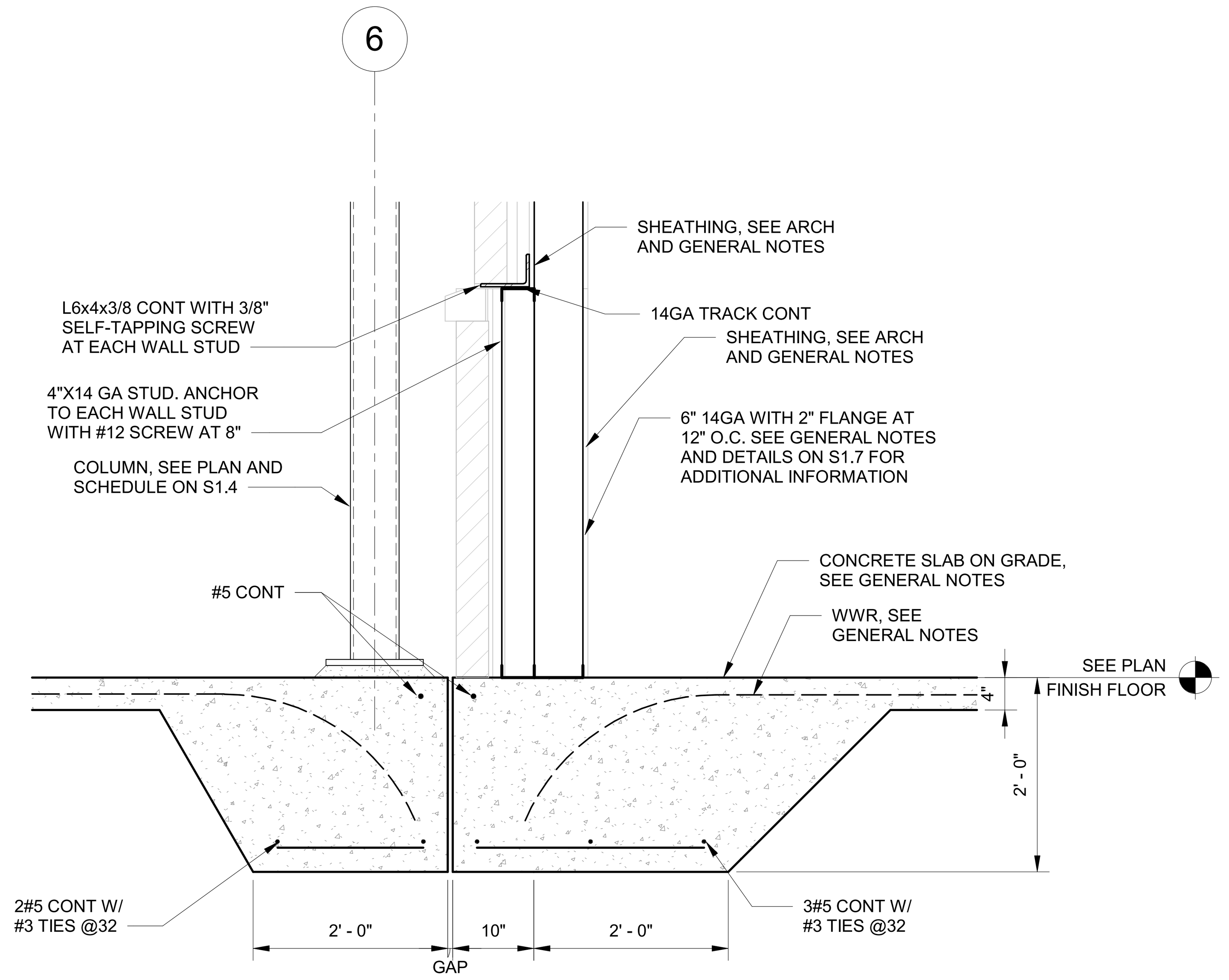


SECTION 1/S3.3
3/4" = 1'-0"



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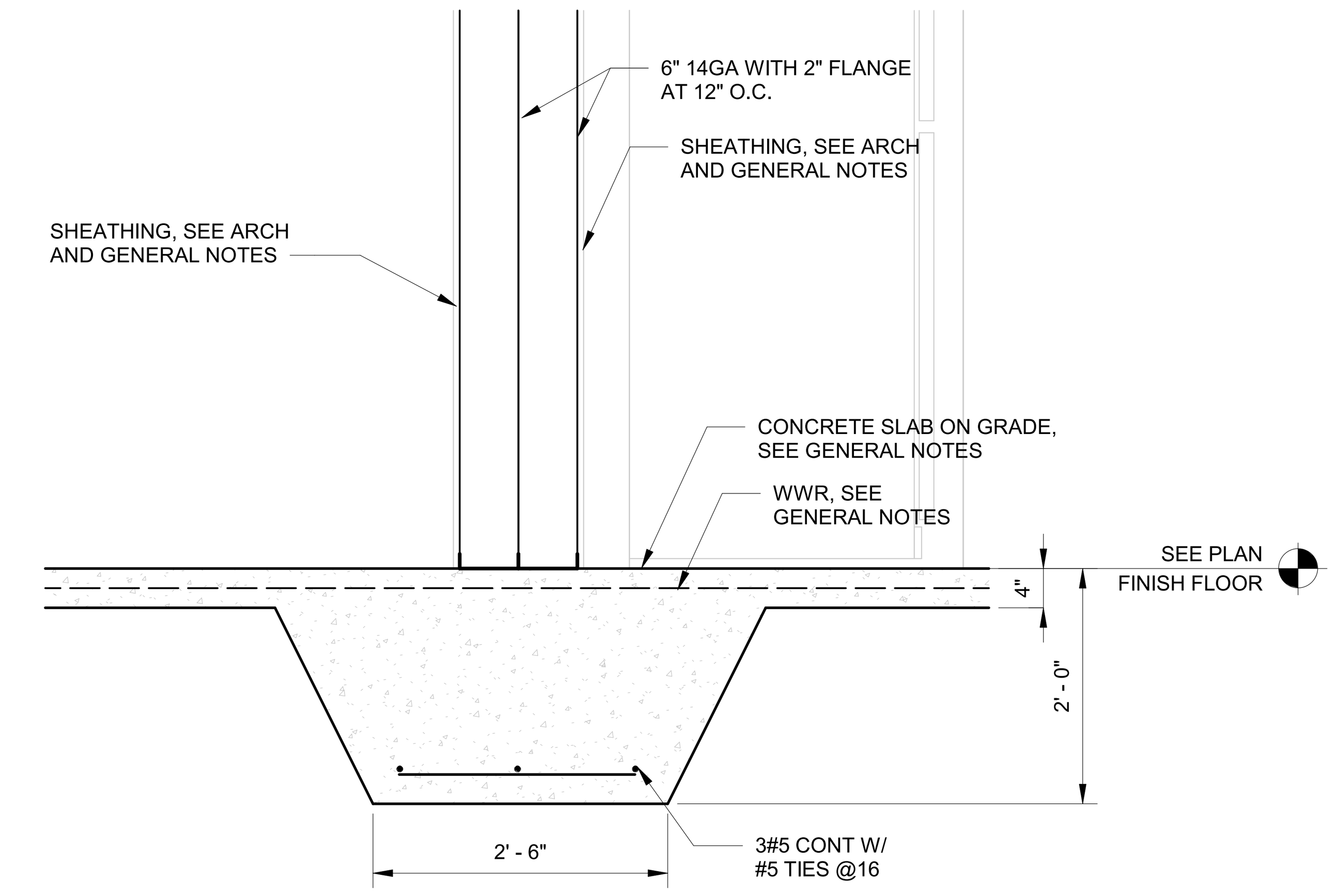

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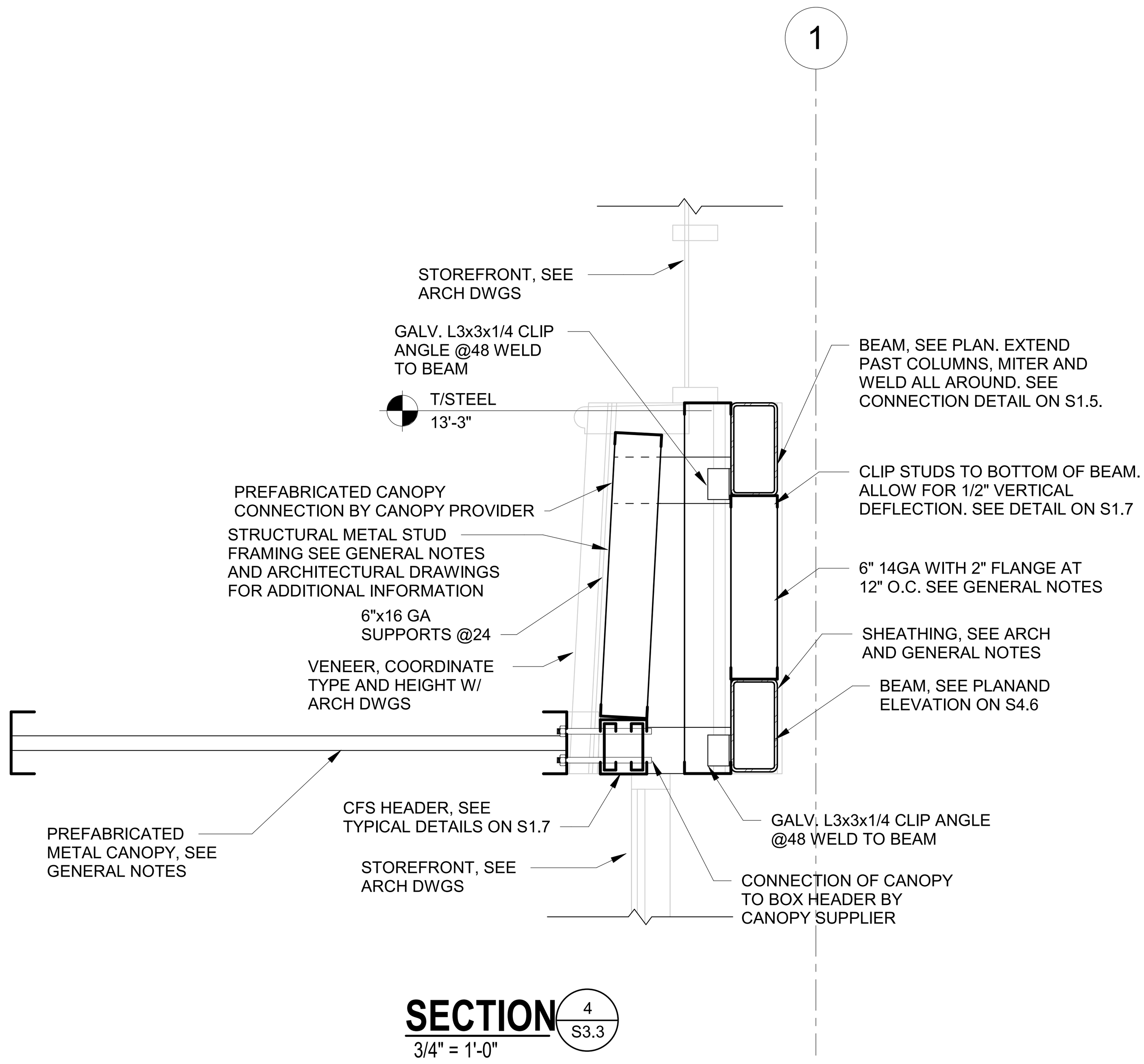

SECTION 4/S3.3
3/4" = 1'-0"

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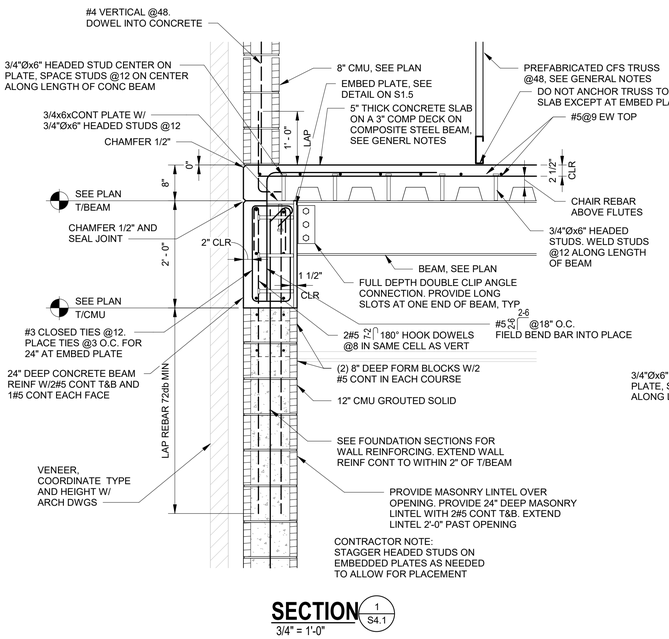
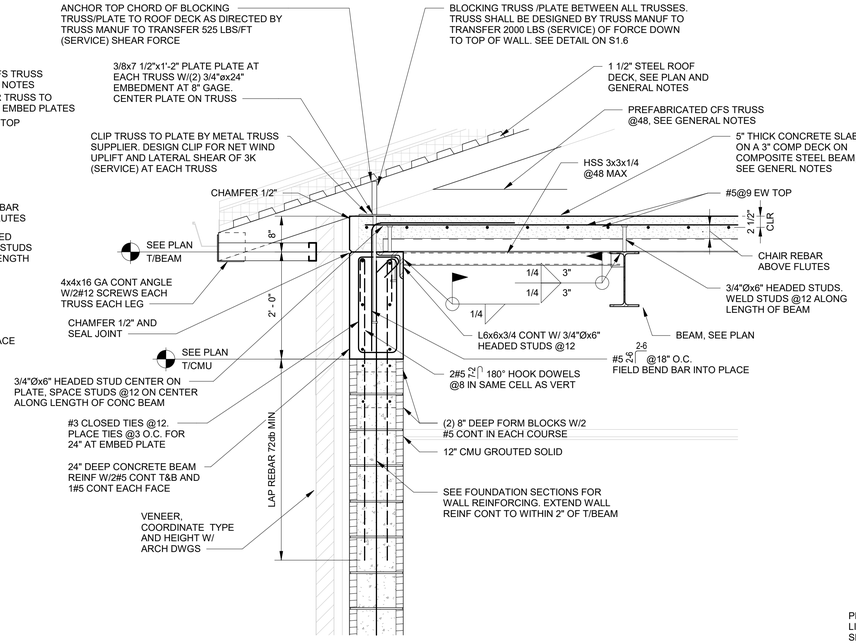
SHEET NUMBER
S3.3



SECTION 1/S4.1
3/4" = 1'-0"



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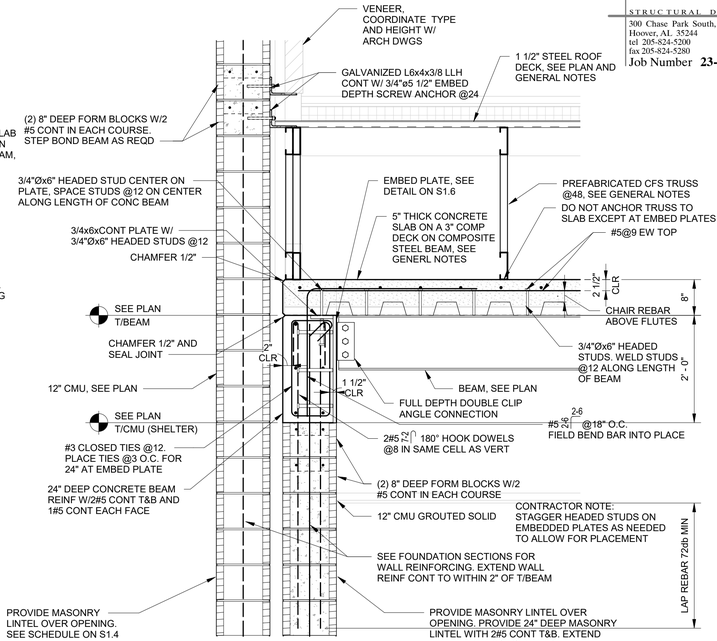
3/4" = 1'-0"



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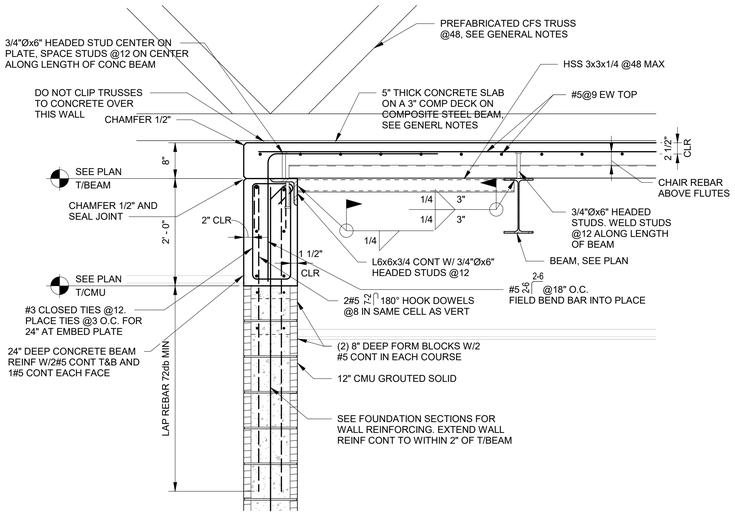
3/4" = 1'-0"



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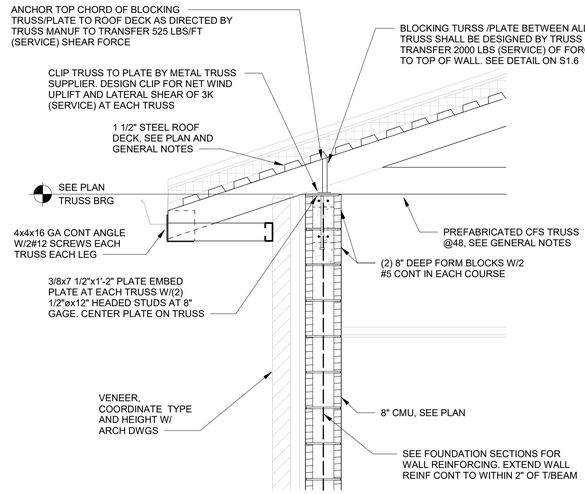

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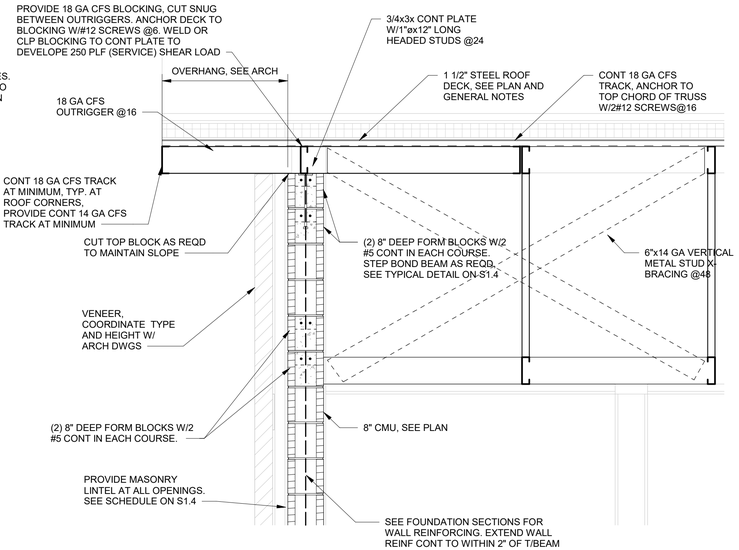
3/4" = 1'-0"



SECTION 6/S4.1
3/4" = 1'-0"

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ALABAMA REGISTERED PROFESSIONAL ENGINEER
No. 22596
CHARLES HOWARD WILLIAMS
8/30/2024
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CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
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PROJECT NUMBER:
CWA No. 2023-01

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DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S4.1

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SEAL

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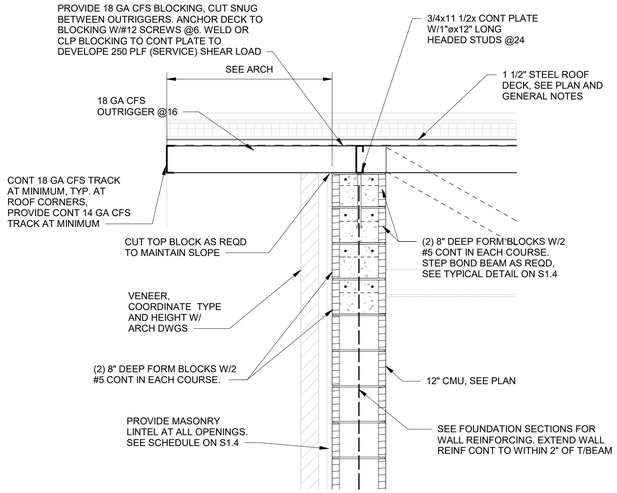
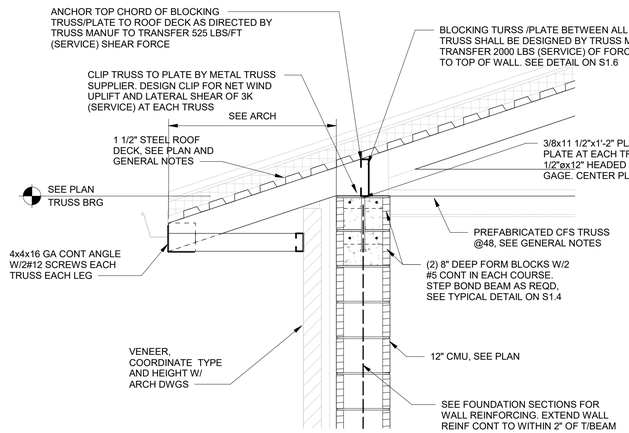
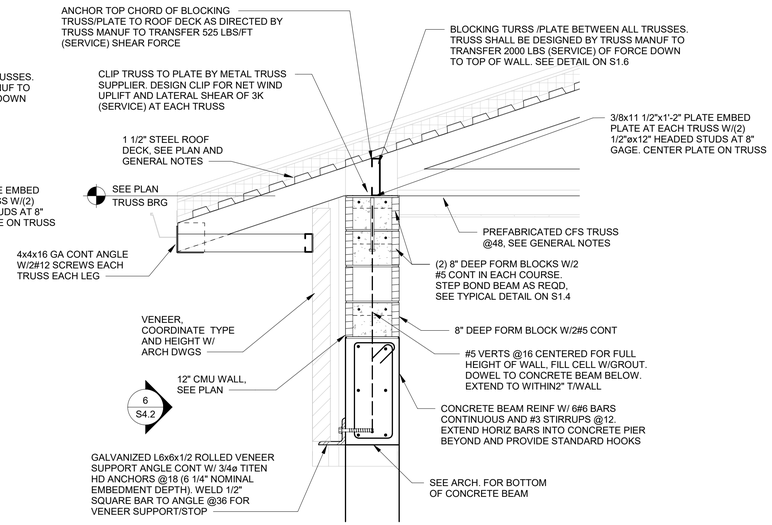


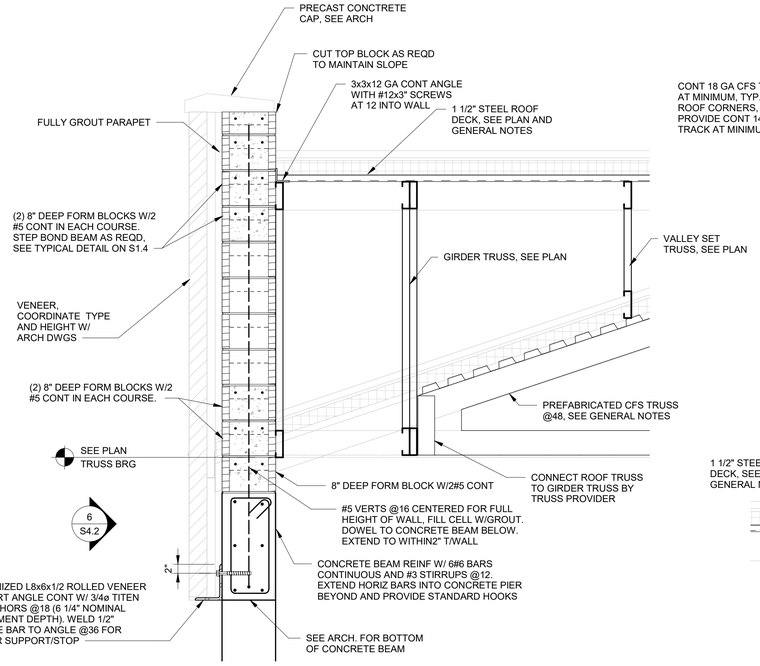
SECTION 1/S4.2
3/4" = 1'-0"



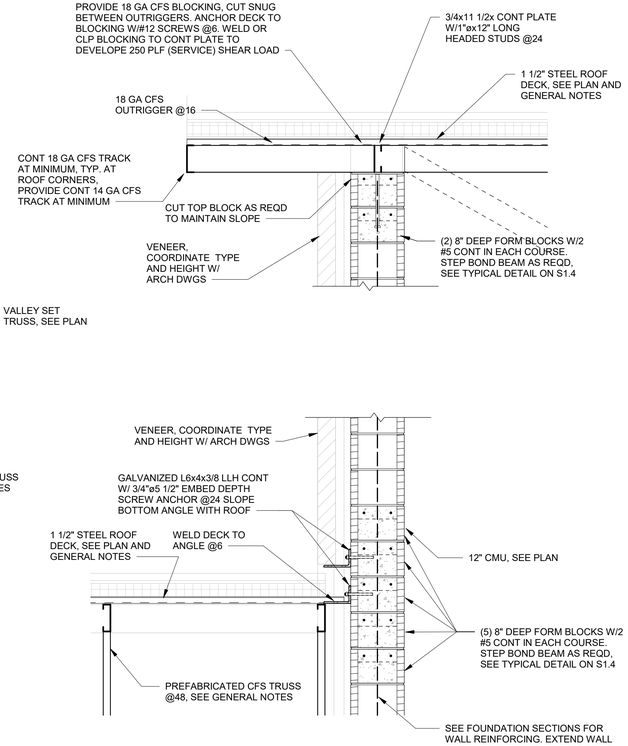
SECTION 2/S4.2
3/4" = 1'-0"



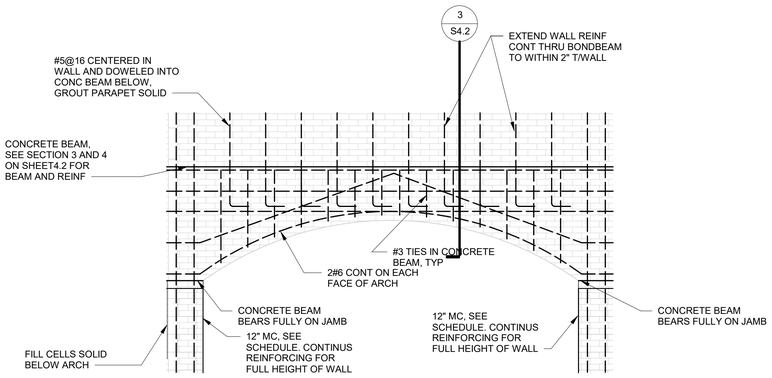
SECTION 3/S4.2
3/4" = 1'-0"
TYP AT LARGE APPARATUS BAY DOORS



SECTION 4/S4.2
3/4" = 1'-0"



SECTION 5/S4.2
3/4" = 1'-0"



ELEVATION 6/S4.2
3/8" = 1'-0"
TYP AT LARGE APPARATUS BAY DOORS

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

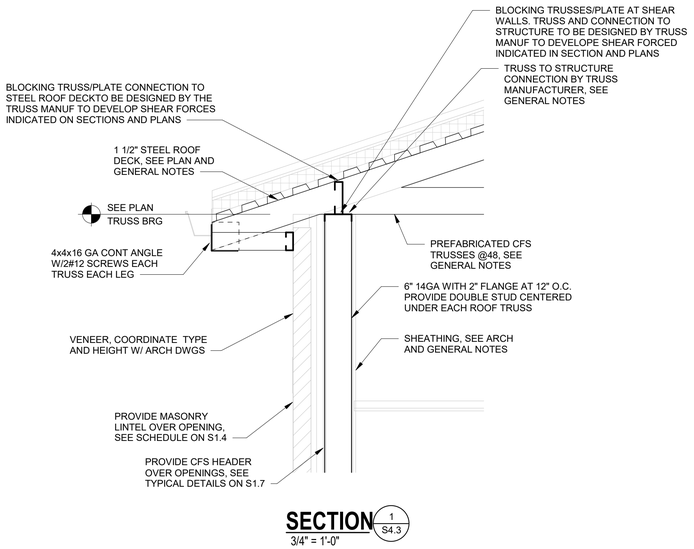
SHEET TITLE:
SECTIONS AND DETAILS

PROJECT NUMBER:
CWA No. 2023-01

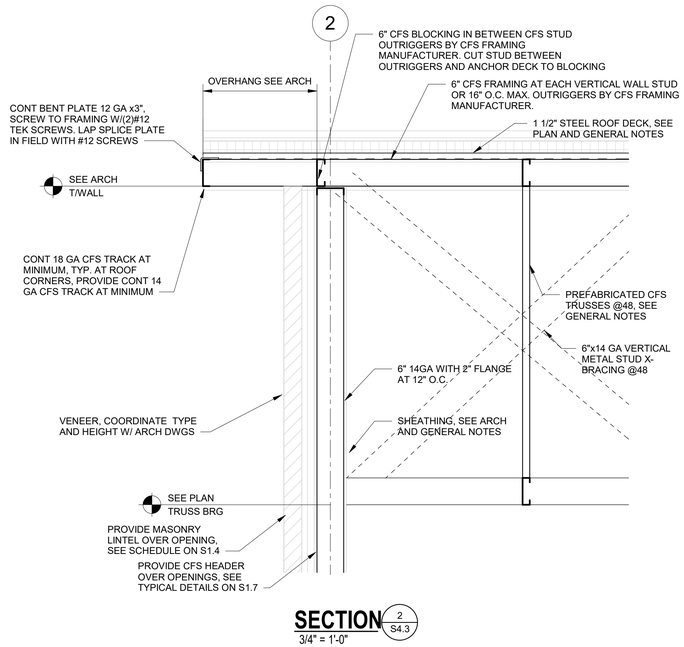
DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

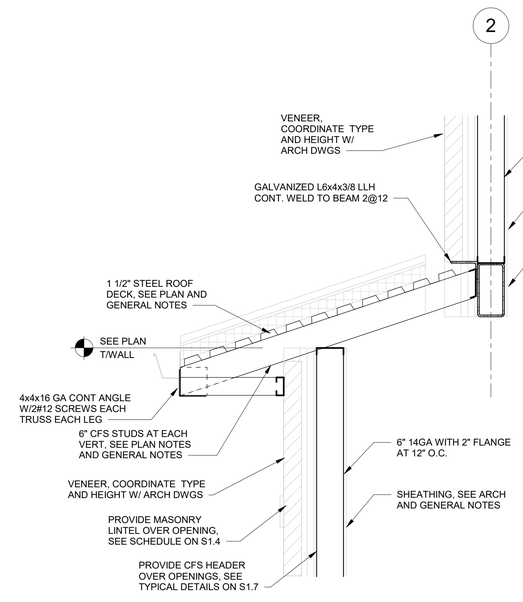
SHEET NUMBER
S4.2



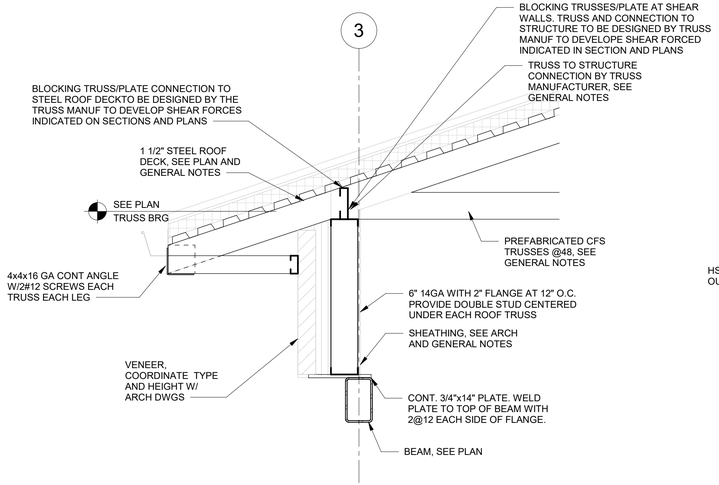
SECTION 1/S4.3
3/4" = 1'-0"



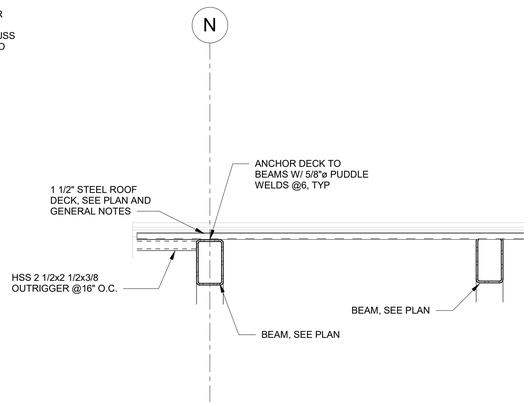
SECTION 2/S4.3
3/4" = 1'-0"



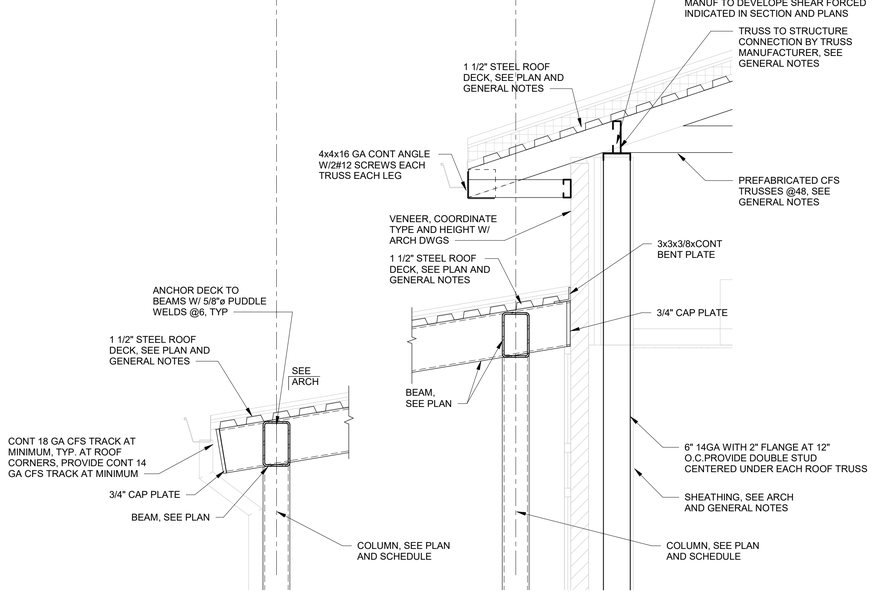
SECTION 3/S4.3
3/4" = 1'-0"



SECTION 4/S4.3
3/4" = 1'-0"



SECTION 5/S4.3
3/4" = 1'-0"



SECTION 6/S4.3
3/4" = 1'-0"

SDG
STRUCTURAL DESIGN GROUP
300 Chase Park South, Suite 125
Hoover, AL 35244
tel 205-824-5200
fax 205-824-5280
Job Number **23-277**

Revisions		
No.	Date	Description

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER
H. Clay Williams P.E.
8/30/2024
SEAL

100% CDs

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

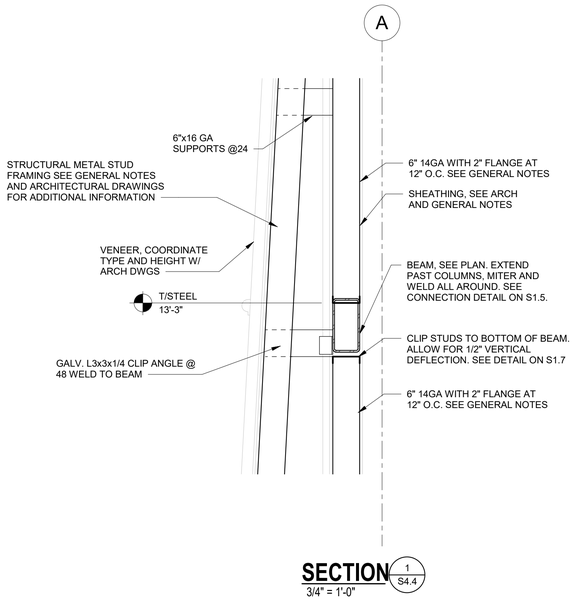
SHEET TITLE:
SECTIONS AND DETAILS

PROJECT NUMBER:
CWA No. 2023-01

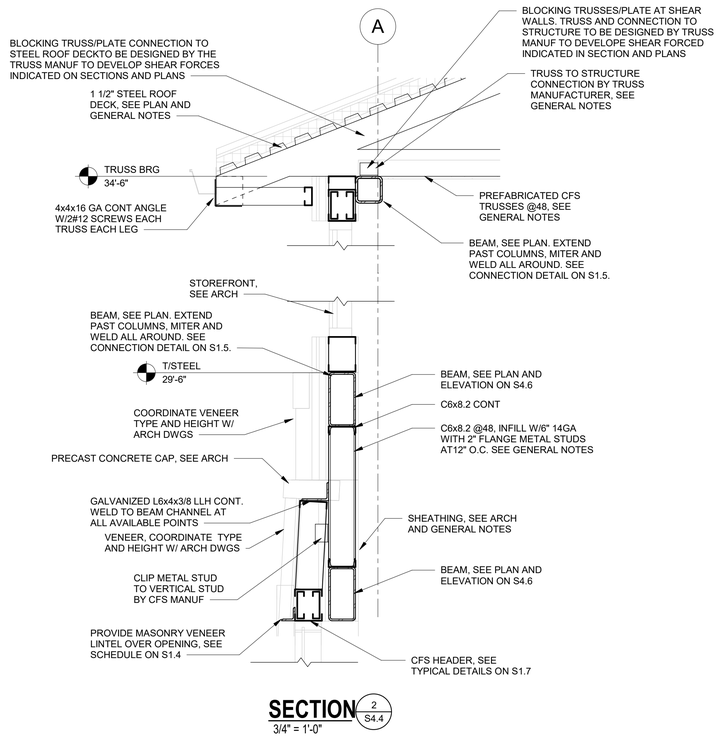
DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

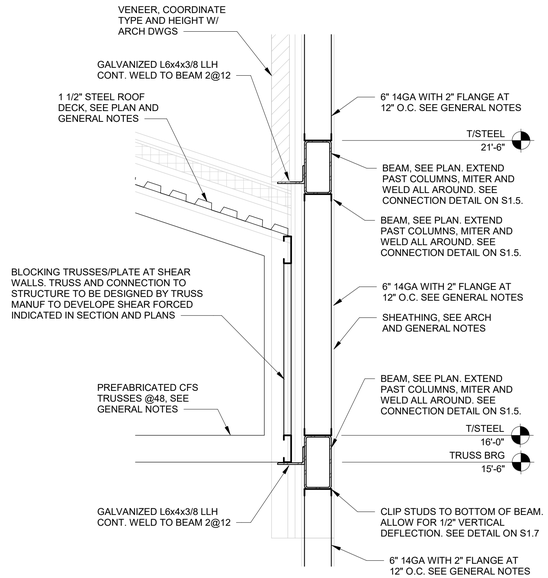
SHEET NUMBER
S4.3



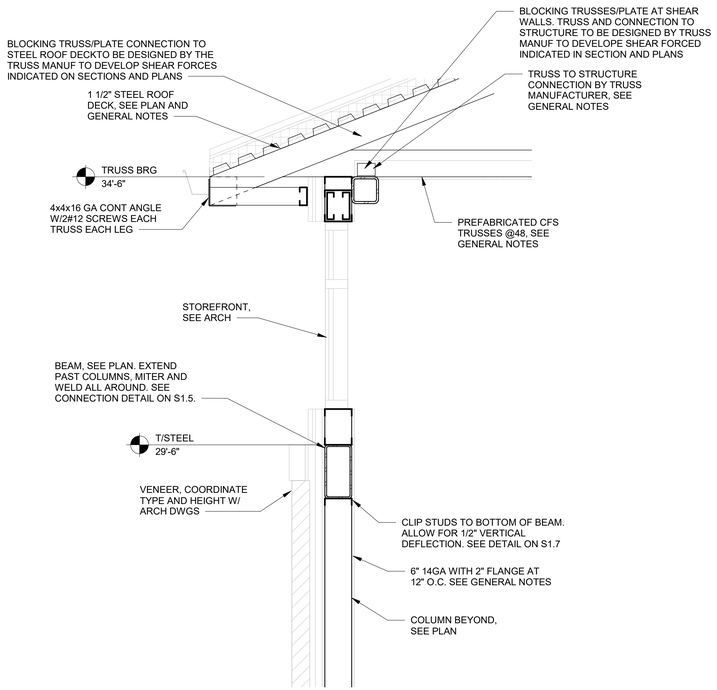
SECTION 1/S4.4
3/4" = 1'-0"



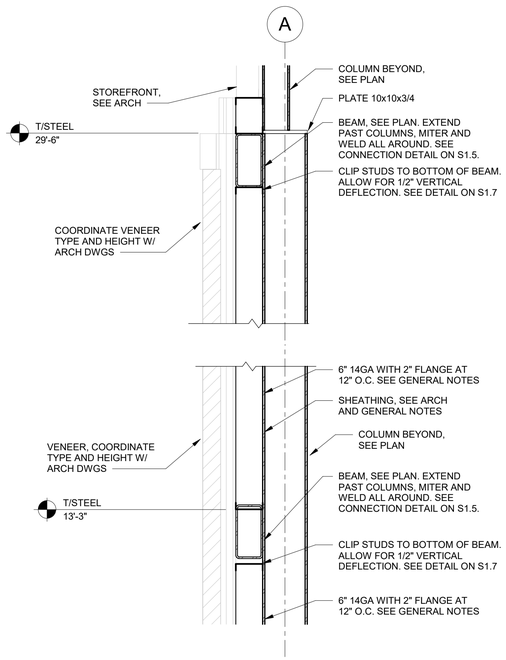
SECTION 2/S4.4
3/4" = 1'-0"



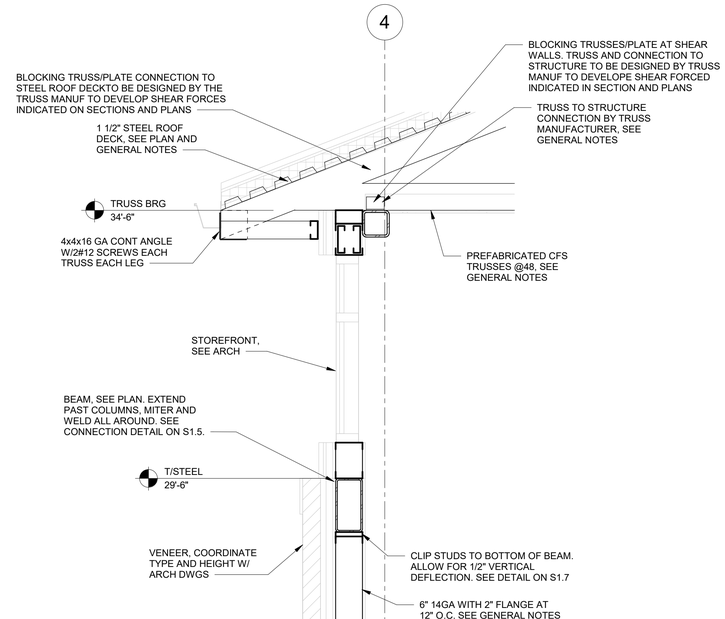
SECTION 3/S4.4
3/4" = 1'-0"



SECTION 4/S4.4
3/4" = 1'-0"



SECTION 5/S4.4
3/4" = 1'-0"



SECTION 6/S4.4
3/4" = 1'-0"

SDG
STRUCTURAL DESIGN GROUP
300 Chase Park South, Suite 125
Hoover, AL 35244
tel 205-824-5200
fax 205-824-5280
Job Number **23-277**

Revisions

No.	Date	Description

ALABAMA REGISTERED PROFESSIONAL ENGINEER No. 22596 CHARLES WINN
H. Charles Winn P.E.
8/30/2024
SEAL

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IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
SECTIONS AND DETAILS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S4.4

SDG
STRUCTURAL DESIGN GROUP
300 Chase Park South, Suite 125
Hoover, AL 35244
tel 205-824-5200
fax 205-824-5280
Job Number 23-277

No.	Date	Description
Revisions		

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER CRAIG WINN
P.E.
8/30/2024
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IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
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CITY OF IRONDALE

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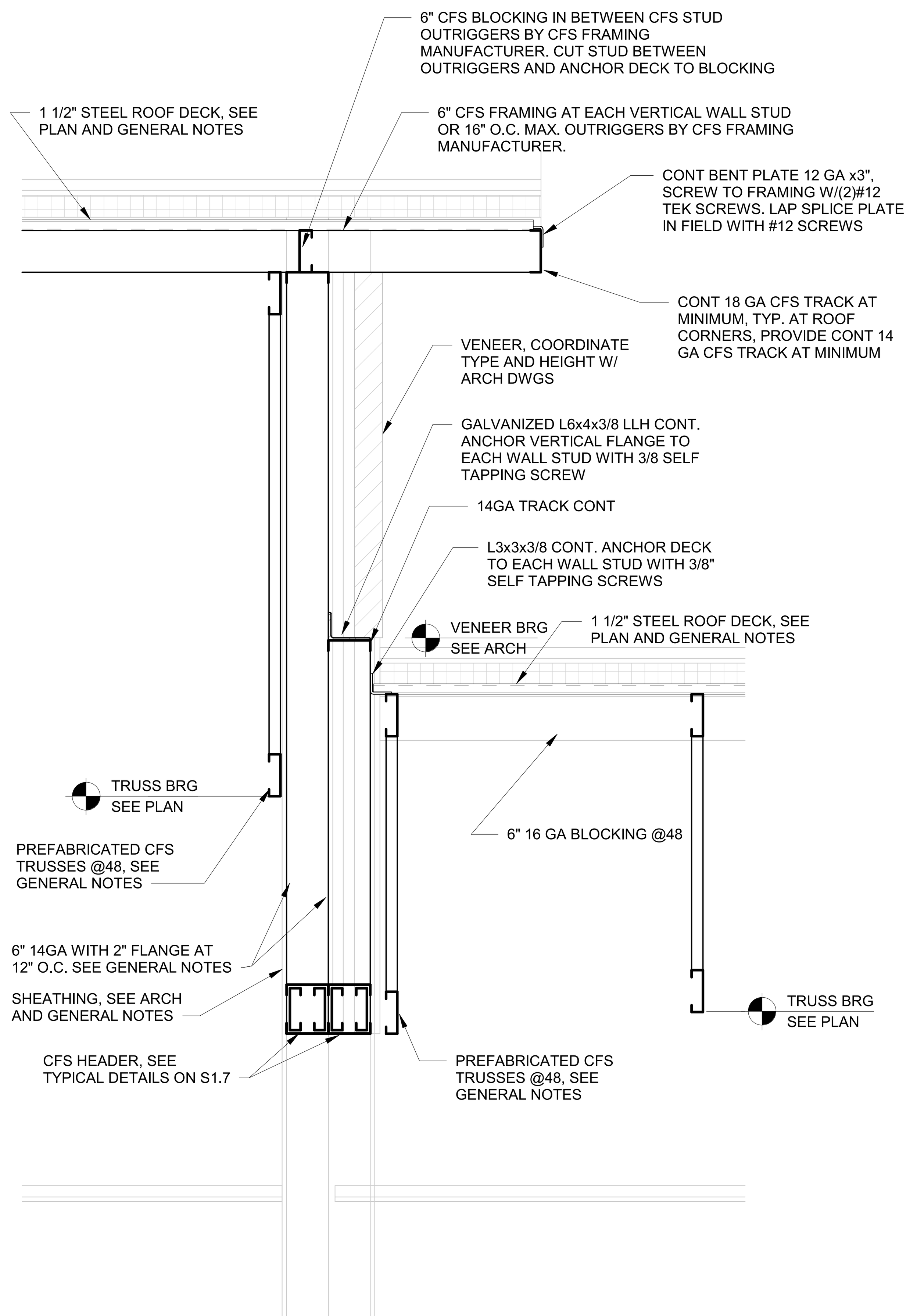
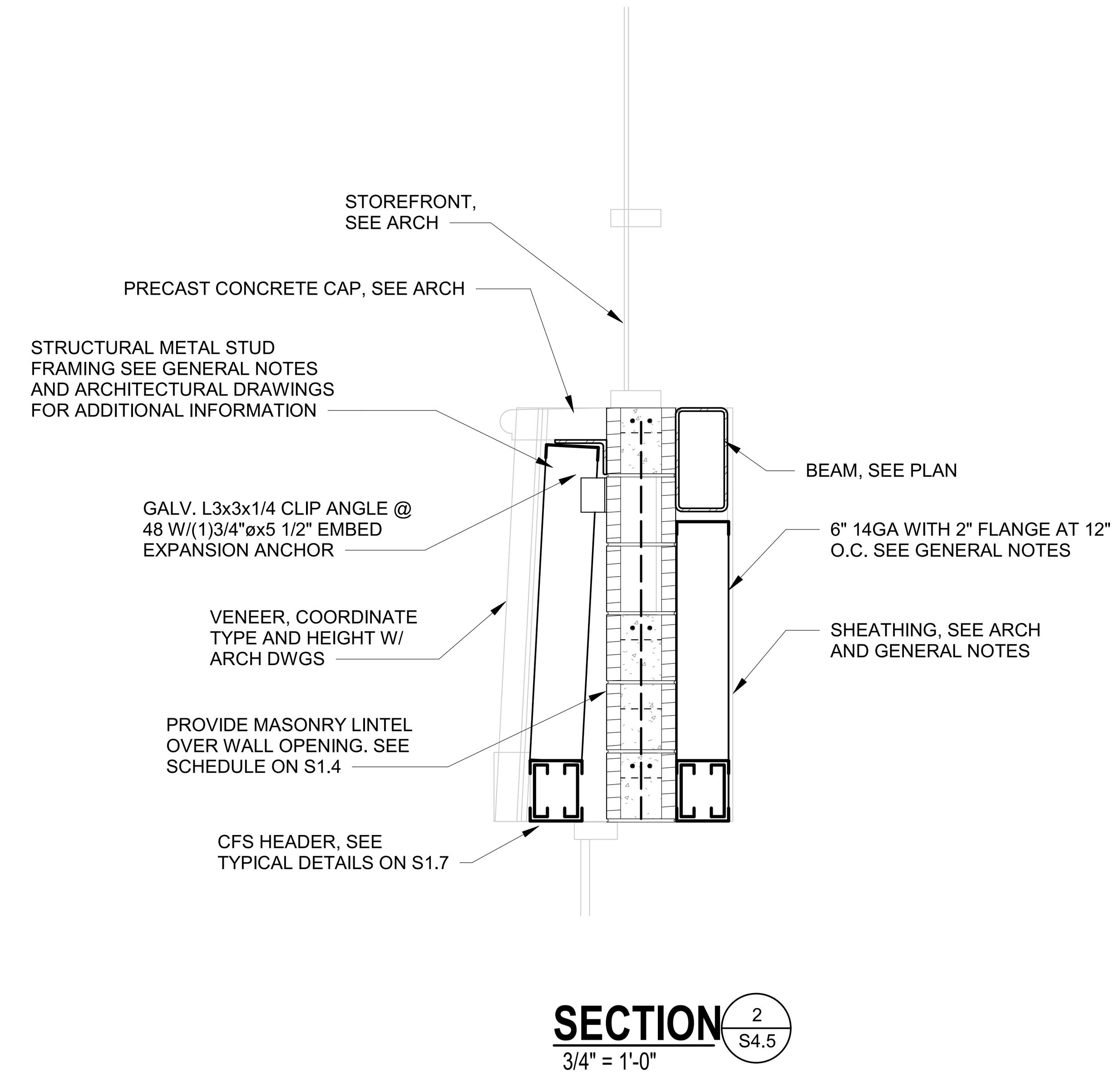
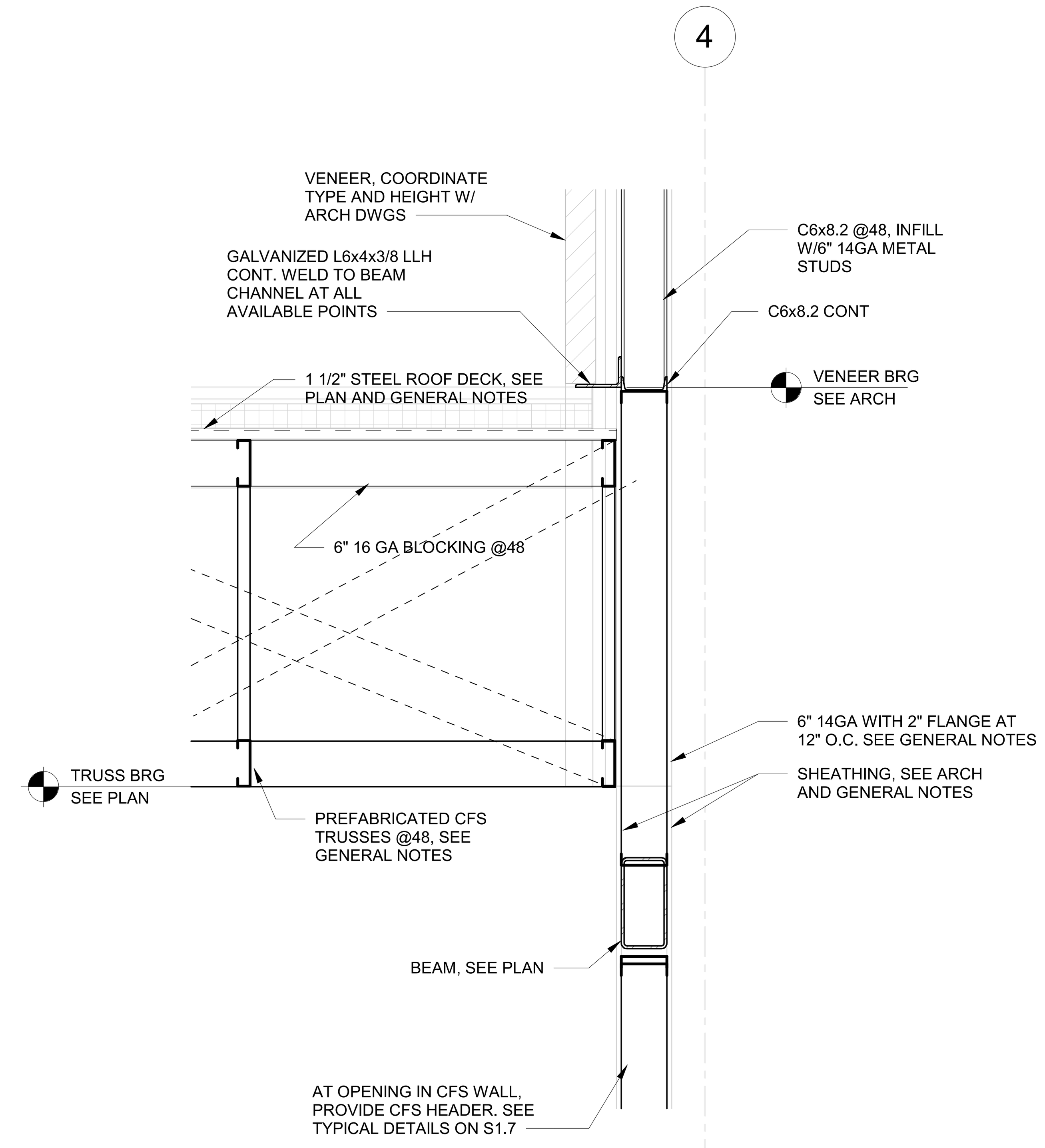
ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515



SECTION 1 S4.5
3/4" = 1'-0"



SECTION 2 S4.5
3/4" = 1'-0"



SECTION 3 S4.5
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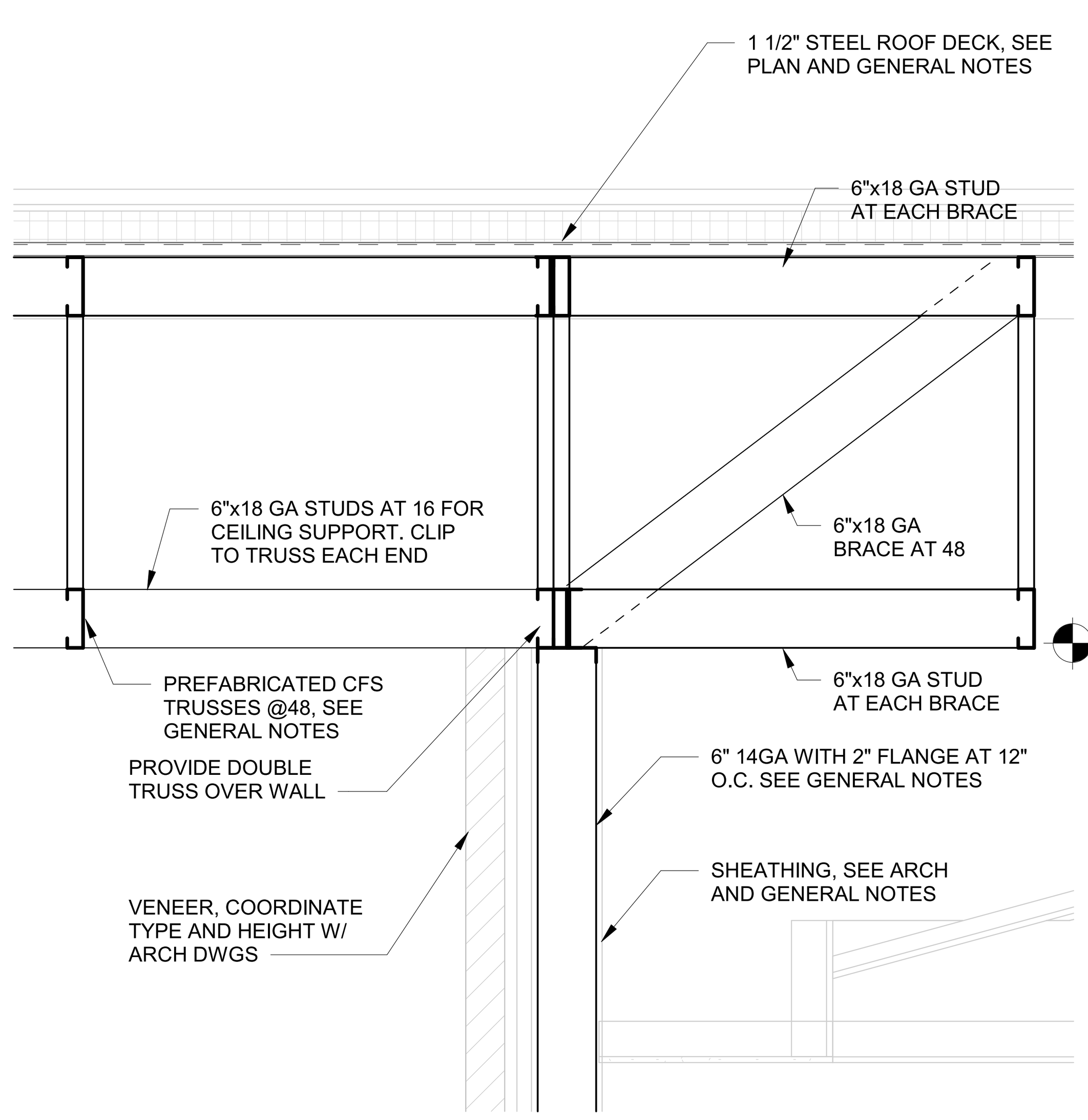
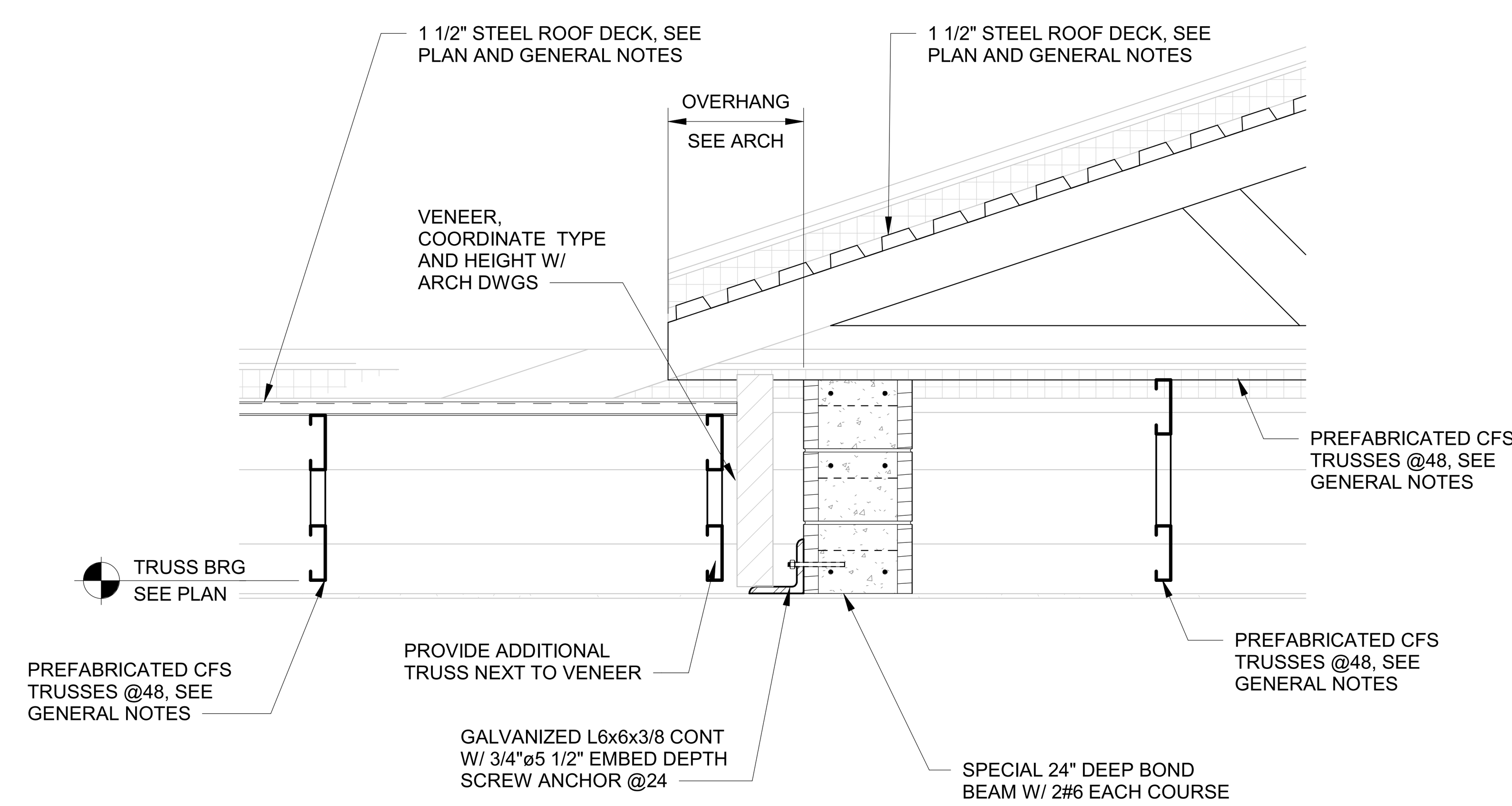
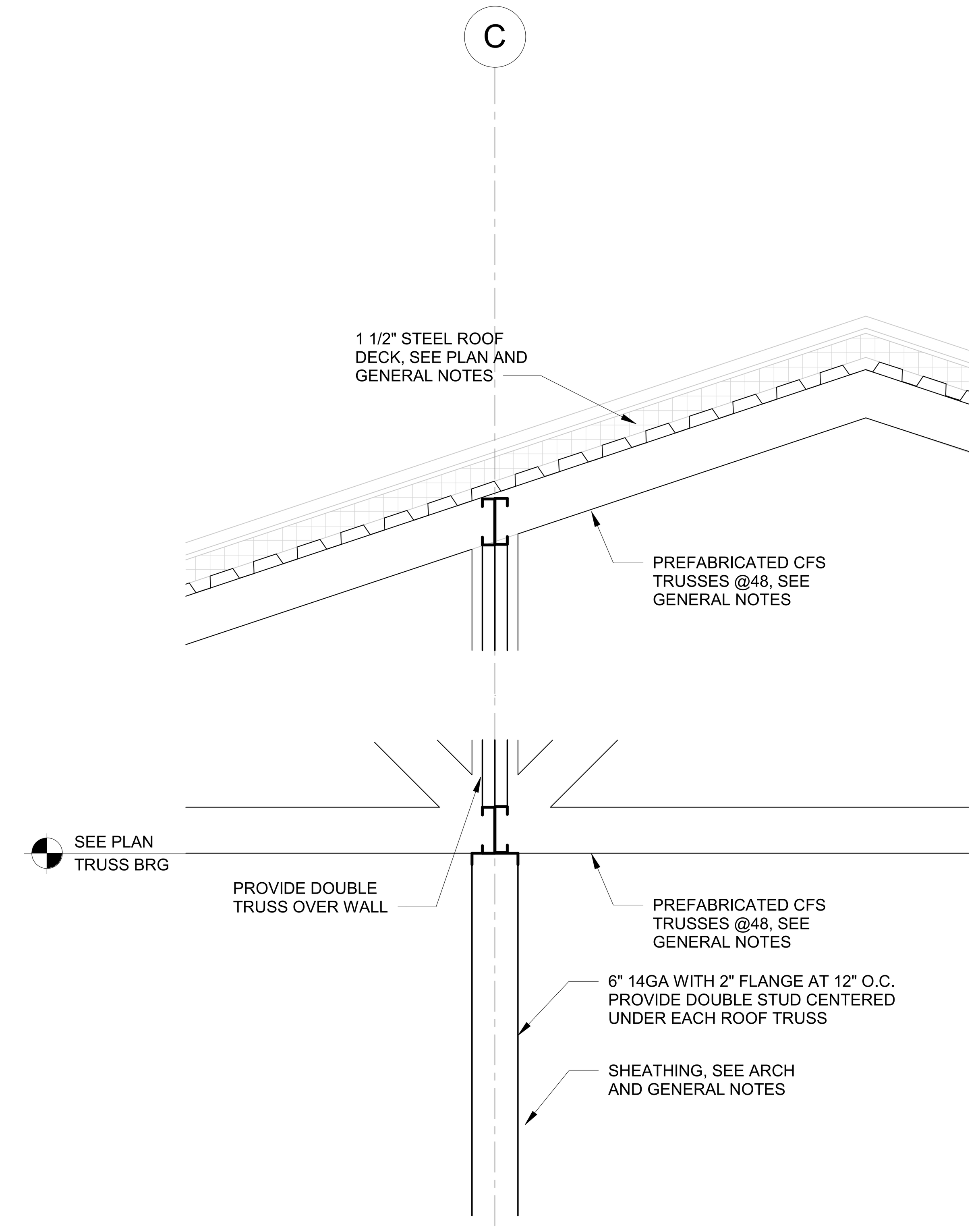


SECTION 4 S4.5
3/4" = 1'-0"



SECTION 5 S4.5
3/4" = 1'-0"

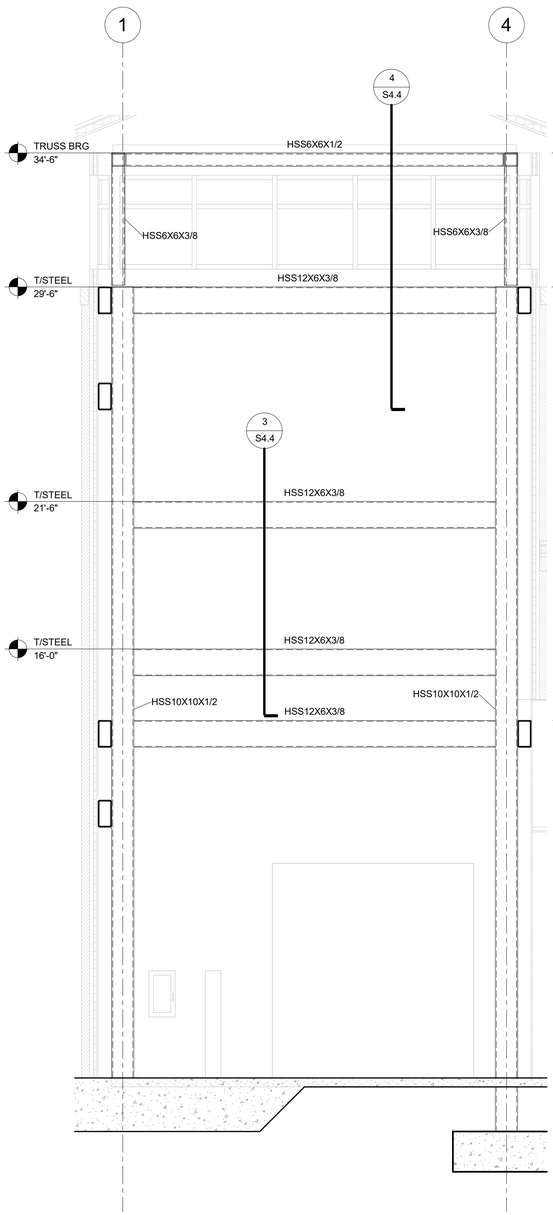


SECTION 6 S4.5
3/4" = 1'-0"

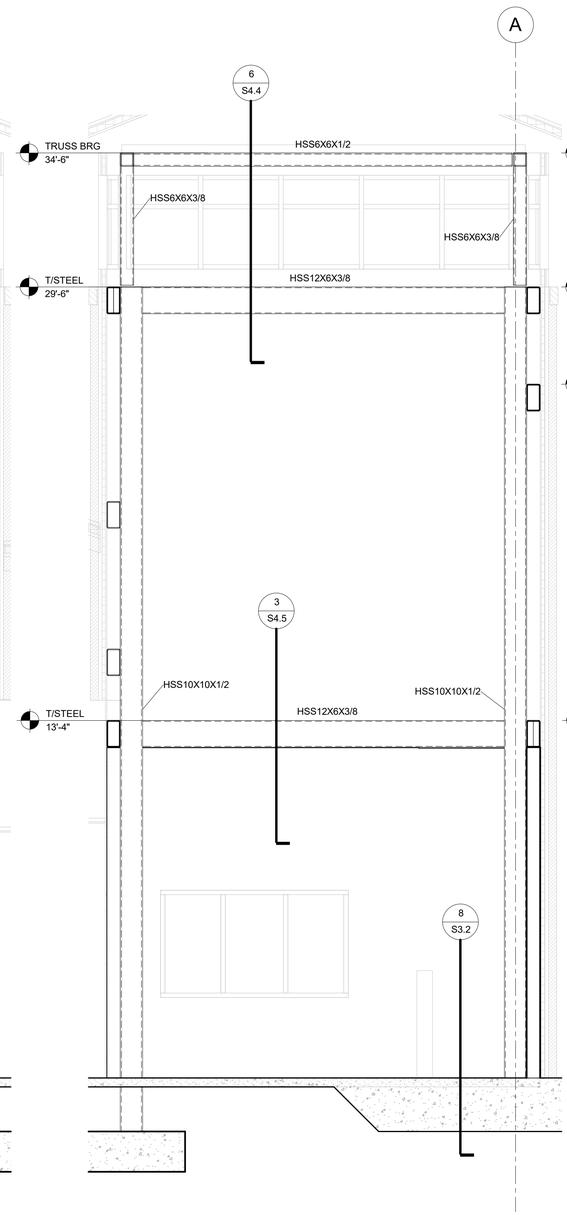
SHEET TITLE:	SECTIONS AND DETAILS
PROJECT NUMBER:	CWA No. 2023-01
DATE:	08.30.24
DRAWN BY:	TRM
CHECKED BY:	HCW
SHEET NUMBER	S4.5

SDG
STRUCTURAL DESIGN GROUP
300 Chase Park South, Suite 125
Hoover, AL 35244
tel 205-824-5200
fax 205-824-5280
Job Number **23-277**

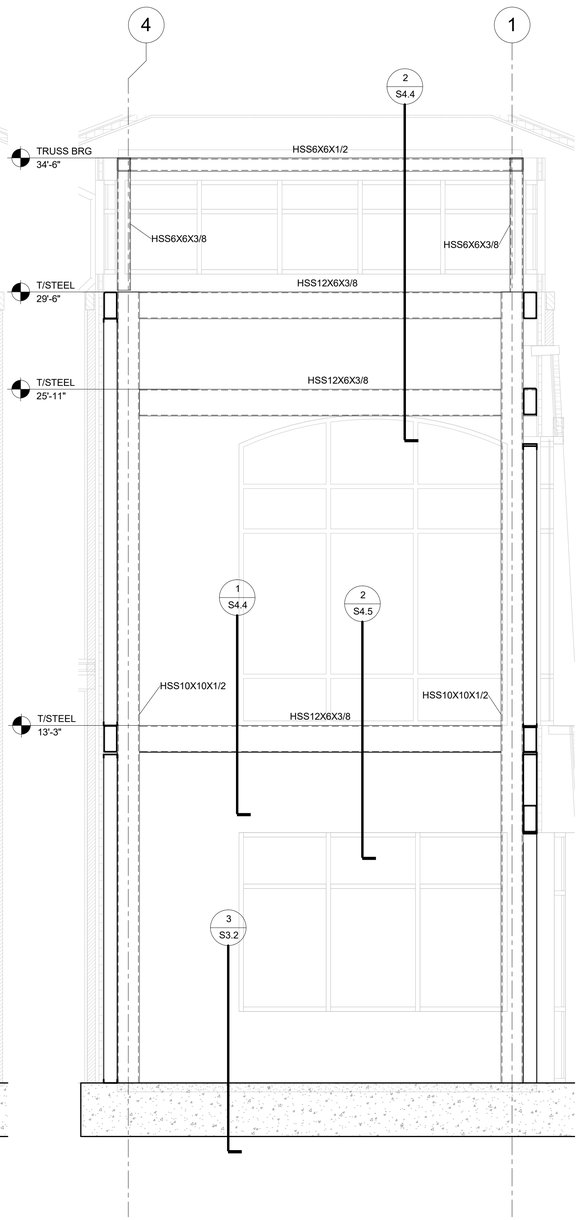
Revisions		
No.	Date	Description



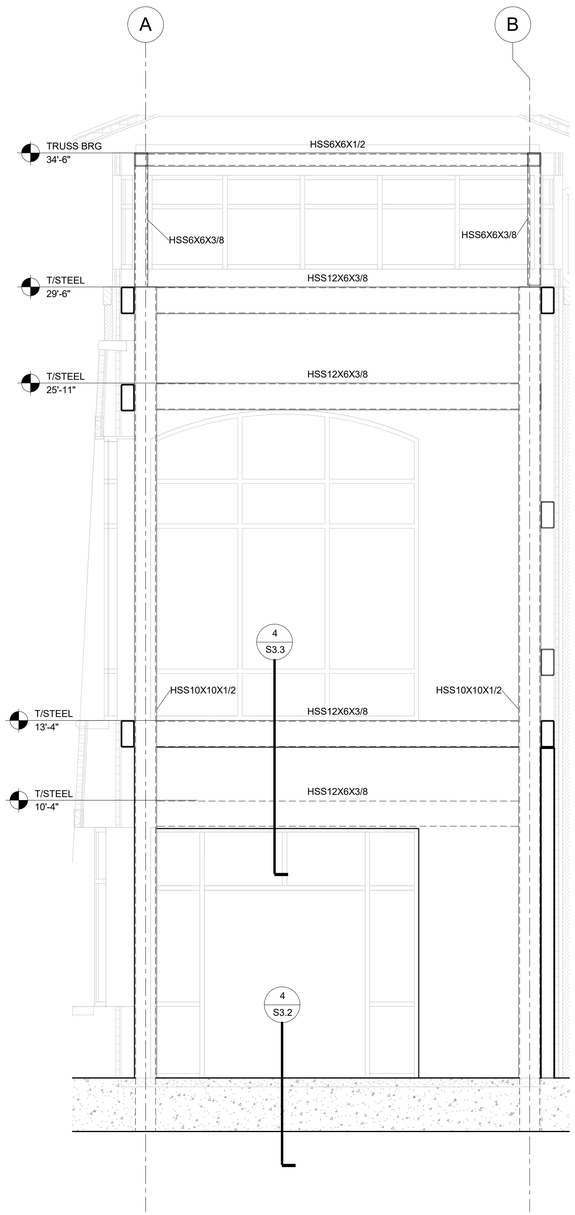
ELEVATION 1 S4.6
3/8" = 1'-0"



ELEVATION 2 S4.6
3/8" = 1'-0"



ELEVATION 3 S4.6
3/8" = 1'-0"



ELEVATION 4 S4.6
3/8" = 1'-0"

ALABAMA REGISTERED No. 22596 PROFESSIONAL ENGINEER CRAIG WINN
H. Craig Winn P.E.
8/30/2024
SEAL

100% CDs

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
SECTIONS AND DETAILS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY: **TRM**
CHECKED BY: **HCW**

SHEET NUMBER
S4.6

HANSEN
LANDSCAPE ARCHITECTURE
BIRMINGHAM, ALABAMA

Revisions

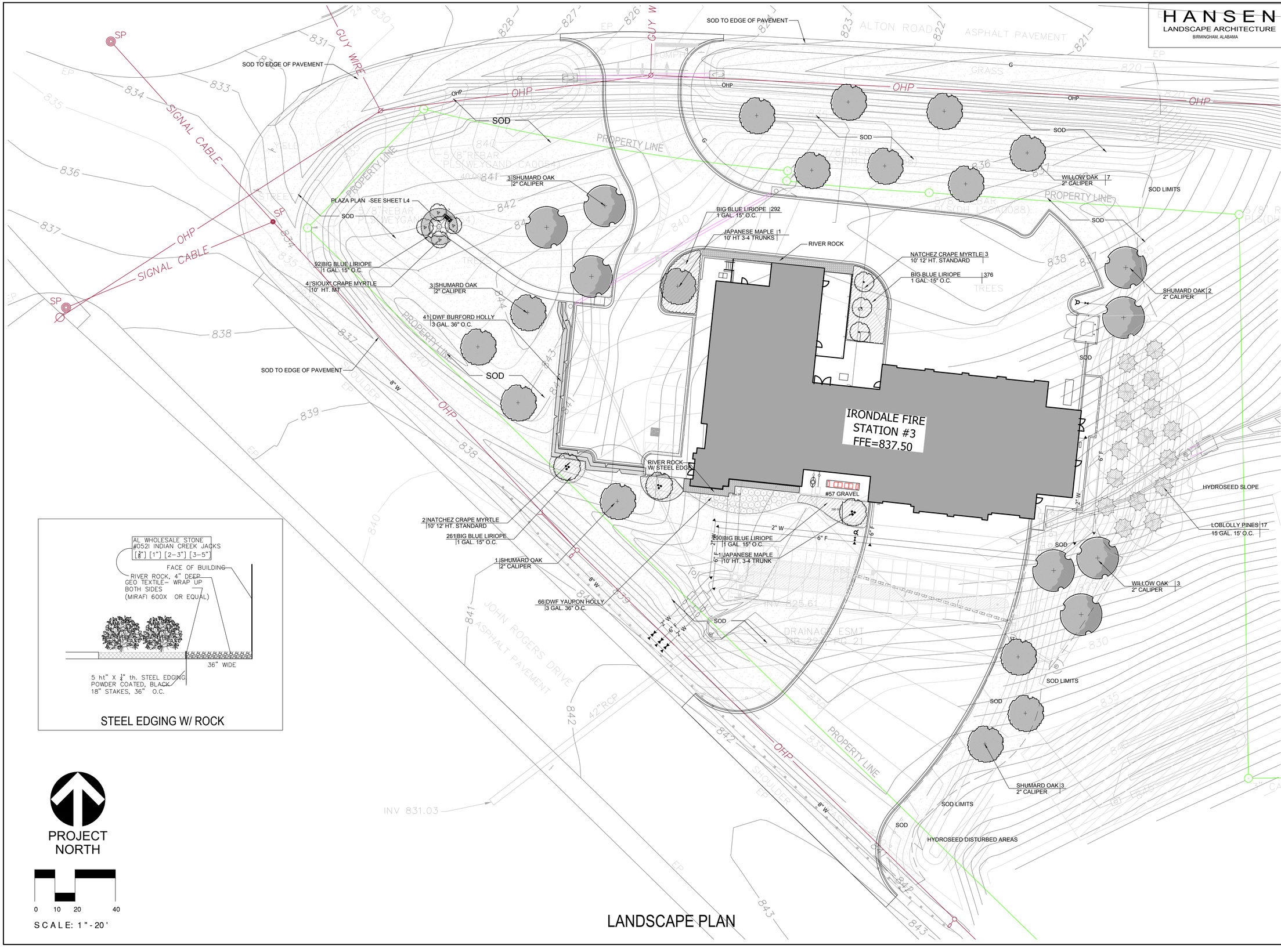
No.	Date	Description

STATE OF ALABAMA
GREGORY A HANSEN
NUMBER 416
REGISTERED LANDSCAPE ARCHITECT
SEAL

100% CD

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE



STEEL EDGING W/ ROCK

PROJECT NORTH

0 10 20 40

SCALE: 1" - 20'

LANDSCAPE PLAN

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: LANDSCAPE PLAN

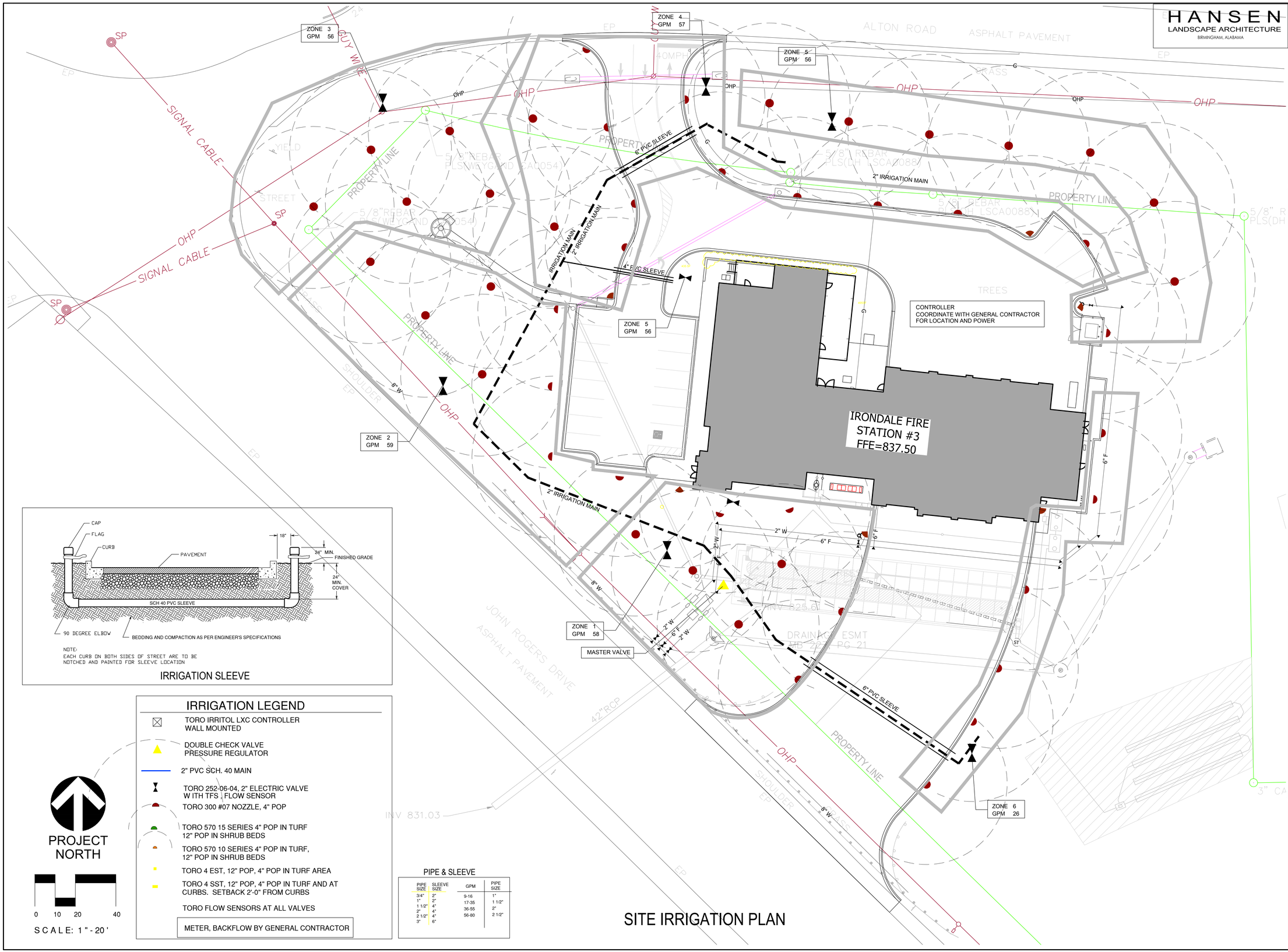
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08.30.24**

DRAWN BY: **GAH** CHECKED BY: **GAH**

SHEET NUMBER

L1



IRRIGATION SLEEVE

IRRIGATION LEGEND

- TORO IRRITOL LXC CONTROLLER WALL MOUNTED
- DOUBLE CHECK VALVE PRESSURE REGULATOR
- 2" PVC SCH. 40 MAIN
- TORO 252-06-04, 2" ELECTRIC VALVE W ITH TFS FLOW SENSOR
- TORO 300 #07 NOZZLE, 4" POP
- TORO 570 15 SERIES 4" POP IN TURF 12" POP IN SHRUB BEDS
- TORO 570 10 SERIES 4" POP IN TURF, 12" POP IN SHRUB BEDS
- TORO 4 EST, 12" POP, 4" POP IN TURF AREA
- TORO 4 SST, 12" POP, 4" POP IN TURF AND AT CURBS. SETBACK 2'-0" FROM CURBS
- TORO FLOW SENSORS AT ALL VALVES

METER, BACKFLOW BY GENERAL CONTRACTOR

PROJECT NORTH

0 10 20 40

SCALE: 1 " - 20 '

PIPE & SLEEVE

PIPE SIZE	SLEEVE SIZE	GPM	PIPE SIZE
3/4"	2"	9-16	1"
1"	2"	17-35	1 1/2"
1 1/2"	4"	36-55	2"
2"	4"	56-80	2 1/2"
2 1/2"	4"		
3"	6"		

SITE IRRIGATION PLAN

HANSEN
LANDSCAPE ARCHITECTURE
BIRMINGHAM, ALABAMA

Revisions

No.	Date	Description

STATE OF ALABAMA
GREGORY A HANSEN
NUMBER 416
REGISTERED LANDSCAPE ARCHITECT
SEAL

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IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: SITE IRRIGATION PLAN

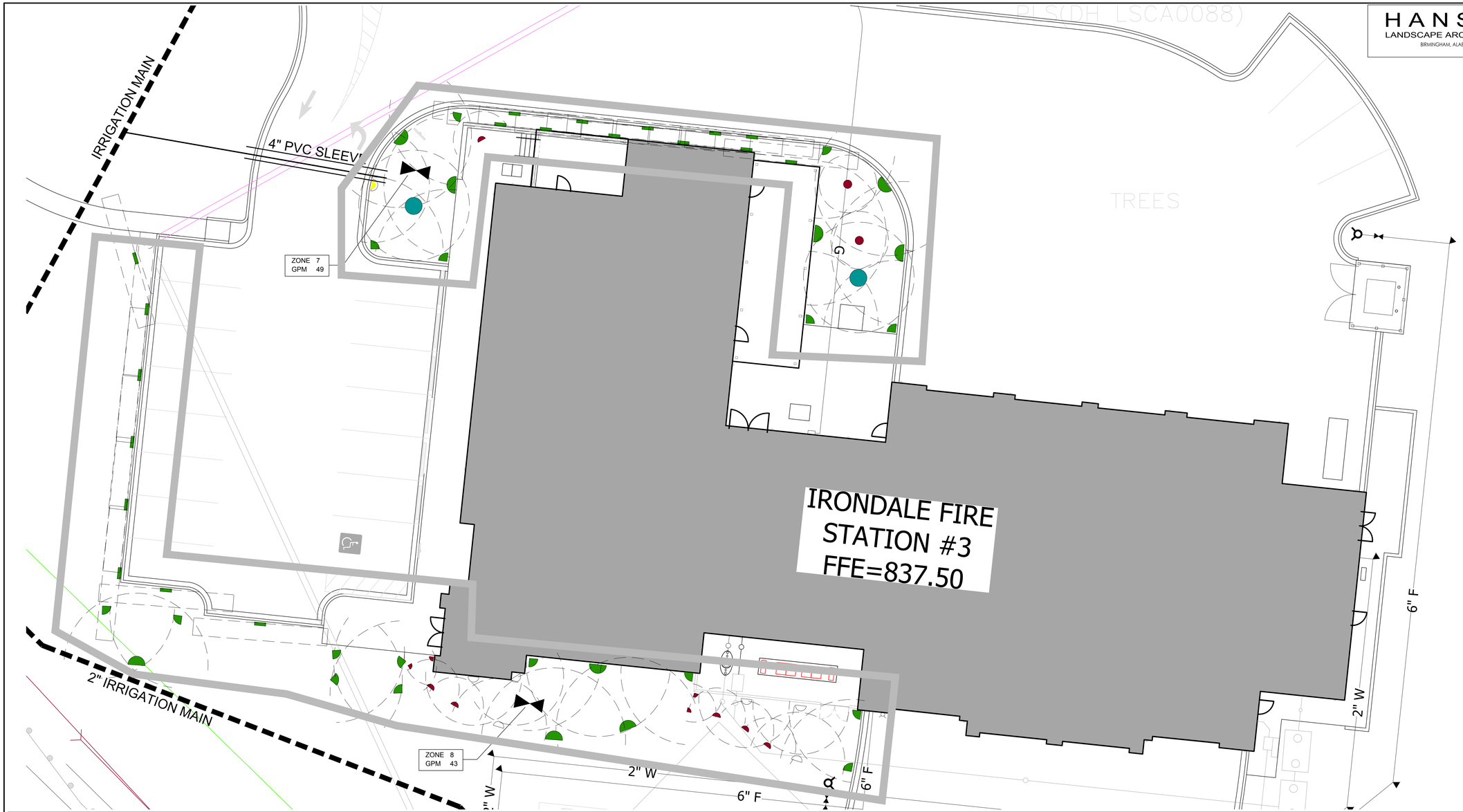
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08.30.24**

DRAWN BY: **GAH** | CHECKED BY: **GAH**

SHEET NUMBER

L 2



BUILDING IRRIGATION PLAN

IRRIGATION LEGEND

- TORO IRRITOL LXC CONTROLLER WALL MOUNTED
- DOUBLE CHECK VALVE PRESSURE REGULATOR
- 2" PVC SCH. 40 MAIN
- TORO 252-06-04, 2" ELECTRIC VALVE W ITH TFS , FLOW SENSOR
- TORO 300 #07 NOZZLE, 4" POP
- TORO 570 15 SERIES 4" POP IN TURF 12" POP IN SHRUB BEDS
- TORO 570 10 SERIES 4" POP IN TURF, 12" POP IN SHRUB BEDS
- TORO 4 EST, 12" POP, 4" POP IN TURF AREA
- TORO 4 SST, 12" POP, 4" POP IN TURF AND AT CURBS. SETBACK 2'-0" FROM CURBS
- TORO FLOW SENSORS AT ALL VALVES

METER, BACKFLOW BY GENERAL CONTRACTOR

PROJECT NORTH

0 5 10 20

SCALE: 1 " - 10 '

PIPE & SLEEVE

PIPE SIZE	SLEEVE SIZE	GPM	PIPE SIZE
3/4"	2"	9-16	1"
1"	2"	17-35	1 1/2"
1 1/2"	4"	36-55	2"
2"	4"	56-80	2 1/2"
2 1/2"	4"		
3"	6"		

HANSEN
LANDSCAPE ARCHITECTURE
BIRMINGHAM, ALABAMA

Revisions

No.	Date	Description

STATE OF ALABAMA
GREGORY A HANSEN
NUMBER 416
REGISTERED LANDSCAPE ARCHITECT
SEAL

100% CD

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CWA
CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: BUILDING IRRIGATION PLAN

PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08.30.24**

DRAWN BY: **GAH** | CHECKED BY: **GAH**

SHEET NUMBER

L 3

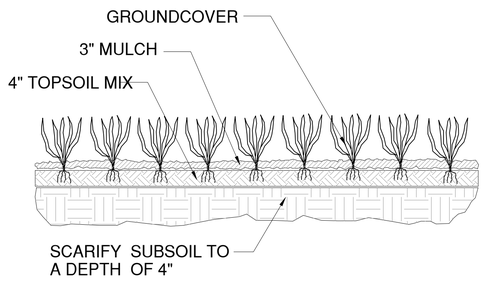
ALL TREES SHALL BE SELECTED BY THE LANDSCAPE ARCHITECT
AT ONE OF THE FOLLWOING LISTED NURSERIES OR EQUAL
AS APPROVED BY THE LANDSCAPE ARCHITECT.

PLANTATION TREE CO.
120 COUNTY RD 15 SOUTH
SELMA, AL 36703
(800)848-5064

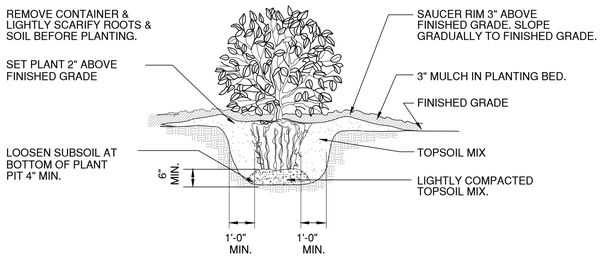
HUNTER TREES
700 INDIAN VALLEY RD
ALPINE, AL 35014
205 296 6401

GREENVALLEY FARMS
12975 Highway 17
Montevallo, AL 35115
205.665.1376

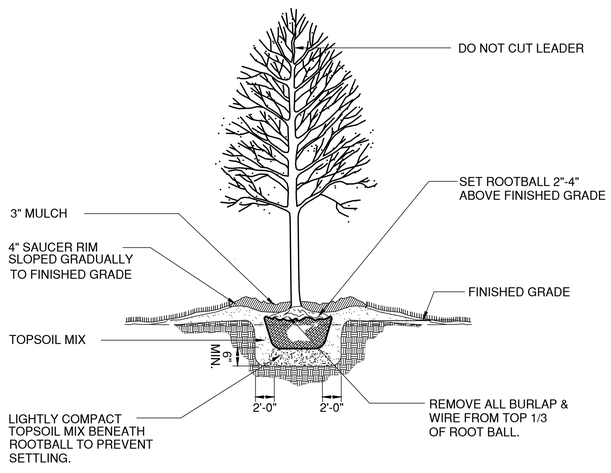
1 APPROVED TREE FARMS



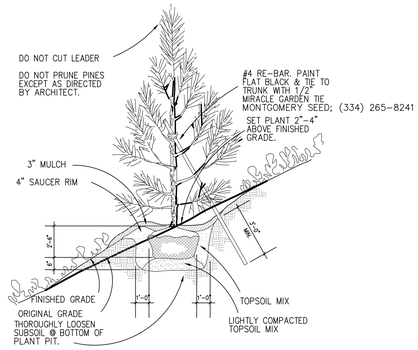
2 GROUNDCOVER DETAIL



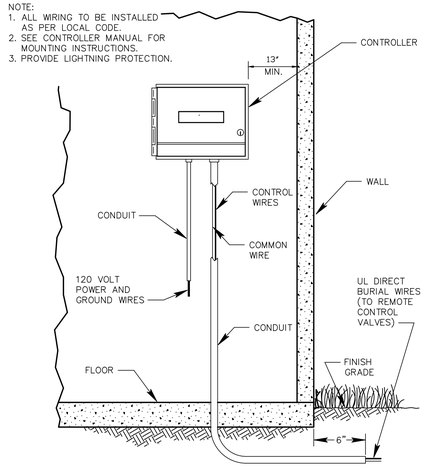
3 SHRUB DETAIL



4 STANDARD TREE DETAIL



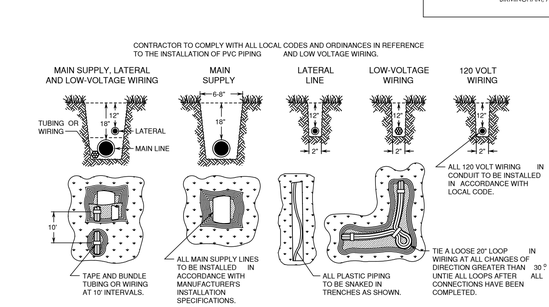
5 PINE DETAIL



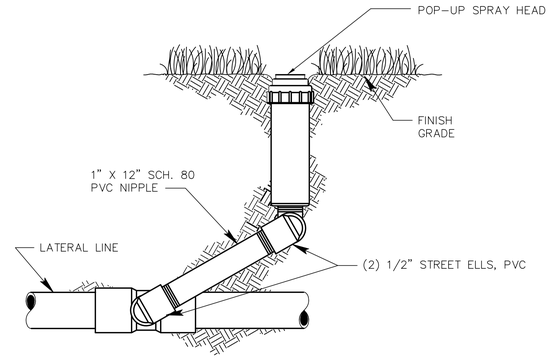
6 CONTROLER

QNTY	BOTANICAL NAME	COMMON NAME	CAL	HT	SPRD	SIZE CONT	SPACING	COMMENTS
2	ACER PALMATUM	GREEN JAPANESE MAPLE		9' HT	8'-9'	B&B 42"		3-4 TRUNK
4	LAGERSTROMEIA SIOUX	SIOUX CRAPE MYRTLE		10' HT	5'-6'	B&B 34"		SINGLE TRUNK
5	LAGERSTROEMIA INDICA 'NATCHEZ'	NATCHEZ CRAPE MYRTLE		12' HT	7'-9'	B&B 38"		3-4 TRUNK
12	QUERCUS SHUMARDI	SHUMARD OAK	2 " CAL	14'	7'-8'	B&B 26"		STRONG CENTRAL LEADER
10	QUERCUS PHELLOS	WILLOW OAK	2 " CAL	14'	7'-8'	B&B 26"		STRONG CENTRAL LEADER
17	PINUS LOBLOLLY	LOBLOLLY PINE		7'-8' HT		15 GAL		
SHRUBS								
95	ILEX VOMITORIA NANA	DWF YAUPON HOLLY		16"-18"	22"-24"	3 GAL	36"	
41	ILEX BURFORDI 'NANA	DWF BURFORD HOLLY		26"-28"	20"-22"	3 GAL	36"	
GROUND COVER								
1,221	LIRIOPE MUSCARI	BIG BLUE LIRIOPE				1 GAL	15"	
LS	CYNODON DACTYLON '419'	419 TIFWAY BERMUDA						SOLID SOD FREE OF WEEDS

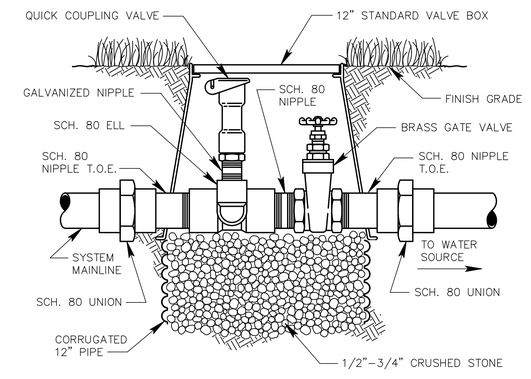
7 PLANT SCHEDULE



8 WIRE CONNECTIONS



9 IRRIGATION HEAD DETAIL



10 WATER VALVE DETAIL

1. INSTALL ALL SCHEDULE 40 PVC SLEEVES AS SHOWN ON DRAWINGS FOR BASE BID, UNLESS SPECIFIED OTHERWISE.

2. DO NOT INSTALL SLEEVES UNDER PEDESTRIAN PAVING UNLESS OTHERWISE INDICATED.

3. ALL MAIN PIPING TO BE SCHEDULE 40 PVC. ALL LATERAL LINE PIPING TO BE CLASS 200 OR 160 PVC.

4. AN UNLABELED SECTION OF PIPE LOCATED BETWEEN TWO LABLED PIPE SECTIONS IS ASSUMED TO BE THE SAME SIZE AS THE LABLED SECTIONS OF PIPE, UNLESS DETAILED DIFFERENTLY ELSEWHERE.

5. ALL PIPING, VALVES AND HEADS ARE SHOWN IN SCHEMATIC LAYOUT. ACTUAL PLACEMENT OF THESE ITEMS SHALL BE IN PLANTED AREAS WITH EXCEPTION OF PIPING IN SLEEVES, WHEREVER APPLICABLE PIPING SHALL BE LOCATED IMMEDIATELY BEHIND BACK OF CURB.

6. ADHERE TO LOCAL PLUMBING AND ELECTRICAL REQUIREMENTS.

PIPE SIZE	SLEEVE SIZE
3/4"	2"
1"	2"
1 1/2"	4"
2"	4"
2 1/2"	4"
3"	6"
NO PIPE INDICATED	6"

11 IRRIGATION NOTES

HANSEN
LANDSCAPE ARCHITECTURE
BIRMINGHAM, ALABAMA

Revisions

No.	Date	Description

STATE OF ALABAMA
GREGORY
A
HANSEN
NUMBER
416
REGISTERED LANDSCAPE ARCHITECT
SEAL

100% CD

IRONDALE FIRE STATION #3
2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

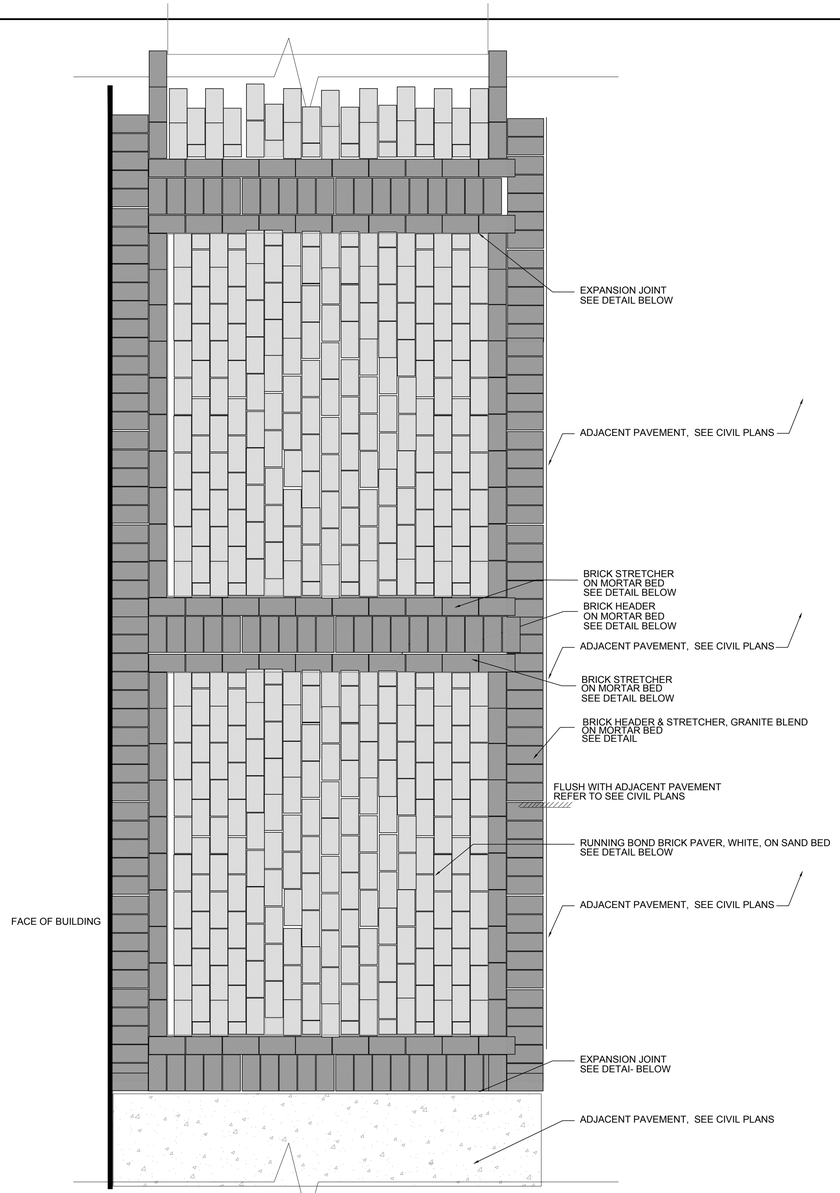
SHEET TITLE:
LANDSCAPE DETAILS

PROJECT NUMBER:
CWA No. 2023-01

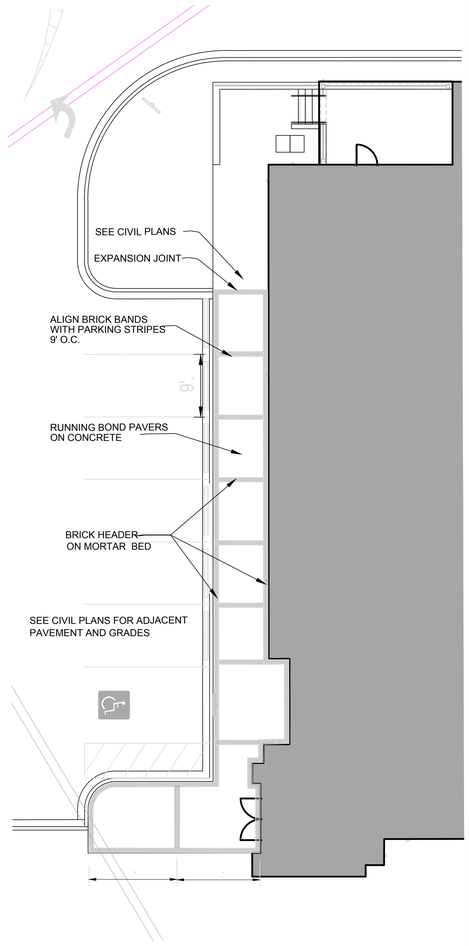
DATE:
08.30.24

DRAWN BY: **GAH**
CHECKED BY: **GAH**

SHEET NUMBER
L 4



12 PAVER PLAN NO SCALE

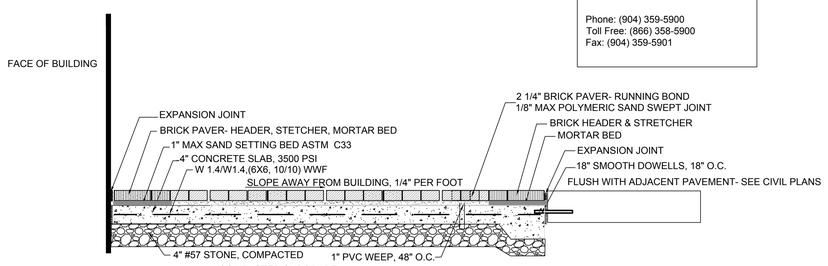


14 PAVER LAYOUT AT BUILDING

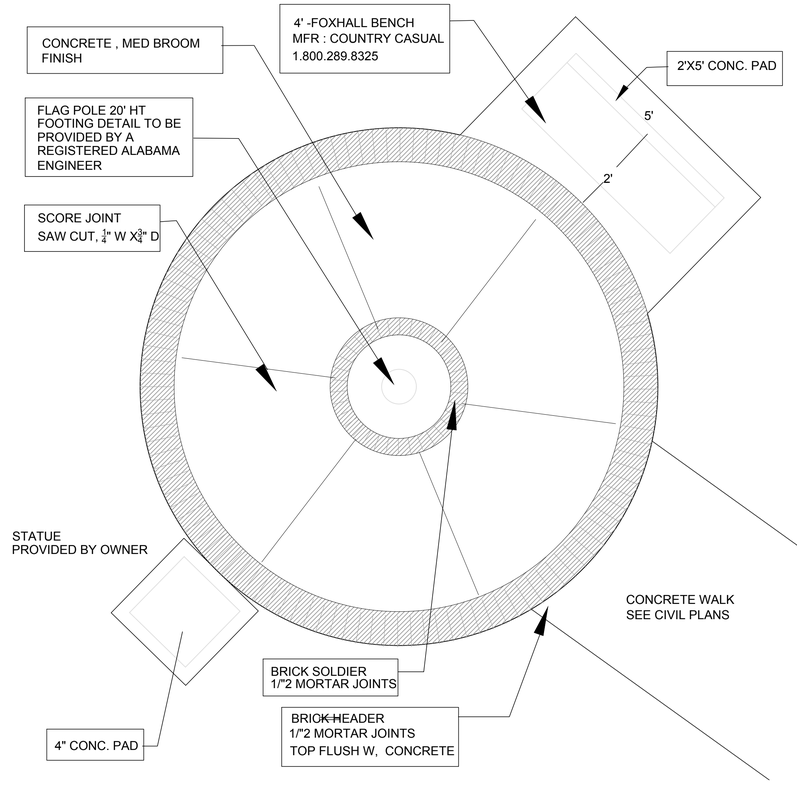
NO SCALE

PAVER
TREMRON
8" x 4" x 2-1/4" BRICK PAVERS
NATURAL GREY RUNNING BOND
CHARCOAL- HEADER

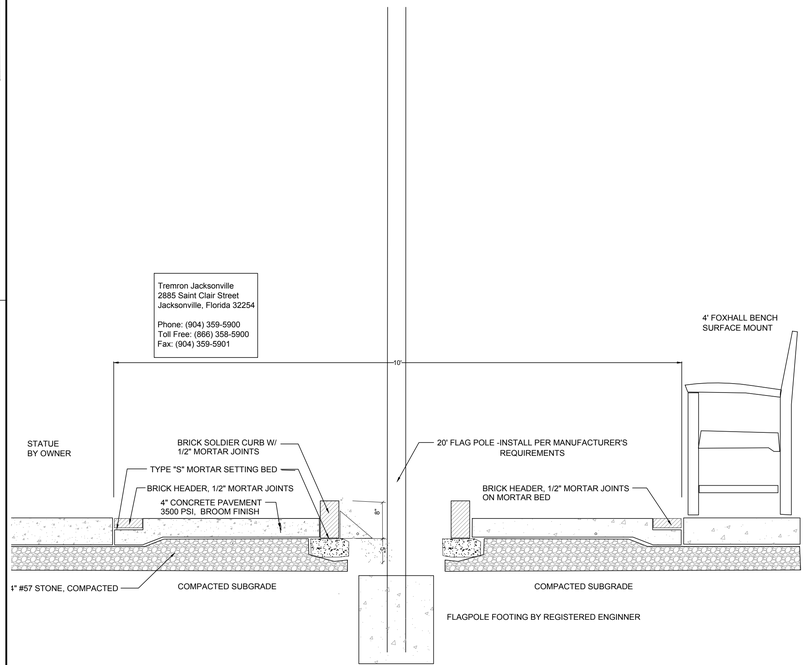
Phone: (904) 359-5900
Toll Free: (866) 358-5900
Fax: (904) 359-5901



13 PAVER SECTION DETAIL NO SCALE



15 PLAZA PLAN NO SCALE



16 PLAZA SECTION NO SCALE

HANSEN
LANDSCAPE ARCHITECTURE
BIRMINGHAM, ALABAMA

Revisions

No.	Date	Description

STATE OF ALABAMA
GREGORY A HANSEN
NUMBER 416
REGISTERED LANDSCAPE ARCHITECT
SEAL

100% CD

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

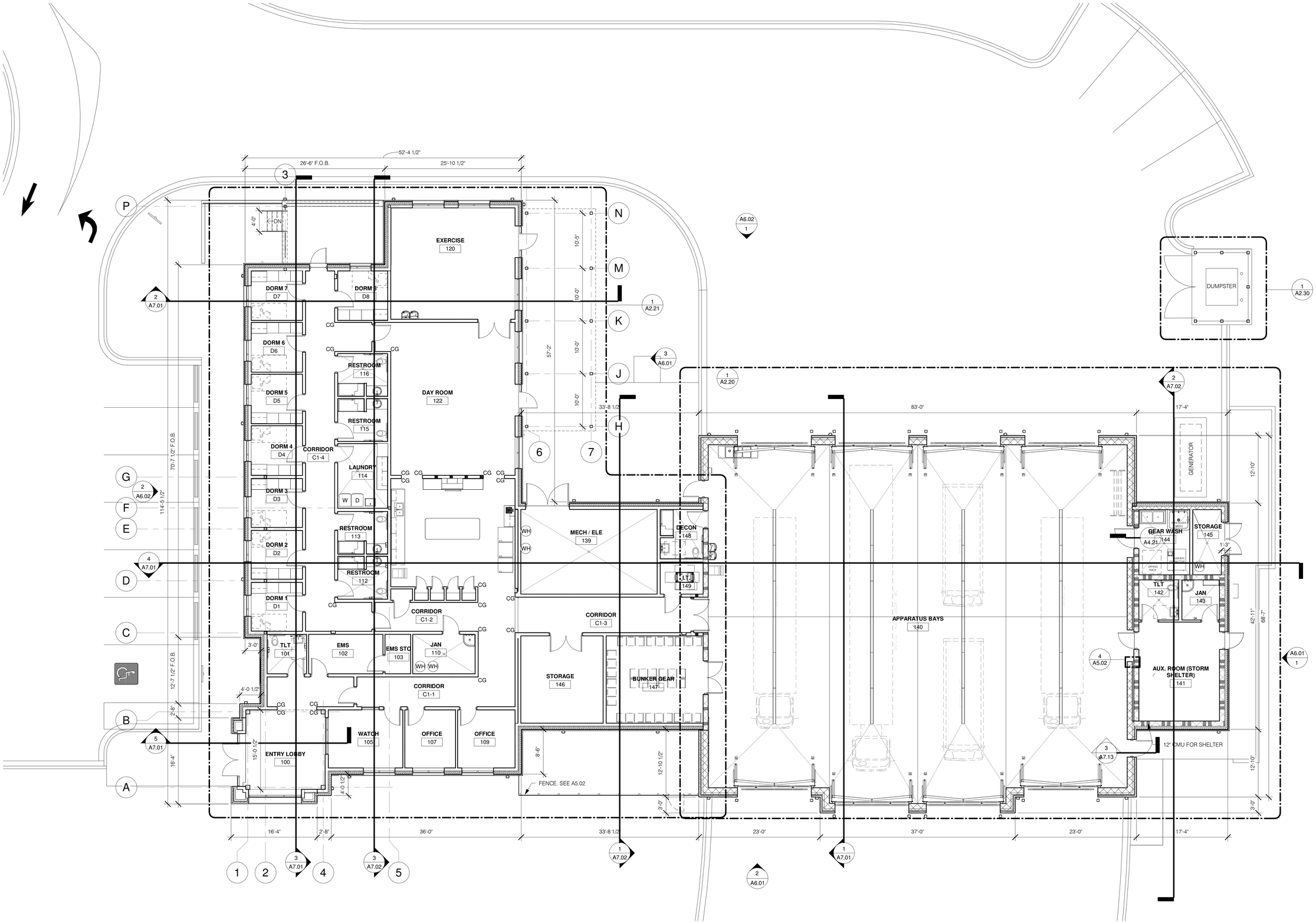
SHEET TITLE:
PAVER PLANS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
GAH	**GAH**

SHEET NUMBER
L5



1 A2.01 COMPOSITE FLOOR PLAN
1/8" = 1'-0"

Revisions		
No.	Date	Description

STATE OF ALABAMA
CHARLES V. WILLIAMS
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
FAX: 205-250-0515
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

SHEET TITLE:
OVERALL FLOOR PLAN

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

DRAWN BY:	CHECKED BY:
CSV	CW

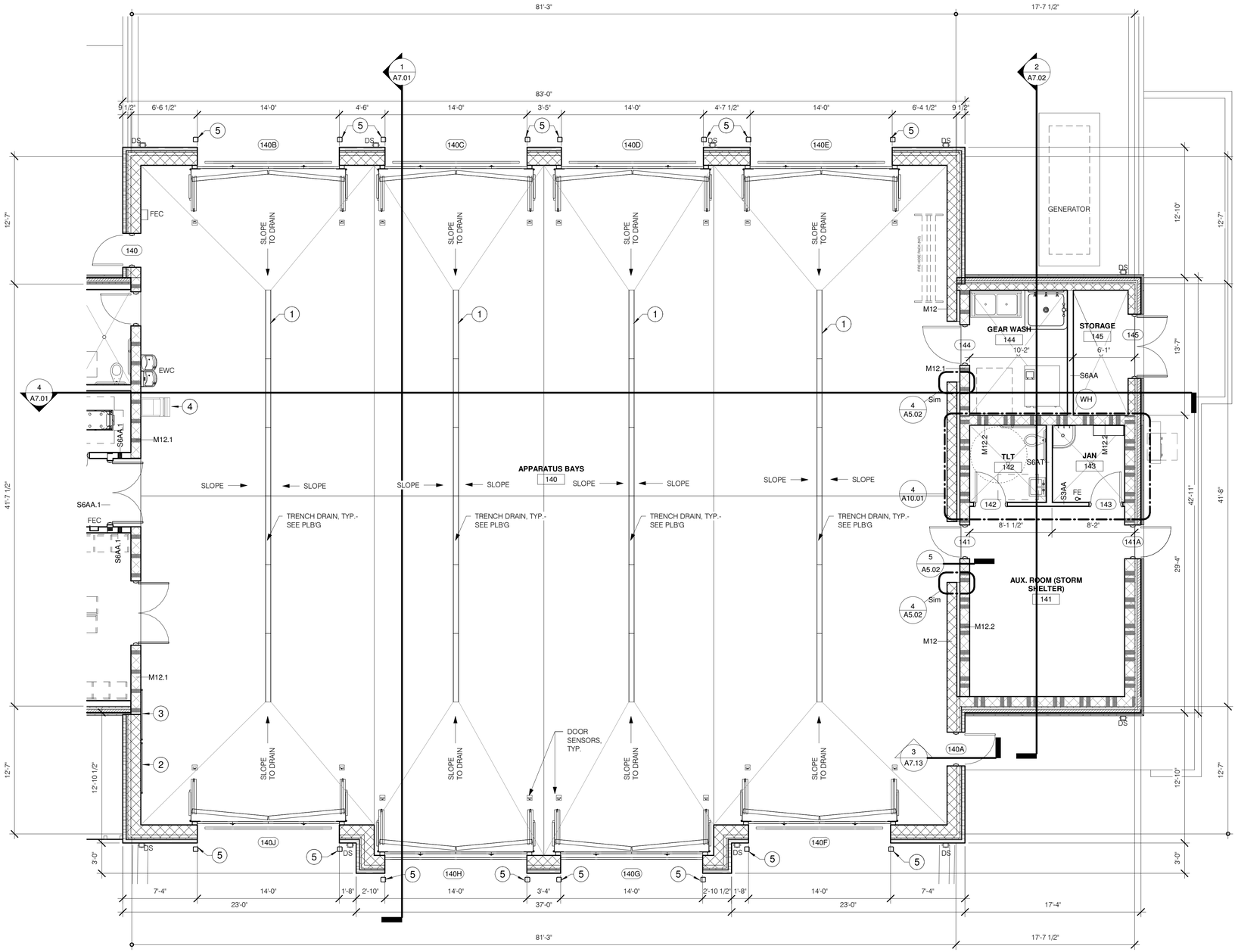
SHEET NUMBER
A2.01

ABBREVIATIONS

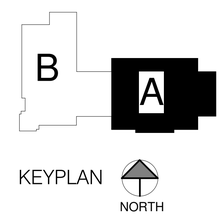
A/C	HVAC UNIT
CG	CORNER GUARD
CJ	CONTROL JOINT
DS	DOWNSPOUT
EJ	EXPANSION JOINT
EWC	ELECTRIC WATER COOLER/BOTTLE FILLER
FEC	FIRE EXTINGUISHER & CABINET
HB	HOSE BIBB
MB	MARKER BOARD
NIC	NOT IN CONTRACT (OWNER PROVIDED, CONTRACTOR INSTALLED)
TB	TACK BOARD
REF	REGRIGERATOR
DW	DISHWASHER
W	WASHER
D	DRYER
WH	WATER HEATER

PLAN SHEET NOTES

1. 40' LONG CONC POLYMER TRENCH DRAIN SYSTEM WITH HEAVY DUTY GRATE, TYP.
2. WALL RACK EQ. TO "GEARGRID CORP.- 5' WASH CENTER"
3. WALL RACK EQ. TO "GEARGRID CORP.- 5' BROOM CENTER"
4. ICE MAKER/STORAGE BIN EQ. TO "SCOTSMAN MODEL: C 0322 W/ SB 322 BIN"
5. 6" DIA STEEL BOLLARD, FILLED W/ CONCRETE. COLOR: SAFETY YELLOW. APPLY D.O.T. HIGHLY REFLECTIVE CONSPICUITY TAPE; BASIS OF DESIGN 3M 983 SERIES, 2" WIDE
6. MOBILE PPE RACKS EQ. TO GEARGRID "MOBILE 3-PACK, 20'w x 20'd x 83.25'h"
7. CAULK ALL CONTROL JOINTS WHERE CONC. FLOOR IS EXPOSED.



1 A2.20 ENLARGED PLAN - BLOCK A (BAY)
3/16" = 1'-0"



Revisions		
No.	Date	Description

STATE OF ALABAMA
CHARLES R. WILLIAMS
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
FAX: 205-250-0515
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

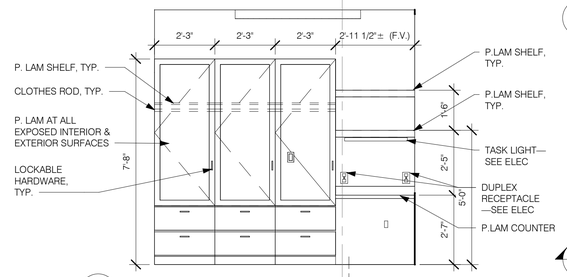
SHEET TITLE:
ENLARGED PLAN- BLOCK A (BAY)

PROJECT NUMBER:
CWA No. 2023-01

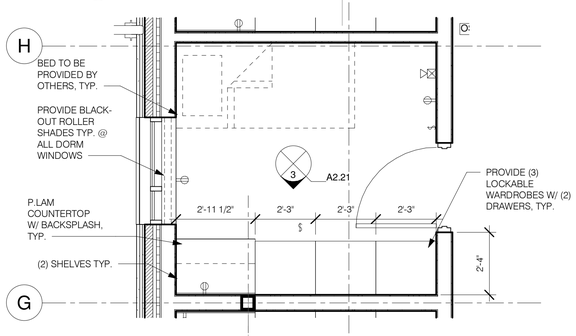
DATE:
08/30/24

DRAWN BY:	CHECKED BY:
RM	**CSV**

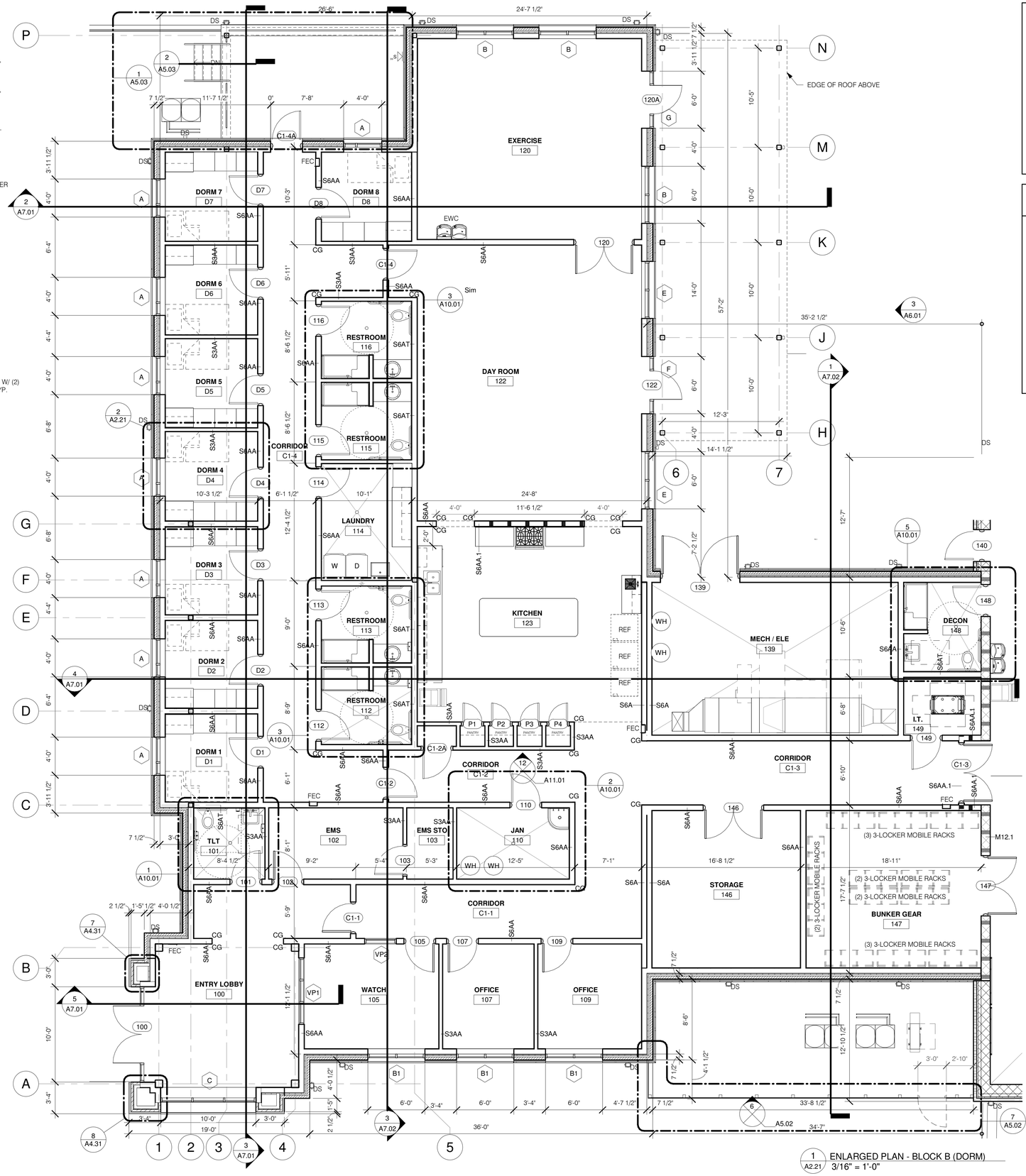
SHEET NUMBER
A2.20



3 A2.21 INT. ELEV.- TYP. DORM
3/8" = 1'-0"



2 A2.21 ENLARGED PLAN - TYP. DORM LAYOUT
3/8" = 1'-0"



1 A2.21 ENLARGED PLAN - BLOCK B (DORM)
3/16" = 1'-0"

ABBREVIATIONS

A/C	HVAC UNIT
CG	CORNER GUARD
CJ	CONTROL JOINT
DS	DOWNSPOUT
EJ	EXPANSION JOINT
EWC	ELECTRIC WATER COOLER/BOTTLE FILLER
FEC	FIRE EXTINGUISHER & CABINET
HB	HOSE BIBB
MB	MARKER BOARD
NIC	NOT IN CONTRACT (OWNER PROVIDED, CONTRACTOR INSTALLED)
TB	TACK BOARD
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DW	DISHWASHER
W	WASHER
D	DRYER
WH	WATER HEATER

PLAN SHEET NOTES

1. 40' LONG CONC POLYMER TRENCH DRAIN SYSTEM WITH HEAVY DUTY GRATE, TYP.
2. WALL RACK EQ. TO "GEARGRID CORP.- 5' WASH CENTER"
3. WALL RACK EQ. TO "GEARGRID CORP.- 5' BROOM CENTER"
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5. 6" DIA STEEL BOLLARD, FILLED W/ CONCRETE. COLOR: SAFETY YELLOW. APPLY D.O.T. HIGHLY REFLECTIVE CONSPICUITY TAPE; BASIS OF DESIGN 3M 983 SERIES, 2' WIDE
6. MOBILE PPE RACKS EQ. TO GEARGRID "MOBILE 3-PACK, 20'w x 20'd x 83.25"h"
7. CAULK ALL CONTROL JOINTS WHERE CONC. FLOOR IS EXPOSED.

Revisions

No.	Date	Description

STATE OF ALABAMA — REGISTERED ARCHITECT — NO. 2925 — SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
ENLARGED PLAN- BLOCK B (DORM)

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

DRAWN BY: **RM** | CHECKED BY: **CSV**

KEYPLAN — NORTH

SHEET NUMBER
A2.21

Revisions		
No.	Date	Description

STATE OF ALABAMA
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

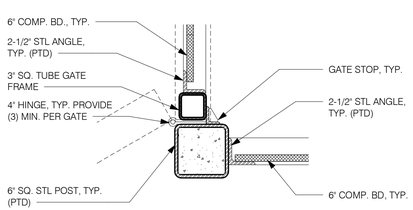
SHEET TITLE:
DUMSPTER ENCLOSURE PLAN & DETAILS

PROJECT NUMBER:
CWA No. 2023-01

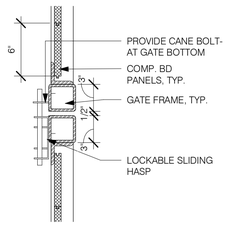
DATE:
08/30/24

DRAWN BY:	CHECKED BY:
CSV	**CW**

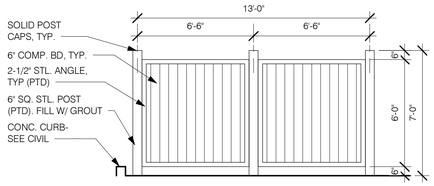
SHEET NUMBER
A2.30



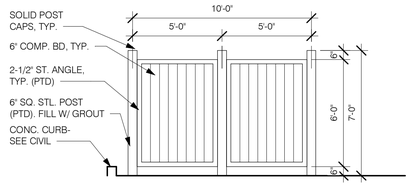
6 A2.30 GATE DETAIL @ POST
1 1/2" = 1'-0"



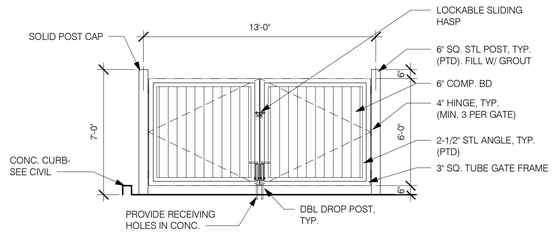
5 A2.30 GATE DETAIL- LATCH
1 1/2" = 1'-0"



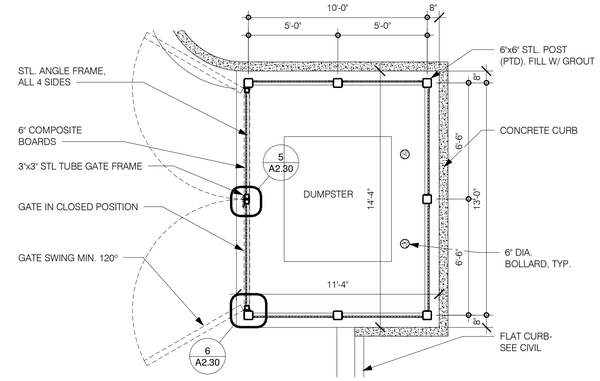
4 A2.30 DUMPSTER ELEV- REAR
1/4" = 1'-0"



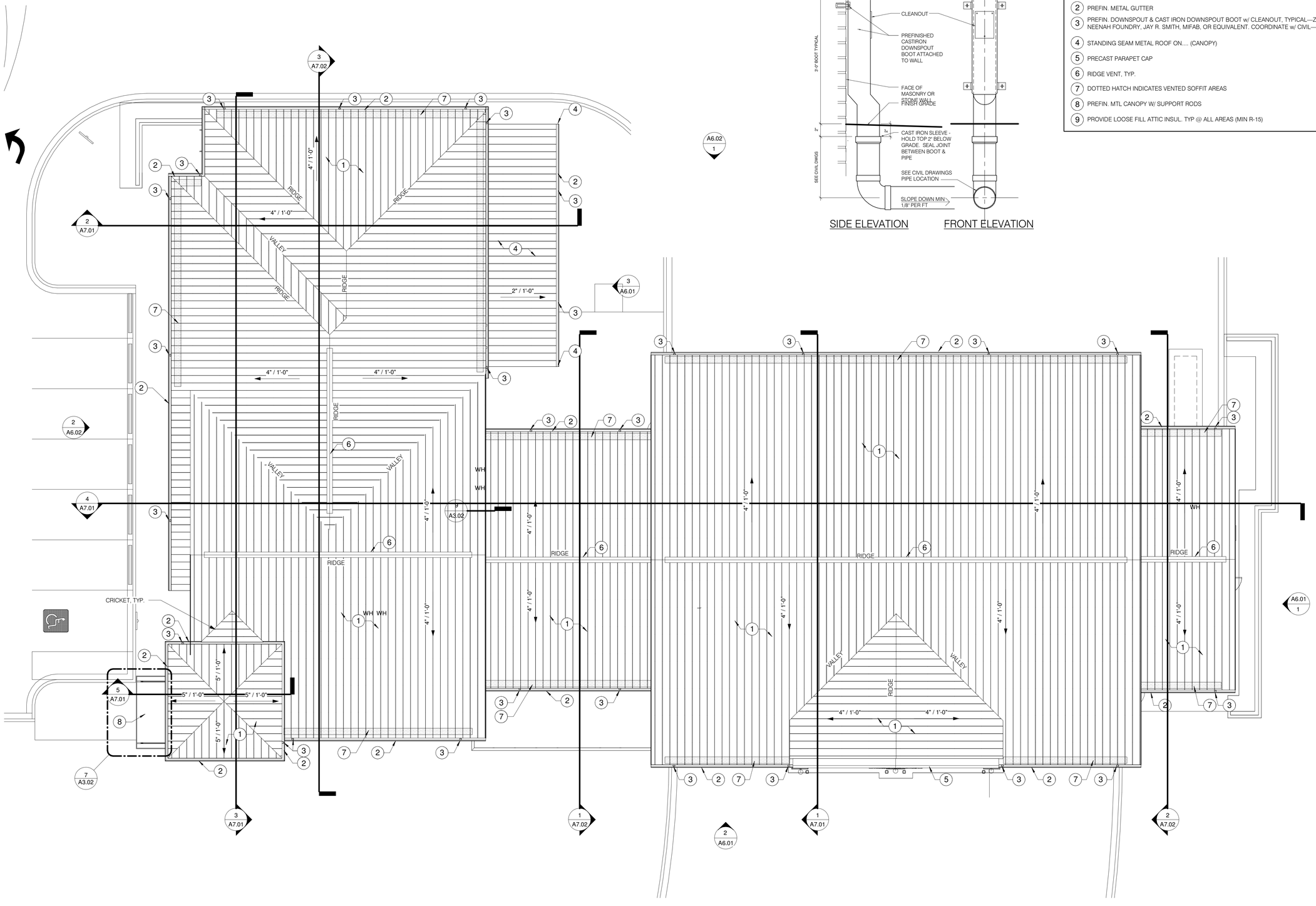
3 A2.30 DUMPSTER ELEV- SIDE
1/4" = 1'-0"

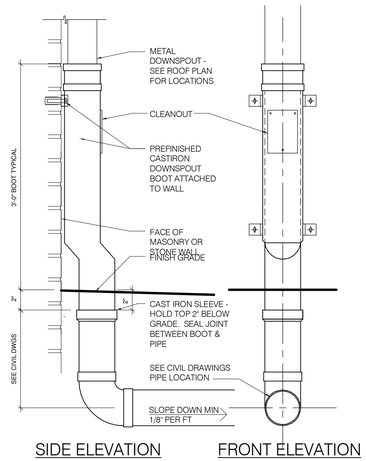


2 A2.30 DUMPSTER ELEV- GATE
1/4" = 1'-0"



1 A2.30 DUMPSTER FENCE PLAN
1/4" = 1'-0"





SIDE ELEVATION FRONT ELEVATION

ROOF PLAN KEYNOTES

1. STANDING SEAM METAL ROOF ON 1/2" SHEATHING ON 3" RIGID INSUL.
2. PREFIN. METAL GUTTER
3. PREFIN. DOWNSPOUT & CAST IRON DOWNSPOUT BOOT w/ CLEANOUT, TYPICAL—ZURN, NEENAH FOUNDRY, JAY R. SMITH, MIFAB, OR EQUIVALENT. COORDINATE w/ CIVIL—SEE C2.1.
4. STANDING SEAM METAL ROOF ON.... (CANOPY)
5. PRECAST PARAPET CAP
6. RIDGE VENT, TYP.
7. DOTTED HATCH INDICATES VENTED SOFFIT AREAS
8. PREFIN. MTL CANOPY W/ SUPPORT RODS
9. PROVIDE LOOSE FILL ATTIC INSUL. TYP @ ALL AREAS (MIN R-15)

1 A3.01 ROOF PLAN
1/8" = 1'-0"

Revisions

No.	Date	Description

STATE OF ALABAMA — CHARLES V. WILLIAMS — REGISTERED ARCHITECT — NO. 2925 — SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: **ROOF PLAN**

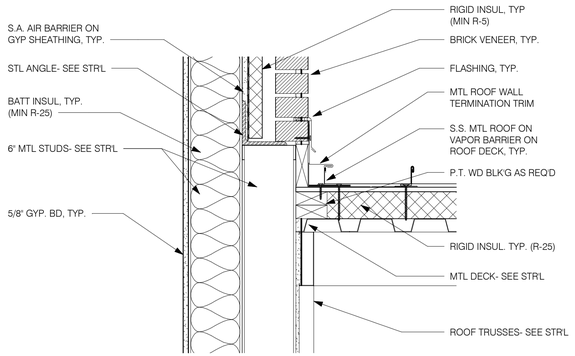
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08/30/24**

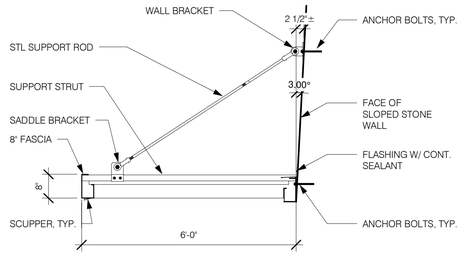
DRAWN BY:	CHECKED BY:
RM	**CSV**

SHEET NUMBER

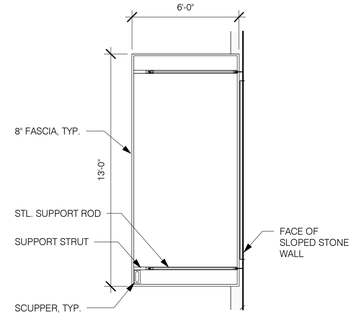
A3.01



9 A3.02 ROOF DETAIL
1 1/2" = 1'-0"



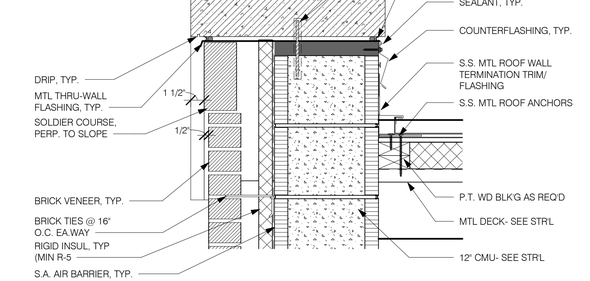
8 A3.02 CANOPY SECTION
1/2" = 1'-0"



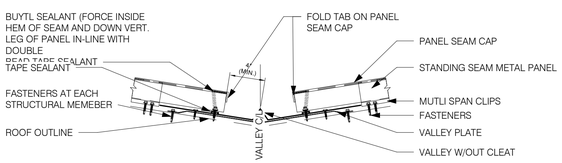
7 A3.02 CANOPY PLAN
1/4" = 1'-0"

6 A3.02 CANOPY ROOF EDGE
1 1/2" = 1'-0"

5 A3.02 ROOF DETAIL
1 1/2" = 1'-0"

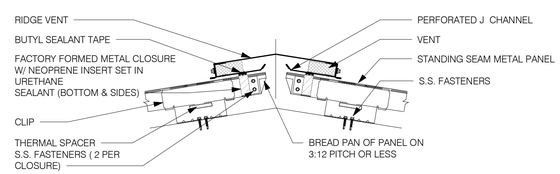


4 A3.02 ROOF DETAIL
1 1/2" = 1'-0"



3 A3.02 VALLEY DETAIL
1 1/2" = 1'-0"

2 A3.02 VENT STACK DETAIL- METAL ROOF
1 1/2" = 1'-0"



1 A3.02 ROOF DETAILS- RIDGE VENT
1 1/2" = 1'-0"

Revisions		
No.	Date	Description

STATE OF ALABAMA · CHARLES WILLIAMS · REGISTERED ARCHITECT · NO. 2925 · SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: **ROOF DETAILS**

PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08/30/24**

DRAWN BY:	CHECKED BY:
CSV	CW

SHEET NUMBER

A3.02

BASIS OF DESIGN: FINISH SCHEDULE LEGEND

TAG	ITEM	LOCATION	MANUFACTURER	DESCRIPTION & COMMENTS	ATTIC STOCK
FLOORING					
CPT-1	CARPET TILE	SEE PLANS AND SCHEDULES	INTERFACE	STYLE: AGLOW COLOR: #107248 IRON POPPY INSTALLATION METHOD: SEE INSTALLATION PLAN TILE SIZE: 25CM X 1M	5% OF INSTALLED AMOUNT
CPT-2	CARPET TILE	SEE PLANS AND SCHEDULED	INTERFACE	STYLE: STEP REPEAT #SR899 COLOR: 104940 IRON INSTALLATION METHOD: SEE INSTALLATION PLAN TILE SIZE: 50CM X 50CM	5% OF INSTALLED AMOUNT
PFT-1	PORCELAIN TILE	RESTROOM FLOORS	DAL TILE	STYLE: REMINISCENT COLOR: RECLAIMED GRAY RM23 INSTALLATION METHOD: RUNNING BOND FINISH: MATTE TILE SIZE: 2" X 2" GROUT: BOSTIK #H160 DELOREAN GRAY; GROUT WIDTH: 1/8"	5% OF INSTALLED AMOUNT
LVT-1	LUXURY VINYL TILE	SEE PLANS AND SCHEDULES	INTERFACE	STYLE: STUDIO SET COLOR: #A00703 PEPPER INSTALLATION METHOD: ASHLAR TILE SIZE: 25CM X 1M X 4.5MM	5% OF INSTALLED AMOUNT
LVT-2	LUXURY VINYL TILE	SEE PLANS AND SCHEDULES	INTERFACE	STYLE: STUDIO SET COLOR: #A00717 RED INSTALLATION METHOD: SEE INSTALLATION DIAGRAM TILE SIZE: 25CM X 1M X 4.5MM	5% OF INSTALLED AMOUNT
LVT-3	LUXURY VINYL TILE	SEE PLANS AND SCHEDULES	INTERFACE	STYLE: TEXTURED WOODGRAINS #A004 COLOR: #A00405 GREY DUNE INSTALLATION METHOD: STAGGER; SEE INSTALLATION PLAN TILE SIZE: 25CM X 1M X 4.5MM	5% OF INSTALLED AMOUNT
INSERT	LUXURY VINYL TILE	SEE PLANS AND SCHEDULES	INTERFACE	CUSTOM CUT LOGO INSERT SEE INSTALLATION DIAGRAM CONTACT LORI BAILEY, INTERFACE 205.821.6401 FOR DETAILS	N/A
RT-1	RUBBER FLOOR TILE	EXERCISE ROOM	NORA	STYLE: NORAPLAN SENTICA 3MM COLOR: 6522 EXPEDITION INSTALLATION METHOD: SEE INSTALLATION DIAGRAM TILE SIZE: 610MM X 610MM	5% OF INSTALLED AMOUNT
RT-2	RUBBER FLOOR TILE	EXERCISE ROOM	NORA	STYLE: NORAPLAN SENTICA 3MM COLOR: 6521 SUNDAY PAPER INSTALLATION METHOD: SEE INSTALLATION DIAGRAM TILE SIZE: 610MM X 610MM	5% OF INSTALLED AMOUNT
RT-3	RUBBER FLOOR TILE	EXERCISE ROOM	NORA	STYLE: NORAPLAN SENTICA 3MM COLOR: 6515 BARBEQUE INSTALLATION METHOD: SEE INSTALLATION DIAGRAM TILE SIZE: 610MM X 610MM	5% OF INSTALLED AMOUNT
VCT-1	STATIC DISSIPATIVE VINYL COMPOSITION TILE	IT CLOSET	ARMSTRONG COMMERCIAL	STYLE: EXCELON SDT COLOR: ARMOUR GRAY #51951 INSTALLATION METHOD: BASKETWEAVE TILE SIZE: 12" X 12"	
SC	SEALED CONCRETE WITH SEALER			SEALER: SIKAGARD-300 HD WD (or approved equal)	
WALL					
PNT-1	GENERAL WALL PAINT	SEE PLANS AND SCHEDULE	SHERWIN WILLIAMS	COLOR: ACIER #SW 9170 FINISH: EGGSHELL; 100% ACRYLIC LATEX	1 GALLON. INDICATE STORE LOCATION AND COLOR FORMULA ON CAN.
PNT-2	ACCENT WALL PAINT	SEE PLANS AND SCHEDULE	SHERWIN WILLIAMS	COLOR: GAUNTLET GRAY #SW 7019 FINISH: EGGSHELL; 100% ACRYLIC LATEX	1 GALLON. INDICATE STORE LOCATION AND COLOR FORMULA ON CAN.
PNT-3	TRIM PAINT	HOLLOW METAL DOORS & FRAMES	SHERWIN WILLIAMS	COLOR: BLACK FOX #SW 7020 FINISH: LOW VOC SEMI-GLOSS	1 GALLON. INDICATE STORE LOCATION AND COLOR FORMULA ON CAN.
PNT-4	ACCENT PAINT - APPARATUS BAYS	SEE PLANS AND SCHEDULE	SHERWIN WILLIAMS	COLOR: TO BE DETERMINED FINISH: EGGSHELL; 100% ACRYLIC LATEX	1 GALLON. INDICATE STORE LOCATION AND COLOR FORMULA ON CAN.
CT-1	WALL TILE (CERAMIC)	GENERAL RESTROOM WALL TILE	MARAZZI TILE	STYLE: COSTA CLARA COLOR: PEBBLE SHORE CC83 FINISH: GLOSSY INSTALLATION METHOD: VERTICAL STACKED BOND TILE SIZE: 3" X 12" GROUT: BOSTIK H160 DELOREAN GRAY: 1/4" GROUT WIDTH PROVIDE SCHLUTER JOLLY TRIM @ ALL OUTSIDE CORNERS	5% OF INSTALLED AMOUNT
CT-2	WALL TILE (CERAMIC)	ACCENT RESTROOM WALL TILE; PROVIDE (1) ACCENT BAND @ 4'-0" AFF	MARAZZI TILE	STYLE: ZELLIGE NEO COLOR: GESSO ZL11 FINISH: GLOSSY INSTALLATION METHOD: VERTICAL STACKED BOND TILE SIZE: 3" X 12" GROUT: BOSTIK H160 DELOREAN GRAY: 1/4" GROUT WIDTH PROVIDE SCHLUTER JOLLY TRIM @ ALL OUTSIDE CORNERS	5% OF INSTALLED AMOUNT
FRP-1	STANDARD FIBERGLASS REINFORCED PLASTIC PANELS	JANITOR #105	MARLITE	COLLECTION: PEBBLED FRP COLOR: #P100 WHITE	
FRP-2	DECORATIVE FIBERGLASS REINFORCED PLASTIC PANELS	LAUNDRY #114	MARLITE	COLLECTION: SYMMETRIX PATTERN: SUBWAY HORIZONTAL 6" X 3" TILE CONFIGURATION COLOR: LINES SS916 WHITE WITH BLACK GROUT	
BASE					
RB-1	RESILIENT BASE	SEE PLANS AND SCHEDULE	ROPPE	STYLE: PINNACLE STANDARD TOE COLOR: #193 BLACK BROWN 4" HIGH X COIL INSTALL IN ROLLS, NOT 6'-0" PIECES MITER INSIDE AND OUTSIDE CORNERS; NO PRE-FAB PIECES	5% OVERAGE OR 20 LINEAL FEET MINIMUM; 1 BOX OF CORNERS
CT-1	CERAMIC TILE BASE	SEE PLANS AND SCHEDULES	MARAZZI TILE	STYLE: COSTA CLARA COLOR: PEBBLE SHORE CC83 FINISH: GLOSSY INSTALLATION METHOD: VERTICAL STACKED BOND TILE SIZE: 3" X 12" GROUT: BOSTIK H160 DELOREAN GRAY: 1/4" GROUT WIDTH PROVIDE SCHLUTER DILEX-AHK AT FLOOR/WALL INTERSECTION	
	————	TRANSITION STRIP - NOTE: FLOOR FINISH CHANGE			
CEILING					
ACT-1	ACOUSTICAL CEILING GRID AND TILE	SEE RCP AND SCHEDULE	ARMSTRONG	STYLE: 1911 ULTIMA BEVELED TEGULAR SIZE: 24" X 24" X 3/4" GRID: 15/16" PRELUDE EXPOSED TEE COLOR: WHITE ALUMINUM (WA)	3% OF INSTALLED AMOUNT
GYP-1	PAINTED GYP BOARD	SEE RCP AND SCHEDULE		PAINTED GYP BOARD: PAINT CEILING WHITE	
MISCELLANEOUS					
PLAM-1	PLASTIC LAMINATE	SEE PLANS AND ELEVATIONS	WILSONART	PATTERN: PHANTOM COCOA #8213K-28 FINISH: GLOSS LINE FINISH AEON SCRATCH RESISTANCE	
PLAM-2	PLASTIC LAMINATE	DESK WORKSURFACES	WILSONART	PATTERN: SLATE GREY #D91-60 FINISH: MATTE FINISH	
SS-1	QUARTZ	LAUNDRY & BATHROOM COUNTERS	CORIAN	PATTERN: SNOWDRIFT THICKNESS: 3CM	
SS-2	QUARTZ	KITCHEN COUNTERS	CORIAN	PATTERN: ETHEREAL WHITE THICKNESS: 3CM	
SS-3	QUARTZ	KITCHEN ISLAND	CORIAN	PATTERN: DOVE GREY THICKNESS: 3CM	
SS-4	SOLID SURFACE	INTERIOR WINDOW SILLS	WILSONART	PATTERN: FROSTY WHITE #1573SL THICKNESS: 2CM	
TS-1	TRANSITION STRIP	PORCELAIN TILE TO LVT	SCHLUTER	STYLE: SCHIENE COLOR: ALUMINUM	
TS-2	TRANSITION STRIP	LVT TO CONCRETE	EQUAL TO ROPPE	STYLE: 174 COLOR: #193 BLACK BROWN	
RS-1	MANUAL ROLLER SHADES	DORM ROOMS D-1, D-2, D-3, D-4, D-5, D-6, D-7 & D-8	DRAPER, INC	DUAL LAYER ROLLER SHADES INSIDE MOUNT BASE LAYER: SHEERWEAVE STYLE SW7500 - COLOR: 7500 R13 ICE OUTSIDE LAYER: SHEERWEAVE STYLE SW2600 10% OPEN COLOR: V20 PEARL GRAY PROVIDE "U" CHANNEL FOR LIGHT GAP REDUCTION	
RS-2	MANUAL ROLLER SHADES	ROOMS 105, 107, 109	DRAPER, INC	SINGLE LAYER ROLLER SHADES INSIDE MOUNT OUTSIDE LAYER: SHEERWEAVE STYLE SW2600 10% OPEN COLOR: PEARL GRAY	
CG	CORNER GUARDS	SEE FINISH PLAN "CG"	C/S ACROVYN	SSM SERIES: 5'-0" TALL MOUNT BOTTOM 6" AFF COLOR: TO BE DETERMINED FROM MANUFACTURER'S FULL RANGE OF COLORS	

2 A4.10 FINISH LEGEND
NOT TO SCALE

FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS				COMMENTS
				NORTH	SOUTH	EAST	WEST	
100	ENTRY LOBBY	LVT-1/INSERT	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
101	TLT	PFT-1	CT-1	CT-1/2 - PNT-1	PNT-1	CT-1/2 - PNT-1	CT-1/2 - PNT-1	
102	EMS	LVT-1	RB-1	PNT-2	PNT-1	PNT-1	PNT-1	
103	EMS STORAGE	LVT-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
105	WATCH	LVT-1	RB-1	PNT-1	PNT-1	PNT-2	PNT-1	
107	OFFICE	LVT-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-2	
109	OFFICE	LVT-1	RB-1	PNT-1	PNT-1	PNT-2	PNT-1	
110	JAN	SC	RB-1	FRP-1	FRP-1	FRP-1	FRP-1	
112	RESTROOM	PFT-1	CT-1	CT-1/2	CT-1/2	CT-1/2	CT-1/2	
113	RESTROOM	PFT-1	CT-1	CT-1/2	CT-1/2	CT-1/2	CT-1/2	
114	LAUNDRY	PFT-1	RB-1	PNT-1	FRP-2	PNT-1/FRP-2	PNT-1	
115	RESTROOM	PFT-1	CT-1	CT-1/2	CT-1/2	CT-1/2	CT-1/2	
116	RESTROOM	PFT-1	CT-1	CT-1/2	CT-1/2	CT-1/2	CT-1/2	
120	EXERCISE	RT-1 & 2	RB-1	PNT-1	PNT-1	PNT-1	PNT-2	
122	DAY ROOM	LVT-1/2 & CPT-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-2	
123	KTICHEN	LVT-1/2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
139	MECH/ELEC	SC	RB-1-	PNT-1	PNT-1	PNT-1	PNT-1	
140	APPARATUS BAYS	SC	RB-1	PNT-1/4	PNT-1/4	PNT-1/4	PNT-1/4	
141	AUX ROOM	CPT-3	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
142	TLT	SC	RB-1	PNT-1	FRP-1	FRP-1	PNT-1	
143	JAN	SC	RB-1	PNT-1	FRP-1	PNT-1	FRP-1	
144	GEAR WASH	SC	RB-1	PNT-1	PNT-1	FRP-1	PNT-1	
145	STORAGE	SC	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
146	STORAGE	SC	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
147	BUNKER GEAR	SC	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
148	DECON	SC	RB-1	FRP-1	FRP-1	PNT-1	FRP-1	
149	IT	VCT-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
D1	DORM 1	LVT-3	RB-1	PNT-1	PNT-2	PNT-1	PNT-1	
D2	DORM 2	LVT-3	RB-1	PNT-2	PNT-1	PNT-1	PNT-1	
D3	DORM 3	LVT-3	RB-1	PNT-1	PNT-2	PNT-1	PNT-1	
D4	DORM 4	LVT-3	RB-1	PNT-2	PNT-1	PNT-1	PNT-1	
D5	DORM 5	LVT-3	RB-1	PNT-2	PNT-1	PNT-1	PNT-1	
D6	DORM 6	LVT-3	RB-1	PNT-1	PNT-2	PNT-1	PNT-1	
D7	DORM 7	LVT-3	RB-1	PNT-1	PNT-2	PNT-1	PNT-1	
D8	DORM 8	LVT-3	RB-1	PNT-1	PNT-1	PNT-2	PNT-1	
C1-1	CORRIDOR	LVT-1/2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
C1-2	CORRIDOR	LVT-1/2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
C1-3	CORRIDOR	CPT-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	
C1-4	CORRIDOR	LVT-1/2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	

1 A4.10 FINISH SCHEDULE
NOT TO SCALE

Revisions

No.	Date	Description

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NO. 2925
REGISTERED ARCHITECT
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FINISH SCHEDULE AND LEGEND

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DRAWN BY: **JHH** | CHECKED BY: **RM**

SHEET NUMBER
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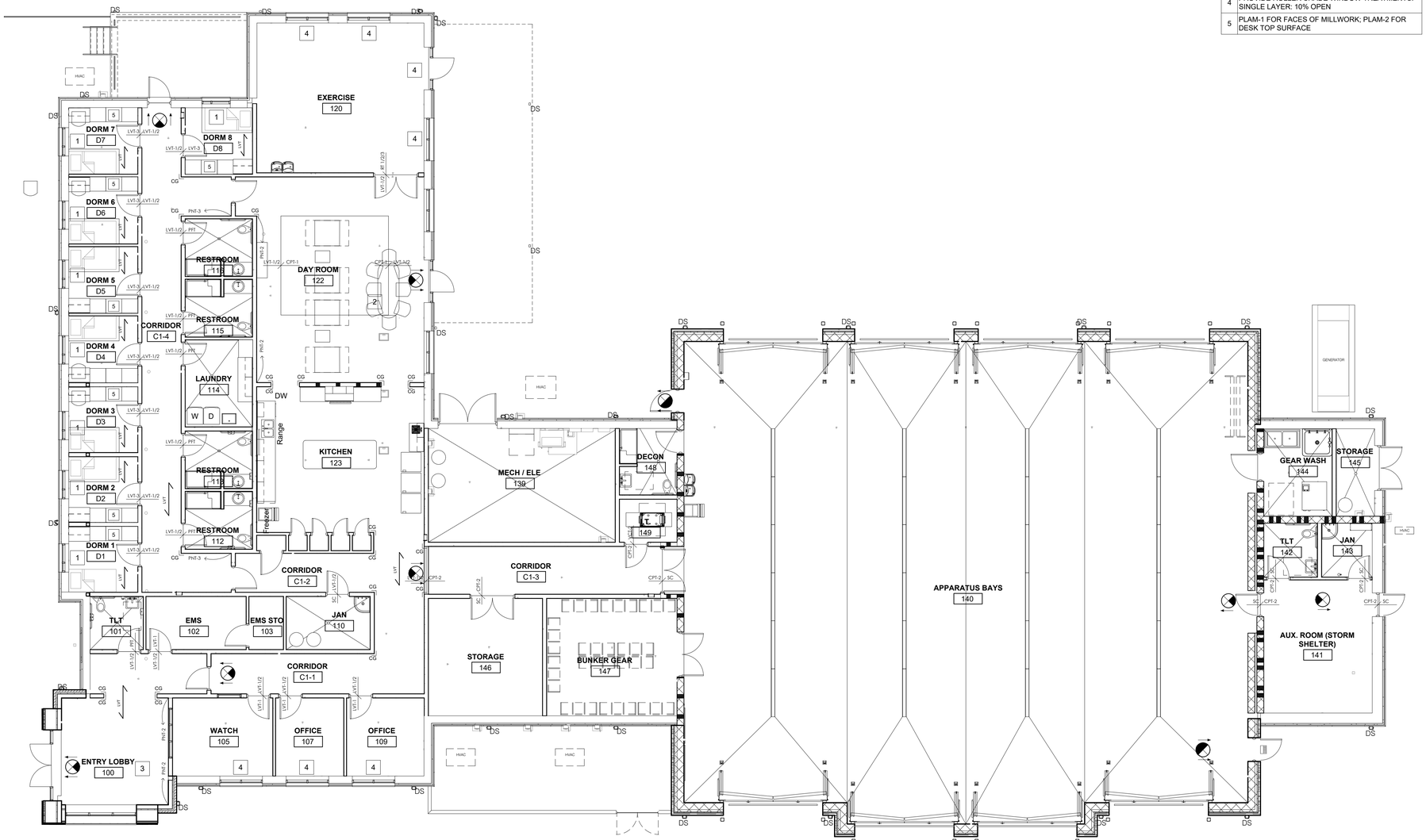

1 A4.11 FINISH PLAN
1/8" = 1'-0"

INTERIOR DESIGN LEGEND

- FLOORING INSTALL DIRECTION
- P-3 — ACCENT WALL PAINT; ENTIRE WALL UNLESS NOTED OTHERWISE
- LVT-1 / CPT-1 — FLOOR MATERIAL TRANSITION; PROVIDE APPROPRIATE TRANSITION STRIP; SEE FINISH SCHEDULE AND DETAILS
- CG — CORNER GUARD SEE FINISH SCHEDULE

INTERIOR FINISH PLAN KEY NOTES

1	PROVIDE DUAL LAYER ROLLER SHADES: LAYER 1: 10% OPEN LAYER 2: BLACK OUT FABRIC
2	INSTALL CPT-1 ACCENT RUG ON TOP OF LVT-1
3	GENERAL LOCATION OF CUSTOM LVT LOGO SEE INSTALLATION DIAGRAM
4	PROVIDE ROLLER SHADE WINDOW TREATMENTS: SINGLE LAYER: 10% OPEN
5	PLAM-1 FOR FACES OF MILLWORK; PLAM-2 FOR DESK TOP SURFACE

FINISH PLAN GENERAL NOTES:

1. SHADED AREAS ARE CONSIDERED NOT IN SCOPE.
2. IN REFERRING TO THE FLOOR PLAN AND ROOM FINISH SCHEDULE, CLARIFICATION OF PROJECT NORTH IS AS INDICATED ON DRAWINGS.
3. CONTRACTOR IS TO PROVIDE "ATTIC/ SURPLUS" STOCK AS NOTED IN THE SPECIFICATIONS. SURPLUS STOCK SHALL BE PROVIDED ON EACH DIFFERENT PRODUCT MANUFACTURER, STYLE, COLOR AND FINISH SPECIFIED.
4. CONTRACTOR SHALL PROVIDE (1) SET OF PHYSICAL SAMPLE SUBMITTALS IN ADDITION TO DIGITAL SAMPLES TO DESIGNER FOR APPROVAL PRIOR TO FABRICATING OR PURCHASING MATERIALS. ALL SUBMITTALS SHALL BE CLEARLY MARKED WITH MANUFACTURER, STYLE, COLOR AND CODE.

FLOORING:

1. WHERE NEW FLOORCOVERING AND/OR BASE IS SPECIFIED, THE SAME FLOORCOVERING AND/OR BASE SHALL EXTEND INTO ANY CLOSETS, STORAGE AREAS, UNDER MILLWORK/CASEWORK, ETC. ADJACENT TO THAT SPACE UNLESS OTHERWISE NOTED.
2. LEVELING COMPOUNDS, AS RECOMMENDED BY THE FLOORING MANUFACTURER, SHALL BE USED PRIOR TO INSTALLATION TO INSURE A LEVEL FLOOR. PROVIDE WALL AND/OR FLOOR PATCH WHERE EXISTING CONSTRUCTION IS DEMO'D. SURFACE TO BE SMOOTH AND LEVEL WITH ADJACENT SURFACES. PROVIDE FLOOR PATCH REPAIRS WHERE LARGE DIFFERENCES BETWEEN THE EXISTING FLOOR FINISHES. FINISH TO MATCH ADJACENT FINISH. ANY HIGH SPOTS ON FLOORING THAT REMAIN AFTER DEMOLITION TO BE GROUND DOWN TO THE LEVEL OF THE ADJACENT FLOOR FINISH. INSURE FLOOR IS PREPPED SO ANY DEFECTS OR BLEMISHES DO NOT TELESCOPE THROUGH NEW FLOOR COVERING.
3. CARPET INSTALLATION SHALL BE TAC-TILE OR SIMILAR METHOD, USING MANUFACTURER'S RECOMMENDED ADHESIVE & INSTALLATION INSTRUCTIONS.
4. AT DOORWAYS, CENTER SEAMS UNDER THE DOOR IN THE CLOSED POSITION. BEVEL ADJOINING BORDER EDGES AT SEAMS WITH HAND SHEARS. LEVEL ADJOINING BORDER EDGES. DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET. PROVIDE TS (TRANSITION STRIPS) AS SPECIFIED WHEN FLOORING MATERIAL CHANGES. LOCATE AT CENTER OF DOOR WHEN IN CLOSED POSITION.
5. CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGINGS, THRESHOLDS & NOSINGS. BIND OR SEAL EDGES AS RECOMMENDED BY CARPET MANUFACTURER.
6. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES & SIMILAR OPENINGS.
7. DO NOT INSTALL CUT CARPET PIECES SMALLER THAN 16 SQUARE INCHES OR CUT CARPET STRIPS LESS THAN 2" WIDE.

PAINTING:

1. PRIOR TO THE APPLICATION OF PAINT, THE CONTRACTOR SHALL REPAIR NEW OR EXISTING SURFACES BY PATCHING, SMOOTHING AND SANDING AS NEEDED TO ACHIEVE A SURFACE ACCEPTABLE FOR THE APPLICATION OF NEW FINISH. REMOVE ALL SCREWS, FASTENERS, HOOKS ADHESIVES, AND UNUSED WIRE MOLD FROM WALLS, DOORS, AND DOOR FRAMES.PREPARE DOOR FRAMES OR METAL SURFACES BY SANDING CHIPS/BURRS, FILLING DENTS WITH BONDO STANDARD SMOOTH PREPPED/PRIMED BEFORE PAINTING AND CAULKING CRACKS AT CORNERS AS REQUIRED.
2. MISCELLANEOUS METAL (RETURN AND AIR SUPPLY GRILLES, EXPANSION JOINTS, ACCESS PANELS, ETC.) LOCATED ON WALL SURFACES SHALL BE PAINTED TO MATCH ADJACENT WALL COLOR.
3. PAINT SOFFITS TO MATCH ADJACENT WALL COLOR UNLESS OTHERWISE SPECIFIED.
4. PAINT ALL EXISTING DOORS ON "PROJECT SIDE" OF SEPARATION OF NIC / PROJECT BARRIERS TO PER FINISH SCHEDULE. DO NOT PAINT CLEAR ANNODIZED STOREFRONT FRAMING.
5. TOUCH UP DOOR FRAMES AS REQUIRED AFTER FLOORING INSTALLATION.

RESILIENT BASE:

1. ALL COVED TOE RESILIENT BASE IS TO BE AS INDICATED IN THE FINISH SCHEDULE, COVED AND FROM CONTINUOUS ROLLS. 6'-0" LENGTHS ARE NOT PERMITTED. INSIDE AND OUTSIDE CORNERS SHALL BE FORMED USING PREFORMED CORNERS. CUTS MIDWAY DOWN A WALL WILL NOT BE PERMITTED.
2. APPLY TO BASE OF WALLS, COLUMNS, PILASTERS, CASEWORK & CABINETS IN TOE SPACES & OTHER PERMANENT FIXTURES IN ROOMS & AREAS WHERE BASE IS REQUIRED.
3. INSTALL BASE IN LENGTHS AS LONG AS PRACTICAL WITHOUT GAPS AT SEAMS & WITH TOP OF ADJACENT PIECES ALIGNED.
4. TIGHTLY ADHERE TO SUBSTRATES THROUGHOUT LENGTH OF EACH PIECE, WITH BASE IN CONTINUOUS CONTACT WITH HORIZONTAL & VERTICAL SUBSTRATES. DO NOT STRETCH MATERIAL DURING INSTALLATION.
5. ON IRREGULAR SURFACES, SUCH AS CONCRETE OR MASONRY, FILL VOIDS ALONG TOP EDGE WITH MANUFACTURER'S RECOMMENDED ADHESIVE FILLER MATERIAL.

MISCELLANEOUS:

1. CAULK BETWEEN MILLWORK AND WALL, COLOR TO MATCH ADJACENT WALL COLOR. CAULK JOINTS AT COUNTERTOP AND BACKSPLASH, COLOR TO MATCH COUNTERTOP PLASTIC LAMINATE.
2. CAULK ALL DOOR FRAMES TO RESILIENT FLOORING; CAULK COLOR TO MATCH DOOR FRAME PAINT.
3. PAINT ALL EXPOSED FIRE ALARM CONDUIT; FIRE PROTECTION, MECHANICAL AND PLUMPING PIPING, AND MECHANICAL DUCTWORK TO MATCH EXISTING ADJACENT CEILING.
4. ALL FIRE ALARM JUNCTION BOXES TO BE PAINTED RED.

Revisions

No.	Date	Description

STATE OF ALABAMA — CHARLES L. WILLIAMS — REGISTERED ARCHITECT — NO. 2925 — SEAL

100% CD REVIEW

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
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DATE: 08/30/24

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JHH	RM

SHEET NUMBER
A4.11

Irondale Fire Dept HQ - Station 3 - Birmingham, AL

Rendered Plan 1

8.14.24

Night Lights Collection - Aglow
107248 Iron Poppy
250 x 1,000 mm
Installed Ashlar

Brushed Lines
A01606 Kohl
250 x 1,000 mm
Installed Ashlar

Level Set Collection - Textured Woodgrains
A00405 Grey Dune
250 x 1,000 mm
Installed Ashlar

Studio Set
A00701 Silverlight
250 x 1,000 mm
Installed Ashlar

Studio Set
A00702 Pewter
250 x 1,000 mm
Installed Ashlar

Studio Set
A00703 Pepper
250 x 1,000 mm
Installed Ashlar

Studio Set
A00712 Marigold
250 x 1,000 mm
Installed Ashlar

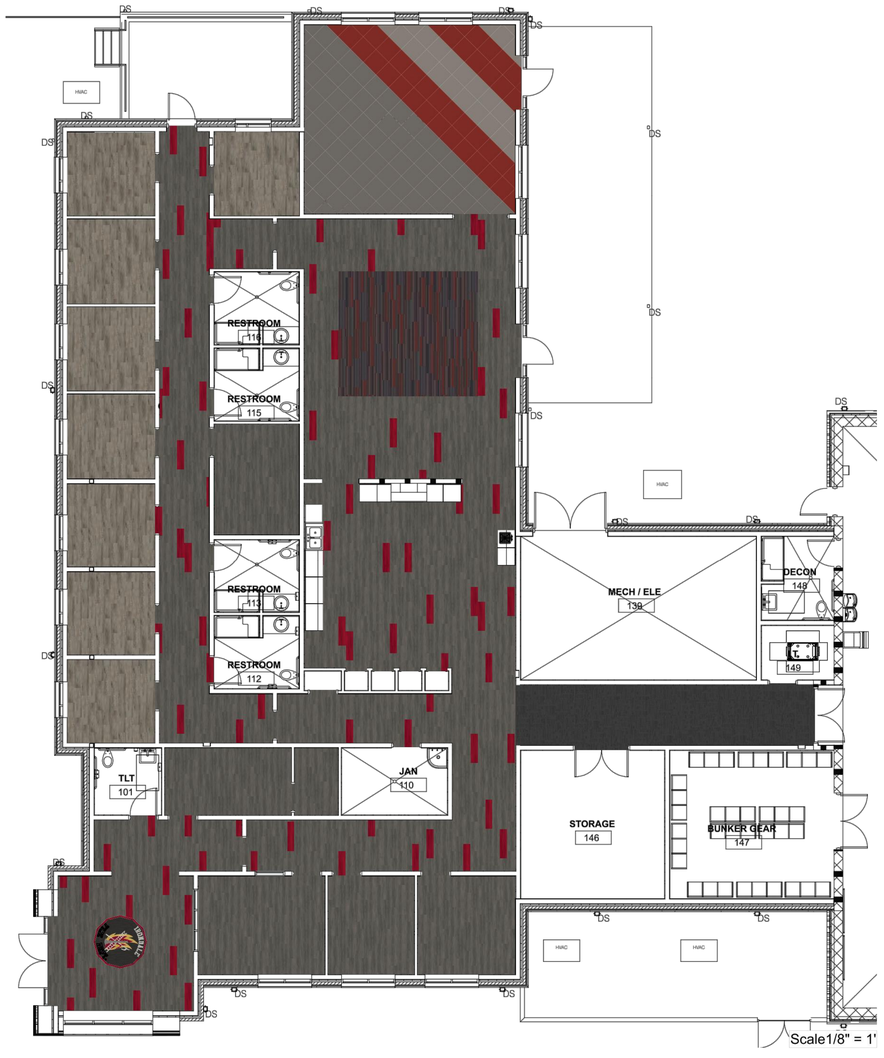
Studio Set
A00717 Red
250 x 1,000 mm
Installed Ashlar

noraplan sentica
6515 BARBEQUE
610 x 610 mm
Installed Monolithic

noraplan sentica
6521 SUNDAY PAPER
610 x 610 mm
Installed Monolithic

noraplan sentica
6522 EXPEDITION
610 x 610 mm
Installed Monolithic

Step Repeat Collection - SR899
104940 Iron
500 x 500 mm
Installed Monolithic



1 / A4.12 FLOOR PATTERN INSTALLATION DIAGRAM
SC: 1/8" = 1'-0"

Revisions		
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SEAL

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FLOOR PATTERN INSTALLATION DIAGRAM

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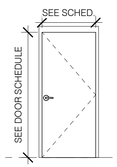
DRAWN BY:	CHECKED BY:
JHH	**RM**

SHEET NUMBER
A4.12

STORM SHELTER

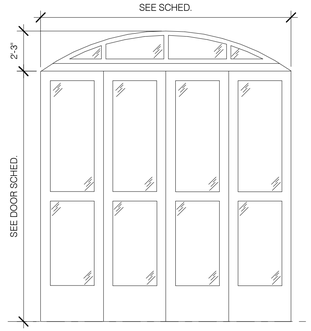
TYPE N/N1



STORM SHELTER
FLUSH H.M. DOOR,
90 MIN RATED
(EXTERIOR @ 'N1')

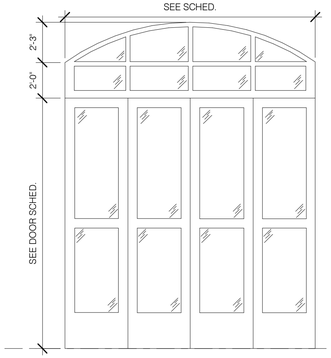
SPECIALTY DOORS

TYPE S



EXTERIOR, GLAZED
FOUR-FOLD DOOR

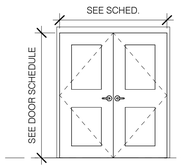
TYPE T



EXTERIOR, GLAZED
FOUR-FOLD DOOR

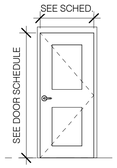
EXTERIOR DOORS

TYPE H



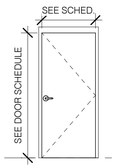
PAIR- EXTERIOR
ALUM. INSULATED
W/ GLASS PANELS

TYPE H1



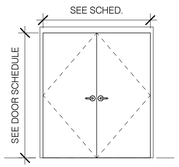
EXTERIOR ALUM.
INSULATED W/
GLASS PANELS

TYPE J



EXTERIOR FLUSH,
INSULATED H.M.
DOOR

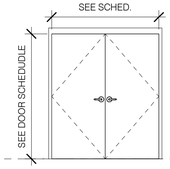
TYPE K



PAIR- EXTERIOR
FLUSH, INSULATED
H.M. DOOR

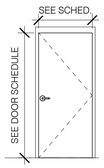
FIRE RATED DOORS

TYPE R



PAIR- FLUSH, H.M.
DOOR
45 MIN. RATED

TYPE R1



FLUSH, H.M. DOOR
45 MIN RATED

INTERIOR DOORS - PAIR

TYPE B

PAIR- WOOD
DOOR W/ GLASS
PANELS

TYPE F

INTERIOR DOORS - SINGLE

TYPE B1

WOOD DOOR W/
GLASS PANELS

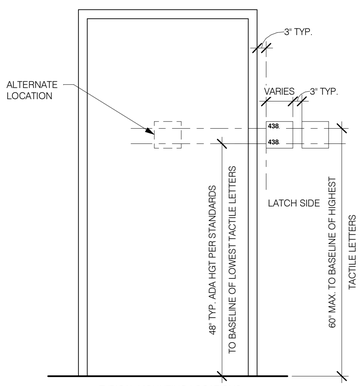
TYPE E1

FLUSH H.M. DOOR

TYPE F1

FLUSH SOLID CORE
WOOD DOOR

DOOR TYPES
1/4" = 1'-0"



TYPICAL MOUNTING LOCATIONS

REFER TO LIFE SAFETY PLANS FOR EGRESS LOCATIONS

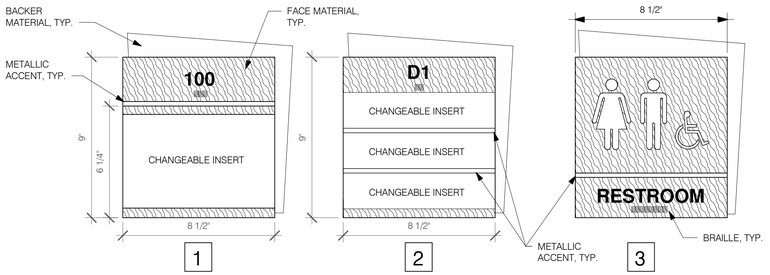
NOTE: ALL SIGNS TO BE RAISED LETTER AND TO INCLUDE BRAILLE

MOUNT SIGNS ADJACENT TO DOOR OPENING, ON LATCH SIDE WHERE POSSIBLE. CONFIRM MOUNTING LOCATION WITH ARCHITECT.

SIGN DESIGNATION FOR TYPE ONLY - SIGNAGE TO MATCH SIGNAGE NAME / NUMBER INDICATED ON PLAN

BASIS OF DESIGN:
TAKEFORM FUSION
FACE MATERIAL: BLACK BEAR
RAISED TEXT: WHITE
METAL ACCENT: NATURAL
INSERT BACKGROUND: DOVE
FONT: ADA_FUTURA
BACKER MATERIAL: MINERAL BATH

PROVIDE BACKER PLATE WHERE INSTALLED ON GLASS.

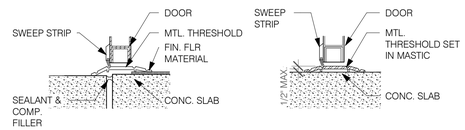


*SEE SHEET LS.2 STORM SHELTER DETAILS FOR ADDITIONAL SIGNAGE REQUIREMENTS

DOOR SCHEDULE

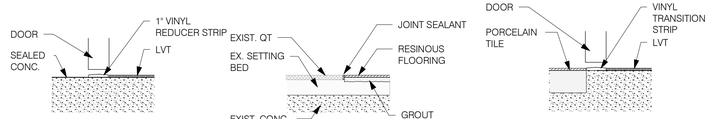
DOOR #	Door Dimensions WIDTH	Door Dimensions HEIGHT	THICKNESS	Door TYPE	Door MATERIAL	FRAME	FIRE RATING (mins)	WEATHERPROOF	HDW SET	THRESHOLD	PLAN NAME	SIGNAGE NAME	SIGNAGE NO.	COMMENTS
100	6' - 0"	7' - 0"	1 3/4"	H	AL	AL			1.0	EX	ENTRY LOBBY	-	-	PB, RA, KEYPAD
101	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			21.0	IT	TLT	RESTROOM	3	
102	3' - 0"	7' - 0"	1 3/4"	B1	WD	HM			17.0	IT	EMS	(INSERT)	5	
103	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			13.0	IT	EMS	STORAGE	4,6	KEYPAD
105	3' - 0"	7' - 0"	1 3/4"	B1	WD	HM			17.0	IT	WATCH	WATCH	5	
107	3' - 0"	7' - 0"	1 3/4"	B1	WD	HM			17.0	IT	OFFICE	(INSERT)	5	
109	3' - 0"	7' - 0"	1 3/4"	B1	WD	HM			17.0	IT	OFFICE	(INSERT)	5	
110	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			15.0	IT	JAN	JANITOR	6	
112	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			21.0	IT	RESTROOM	RESTROOM	3	
113	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			21.0	IT	RESTROOM	RESTROOM	3	
114	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			22.0	IT	LAUNDRY	LAUNDRY	6	
115	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			21.0	IT	RESTROOM	RESTROOM	3	
116	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			21.0	IT	RESTROOM	RESTROOM	3	
120	6' - 0"	7' - 0"	1 3/4"	B	WD	HM			19.0	IT	EXERCISE	EXERCISE	1	
120A	3' - 0"	7' - 0"	1 3/4"	H1	AL	AL	-	X	3.0	EX	EXERCISE	-	-	
122	3' - 0"	7' - 0"	1 3/4"	H1	AL	AL	-	X	2.0	EX	DAY ROOM	-	4	KEYPAD
139	8' - 0"	7' - 0"	1 3/4"	K	HM	HM		X	5.0	EX	MECH / ELE	MECHANICAL/ ELECTRICAL	4	
140	3' - 0"	7' - 0"	1 3/4"	J	HM	HM		X	6.0	EX	APPARATUS BAYS	EMERGENCY EXIT	4	
140A	3' - 0"	7' - 0"	1 3/4"	J	HM	HM		X	6.0	EX	APPARATUS BAYS	EMERGENCY EXIT	4	
140B	14' - 0"	14' - 0"		S				X	25.0	EX			-	FOUR-FOLD BAY DOORS
140C	14' - 0"	14' - 0"		S				X	25.0	EX			-	FOUR-FOLD BAY DOORS
140D	14' - 0"	14' - 0"		S				X	25.0	EX			-	FOUR-FOLD BAY DOORS
140E	14' - 0"	14' - 0"		S				X	25.0	EX			-	FOUR-FOLD BAY DOORS
140F	14' - 0"	14' - 0"		S				X	25.0	EX			-	FOUR-FOLD BAY DOORS
140G	14' - 0"	14' - 0"		T				X	25.0	EX			-	FOUR-FOLD BAY DOORS
140H	14' - 0"	14' - 0"		T				X	25.0	EX			-	FOUR-FOLD BAY DOORS
140J	14' - 0"	14' - 0"		S				X	25.0	EX			-	FOUR-FOLD BAY DOORS
141	3' - 0"	7' - 0"	1 3/4"	N	HM	HM	90		26.0	IT	AUX. ROOM (STORM SHELTER)	(INSERT)	5	ICC-500. SEE NOTE 1
141A	3' - 0"	7' - 0"	1 3/4"	N1	HM	HM	90	X	26.0	EX	AUX. ROOM (STORM SHELTER)	-	-	ICC-500. SEE NOTE 1
142	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			21.0	IT	TLT	RESTROOM	3	
143	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			15.0	IT	JAN	JANITOR	6	
144	3' - 8"	7' - 0"	1 3/4"	R1	HM	HM	45		11.0	IT	GEAR WASH	(INSERT)	5	
145	6' - 0"	7' - 0"	1 3/4"	K	HM	HM		X	7.0	EX	STORAGE	STORAGE	6	KEYPAD
146	6' - 0"	7' - 0"	1 3/4"	F	WD	HM			14.0	IT	STORAGE	STORAGE	6	
147	6' - 0"	7' - 0"	1 3/4"	R	HM	HM	45		9.0	IT	BUNKER GEAR	(INSERT)	5	
148	3' - 0"	7' - 0"	1 3/4"	R1	HM	HM	45		10.0	IT	DECON	(INSERT)	5	
149	3' - 0"	7' - 0"	1 3/4"	E1	HM	HM			16.0	IT	I.T.	I.T.	6	
C1-1	3' - 0"	7' - 0"	1 3/4"	B1	WD	HM			12.0	IT	CORRIDOR	A.P.O.	4	PB, RA, KEYPAD
C1-2	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			24.0	IT	CORRIDOR	DORMITORY	6	
C1-2A	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			23.0	IT	CORRIDOR	STORAGE	6	
C1-3	6' - 0"	7' - 0"	1 3/4"	R	HM	HM	45		8.0	IT	CORRIDOR	A.P.O.	4	KEYPAD
C1-4	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			24.0	IT	CORRIDOR	DORMITORY	6	
C1-4A	3' - 0"	7' - 0"	1 3/4"	J	HM	HM		X	4.0	EX	CORRIDOR	A.P.O.	4	KEYPAD
D1	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 1	(INSERT) X 3	2	
D2	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 2	(INSERT) X 3	2	
D3	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 3	(INSERT) X 3	2	
D4	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 4	(INSERT) X 3	2	
D5	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 5	(INSERT) X 3	2	
D6	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 6	(INSERT) X 3	2	
D7	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 7	(INSERT) X 3	2	
D8	3' - 0"	7' - 0"	1 3/4"	F1	WD	HM			18.0	IT	DORM 8	(INSERT) X 3	2	
P1	2' - 0"	7' - 0"	1 3/4"	F1	WD	HM			20.0	IT	KITCHEN	PANTRY A	6A	PANTRY
P2	2' - 0"	7' - 0"	1 3/4"	F1	WD	HM			20.0	IT	KITCHEN	PANTRY B	6A	PANTRY, LOCKABLE
P3	2' - 0"	7' - 0"	1 3/4"	F1	WD	HM			20.0	IT	KITCHEN	PANTRY C	6A	PANTRY, LOCKABLE
P4	2' - 0"	7' - 0"	1 3/4"	F1	WD	HM			20.0	IT	KITCHEN	PANTRY D	6A	PANTRY, LOCKABLE

NOTE 1. SEE STORM SHELTER REQUIREMENTS FOR ADDITIONAL SIGNAGE



THRESHOLD #1 THRESHOLD #2

EXTERIOR THRESHOLDS



THRESHOLD #3 THRESHOLD #4 THRESHOLD #5

INTERIOR THRESHOLDS

Revisions

No.	Date	Description

STATE OF ALABAMA
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3
2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
FAX: 205-250-0515
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

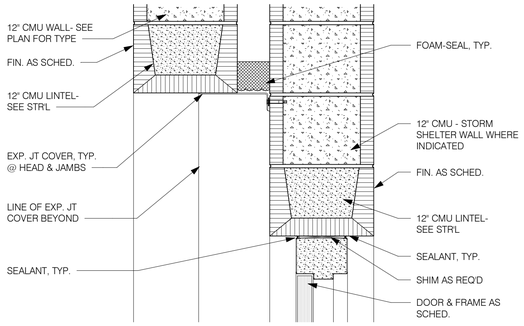
SHEET TITLE:
DOOR SCHEDULES, TYPES, & DETAILS

PROJECT NUMBER:
CWA No. 2023-01

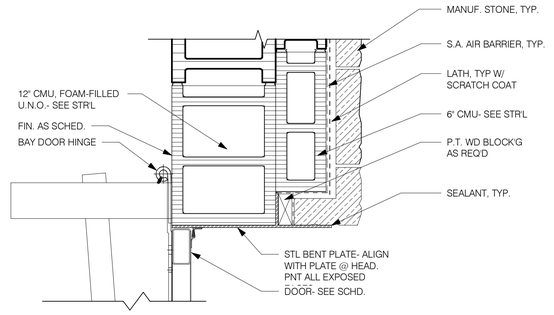
DATE:
08/30/24

DRAWN BY: **CSV** | CHECKED BY: **CW**

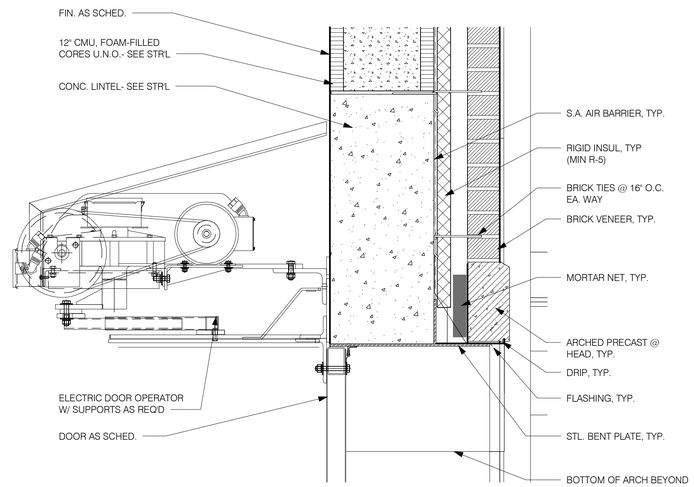
SHEET NUMBER
A4.20



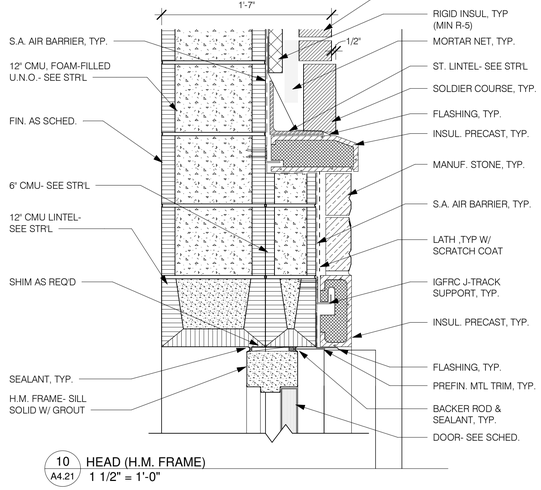
13 A4.21 HEAD (H.M. FRAME)
1 1/2" = 1'-0"



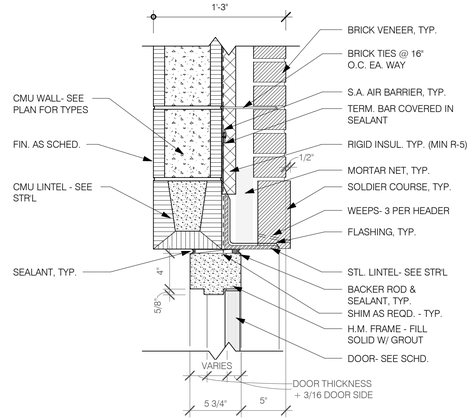
12 A4.21 DOOR DTL- JAMB @ BAY DOORS
1 1/2" = 1'-0"



11 A4.21 DOOR DTL- HEAD @ BAY DOORS
1 1/2" = 1'-0"

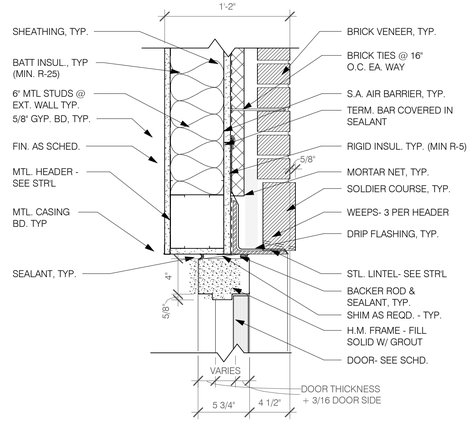


10 A4.21 HEAD (H.M. FRAME)
1 1/2" = 1'-0"

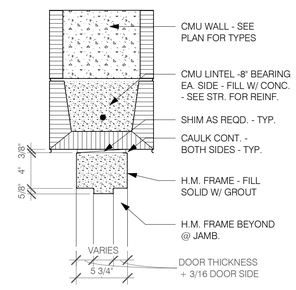


* COMPLY WITH ICC-500 REQMTS FOR STORM SHELTERS WHERE REQ'D

8 A4.21 HEAD (H.M. FRAME)
1 1/2" = 1'-0"

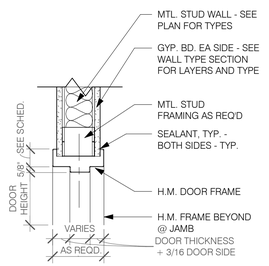


6 A4.21 HEAD (H.M. FRAME)
1 1/2" = 1'-0"

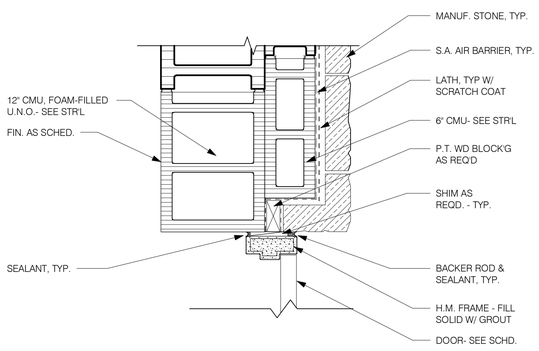


*COMPLY WITH ICC-500 REQMTS FOR STORM SHELTERS WHERE REQ'D

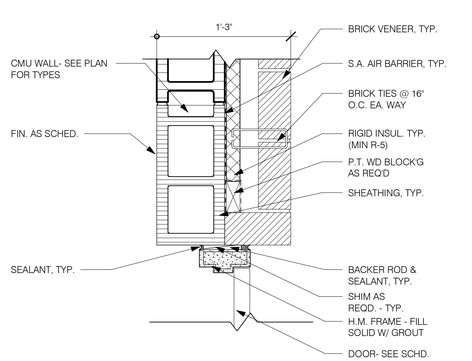
4 A4.21 HEAD (H.M FRAME)
1 1/2" = 1'-0"



2 A4.21 HEAD (H.M. FRAME)
1 1/2" = 1'-0"

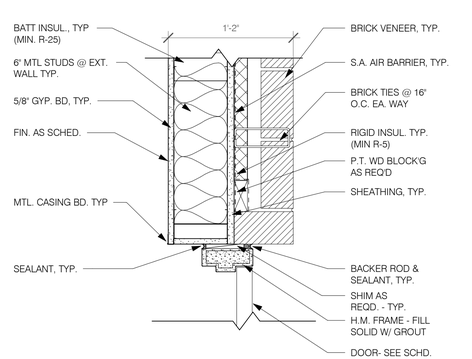


9 A4.21 JAMB (H.M. FRAME)
1 1/2" = 1'-0"

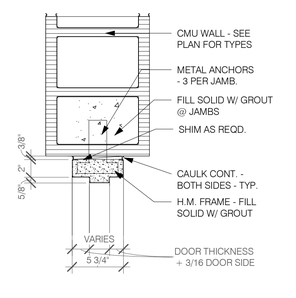


* COMPLY WITH ICC-500 REQMTS FOR STORM SHELTERS WHERE REQ'D

7 A4.21 JAMB (H.M. FRAME)
1 1/2" = 1'-0"

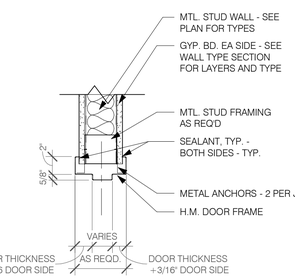


5 A4.21 JAMB (H.M. FRAME)
1 1/2" = 1'-0"



* COMPLY WITH ICC-500 REQMTS FOR STORM SHELTERS WHERE REQ'D

3 A4.21 JAMB (H.M. FRAME)
1 1/2" = 1'-0"



1 A4.21 JAMB (H.M. FRAME)
1 1/2" = 1'-0"

Revisions

No.	Date	Description

STATE OF ALABAMA
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

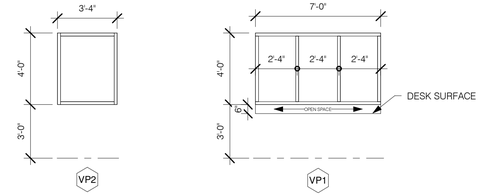
SHEET TITLE:
DOOR DETAILS - HOLLOW METAL & BAY DOORS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

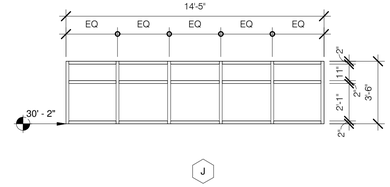
DRAWN BY:	CHECKED BY:
CSV	**CW**

SHEET NUMBER
A4.21

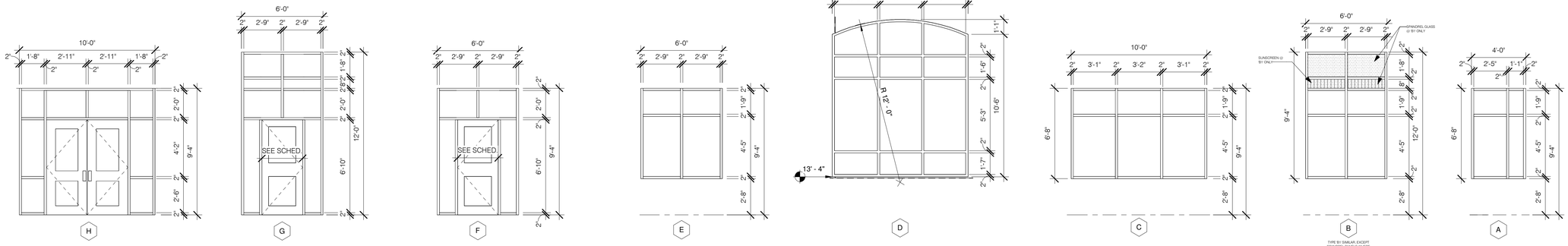


GLASS LEGEND

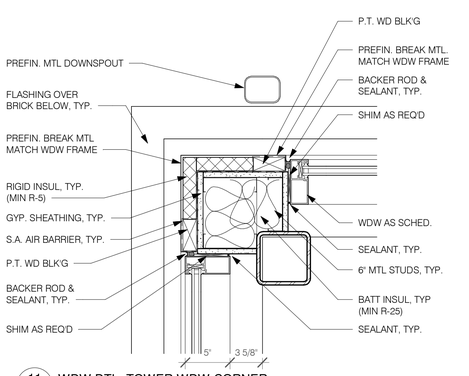
- SPANDREL
- SUNSCREEN
- REGULAR GLASS- INSULATED @ EXTERIOR



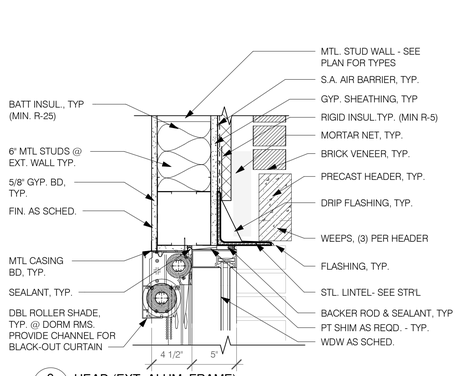
INTERIOR STOREFRONT TYPES
1/4" = 1'-0"



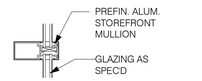
EXTERIOR STOREFRONT TYPES
1/4" = 1'-0"



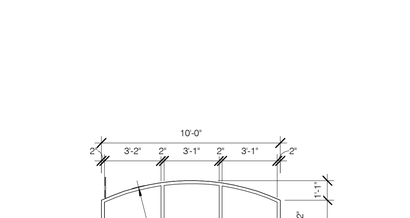
11 A4.30 WDW DTL- TOWER WDW CORNER
1 1/2" = 1'-0"



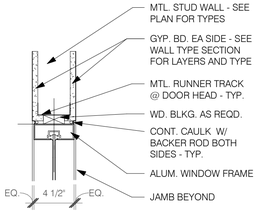
9 A4.30 HEAD (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



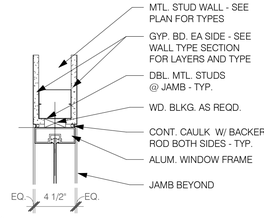
7 A4.30 MULLION (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



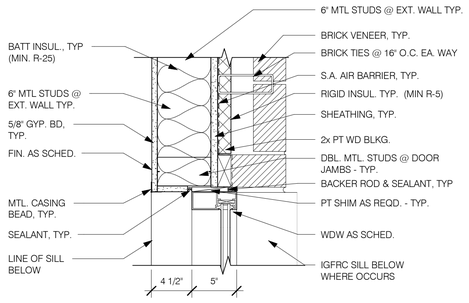
6 A4.30 HEAD (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



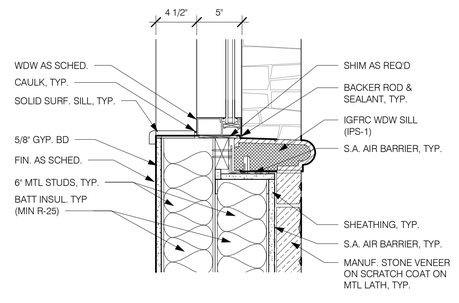
3 A4.30 HEAD (INT. ALUM. FRAME)
1 1/2" = 1'-0"



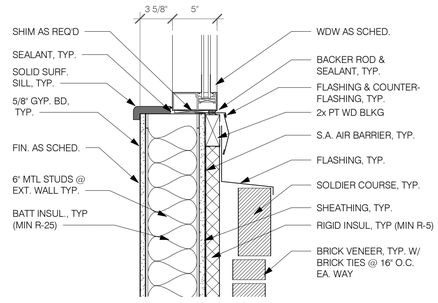
2 A4.30 JAMB (INT. ALUM. FRAME)
1 1/2" = 1'-0"



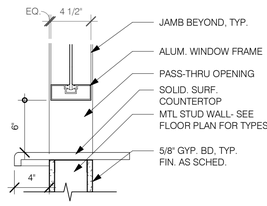
10 A4.30 JAMB (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



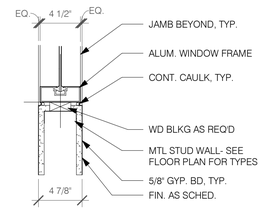
8 A4.30 SILL (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



5 A4.30 SILL (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



4 A4.30 SILL (INT. ALUM. FRAME)
1 1/2" = 1'-0"



1 A4.30 SILL (INT. ALUM. FRAME)
1 1/2" = 1'-0"

Revisions		
No.	Date	Description

STATE OF ALABAMA
CHARLES R. WILLIAMS
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
FAX: 205-250-0515
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

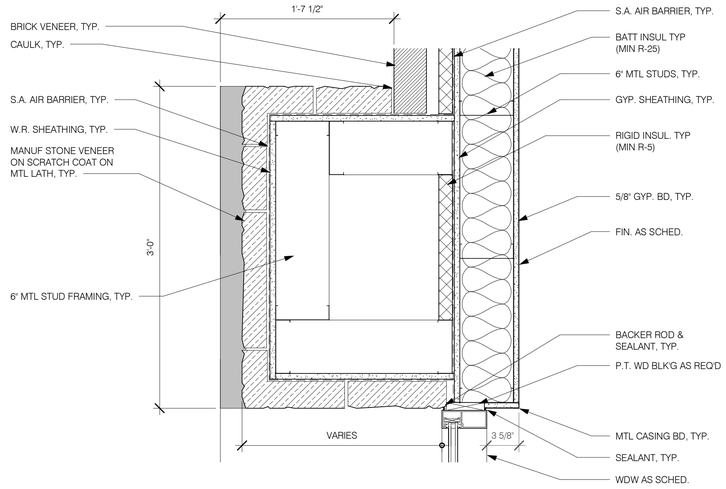
SHEET TITLE:
STOREFRONT/ WINDOW TYPES & DETAILS

PROJECT NUMBER:
CWA No. 2023-01

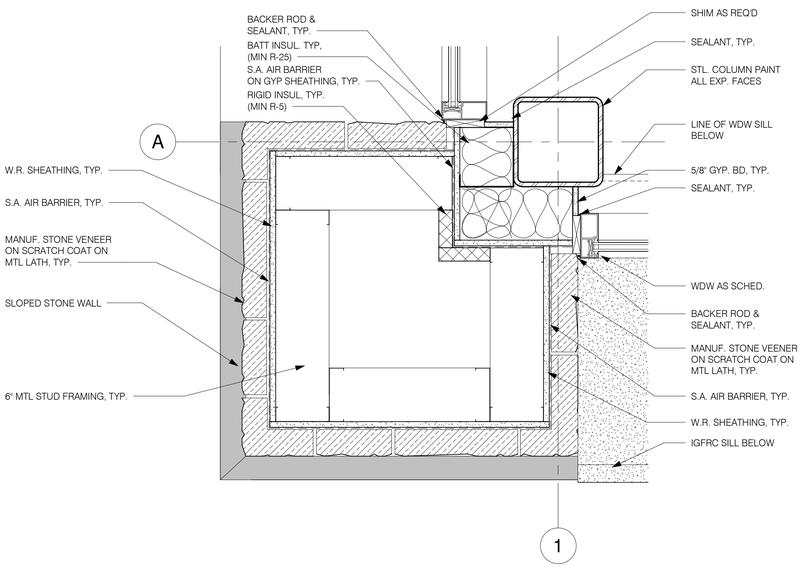
DATE:
08/30/24

DRAWN BY:	CHECKED BY:
CSV	**CW**

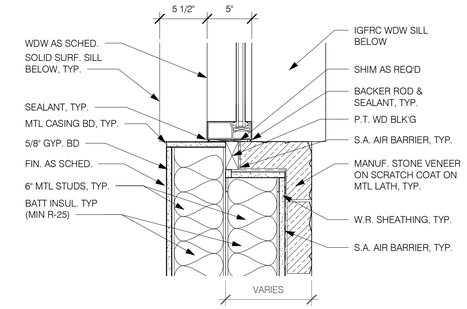
SHEET NUMBER
A4.30



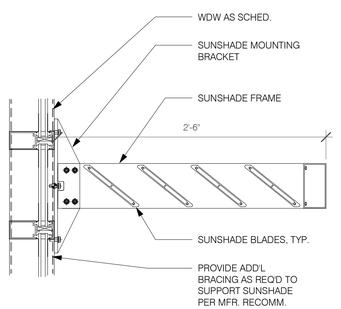
7 A4.31 JAMB (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



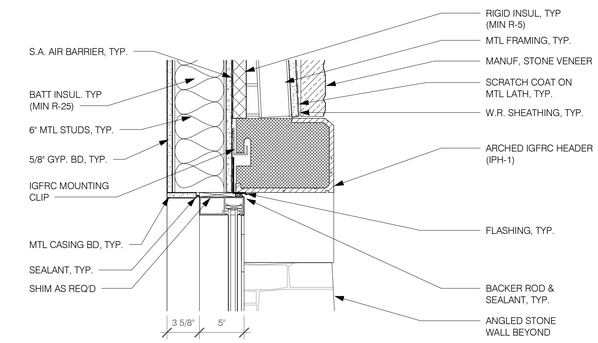
8 A4.31 JAMB (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



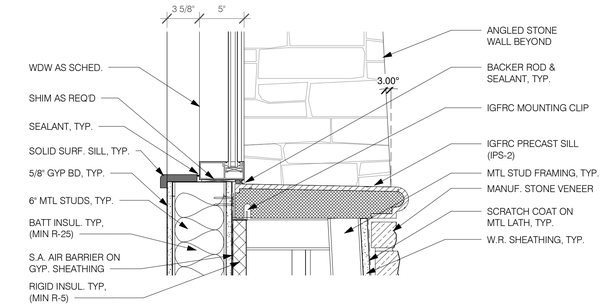
6 A4.31 JAMB (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



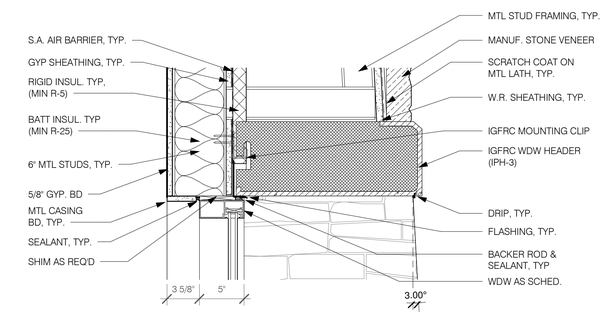
5 A4.31 SUNSHADE DETAIL
1 1/2" = 1'-0"



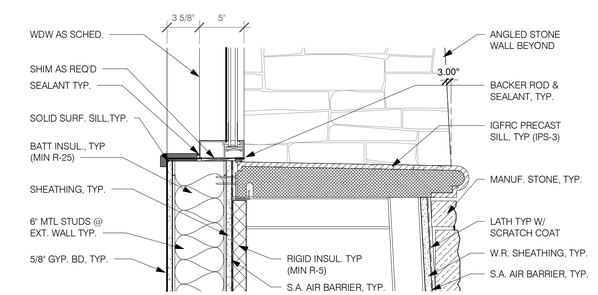
4 A4.31 HEAD (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



3 A4.31 SILL (EXT. ALUM FRAME)
1 1/2" = 1'-0"



2 A4.31 HEAD (EXT. ALUM. FRAME)
1 1/2" = 1'-0"



1 A4.31 SILL (EXT. ALUM. FRAME)
1 1/2" = 1'-0"

Revisions		
No.	Date	Description

STATE OF ALABAMA
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CWA CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
STOREFRONT DETAILS

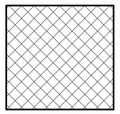
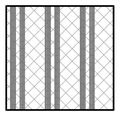
PROJECT NUMBER:
CWA No. 2023-01

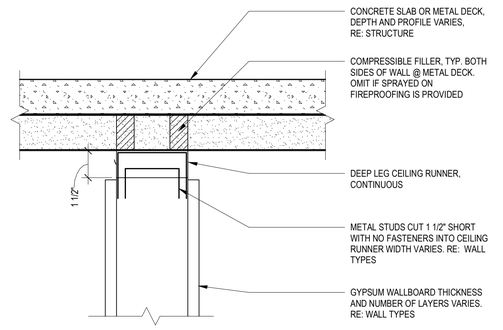
DATE:
08/30/24

DRAWN BY:	CHECKED BY:
CSV	**CW**

SHEET NUMBER
A4.31

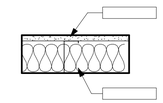
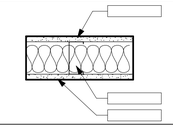
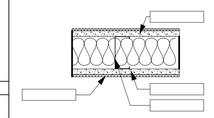
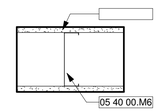
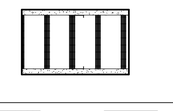
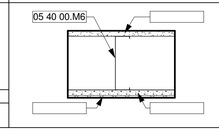
MASONRY WALL TYPES - TYPE "M"

WALL TYPE DESIGNATION	WALL DETAIL	CORE SIZE	DESCRIPTION
M12 UL: - STC: -		11-5/8"	11-5/8" CONCRETE MASONRY UNITS. SEE STRUCTURAL FOR REINFORCEMENT REQUIREMENTS. NON-LOAD BEARING LOCATIONS EXTEND (1) ONE FULL COURSE ABOVE CEILING HEIGHT. BRACE TOP OF WALL TO STRUCTURE. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C.
M12.1 UL: - STC: -		11-5/8"	1-HOUR FIRE RATED ASSEMBLY 11-5/8" CONCRETE MASONRY UNITS. SEE STRUCTURAL FOR REINFORCEMENT REQUIREMENTS. SEAL ALL PENETRATIONS, AND EXTEND TO DECK. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C.
M12.2 M12.4 UL: - STC: -		11-5/8"	2-HOUR FIRE RATED (M12.2) 2-HOUR FIRE & STORM SHELTER (M12.4) MIN. 11-5/8" THICK, SOLID CONCRETE WALL. SEE STRUCTURAL FOR REINFORCEMENT REQUIREMENTS. SHALL MEET ICC-500 2014 REQUIREMENTS. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C.



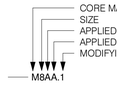
4 / A5.01 T.O STUD PARTITION @ STRUCTURE ABOVE
3" = 1'-0"

METAL STUD WALL TYPES - TYPE "S"

WALL TYPE DESIGNATION	WALL DETAIL	THICKNESS	DESCRIPTION
S3A UL: U420 STC: 50-54		4-1/4"	1 LAYER OF 5/8" HIGH IMPACT GYPSUM BOARD, SCREW ATTACHED TO ONE SIDE OF 3-5/8" METAL STUD FRAMING AT 16" O.C.. TYPICAL AT CHASE WALLS OR WHERE FINISH REQUIRED ONLY ON ONE FACE. SOUND ATTENUATION BLANKETS ONLY REQUIRED ON ONE SIDE OF CHASE WALL CONSTRUCTION
S3AA UL: - STC: 45-49		4-7/8"	1 LAYER OF 5/8" HIGH IMPACT GYPSUM BOARD, SCREW ATTACHED TO BOTH SIDES OF 3-5/8" METAL STUD FRAMING AT 16" O.C.. SOUND ATTENUATION BLANKETS BETWEEN CLASSROOMS, OFFICES, ADMINISTRATION SUITE, AND RESTROOMS. (STC RATING WITH SAB) PROVIDE 5/8" MOISTURE RESISTANT GYP BD IN ALL RESTROOM WALLS.
S3TT UL: - STC: -		5-3/8"	1 LAYER OF 5/8" HIGH IMPACT GYPSUM BOARD, SCREW ATTACHED TO BOTH SIDES OF 3-5/8" METAL STUD FRAMING AT 16" O.C.. SOUND ATTENUATION BLANKETS BETWEEN OFFICES, ADMINISTRATION SUITE, AND RESTROOMS. PROVIDE 5/8" MOISTURE RESISTANT GYP BD IN ALL RESTROOM WALLS. PROVIDE 5/8" TILE BACKER BOARD AS SPECIFIED IN LIEU OF GYP BD BEHIND WALL TILE, TYPICAL.
S6AA UL: - STC: -		7-1/4"	1 LAYER OF 5/8" HIGH IMPACT GYPSUM BOARD, SCREW ATTACHED TO BOTH SIDES OF 6" METAL STUD FRAMING AT 16" O.C.. SOUND ATTENUATION BLANKETS BETWEEN CLASSROOMS, OFFICES, ADMINISTRATION SUITE, AND RESTROOMS. PROVIDE 5/8" MOISTURE RESISTANT GYP BD IN ALL RESTROOM WALLS.
S6AA.1 UL: U425 STC: 40-44		7-1/4"	1-HOUR FIRE RATED ASSEMBLY. 1 LAYER OF 5/8" TYPE X HIGH IMPACT GYPSUM BOARD, SCREW ATTACHED TO BOTH SIDES OF 6" METAL STUD FRAMING AT 16" O.C.. SOUND ATTENUATION BLANKETS BETWEEN CLASSROOMS, OFFICES, ADMINISTRATION SUITE, AND RESTROOMS. (STC RATING WITHOUT SAB) PROVIDE 5/8" MOISTURE RESISTANT GYP BD IN ALL RESTROOM WALLS.
S6AT UL: - STC: -		7-1/2"	1 LAYER OF 5/8" HIGH IMPACT GYPSUM BOARD, SCREW ATTACHED TO BOTH SIDES OF 6" METAL STUD FRAMING AT 16" O.C.. SOUND ATTENUATION BLANKETS BETWEEN CLASSROOMS, OFFICES, ADMINISTRATION SUITE, AND RESTROOMS. PROVIDE 5/8" MOISTURE RESISTANT GYP BD IN ALL RESTROOM WALLS. PROVIDE 5/8" TILE BACKER BOARD AS SPECIFIED IN LIEU OF GYP BD BEHIND WALL TILE, TYPICAL.

PARTITION TYPES LEGEND

PARTITION TYPE SYMBOL



CORE MATERIAL:
C CONCRETE
M MASONRY (CMU)
S STUD (METAL)
SS STAGGERED STUD (METAL)
W STUD (WOOD)
D DIRECT APPLIED (NO CORE)

SIZE:
0 7/8" FURRING CHANNEL
1 1 5/8" STUD
2 2 1/2" STUD
3 3 5/8" STUD
4 4" CONCRETE, MASONRY OR STUD (WOOD OR METAL)
6 6" CONCRETE, MASONRY OR STUD (WOOD OR METAL)
8 8" CONCRETE, MASONRY OR STUD
10 10" CONCRETE OR MASONRY
12 12" CONCRETE OR MASONRY

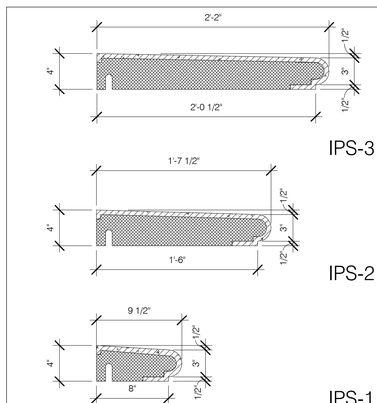
APPLIED LAYERS:
A 1 LAYER 5/8" DRYWALL
B 2 LAYERS 5/8" DRYWALL
C 2 LAYERS 5/8" DRYWALL W/ CONTINUOUS HORZ. RESILIENT CHANNELS @ 16" O.C.
D 1 LAYER 5/8" DRYWALL W/ CONTINUOUS HORZ. FURRING CHANNELS @ 16" O.C.
K 1 LAYER 1" SHAFT LINER
T CERAMIC TILE ON 5/8" TILE BACKER BOARD OR DIRECT APPLIED TO MASONRY

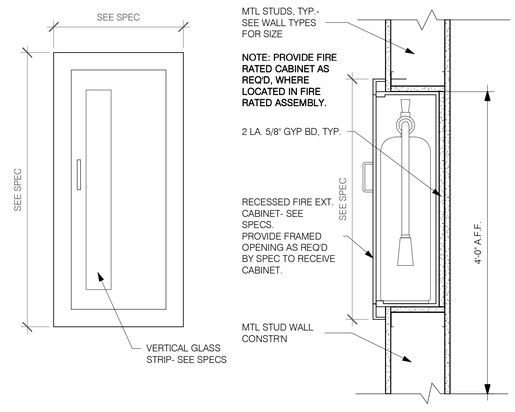
MODIFYING CONDITIONS:
1. 1 HOUR FIRE RATING
2. 2 HOUR FIRE RATING
3. 3 HOUR FIRE RATING
4. 2 HOUR FIRE RATING & STORM SHELTER
5. SMOKE PARTITION
6. COMPLETE WALL ASSEMBLY EXTENDS TO 6" ABOVE ADJOINING CEILING. ONE APPLIED LAYER EXTENDS TO UNDERSIDE OF STRUCTURE ABOVE ON ONE SIDE ONLY.
7. GYPSUM BOARD/TILE BACKER BOARD EXTENDS TO 6" ABOVE ADJOINING CEILING. CORE MATERIAL EXTENDS TO UNDERSIDE OF STRUCTURE ABOVE.
8. NOT USED
9. ACOUSTIC WALL: PROVIDE 3 1/2" ACOUSTIC BATT INSULATION IN METAL STUDS. FULL HEIGHT OF WALL. PROVIDE ACOUSTIC SEALANT AT PERIMETER AND PENETRATIONS.

GENERAL NOTES:
A. COMPLETE WALL ASSEMBLY IS CONTINUOUS TO UNDERSIDE OF STRUCTURE ABOVE UNLESS NOTED OTHERWISE.
B. METAL STUDS SPACED AT 16" O.C. TYPICAL UNLESS NOTED OTHERWISE.
C. PROVIDE JOINT FIRESTOPPING AT PERIMETER AND PENETRATION FIRESTOPPING AT FIRE OR SMOKE PARTITIONS.
D. WHERE TILE OCCURS (SEE FINISH SCHEDULE), REPLACE 1 LAYER OF 5/8" GYPSUM BOARD WITH 1 LAYER OF 5/8" TILE BACKER BOARD (MATCH FIRE RATING).
E. WHEN WALL DOES NOT EXTEND TO STRUCTURE, BRACE WALL TO STRUCTURE ABOVE MINIMUM 4'-0" O.C.

PARTITION TYPE GENERAL NOTES

1. ALL WALL TYPES ARE DRAWN @ 1 1/2" = 1'-0" SCALE.
2. FINISHES SHOWN ON WALL TYPES ARE NOT NECESSARILY THE FINISHES REQUIRED AT INDICATED LOCATIONS ON PLANS. THESE DETAILS ARE FOR THE BASIC CONSTRUCTION ONLY. CONTRACTOR SHALL USE FINISHES AS INDICATED ON THE FINISH SCHEDULE FOR VARIED CONDITIONS.
3. ALL ONE AND TWO HOUR FIRE WALLS SHALL EXTEND TO THE UNDERSIDE OF STRUCTURAL SYSTEM/ROOF DECK ABOVE AND ANCHORED AS INDICATED. CAULK AND SEAL PROPERLY AROUND ALL DUCTS, PIPES, ETC. PENETRATING WALLS TO MAINTAIN INTEGRITY OF INDICATED RATING.
4. EXIT ENCLOSURES AND FIRE WALLS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH STENCILING IN TWO INCH LETTERS APPROVED BY THE ARCHITECT. IDENTIFICATION SHALL BE ABOVE THE FINISHED CIELING IN SPACES VISIBLE TO THE EYE. SUGGESTED WORDING:
   ***[2 HR. FIRE WALL] or [1 HR. FIRE WALL] *** (CHOOSE ONE) - "PROTECT ALL OPENINGS". SPACING AT 6'-0" O.C. OR AS DIRECTED BY ARCHITECT.
5. REFER TO STRUCTURAL DRAWINGS TO CONFIRM BEARING WALL LOCATIONS AND CONDITIONS.





3 / A5.01 FEC DETAIL- MTL STUDS
1 1/2" = 1'-0"

IRONDALE FIRE STATION #3

2025

MAYOR
JAMES D. STEWART, JR.

CITY COUNCIL

JOHN LONDON — DISTRICT 1
DAVD SPIVEY — DISTRICT 2
CINDY CUELLAR — DISTRICT 3
ROBERT BOX — DISTRICT 4
AARON SIMS — DISTRICT 5

ARCHITECT: CHARLES WILLIAMS & ASSOCIATES, INC.
PROGRAM MANAGER: KEMP MANAGEMENT SOLUTIONS, LLC.
CONTRACTOR: TO BE DETERMINED

SAMPLE BUILDING PLAQUE: 2'-0" HIGH X 3'-0" WIDE OVERALL, 6" TOP AND SIDE NAME AND DATE PANELS, SATIN BRONZE RAISED AREAS AND BLACK BACKGROUND, 1/2" WIDE FLAT RAISED BORDERS, STIPPLE FINISH BACKGROUND, CONCEALED STUD MOUNT. SAMPLE TEXT ONLY- SHOP DRAWING SHOWING ACTUAL NAMES, DATE, AND TITLE SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL PRIOR TO MANUFACTURE.

1 / A5.01 MONUMENTAL PLAQUE
1 1/2" = 1'-0"

Revisions

No.	Date	Description

STATE OF ALABAMA — REGISTERED ARCHITECT — NO. 2925 — SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

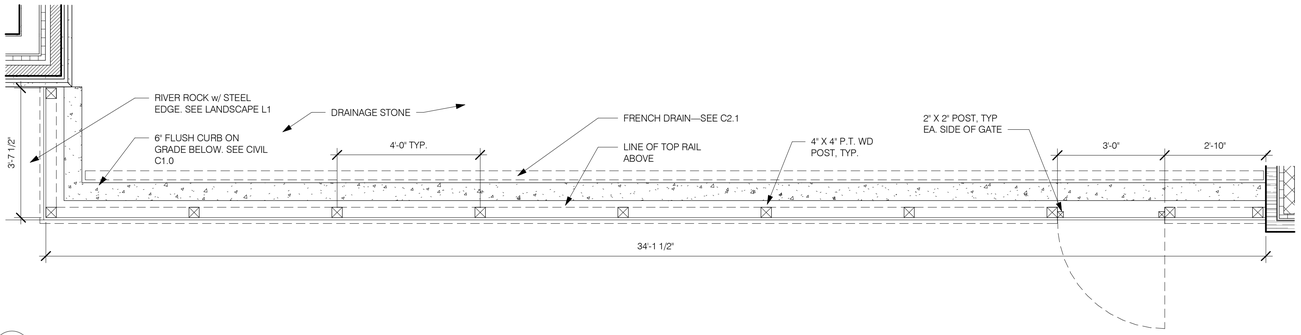
SHEET TITLE: **WALL TYPES**

PROJECT NUMBER: **CWA No. 2023-01**

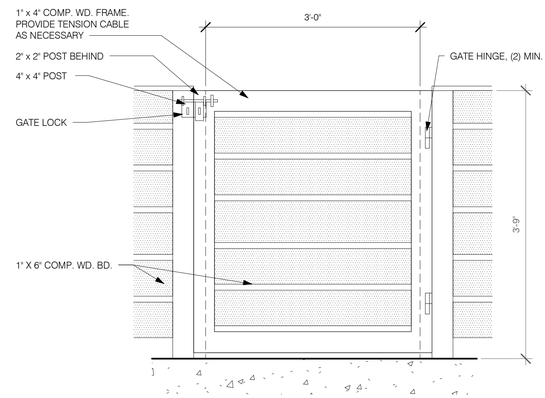
DATE: **08/30/24**

DRAWN BY: **Author** CHECKED BY: **Checker**

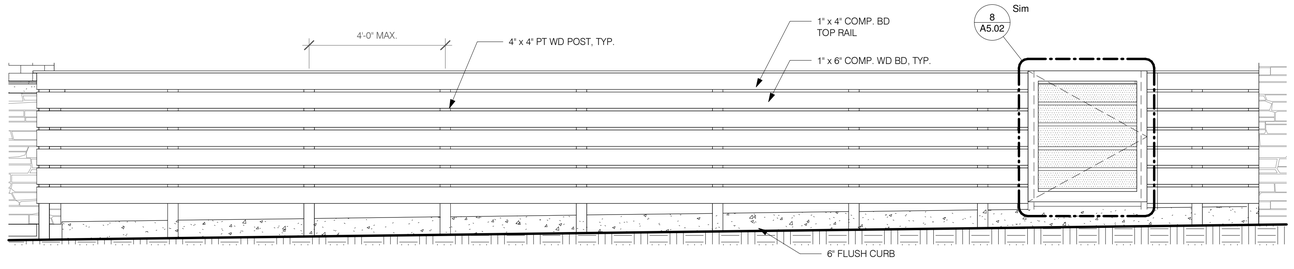
SHEET NUMBER **A5.01**



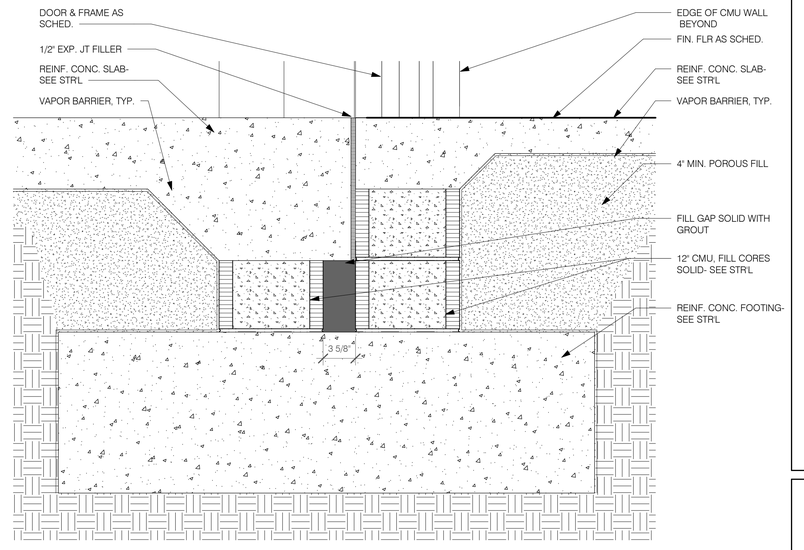
7 A5.02 LS PLAN- MECH. YARD FENCE
1/2" = 1'-0"



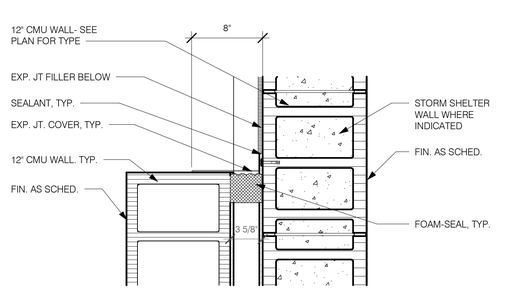
8 A5.02 MECH. FENCE GATE ELEVATION
1" = 1'-0"



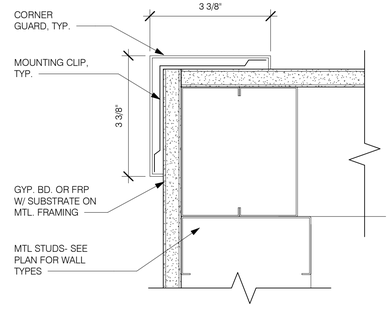
6 A5.02 MECH. FENCE ELEVATION
1/2" = 1'-0"



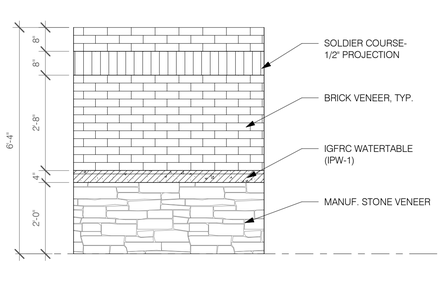
5 A5.02 FLOOR DTL- JOINT @ DBL 12" CMU
1 1/2" = 1'-0"



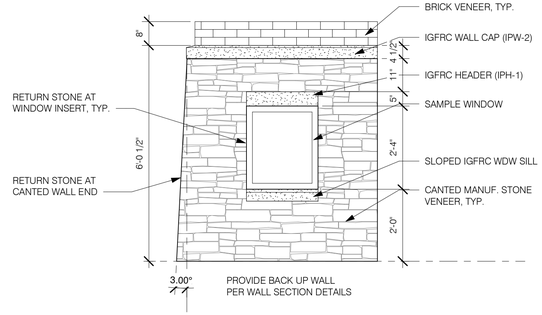
4 A5.02 WALL DETAIL
1 1/2" = 1'-0"



3 A5.02 CORNER GUARD DETAIL
6" = 1'-0"



2 A5.02 MOCK-UP @ TYP. WALL
1/2" = 1'-0"



1 A5.02 MOCK-UP @ STONE
1/2" = 1'-0"

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SHEET TITLE:
MISCELLANEOUS DETAILS

PROJECT NUMBER:
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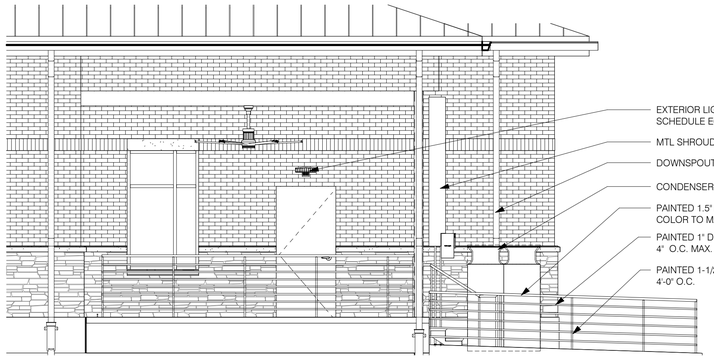
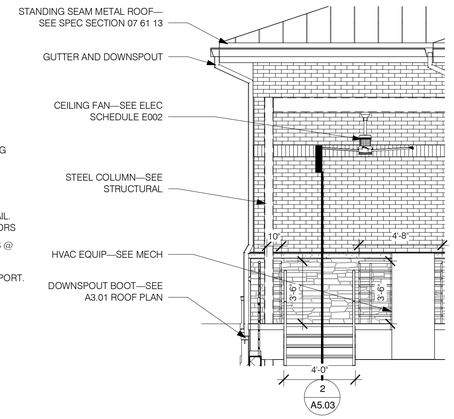
CSV	**CW**

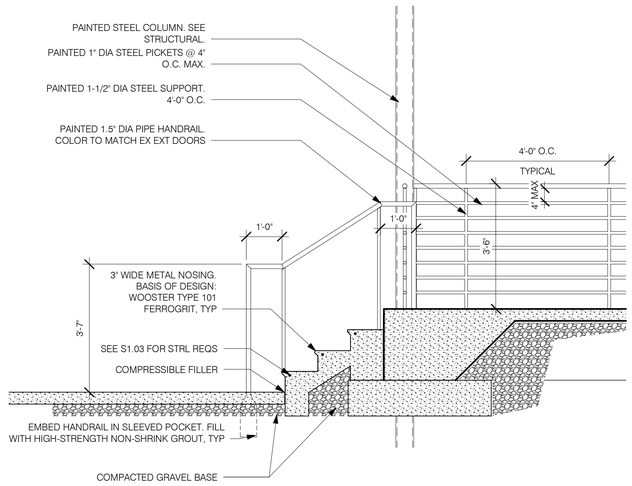
SHEET NUMBER
A5.02



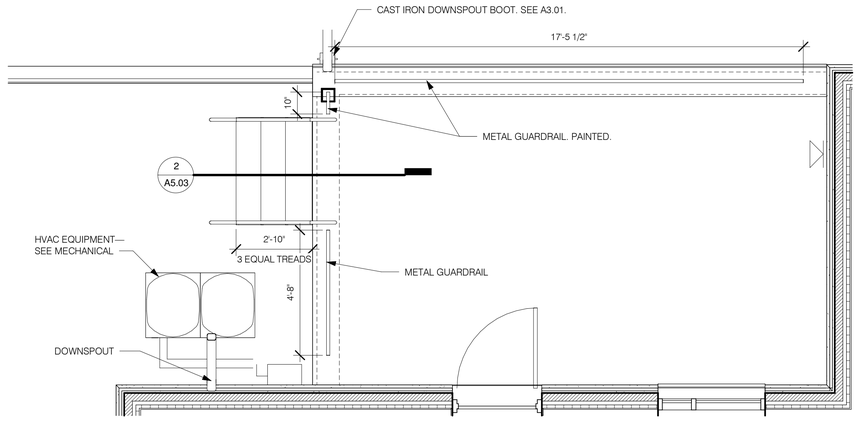
4 A5.03 PORCH WEST
1/4" = 1'-0"



3 A5.03 PORCH NORTH
1/4" = 1'-0"



2 A5.03 STAIR SECTION
1/2" = 1'-0"



1 A5.03 STAIR DETAILS
3/8" = 1'-0"

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SHEET TITLE:
STAIR DETAILS

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CWA No. 2023-01

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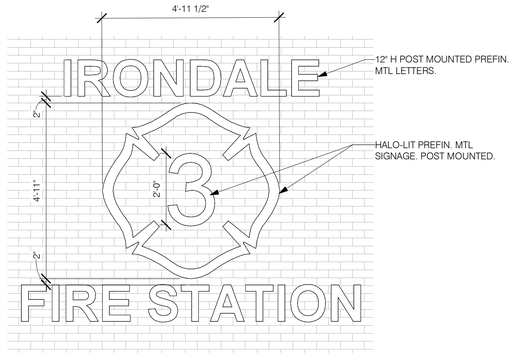
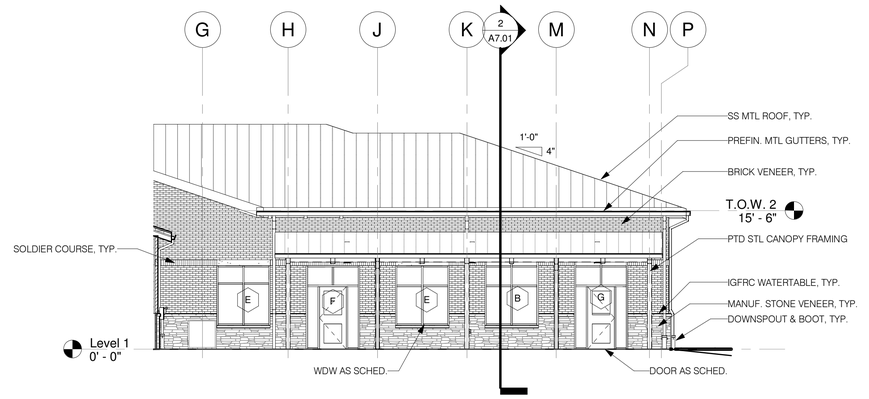
RM	**CSV**

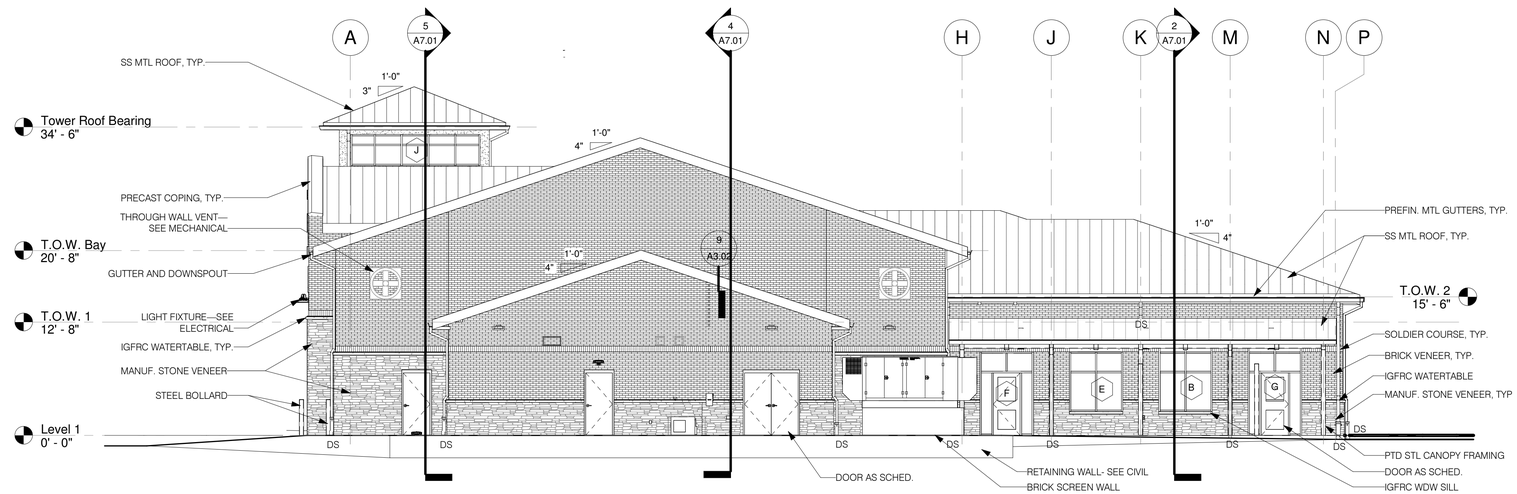
SHEET NUMBER
A5.03



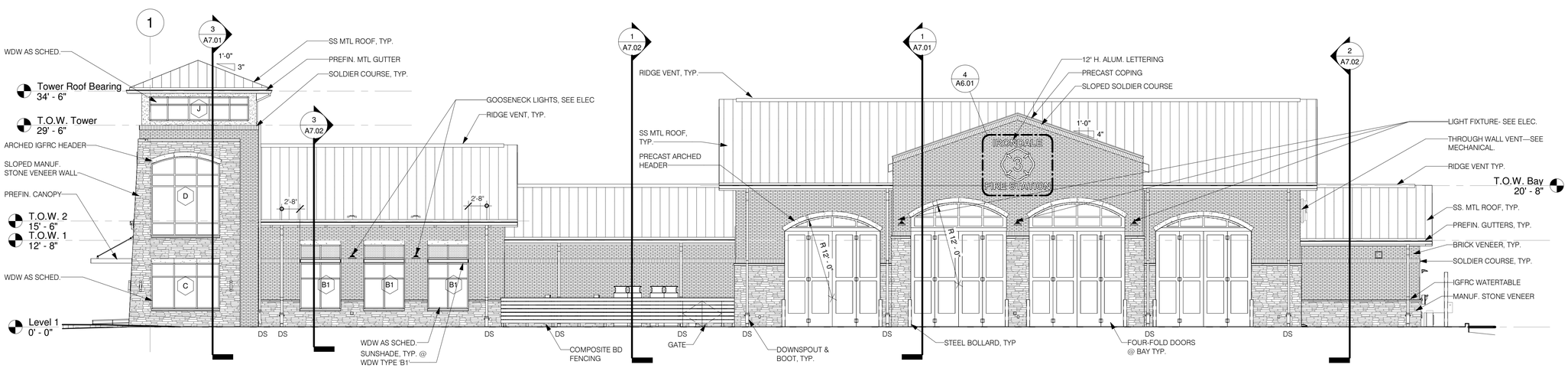
4 A6.01 EXT. SIGNAGE DETAIL
1/2" = 1'-0"



3 A6.01 EAST ELEVATION (PARTIAL)
1/8" = 1'-0"



1 A6.01 EAST ELEVATION
1/8" = 1'-0"



2 A6.01 NORTH ELEVATION
1/8" = 1'-0"

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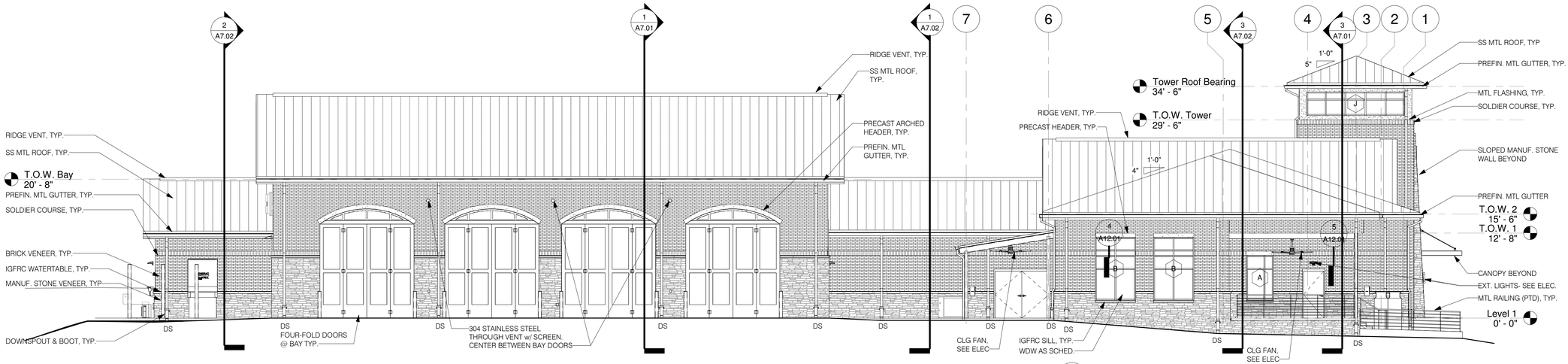
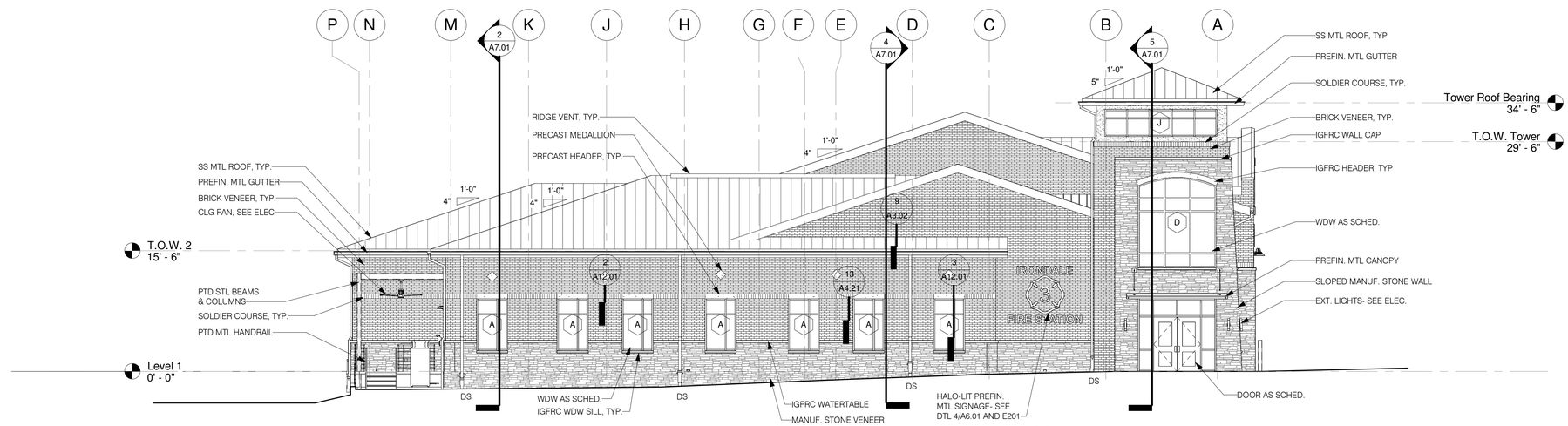
A6.01



1 A6.02 SOUTH ELEVATION
1/8" = 1'-0"



2 A6.02 WEST ELEVATION
1/8" = 1'-0"

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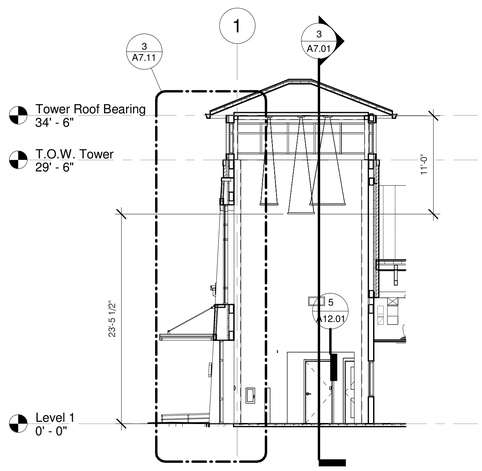
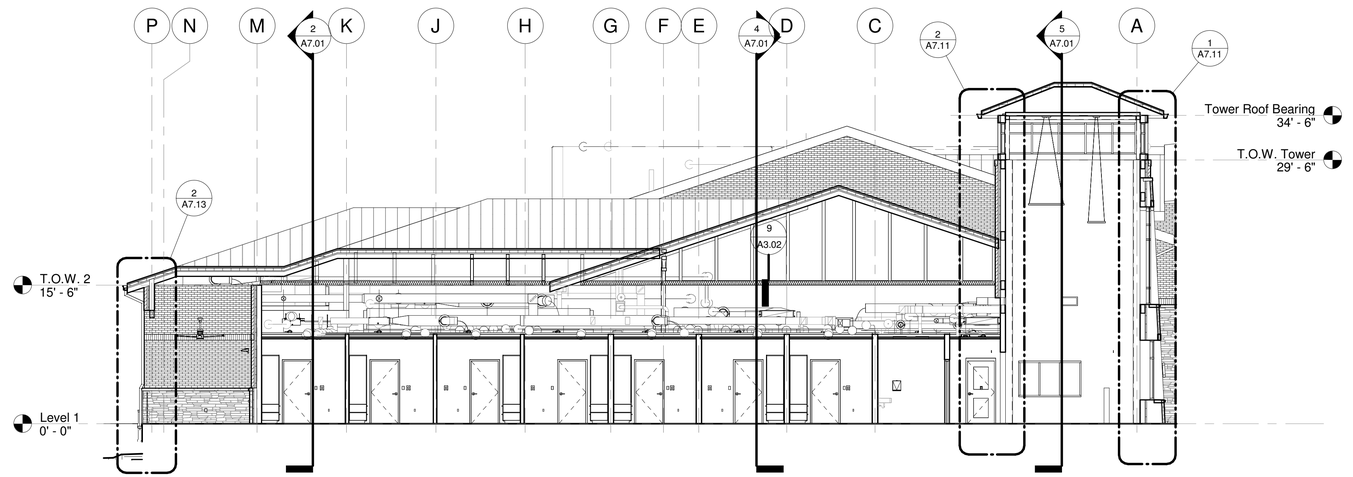
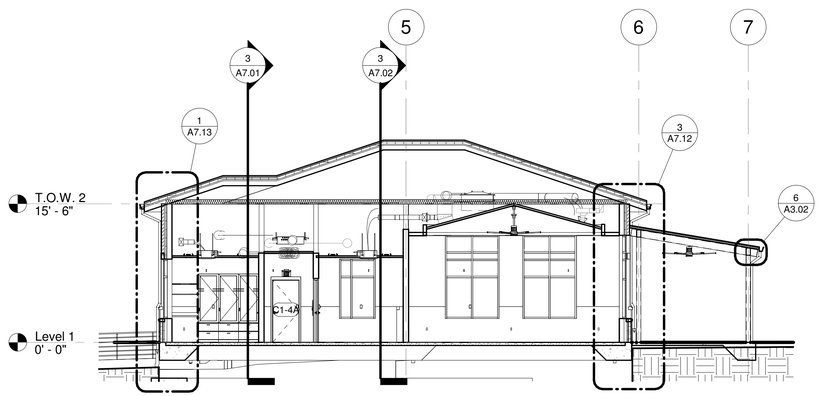
4 A7.01 BUILDING SECTION
1/8" = 1'-0"



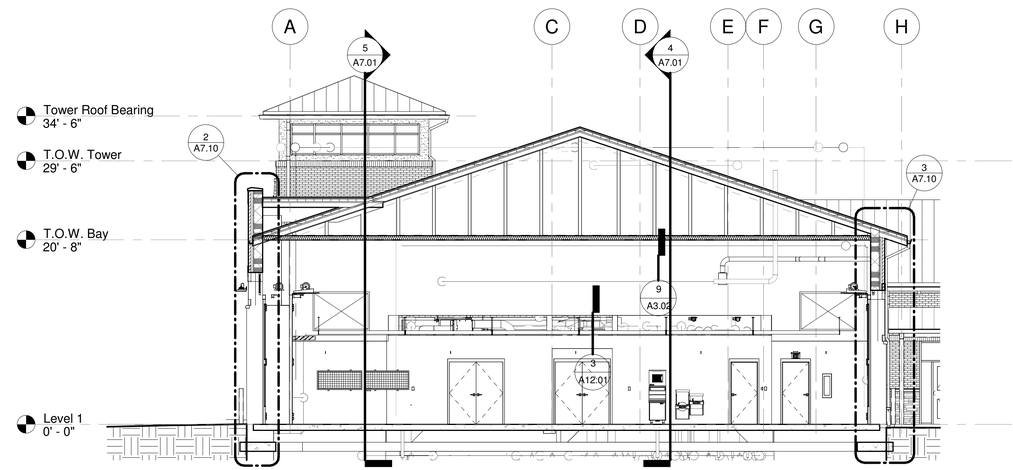
5 A7.01 BUILDING SECTION
1/8" = 1'-0"



3 A7.01 BUILDING SECTION
1/8" = 1'-0"



2 A7.01 BUILDING SECTION
1/8" = 1'-0"



1 A7.01 BUILDING SECTION
1/8" = 1'-0"

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RM	CSV

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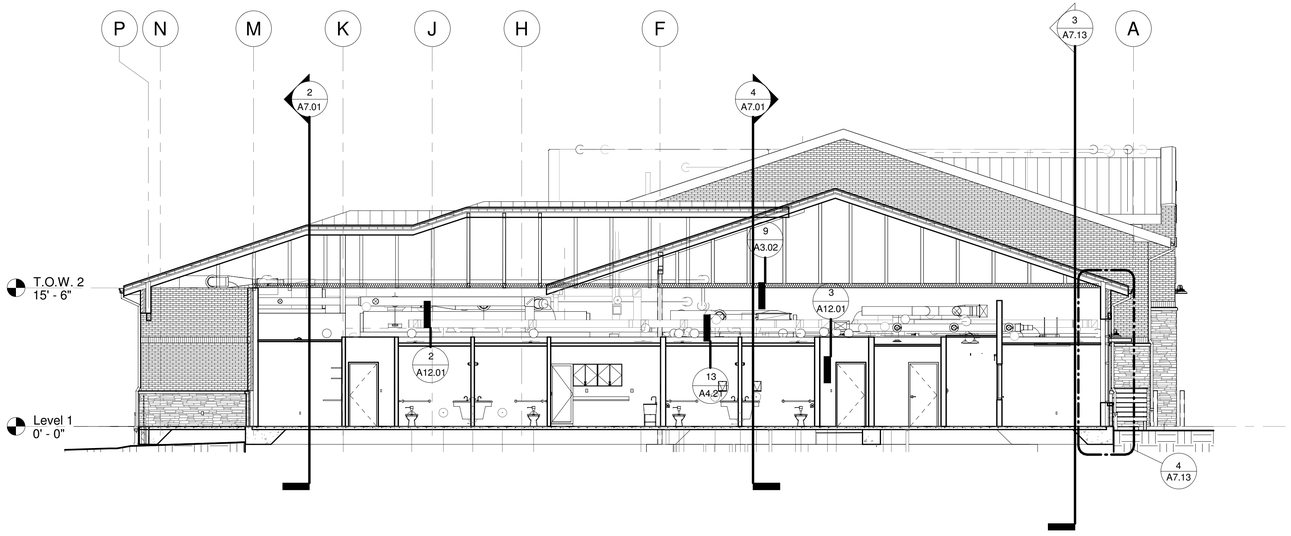
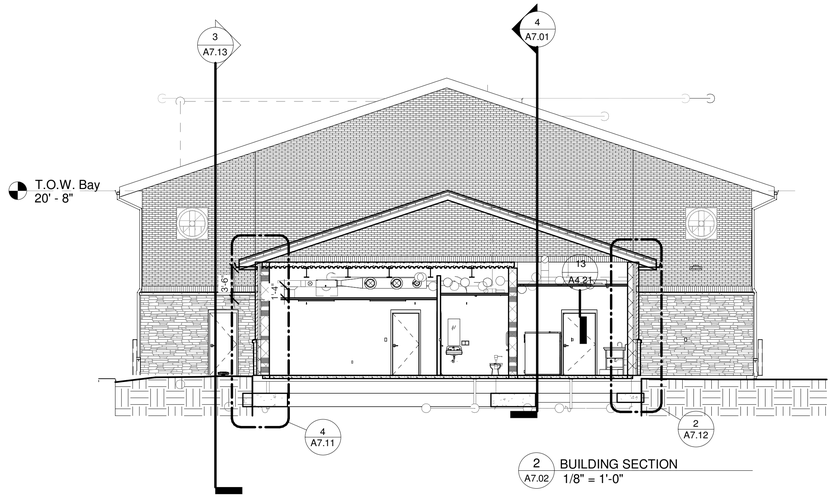
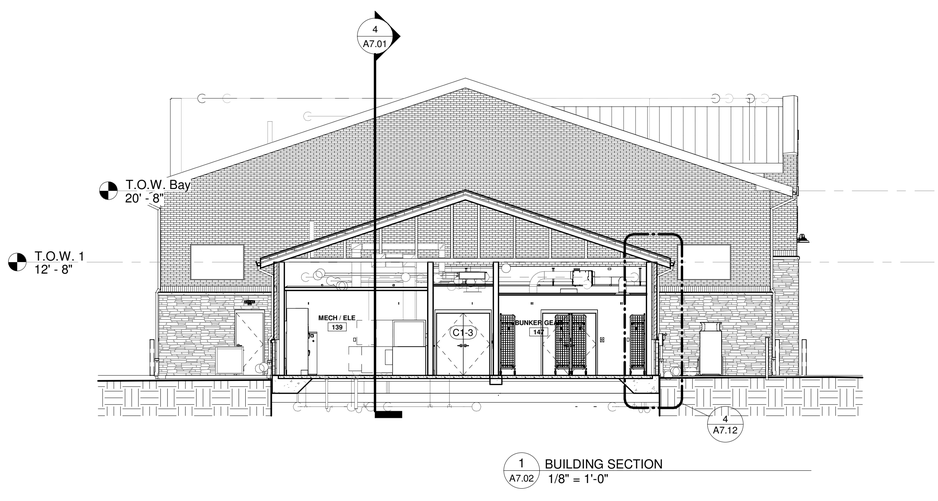
A7.01



3 A7.02 BUILDING SECTION
1/8" = 1'-0"



2 A7.02 BUILDING SECTION
1/8" = 1'-0"



1 A7.02 BUILDING SECTION
1/8" = 1'-0"

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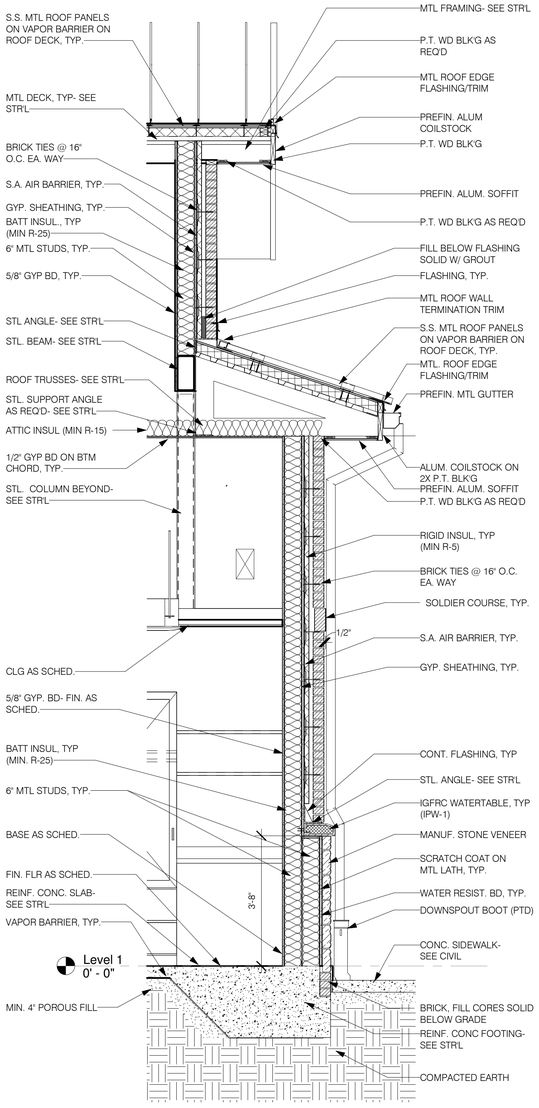
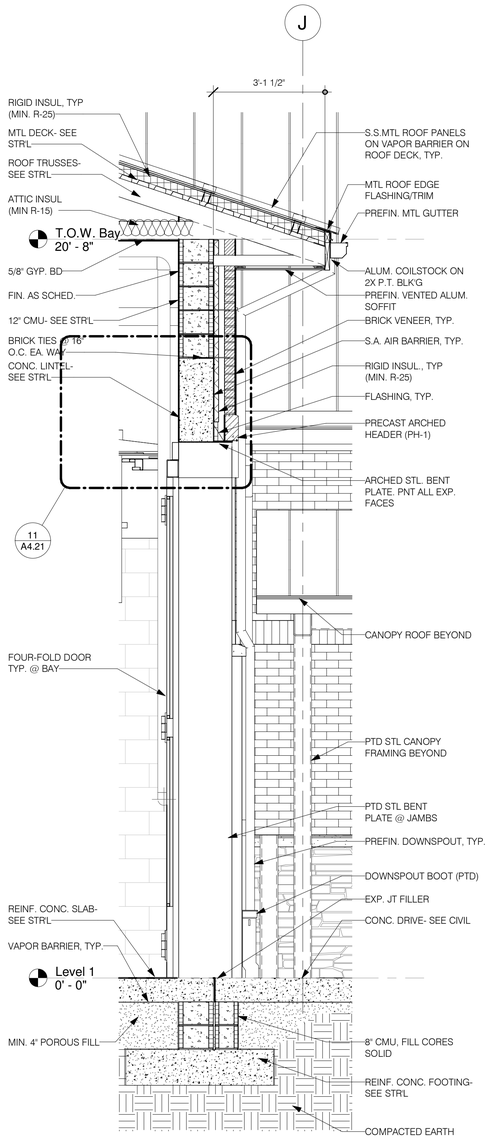
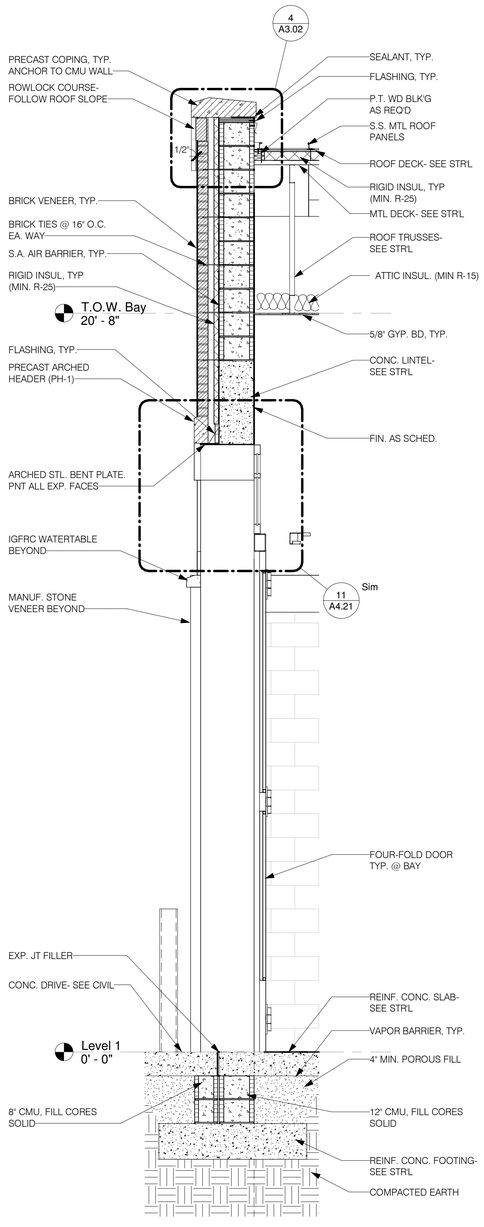


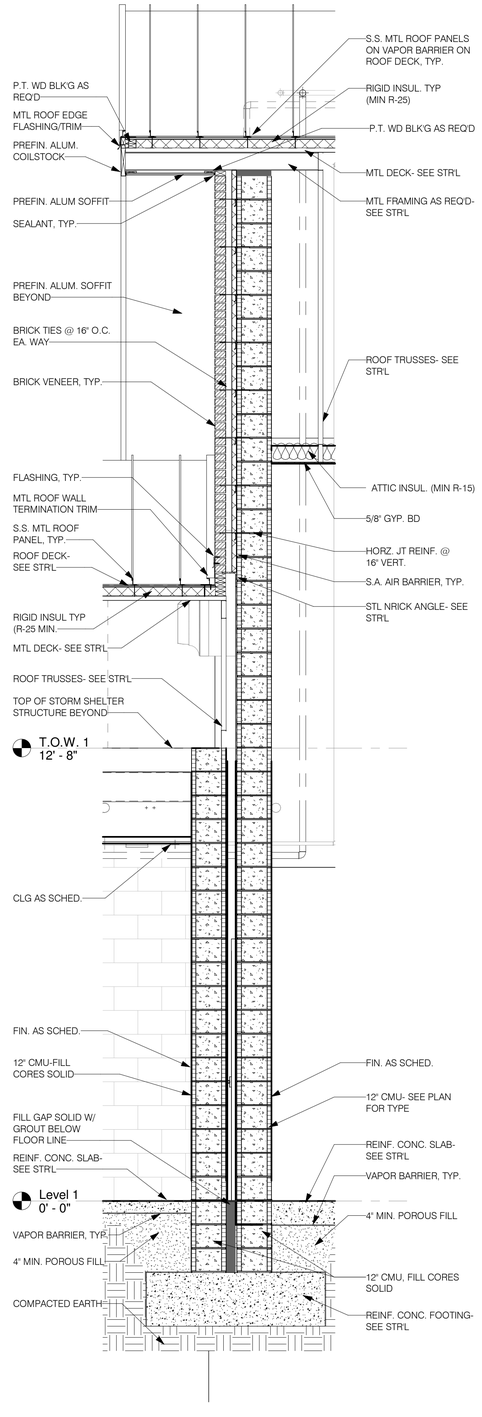
4 A7.10 WALL SECTION
1/2" = 1'-0"



3 A7.10 WALL SECTION
1/2" = 1'-0"



2 A7.10 WALL SECTION
1/2" = 1'-0"



1 A7.10 WALL SECTION
1/2" = 1'-0"

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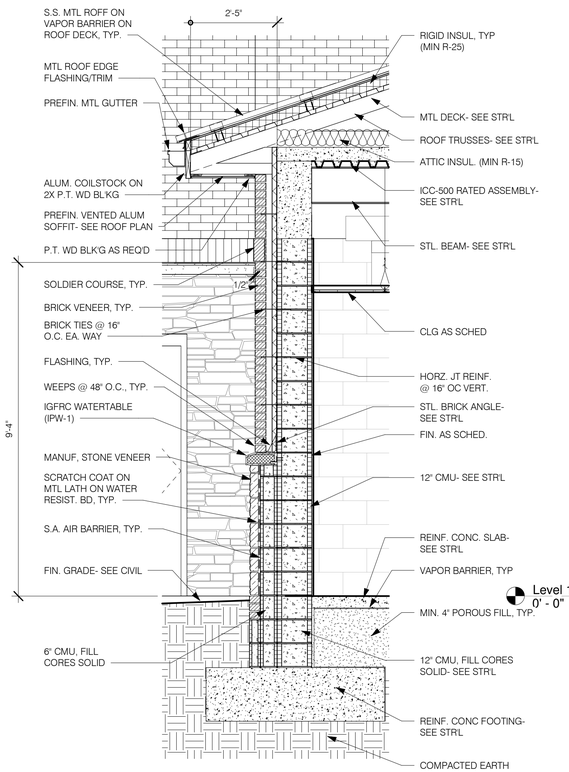
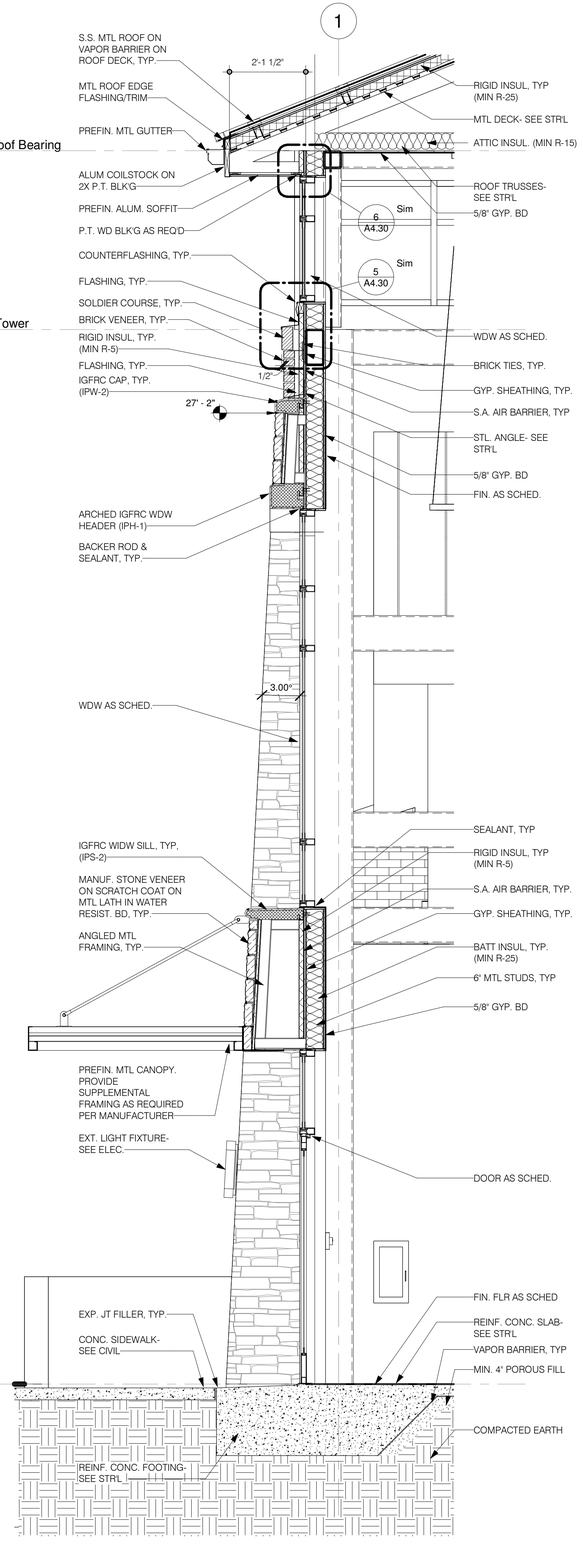
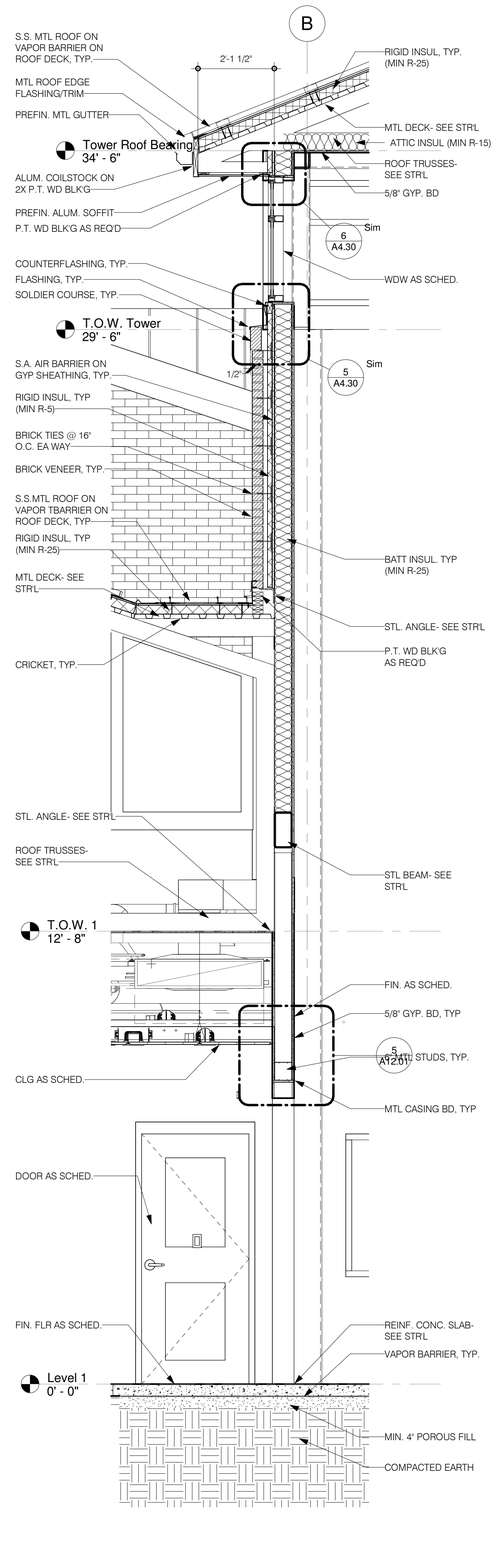
A7.10



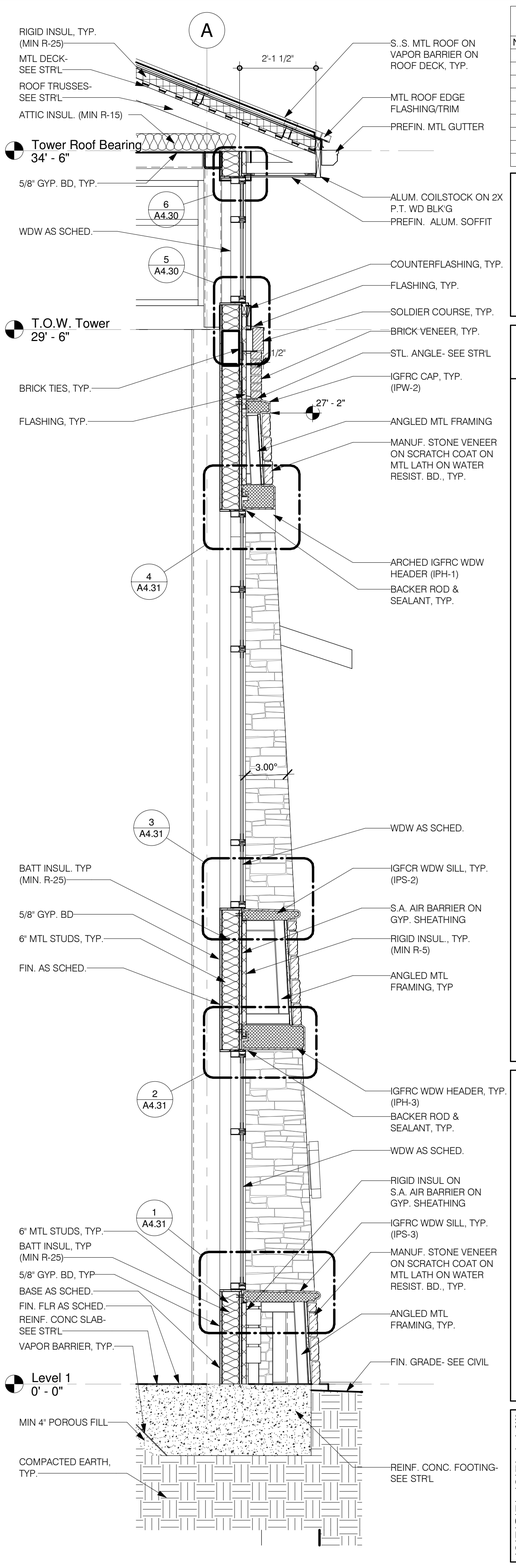
4 A7.11 WALL SECTION
1/2" = 1'-0"



3 A7.11 WALL SECTION
1/2" = 1'-0"



2 A7.11 WALL SECTION
1/2" = 1'-0"



1 A7.11 WALL SECTION
1/2" = 1'-0"

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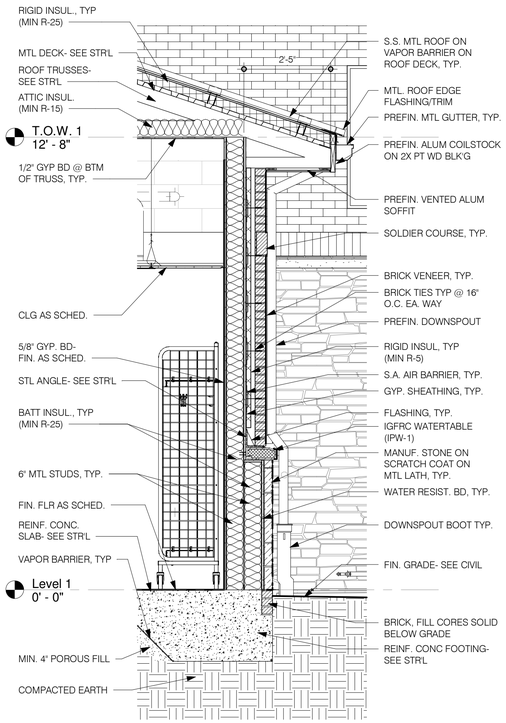
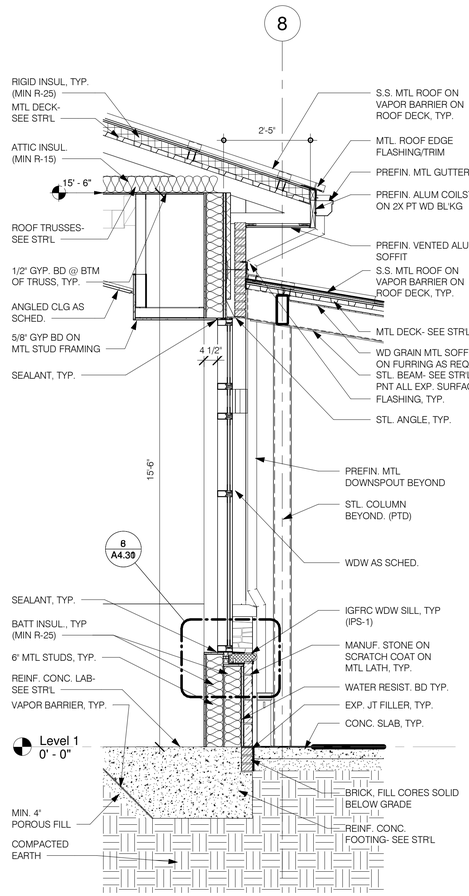
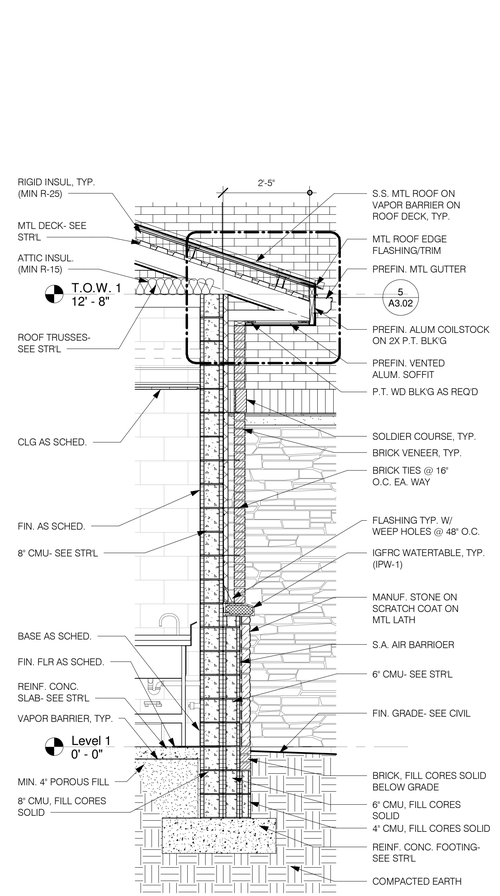
A7.11



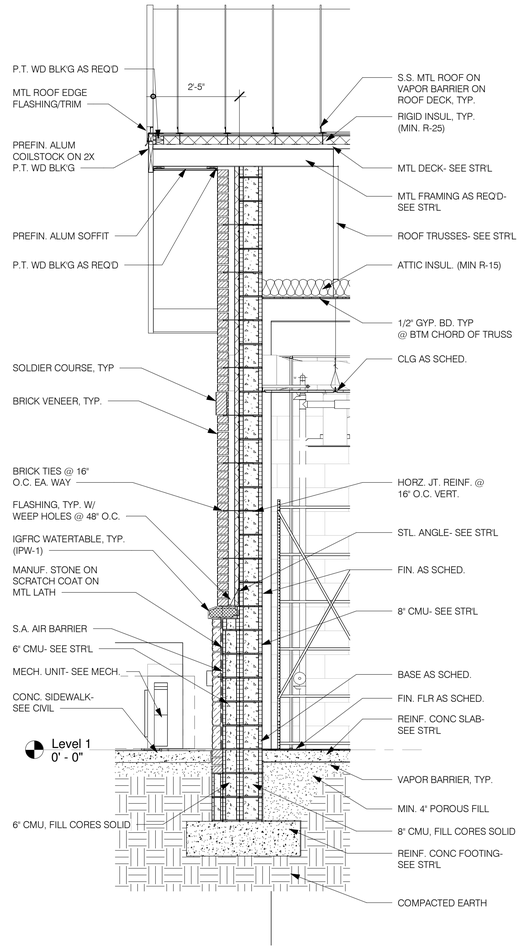
4 A7.12 WALL SECTION
1/2" = 1'-0"



3 A7.12 WALL SECTION
1/2" = 1'-0"



2 A7.12 ROOF DETAIL
1/2" = 1'-0"



1 A7.12 WALL SECTION
1/2" = 1'-0"

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CWA No. 2023-01

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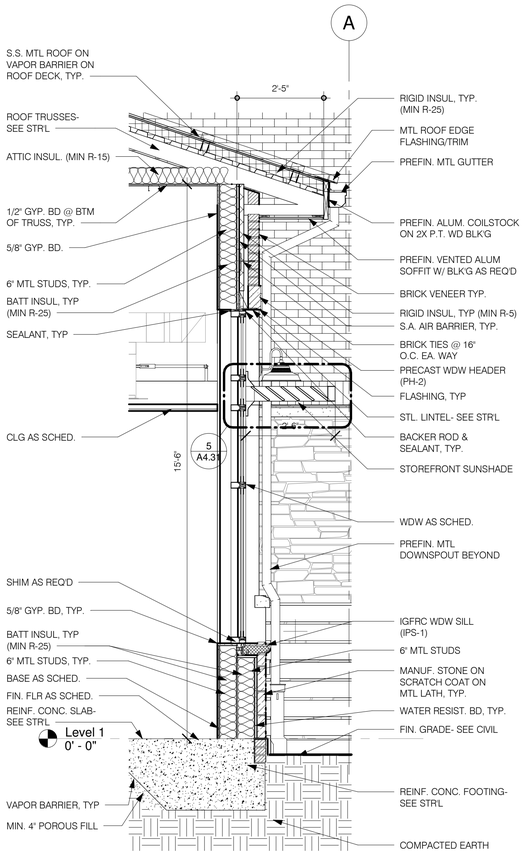
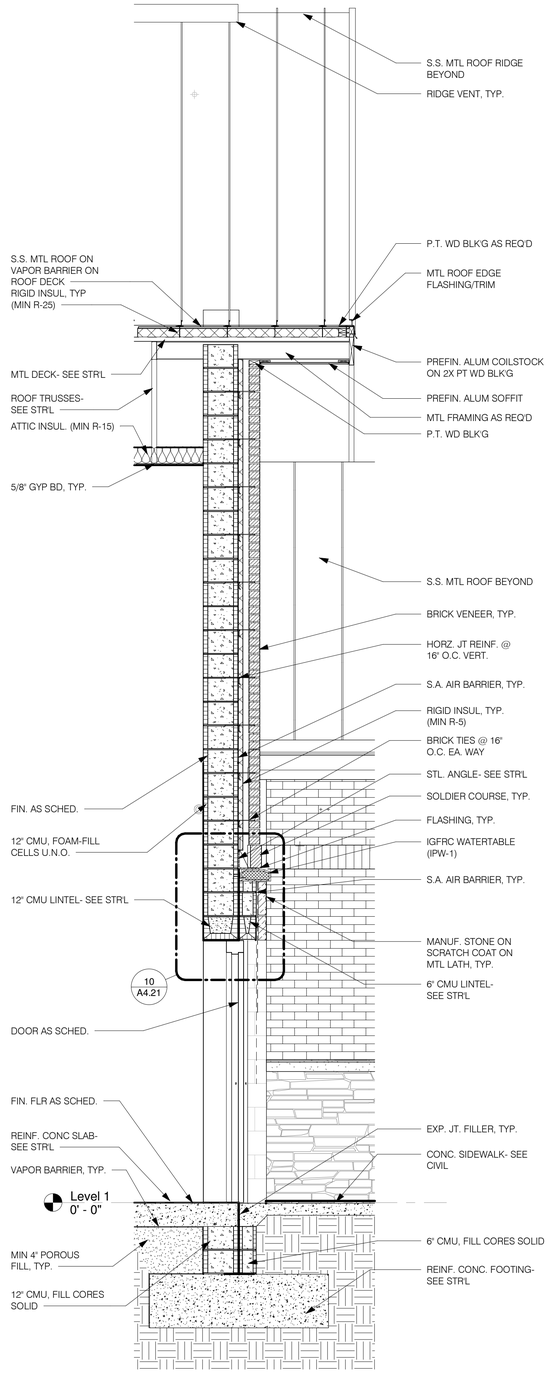
CSV	**CW**

SHEET NUMBER

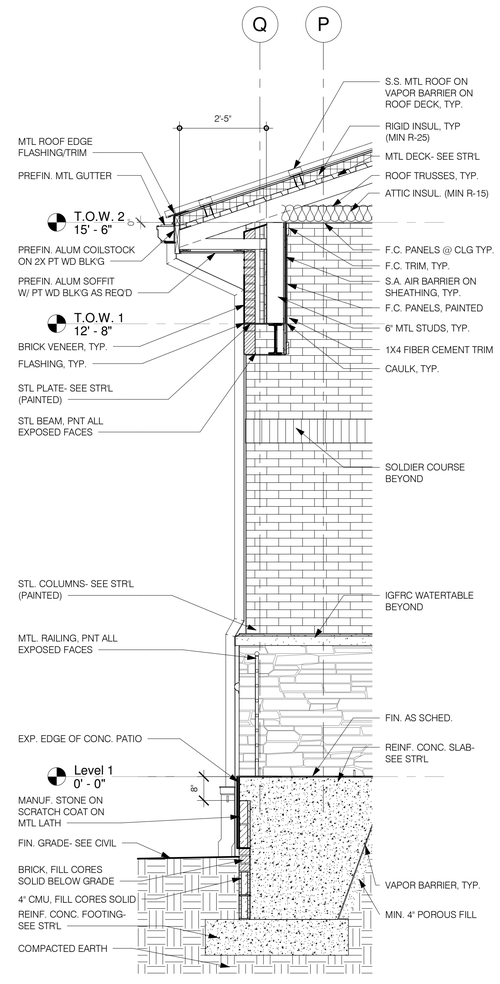
A7.12



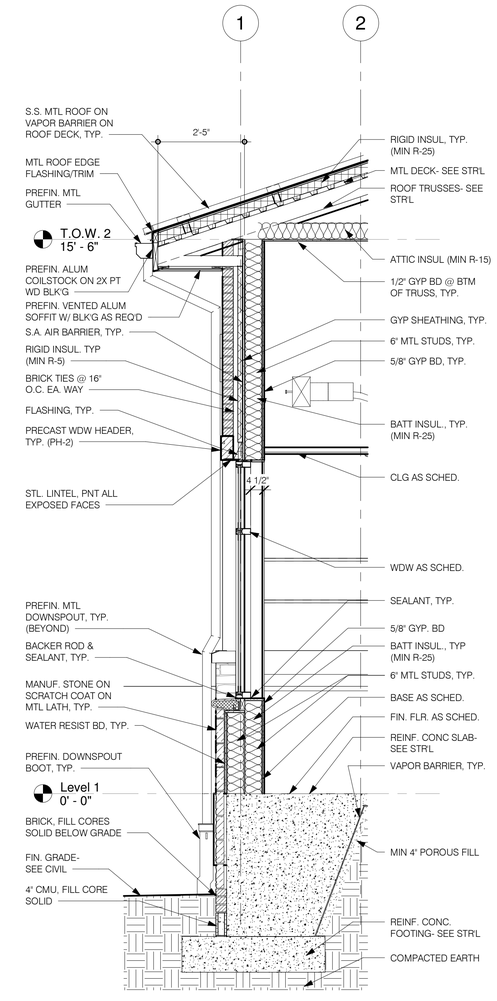
4 A7.13 WALL SECTION
1/2" = 1'-0"



3 A7.13 WALL SECTION
1/2" = 1'-0"



2 A7.13 WALL SECTION
1/2" = 1'-0"



1 A7.13 WALL SECTION
1/2" = 1'-0"

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BIRMINGHAM, ALABAMA 35222

SHEET TITLE:
WALL SECTIONS

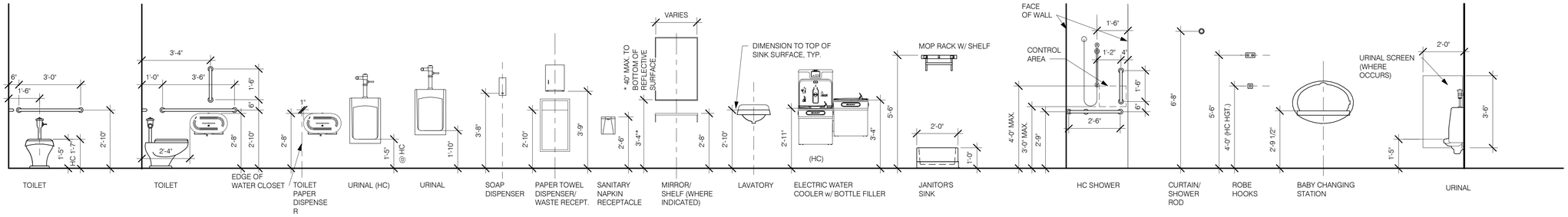
PROJECT NUMBER:
CWA No. 2023-01

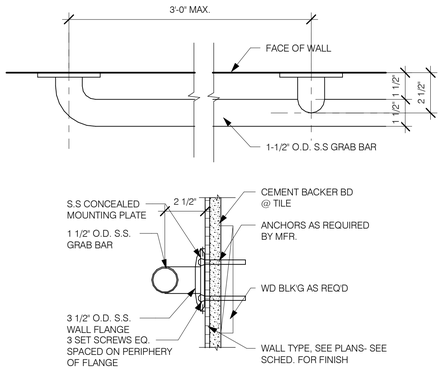
DATE:
08/30/24

DRAWN BY:	CHECKED BY:
CSV	**CW**

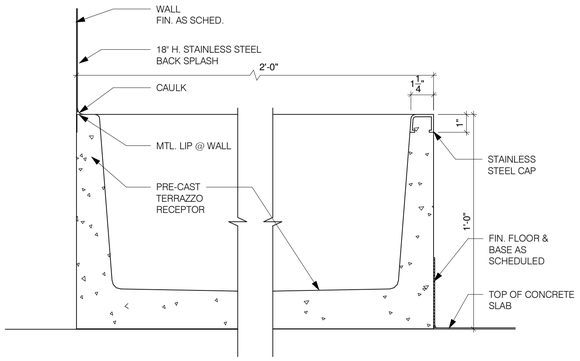
SHEET NUMBER

A7.13

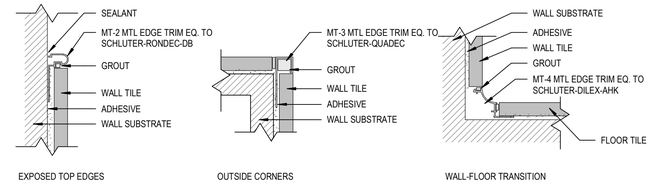




9 A10.01 GRAB BAR MOUNTING
3" = 1'-0"



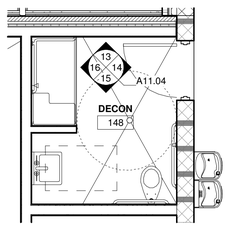
7 A10.01 TYP. JAN. PRECAST RECEPTOR
3" = 1'-0"



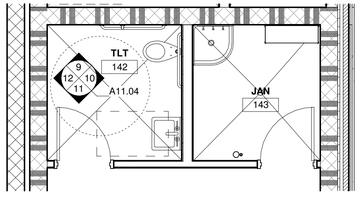
6 A10.01 METAL EDGE TRIM DETAILS
6" = 1'-0"

ABBREVIATIONS

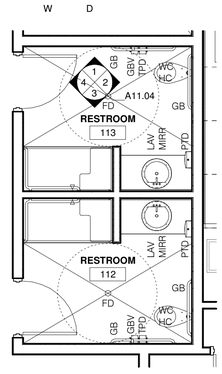
BCS	BABY CHANGING STATION
CR	CURTAIN & SHOWER ROD
EWC	ELECTRIC WATER COOLER
FD	FLOOR DRAIN
GB	GRAB BAR
HC	HANDICAP
LAV	LAVATORY
PTD	PAPER TOWEL DISPENSER
RH	ROBE HOOK
SCR	SHOWER CURTAIN ROD
SD	SOAP DISPENSER
SNR	SANITARY NAPKIN RECEPTACLE
SS	ADA SHOWER SEAT
TPD	TOILET PAPER DISPENSER
UR	URINAL
WC	WATER CLOSET
WR	WASTE RECEPTACLE



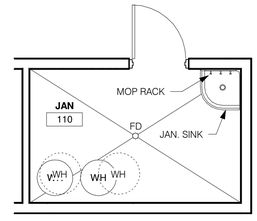
5 A10.01 WET AREA PLAN
1/4" = 1'-0"



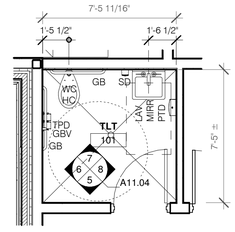
4 A10.01 WET AREA PLAN
1/4" = 1'-0"



3 A10.01 WET AREA PLAN (RESTROOMS 113 / 116 SIMILAR)
1/4" = 1'-0"



2 A10.01 WET AREA PLAN
1/4" = 1'-0"



1 A10.01 WET AREA PLAN
1/4" = 1'-0"

Revisions

No.	Date	Description

STATE OF ALABAMA
CHARLES V. WILLIAMS
NO. 2925
REGISTERED ARCHITECT
SEAL

100% CDS

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

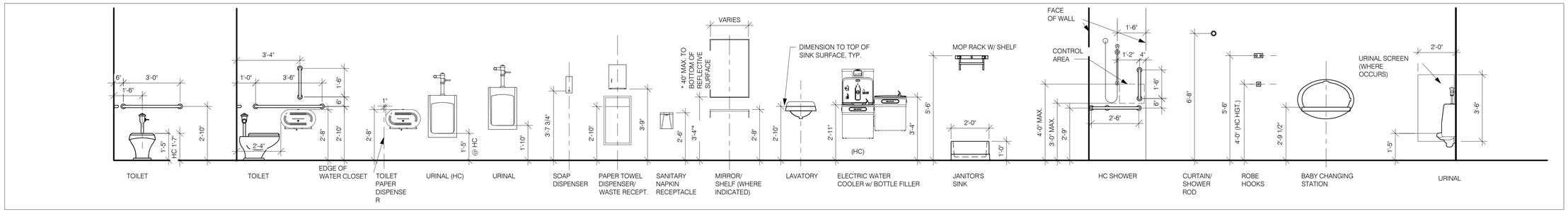
SHEET TITLE:
WET AREA PLANS & DETAILS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

DRAWN BY:	CHECKED BY:
CSV	**CW**

SHEET NUMBER
A10.01



ABBREVIATIONS

BCS	BABY CHANGING STATION
CF	CURTAIN & SHOWER ROD
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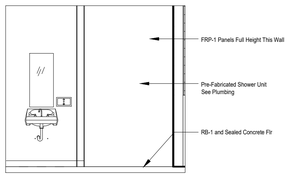
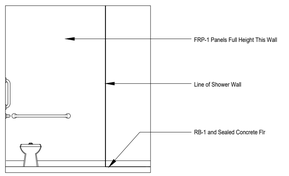
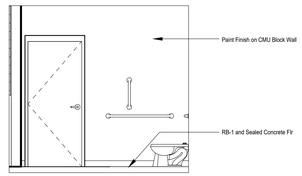
WC	WATER CLOSET
WF	WASTE RECEPTACLE



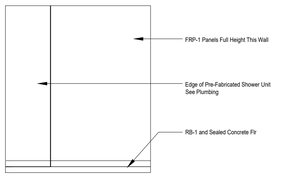
16 A11.04 DECON 148 4
1/4" = 1'-0"



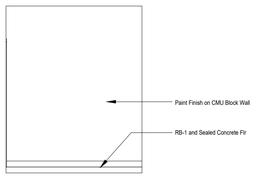
15 A11.04 DECON 148 3
1/4" = 1'-0"



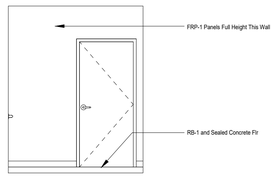
14 A11.04 DECON 148 2
1/4" = 1'-0"



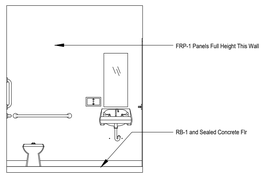
13 A11.04 DECON 148 1
1/4" = 1'-0"



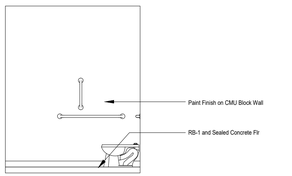
12 A11.04 TOILET 142 4
1/4" = 1'-0"



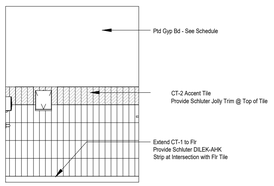
11 A11.04 TOILET 142 3
1/4" = 1'-0"



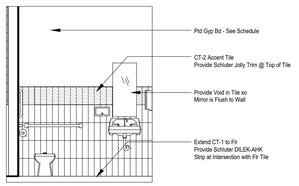
10 A11.04 TOILET 142 2
1/4" = 1'-0"



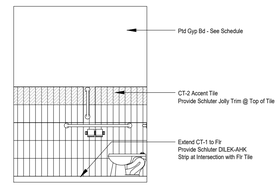
9 A11.04 TOILET 142 1
1/4" = 1'-0"



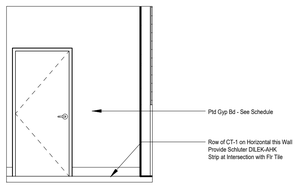
8 A11.04 TOILET 101 4
1/4" = 1'-0"



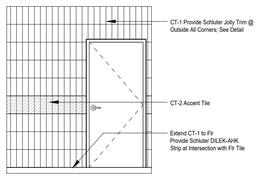
7 A11.04 TOILET 101 3
1/4" = 1'-0"



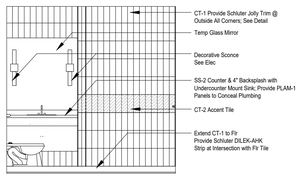
6 A11.04 TOILET 101 2
1/4" = 1'-0"



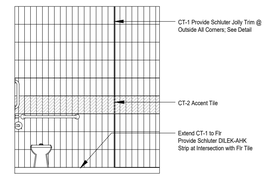
5 A11.04 TOILET 101 1
1/4" = 1'-0"



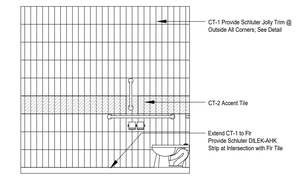
4 A11.04 SHOWER RR 4
1/4" = 1'-0"



3 A11.04 SHOWER RR 3
1/4" = 1'-0"



2 A11.04 SHOWER RR 2
1/4" = 1'-0"



1 A11.04 SHOWER RR 1
1/4" = 1'-0"

Revisions		
No.	Date	Description

100% CD REVIEW

IRONDALE FIRE STATION #3

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3601 8TH AVE. SOUTH
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PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
INTERIOR ELEVATIONS & DETAILS

PROJECT NUMBER:
CWA No. 2023-01

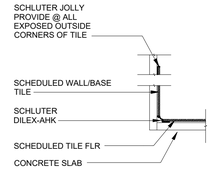
DATE:
08/30/24

DRAWN BY:	CHECKED BY:
JHH	**RM**

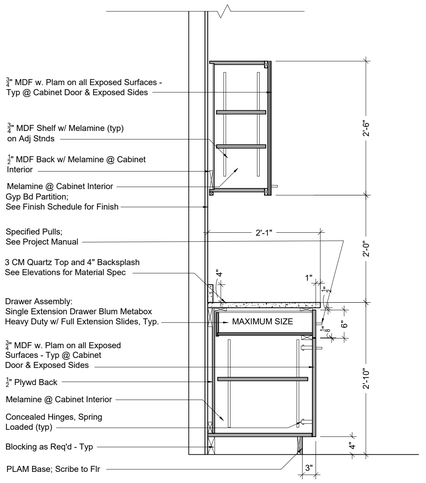
SHEET NUMBER
A11.04

NOTES:
1. FLOOR TRANSITIONS WHICH OCCUR AT DOORS SHALL BE CENTERED BENEATH THE DOOR WHILE IN THE CLOSED POSITION

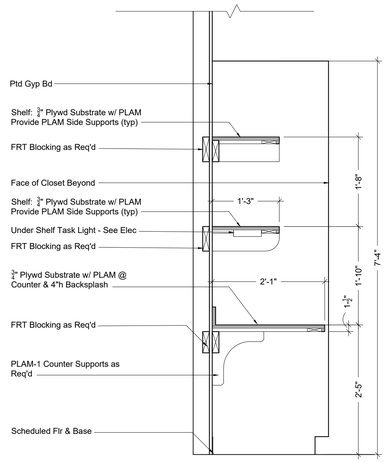
2. COORDINATE LOCATIONS OF FLOORING TRANSITIONS WITH FINISH PLANS AND SCHEDULE



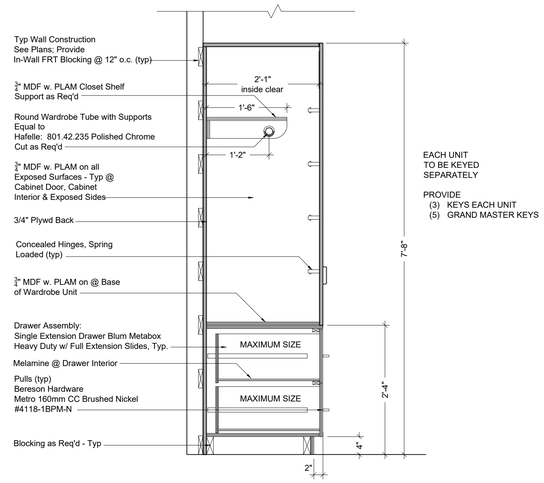
8 A11.05 DETAIL: TILE COVE BASE AND EXPOSED EDGES
not to scale



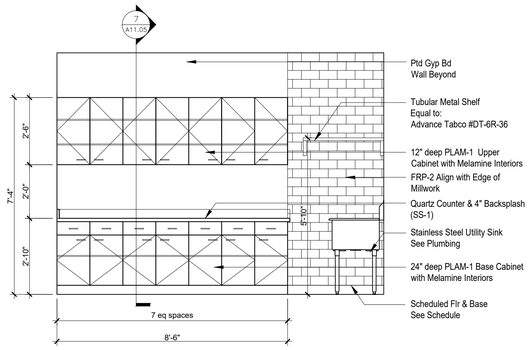
7 A11.05 SECTION LAUNDRY RM 114
sc: 3/4" - 1'-0"



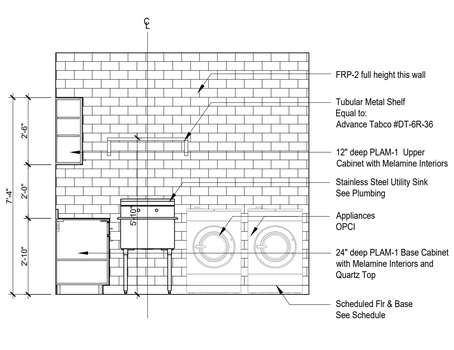
6 A11.05 SECTION: DORM ROOM DESK
sc: 3/4" - 1'-0"



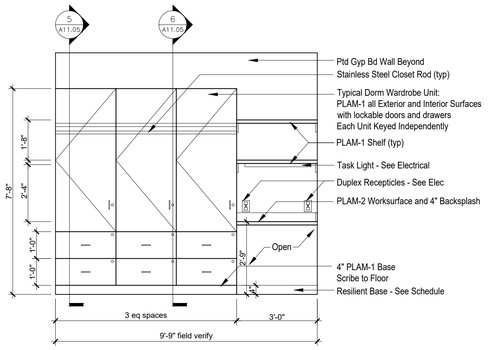
5 A11.05 SECTION: DORM ROOM CLOSET
sc: 3/4" - 1'-0"



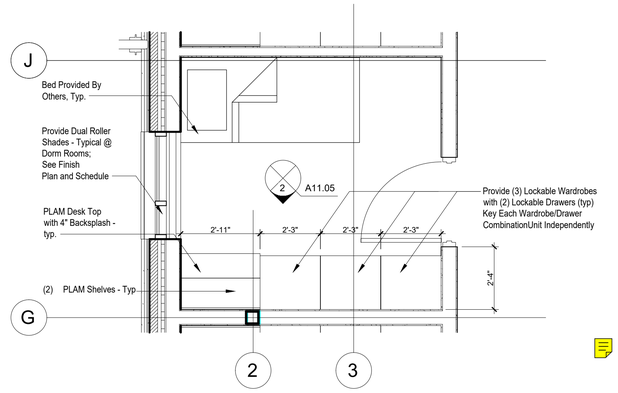
4 A11.05 LAUNDRY RM 114
sc: 3/8" - 1'-0"



3 A11.05 LAUNDRY RM 114
sc: 3/8" - 1'-0"



2 A11.05 TYPICAL DORM ROOM MILLWORK
sc: 3/8" - 1'-0"



1 A11.05 ENLARGED TYPICAL DORM ROOM PLAN
sc: 3/8" - 1'-0"

Revisions		
No.	Date	Description

STATE OF ALABAMA
REGISTERED ARCHITECT
NO. 2925
SEAL

100% CD REVIEW

IRONDALE FIRE STATION #3

2101 JOHN ROGERS DR
BIRMINGHAM, AL 35210
CITY OF IRONDALE

CWA CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
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DRAWN BY: **JHH** | CHECKED BY: **RM**

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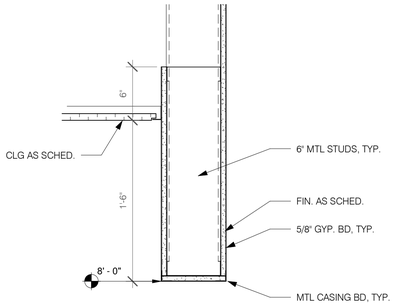
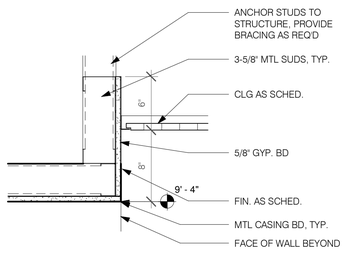
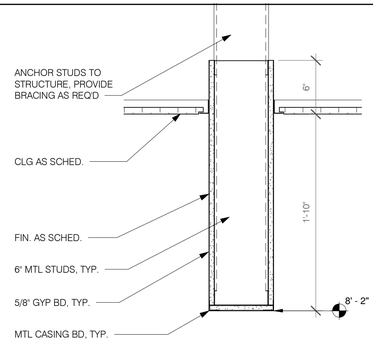
A11.05



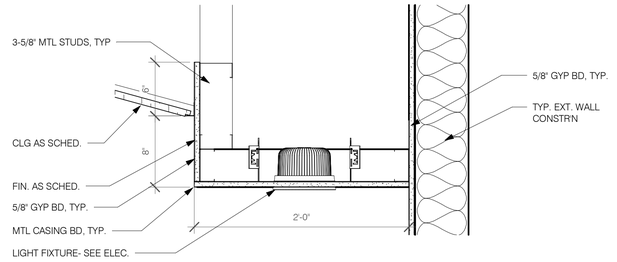
5 A12.01 CEILING DETAIL
1 1/2" = 1'-0"



4 A12.01 CEILING DETAIL
1 1/2" = 1'-0"



3 A12.01 CEILING DETAIL
1 1/2" = 1'-0"



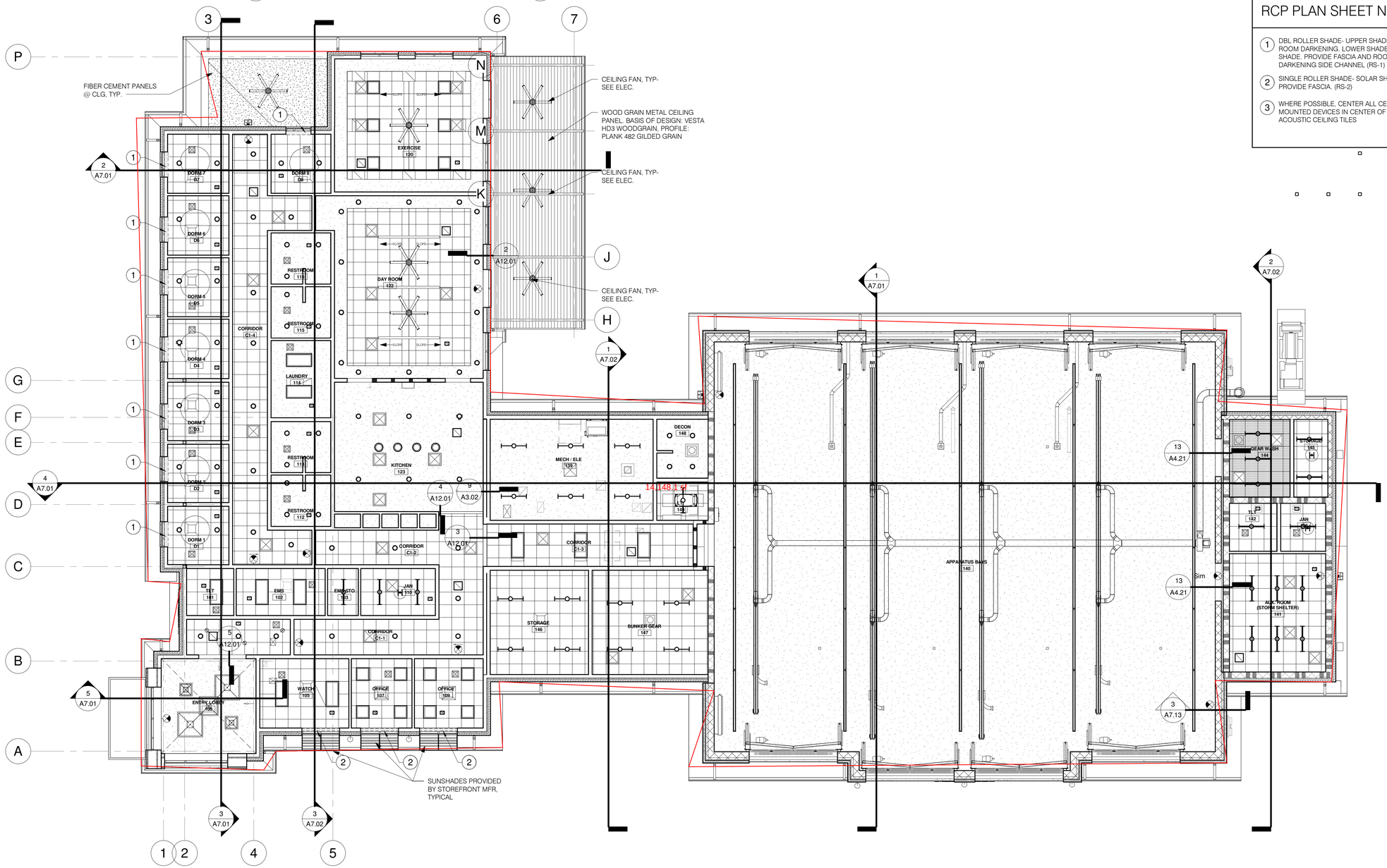
2 A12.01 CEILING DETAIL
1 1/2" = 1'-0"

RCP LEGEND

- 2X2 ACOUSTICAL CEILING TILE
- 2X2 VINYL COATED ACOUSTICAL CEILING TILE
- SUSPENDED GYPSUM CEILING- SEE FINISH SCHEDULE
- LIGHT FIXTURES- SEE ELECTRICAL
- SUPPLY DIFFUSERS- SEE MECHANICAL
- RETURN GRILLE- SEE MECHANICAL
- EXPOSED METAL DECK

RCP PLAN SHEET NOTES

1. DBL ROLLER SHADE- UPPER SHADE ROOM DARKENING. LOWER SHADE SOLAR SHADE. PROVIDE FASCIA AND ROOM DARKENING SIDE CHANNEL (RS-1)
2. SINGLE ROLLER SHADE- SOLAR SHADE. PROVIDE FASCIA. (RS-2)
3. WHERE POSSIBLE, CENTER ALL CEILING MOUNTED DEVICES IN CENTER OF ACOUSTIC CEILING TILES



Revisions		
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PH: 205-250-0700
FAX: 205-250-0515
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

SHEET TITLE:
REFLECTED CEILING PLANS

PROJECT NUMBER:
CWA No. 2023-01

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RM	**CSV**

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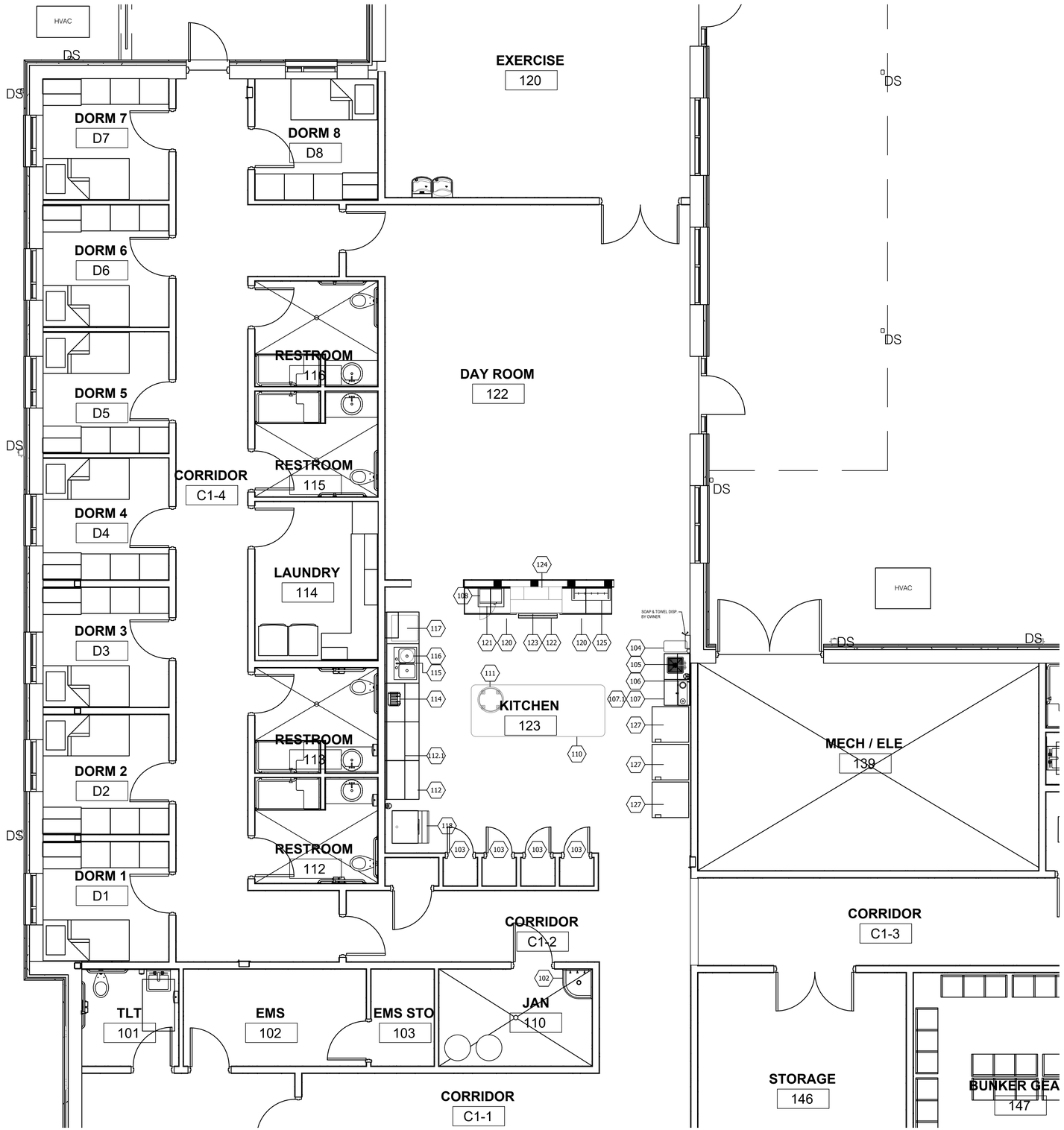

1 FS1.01 KITCHEN FLOOR PLAN
1/4" = 1'-0"

FOOD EQUIPMENT SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	MANUFACTURER	MODEL NUMBER	EQUIPMENT REMARKS	ITEM NO
101	1	TRASH DUMPSTER			BY OWNER	101
102	1	JANITORIAL SINK W/FAUCET AND MOP RACK			BY PROJ. PLUMBER	102
103	1LOT	PANTRY/STORAGE			BY ARCHITECT	103
104	1	TRASH RECEPTACLE	RUBBERMAID	SLIM JIM	BY OWNER	104
105	1	GOOSE NECK FAUCET	T&S BRASS	B-0325.CC-CR	BY KEC	105
106	1	COFFEE BREWER	BUNN-O-MATIC	07400.0005	BY KEC	106
107	1	MILLWORK BASE COUNTER W/SINK		CUSTOM	BY ARCHITECT	107
107.1	1	MILLWORK UPPER WALL CABINET		CUSTOM	BY ARCHITECT	107.1
108	1	MICROWAVE OVEN	PANASONIC	NE-1054F	BY KEC	108
109	-	OPEN ITEM		-	-	109
110	1	MILLWORK BASE COUNTER		CUSTOM	BY ARCHITECT	110
111	1	32 GAL. TRASH CAN-MOBILE	RUBBERMAID	BY OWNER	BY OWNER	111
112	1	MILLWORK BASE COUNTER W/SINKS		CUSTOM	BY ARCHITECT	112
112.1	1	MILLWORK UPPER WALL CABINET		CUSTOM	BY ARCHITECT	112.1
113	-	OPEN ITEM			-	113
114	1	POP UP TOASTER			BY OWNER	114
115	1	PRE-RINSE FAUCET	T&S BRASS	B-0113-ADF12-B	BY KEC	115
116	1	1 HP DISPOSER	SALVAJOR	100-SA-3-1/2	BY KEC	116
117	1	UNDERCOUNTER COMMERCIAL DISHWASHER	CHAMPION	UH130B	BY KEC	117
118	1	ICE MAKER W/BIN (400 LB. CAPACITY) SMALL CUBE	SCOTSMAN	MAS033SA1/B-530S	BY KEC	118
119	-	OPEN ITEM				119
120	1	MILLWORK BASE COUNTER		CUSTOM	BY ARCHITECT	120
121	1	MICROWAVE SHELF (S/S)	ADVANCE/TABCO	MS-18-24	BY KEC	121
122	1	6 EYE RANGE WITH OVEN		GR366	BY KEC	122
123	1	EXHAUST HOOD	WOLF	PW482418	BY KEC	123
124	1LOT	EXHAUST FAN SYSTEM			BY MECH. CONTACTOR	124
125	1	POT RACK SHELF (S/S)	ADVANCE/TABCO	PS-12-36	BY KEC	125
126	1	MILLWORK BASE COUNTER		CUSTOM	BY ARCHITECT	126
127	3	REFRIG/FRZR COMBO (DOMESTIC) 28.4 CU. FT.	WHIRLPOOL (LOWES)	WRS588FIHZ	BY KEC	127

NOTE:

1. ALL CONNECTIONS SHOWN IN THE SCHEDULE ARE SIZED AS THEY ACTUALLY OCCUR ON THE EQUIPMENT.
2. CONNECTIONS SHOWN ARE FOR ONE UNIT. TO DETERMINE TOTAL REQUIREMENTS, MULTIPLY BY NUMBER IN QUANTITY COLUMN.
3. ELECTRIC CONTRACTOR AND PLUMBING CONTRACTOR TO VERIFY UTILITIES ON EXISTING EQUIPMENT.
4. WHERE INDICATED TO CONNECT IN OR THROUGH A VALVE COMPARTMENT, CONTRACTOR SHALL STUB-UP INTO VALVE COMPARTMENT AT HEIGHT INDICATED ON ROUGH-IN PLAN, CAP HIS WORK AND MAKE FINAL CONNECTIONS AFTER EQUIPMENT IS IN PLACE.
5. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS REGARDING ELECTRICAL PRE-WIRING AND PLUMBING PRE-PIPING IS TO HAVE THE K.E.C. EXTEND TO AND TERMINATE ALL CONNECTIONS FOR THE EQUIPMENT IN THE LOCATIONS INDICATED IN THE EQUIPMENT SCHEDULE AND SPOT PLANS.
6. ELECTRICAL, PLUMBING AND MECHANICAL CONTRACTORS TO PROVIDE ALL ROUGH-IN BUILDING SERVICES AND FINAL CONNECTION TO ALL FOOD SERVICE EQUIPMENT.

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REGISTERED ARCHITECT
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BIRMINGHAM, AL 35210
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
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PH: 205-250-0700
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FOOD EQUIPMENT MECHANICAL SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	MANUFACTURER	MODEL NUMBER	EQUIPMENT REMARKS	AMPS	KW	HP	VOLTS	PHASE	CYCLE	DIRECT	PLUG	NEMA	ELECTRICAL AFF (IN)	ELEC REMARKS	COLD WATER SIZE (IN)	COLD WATER AFF (IN)	HOT WATER SIZE (IN)	HOT WATER GPH	HOT WATER AFF (IN)	DIRECT DRAIN SIZE (IN)	DIRECT DRAIN AFF (IN)	INDIR DRAIN SIZE (IN)	GAS SIZE (IN)	MBTUH	GAS AFF (IN)	PLUMBING REMARKS	ITEM NO
101	1	TRASH DUMPSTER			BY OWNER											REFER TO ARCHITECTS PLAN FOR LOCATION												REFER TO ARCHITECTS PLAN FOR LOCATION	101
102	1	JANITORIAL SINK W/FAUCET AND MOP RACK			BY PROJ. PLUMBER																							REFER TO MECHANICAL PLAN	102
103	1LOT	PANTRY/STORAGE			BY ARCHITECT																								103
104	1	TRASH RECEPTACLE	RUBBERMAID	SLIM JIM	BY OWNER																								104
105	1	GOOSE NECK FAUCET	T&S BRASS	B-0325.CC-CR	BY KEC												1/2"	16"	1/2"	16"								CONNECT TO FAUCETS THRU SHUT-OFF VALVES	105
106	1	COFFEE BREWER	BUNN-O-MATIC	07400.0005	BY KEC	13.3			120	1	60		X	5-15P	50"		1/4"	54"										CONNECT TO BREWER THRU WATER FILTER	106
107	1	MILLWORK BASE COUNTER W/SINK		CUSTOM	BY ARCHITECT																16"	1-1/2"	20"						107
107.1	1	MILLWORK UPPER WALL CABINET		CUSTOM	BY ARCHITECT																								107.1
108	1	MICROWAVE OVEN	PANASONIC	NE-1054F	BY KEC				120	1	60		X	5-15P	66"														107.2
109	-	OPEN ITEM		-	-																								108
110	1	MILLWORK BASE COUNTER		CUSTOM	BY ARCHITECT	15.0			120	1	60		X		30"	(2) CONV. OUTLET BY PROJ. ELECTRICIAN													109
111	1	32 GAL. TRASH CAN-MOBILE	RUBBERMAID	BY OWNER	BY OWNER																								111
112	1	MILLWORK BASE COUNTER W/SINKS		CUSTOM	BY ARCHITECT	15.0			120	1	60		X		50"	(1) CONV. OUTLET BY PROJ. ELECTRICIAN						2"	20"						112
112.1	1	MILLWORK UPPER WALL CABINET		CUSTOM	BY ARCHITECT																								112.1
113	-	OPEN ITEM			-																								113
114	1	POP UP TOASTER			BY OWNER	15.0			120	1	60		X	5-15P	50"	VERIFY REQUIREMENT WITH OWNER													114
115	1	PRE-RINSE FAUCET	T&S BRASS	B-0113-ADF12-B	BY KEC												1/2"	16"	1/2"		16"							CONNECT TO FAUCETS THRU SHUT-OFF VALVES	115
116	1	1 HP DISPOSER	SALVAJOR	100-SA-3-1/2	BY KEC	18.6		1	115	1	60	X			18"	ELECT TO PROVIDE OFF/ON SWITCH @50"AFF	1/2"	16"				2"	20"					CONNECT TO DISPOSAL THRU SHUT-OFF VALVES	116
117	1	UNDERCOUNTER COMMERCIAL DISHWASHER	CHAMPION	UH130B	BY KEC				208	3	60	X			30"				1/2"		24"	2"		110 HW				CONNECT I.W. TO DISP WASTE (VER. W/LOCAL CODE)	117
118	1	ICE MAKER W/BIN (400 LB. CAPACITY) SMALL CUBE	SCOTSMAN	MAS033SA1/B-530S	BY KEC	14.3			115	1	60		X	5-15P	78"		1/2"	78"						(2)3/4"				EXTEND I.W. TO NEAREST FLOOR SINK	118
119	-	OPEN ITEM																											119
120	1	MILLWORK BASE COUNTER		CUSTOM	BY ARCHITECT	15.0			115	1	60		X	5-15P	50"	(3) CONV. OUTLETS BY PROJ. ELECTRICIAN													120
121	1	MICROWAVE SHELF (S/S)	ADVANCE/TABCO	MS-18-24	BY KEC																								121
122	1	6 EYE RANGE WITH OVEN	WOLF	GR366	BY KEC	15.0			120	1	60	X			VER										3/4"	123	12"		122
123	1	EXHAUST HOOD	WOLF	PW482418	BY KEC	15.0			120	1	60	X			VER	REFER TO HOOD DRAWINGS													123
124	1LOT	EXHAUST FAN SYSTEM			BY MECH. CONTACTOR											REFER TO HOOD DRAWINGS													123.1
125	1	POT RACK SHELF (S/S)	ADVANCE/TABCO	PS-12-36	BY KEC																								124
126	1	MILLWORK BASE COUNTER		CUSTOM	BY ARCHITECT																								125
127	3	REFRIG/FRZR COMBO (DOMESTIC) 28.4 CU. FT.	WHIRLPOOL (LOWES)	WRS588FIHZ	BY KEC				115	1	60		X	5-15P	50"		1/4"	VER										CONNECT TO ICE MAKER THRU SHUT-OFF VALVES	126
																													127

1 FS1.02 KITCHEN MECHANICAL SCHEDULE

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DATE:
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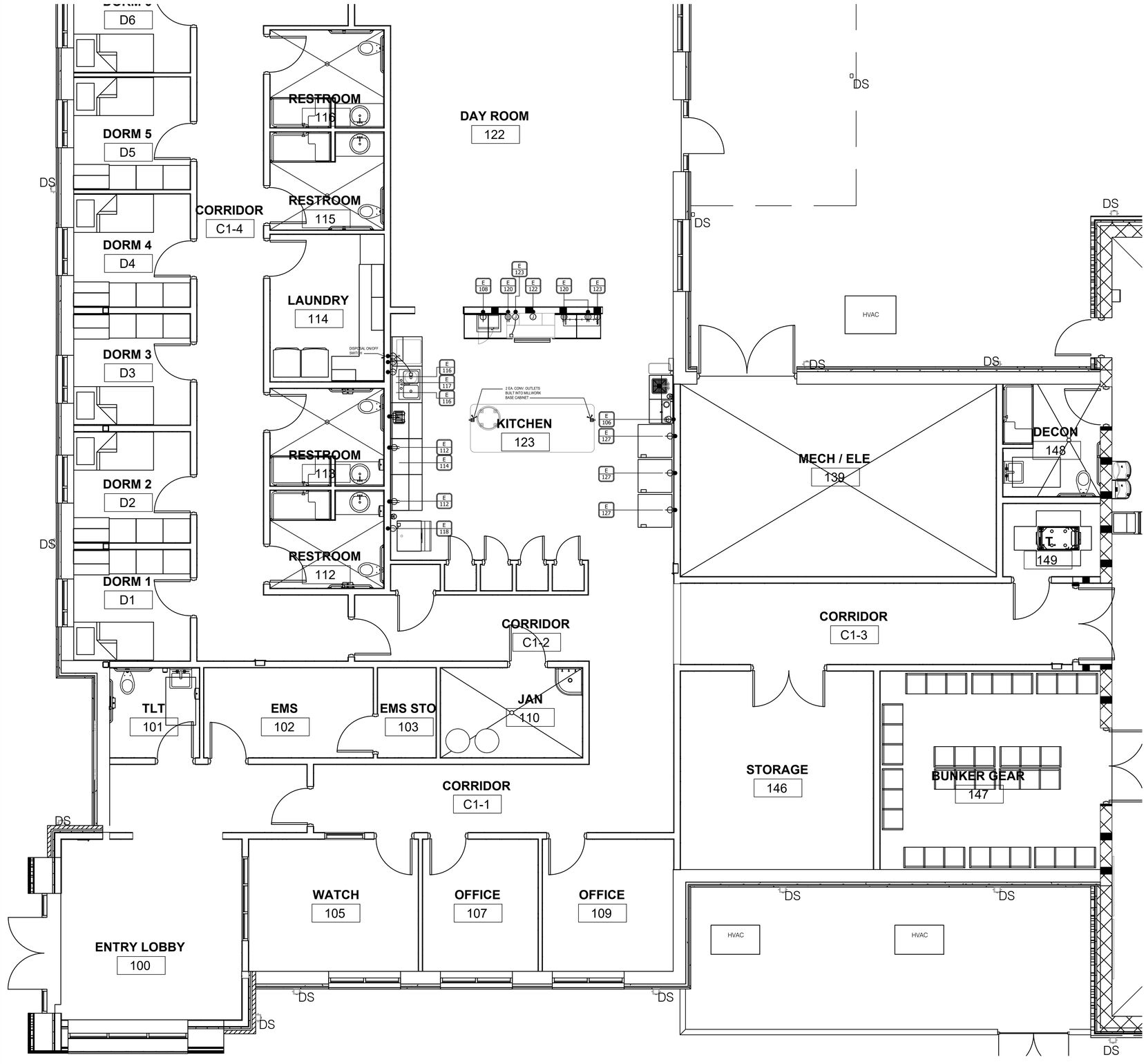
SHEET NUMBER
FS1.02

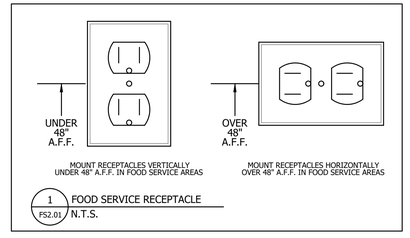


1 FS2.01 KITCHEN ELECTRICAL ROUGH-IN PLAN
1/4" = 1'-0"

ELECTRICAL LEGEND

SYMBOLS		ABBREVIATIONS	
J	JUNCTION BOX (J-BOX)	A	AMPERES
	EQUIPMENT INTERCONNECTION BY E.C.	V	VOLTS
	ELECTRICAL ROUGH-IN	W	WATTS
	SINGLE ELECTRICAL OUTLET (SCO)	PH	PHASE
	DUPLEX ELECTRICAL OUTLET (DCO)	AFF	ABOVE FINISHED FLOOR
	FLUORESCENT LIGHT FIXTURE	DN	DOWN FROM ABOVE
	INCANDESCENT LIGHT INDICATION	BTC	BRANCH TO CONN-ECTION POINT AND CONNECT EQUIPMENT
	BREAKER PANELBOARD	HP	HORSE POWER
$	SWITCH AS NOTED	KW	KILOWATTS
	TELEPHONE OUTLET	DC	DIRECT CONNECTION
	FOUR PLEX ELECTRICAL OUTLET (DCO)	K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
D	DATA LINE CONNECTION	E.C.	ELECTRICAL CONTRACTOR
		CONV.	CONVENIENCE OUTLET 120V 1PH 20.0A

CURRENT RATING	TYPE	2 POLE - WIRE NO GROUND 125V	2 POLE - WIRE NO GROUND 250V	2 POLE - 3 WIRE GROUNDING 125V	2 POLE - 3 WIRE GROUNDING 250V	1 POLE 4 WIRE GROUNDING 125/250V
15A	STRAIGHT BLADE	1-15R	2-15R	5-15R	6-15R	
	TWIST LOCK	L1-15R		L5-15R	L6-15R	
20A	STRAIGHT BLADE		2-20R	5-20R	6-20R	14-20R
	TWIST LOCK		L2-20R	L5-20R	L6-20R	L14-20R
30A	STRAIGHT BLADE		2-30R	5-30R	6-30R	14-30R
	TWIST LOCK			L5-30R	L6-30R	L14-30R
50A	STRAIGHT BLADE			5-50R	6-50R	14-50R
	TWIST LOCK					CS6364/65
60A	STRAIGHT BLADE					14-60R



1 FS2.01 FOOD SERVICE RECEPTACLE
N.T.S.

NOTE:
REFER TO SHEET FS1.02 FOOD EQUIPMENT MECHANICAL SCHEDULE FOR ELECTRICAL UTILITY REQUIREMENT VOLTAGES, AMPERAGE, PHASE, TYPE CONNECTION, HEIGHTS AND ELECTRICAL NOTES.

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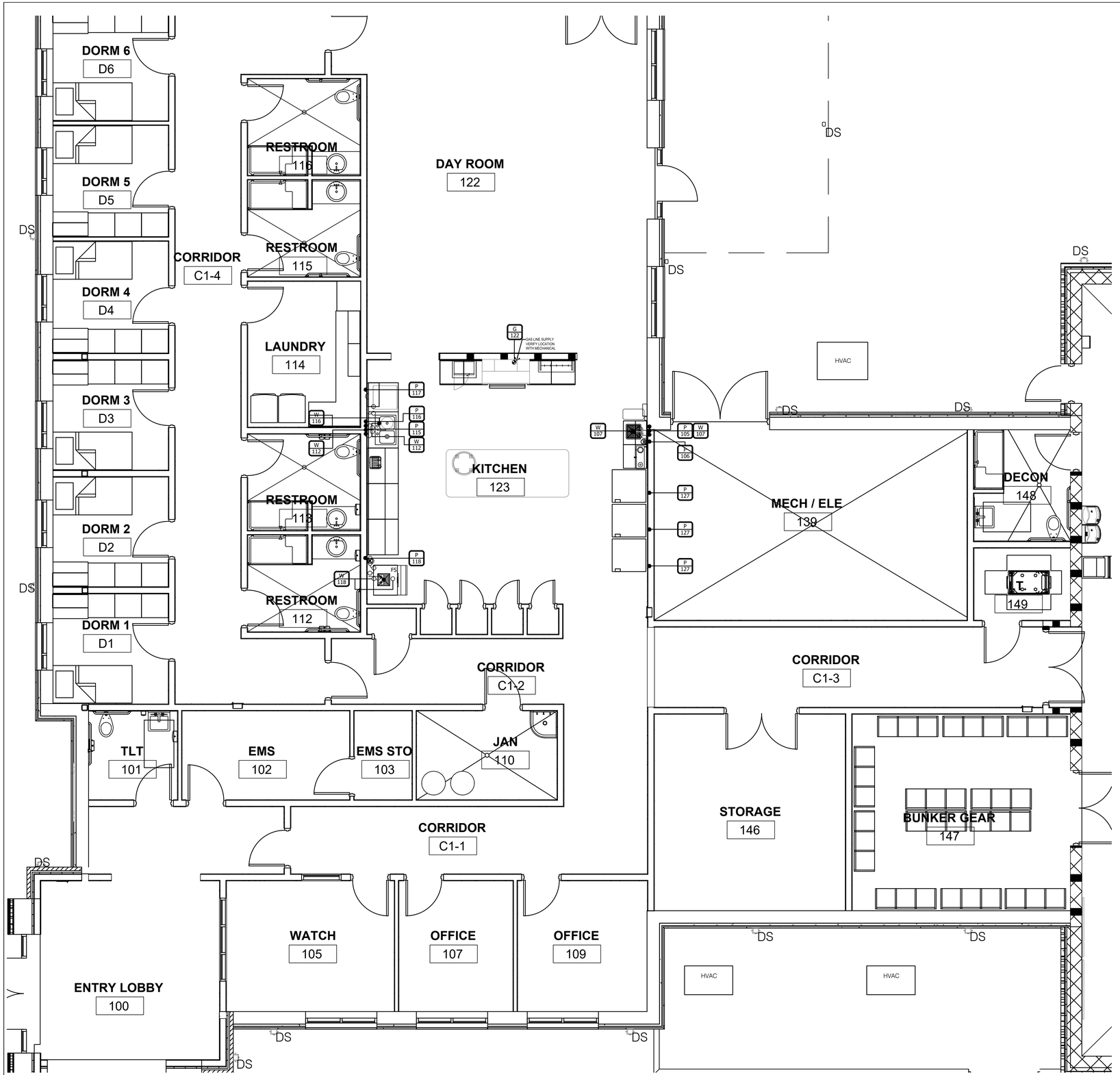
FS2.01



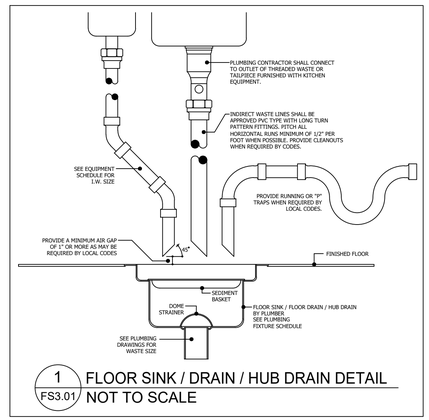
1 FS3.01 KITCHEN PLUMBING ROUGH-IN PLAN
1/4" = 1'-0"

PLUMBING GENERAL NOTES

1. SEE EQUIPMENT PLAN AND SCHEDULE FOR ADDITIONAL INFORMATION.
2. P.C. TO PROVIDE ALL ROUGH-IN AND FINAL CONNECTIONS TO ALL EQUIPMENT SHOWN HEREIN.
3. SOLID DOT REPRESENTS ROUGH-IN LOCATION. (FURNISHED BY P.C.)
   DOTTED LINE REPRESENTS FINAL CONNECTION. (FURNISHED BY P.C.)
   CIRCLE REPRESENTS CONNECTION TO EQUIPMENT. (FURNISHED BY P.C.)
4. PLUMBING CONTRACTOR (P.C.) TO KEEP ALL PLUMBING LINES CLEAR OF WALLBACKING AREAS.
5. P.C. TO INSTALL REGULATORS AS REQUIRED.
6. P.C. TO VERIFY PLUMBING REQUIREMENTS AND LOCATIONS FOR EQUIPMENT SUPPLIED BY OTHERS.

PLUMBING LEGEND

SYMBOLS		ABBREVIATIONS	
	HOT	HW	HOT WATER
	COLD	CW	COLD WATER
	DRAIN	DR	DRAIN
	CONNECTION	AFF	ABOVE FINISHED FLOOR
	FLOOR SINK HALF GRATE	FD	FLOOR DRAIN
	FLOOR SINK FULL GRATE	FS	FLOOR SINK
	FLOOR DRAIN AS NOTED	FT	FLOOR TROUGH
	HUB DRAIN AS NOTED	HD	HUB DRAIN
	GAS LINE	GPH	GALLONS PER HOUR
	GAS CONNECTION	GPM	GALLONS PER MINUTE
	FLEX CONNECT HOSE	BTC	BRANCH TO CONNECT
	INDIRECT WASTE LINE	PSI	POUNDS PER SQUARE INCH
	PLUMBING INTERCONNECTION	DN	DOWN FROM ABOVE
	STEAM RETURN	S	STEAM
	STEAM SUPPLY	SR	STEAM RETURN



1 FS3.01 FLOOR SINK / DRAIN / HUB DRAIN DETAIL
NOT TO SCALE

NOTE:
REFER TO SHEET FS1.02 FOOD EQUIPMENT MECHANICAL SCHEDULE FOR PLUMBING UTILITY REQUIREMENT HOT & COLD WATER, GAS, TYPE CONNECTION, HEIGHTS AND PLUMBING NOTES..

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DUCTWORK LEGEND

(CFM) S	SUPPLY DIFFUSER
(CFM) R	RETURN GRILLE
(CFM) E	EXHAUST GRILLE
(CFM) T	TRANSFER AIR GRILLE
(CFM) SR	SIDEWALL REGISTER
ø	ROUND DUCT SYMBOL
W X H	RECTANGULAR DUCT (WIDTH X HEIGHT)
	EXISTING DUCTWORK, PIPING, OR EQUIPMENT TO REMAIN.
	EXISTING DUCTWORK, PIPING, OR EQUIPMENT TO BE REMOVED.
	RECTANGULAR SUPPLY DUCT TURNING UP
	RECTANGULAR SUPPLY AIR DUCT TURNING DOWN
	RECTANGULAR RETURN AIR OR EXHAUST DUCT TURNING UP
	RECTANGULAR RETURN AIR OR EXHAUST DUCT TURNING DOWN
	FLAT OVAL TURNING UP.
	FLAT OVAL TURNING DOWN.
	ROUND DUCT TURNING DOWN
	ROUND DUCT TURNING UP
	MAXIMUM 5' FLEXIBLE DUCT ALL BRANCH DUCTS
	RECTANGULAR 90° ELBOW WITH TURNING VANES FOR SUPPLY.
	RISE OR DROP IN DUCT
	RECTANGULAR BRANCH OFF OF RECTANGULAR DUCT WITH MANUAL DAMPER
	CONICAL SPIN-IN WITH MANUAL DAMPER
MD	MANUAL DAMPER
FD	FIRE DAMPER (PROVIDE ACCESS DOOR)
AD	AUTOMATIC DAMPER
SFD	COMBINATION SMOKE/FIRE DAMPER (PROVIDE ACCESS DOOR)
T	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
C	CO2 MONITOR
	CONNECT TO EXISTING, FIELD VERIFY EXACT SIZE AND LOCATION.

HVAC ABBREVIATIONS

A	AMPS
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AMB.	AMBIENT
ARCH.	ARCHITCTURAL
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
DN.	DOWN
°F	DEGREES FAHERNHEIT
ΔP	CHANGE IN PRESSURE
ΔT	CHANGE IN TEMPERATURE
DIA.	DIAMETER
EA	EXHAUST AIR
ENT.	ENTERING
EAT	ENTERING AIR TEMPERATURE
EMG	EXPANDED METAL GRILLE
EWT	EXTERNAL WATER TEMPERATURE
E.S.P.	EXTERNAL STATIC PRESSURE
EX.	EXISTING
EXT.	EXTERNAL
FPM	FEET PER MINUTE
FT.	FEET
F.V.	FACE VELOCITY
GAL.	GALLONS
GPM	GALLONS PER MINUTE
H	HEIGHT
HP	HORSEPOWER
IN.	INCHES
I.D.	INSIDE DIAMETER
KW	1000 WATTS
L	LENGTH
LBS.	POUNDS
LRA	LOCKED ROTOR AMPS
LVG.	LEAVING
LAT.	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAX.	MAXIMUM
MAT	MIXED AIR TEMPERATURE
MBH	1000 BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MIN.	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
NPLV	NON-STAND PART LOAD VALUE
OSA	OUTSIDE AIR
O.D.	OUTSIDE DIAMETER
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ATMOSPHERIC
PSIG	PSI GAUGE
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RH	RELATIVE HUMIDITY
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
T.S.P.	TOTAL STATIC PRESSURE
TD	TRANSFER DUCT
TOD	TOP OF DUCT
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLUME
V/Ø/Hz	VOLTS/PHASE/HERTZ
W.G.	WATER GAGE
W	WIDTH
WB	WET BULB

HVAC CONTROLS LEGEND

T	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
C	CO2 MONITOR
CP	120V HVAC CONTROLS POWER
TS	AVERAGING TEMPERATURE SENSOR
H	DUCT MOUNTED HUMIDITY SENSOR
AO	ANALOG OUTPUT
AI	ANALOG INPUT
DO	DIGITAL OUTPUT
DI	DIGITAL INPUT
SD	DUCT MOUNTED SMOKE DETECTOR. SMOKE DETECTOR FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR, INSTALLED IN DUCT BY MECHANICAL CONTRACTOR.
HOA	HAND-OFF-AUTO MAGNETIC STARTER
SP	DUCT STATIC PRESSURE SENSOR
DP	DIFFERENTIAL PRESSURE SENSOR
	INTERLOCK WITH FIRE ALARM SYSTEM
M	FAN/PUMP MOTOR
VFD	VARIABLE FREQUENCY DRIVE
CT	CURRENT TRANSDUCER
FS	FLOW SWITCH
	DIRECTION OF FLOW
TS	PIPE MOUNTED TEMPERATURE SENSOR
	2-WAY AUTOMATIC VALVE
	3-WAY AUTOMATIC VALVE
H-O-A	HAND-OFF-AUTO SWITCH
AFM	AIR FLOW MONITOR. (PROVIDE ACCESS DOOR AT EACH AIR FLOW MONITOR.)

PIPING LEGEND

CHS	CHILLED WATER SUPPLY PIPING
CHR	CHILLED WATER RETURN PIPING
HWS	HOT WATER SUPPLY PIPING
HWR	HOT WATER RETURN PIPING
D	DRAIN PIPING
AAV OR	AAV-AUTO. AIR VENT (MARKED OR SHOWN)
	GATE VALVE
	GLOBE VALVE
	BALL VALVE
	TWO-WAY AUTO CONTROL VALVE.
	THREE-WAY AUTO CONTROL VALVE.
	BUTTERFLY VALVE.
	BUTTERFLY VALVE.
	PRESSURE REDUCING VALVE.
	PIPE TURNING UP.
	PIPE TURNING DOWN.
	BRANCH OFF TOP OF MAIN.
	BRANCH OFF BOTTOM OF MAIN.
	BRANCH OFF SIDE OF MAIN.
	CALIBRATED BALACING VALVE
	ECCENTRIC REDUCER
	STRAINER (Y)
	FLEXIBLE CONNECTION IN PIPING
	UNION
	PETES PLUG
	SLOPE DOWN IN DIRECTION OF ARROW.
	CHECK VALVE
	ASME PRESSURE RELIEF VALVE.

HVAC GENERAL NOTES

1. MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND SUBJECT TO REQUIREMENTS OF ARCHITECTURAL DRAWINGS AND CONDITIONS EXISTING IN THE FIELD. MECHANICAL DRAWINGS INDICATE GENERALLY THE LOCATION OF COMPONENTS AND ARE NOT INTENDED TO SHOW ALL FITTINGS OR ALL DETAILS OF THE WORK TO BE PERFORMED.

2. FOLLOW THE DRAWINGS CLOSELY, COORDINATE DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS. DO NOT SCALE MECHANICAL DRAWINGS FOR LOCATIONS OF SYSTEM COMPONENTS.

3. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.

4. MAKE NO CHANGES WITHOUT THE ARCHITECT'S WRITTEN PERMISSION. IN CASE OF DOUBT, OBTAIN ARCHITECT'S DECISION BEFORE PROCEEDING WITH WORK. FAILURE TO FOLLOW THIS INSTRUCTION SHALL MAKE THE CONTRACTOR LIABLE FOR DAMAGE TO OTHER WORK AND RESPONSIBLE FOR REMOVING AND REPAIRING DEFECTIVE OR MISLOCATED WORK IN PROPER MANNER.

5. DO NOT SCALE DRAWINGS TO LOCATE DIFFUSERS AND EQUIPMENT. COORDINATE WITH NEW AND EXISTING LIGHTING, ELECTRICAL CONDUIT, AND ALL EXISTING FIELD CONDITIONS.

6. PRIOR TO PREPARING SUBMITTALS, VERIFY ALL EQUIPMENT VOLTAGES WITH ELECTRICAL DRAWINGS AND ELECTRICAL CONTRACTOR AND REPORT ANY INCONSISTENCIES TO THE ARCHITECT PRIOR TO ORDERING EQUIPMENT. ANY FAILURE TO DO SO WILL MAKE THE MECHANICAL CONTRACTOR RESPONSIBLE FOR ANY EQUIPMENT ORDERED WITH THE INCORRECT VOLTAGE.

7. PROTECT MECHANICAL EQUIPMENT FROM DAMAGE DURING CONSTRUCTION. WHEN INSTALLATION IS COMPLETE, CLEAN EQUIPMENT AS REQUIRED AND PROVIDE ALL NEW FILTERS.

8. INSTALL ALL EQUIPMENT TO PROVIDE NORMAL SERVICE ACCESS TO ALL COMPONENTS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS CONFLICT WITH CONTRACT DOCUMENTS, OBTAIN ARCHITECT'S DECISION BEFORE PROCEEDING.

9. FURNISH ACCESS DOORS FOR VALVES, FIRE DAMPERS, DAMPERS, CONTROLS, AIR VENTS, TRAP CLEAN OUTS, AND OTHER ITEMS LOCATED ABOVE NON-LIFTOUT CEILINGS OR BEHIND PARTITIONS OR WALLS. PROVIDE FIRE DAMPERS IN DUCTWORK, GRILLES, AND REGISTERS WITH FIRE RATING EQUAL TO RATING OF WALL OR CEILING. ALL FIRE DAMPERS MAY OR MAY NOT BE SHOWN ON MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL FIRE RATED WALL AND CEILING LOCATIONS AND RATINGS WITH ARCHITECTURAL DRAWINGS.

10. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND STANDARDS (SEE SPECIFICATIONS).

11. MECHANICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR EXACT QUANTITY AND LOCATIONS OF 120 V CONTROLS POWER TO NECESSARY CONTROL PANELS.

12. MECHANICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR EXACT QUANTITY AND LOCATIONS OF 120 V CONTROL POWER FOR VAV TERMINAL UNIT CONTROLS, AUTOMATIC CONTROL VALVES, AND AUTOMATIC DAMPER ACTUATORS.

13. PROVIDE ALL NECESSARY RELAYS, SWITCHES, SENSORS, LOW VOLTAGE CONTROL WIRING, ACTUATORS, ETC. FOR A COMPLETE AND FUNCTIONAL BAS CONTROLS SYSTEM.

14. COORDINATE EXACT LOCATION OF ALL WALL MOUNTED DEVICES (THERMOSTATS, HUMIDITY SENSORS, ETC.) WITH ARCHITECT PRIOR TO ROUGH IN. ALL WALL MOUNTED DEVICES SHALL BE INSTALLED 48"A.F.F. TO THE TOP OF THE DEVICE.

15. COORDINATE EXACT LOCATION ON WALL OF ALL WALL MOUNTED SUPPLY AND RETURN GRILLES/REGISTERS WITH ARCHITECT. WALL MOUNTED SUPPLY AND RETURN GRILLES/REGISTERS SHALL BE PAINTED BY OTHERS.

16. COORDINATE ALL DUCT DETECTORS, LOW VOLTAGE WIRING TO ASSOCIATED PROGRAMMING WITH FIRE ALARM CONTRATOR TO PROVIDE A FULLY FUNCTIONING SYSTEM. VERIFY PROPER OPERATION OF ALL EXISTING DUST SMOKE DETECTORS. REPLACE AS REQUIRED. UPON SENSING SMOKE THE DUCT DETECTOR SHALL SHUT DOWN THE RESPECTIVE UNIT.

AIR DEVICE LEGEND

MARK	EXAMPLE	DESCRIPTION	SIZE	BASIS OF DESIGN
"S"	200S / CFM	PLAQUE FACE CEILING DIFFUSER WITH ROUND NECK. ALL CEILING DIFFUSERS TO HAVE A 24X24 CEILING PANEL (EXCEPT WHERE SHOWN AS 12X12). ALL CEILING DIFFUSERS TO HAVE ROUND NECKS.	CFM SHOWN ON PLANS. NECK & RUN-OUT SIZED PER THE FOLLOWING: CFM / NECK SIZE / RUN-OUT SIZE 0 - 100 / 6" / 6" 101 - 200 / 8" / 8" 201 - 300 / 10" / 10" 301 - 500 / 12" / 12" 501 - 750 / 15" / 15" 751 - 1000 / 18" / 18"	TITUS OMNI
"LD"	200LD / CFM	LOUVER FACE CEILING DIFFUSER WITH SQUARE NECK. ALL CEILING DIFFUSERS TO HAVE A 24X24 CEILING PANEL (EXCEPT WHERE SHOWN AS 12X12). ALL CEILING DIFFUSERS TO HAVE SQUARE NECKS.	CFM SHOWN ON PLANS. NECK & RUN-OUT SIZED PER THE FOLLOWING: CFM / NECK SIZE / RUN-OUT SIZE 0 - 100 / 6"x6" / 6" 101 - 200 / 9"x9" / 8" 201 - 300 / 12"x12" / 10" 301 - 500 / 15"x15" / 12" 501 - 750 / 18"x18" / 15" 751 - 1000 / 21"x21" / 18"	TITUS TDCA-AA
"R", "E", "T"	200R / CFM / R24 / SQUARE NECK SIZE	CEILING MOUNTED RETURN (R), EXHAUST (E), OR TRANSFER (T) EGGCRATE GRILLE. ALL GRILLES IN A LAY-IN CEILING TO HAVE A 24X24 CEILING PANEL (EXCEPT WHERE SHOWN AS 12X12).	CFM SHOWN ON PLANS. NECK SIZED PER THE FOLLOWING: CFM / NECK SIZE 0 - 100 / 6x6 101 - 200 / 8x8 201 - 350 / 10x10 351 - 500 / 12x12 501 - 750 / 14x14 751 - 950 / 16x16 951 - 1200 / 18x18 1201 - 1500 / 20x20 1501 - 2000 / 24x24	TITUS 50F
SR	SR12X6 / 200 / CFM / W x H	SIDEWALL SUPPLY REGISTER.	SIZE (WxH) IN INCHES & CFM SHOWN.	TITUS 272FL
WRG / WTG	WRG12X6 / 200 / CFM / W x H	WALL RETURN GRILLE / WALL TRANSFER GRILLE.	SIZE (WxH) IN INCHES & CFM SHOWN.	TITUS 350FL

NOTES:

1. SEE SPECIFICATIONS FOR FINISH AND CONSTRUCTION MATERIAL FOR EACH AIR DEVICE.
2. COORDINATE WITH ARCHITECT'S CEILING PLAN FOR LAY-IN OR SURFACE MOUNTING OF CEILING MOUNTED AIR DEVICES.
3. COORDINATE LOCATIONS OF CEILING MOUNTED AIR DEVICES WITH LIGHT FIXTURES, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES. DO NOT SCALE MECHANICAL DRAWINGS FOR LOCATIONS.

GAS FIRED RADIANT TUBE HEATER SCHEDULE

UNIT TYPE:

1. GAS FIRED RADIANT TUBE HEATER.

ACCESSORIES:

1. PROVIDE OPTIONAL OUTDOOR COMBUSTION AIR INLET KIT.
2. PROVIDE "U" BEND TUBE.
3. WALL MOUNTED THERMOSTAT.

CONTROL NOTES:

GAS FIRED RADIANT TUBE HEATER SHALL BE CONTROLLED BY A WALL MOUNTED THERMOSTAT SET TO 60°F (ADJ.) MECHANICAL TO PROVIDE ALL CONTROL WIRING FROM UNIT HEATER TO THERMOSTAT.

MARK	TYPE	NOMINAL LENGTH	INPUT	OUTPUT (LOW CAPACITY / HIGH CAPACITY)	ELECTRICAL			ACCESSORIES	BASIS OF DESIGN	
					V	PH	HZ		MANUFACTURER	MODEL NUMBER
GFH-1	1	60 FT	150 MBH	100 MBH / 150 MBH	120 V	1	60	1,2,3	REZNOR	VPT-150
GFH-2	1	60 FT	150 MBH	100 MBH / 150 MBH	120 V	1	60	1,2,3	REZNOR	VPT-150
GFH-3	1	60 FT	150 MBH	100 MBH / 150 MBH	120 V	1	60	1,2,3	REZNOR	VPT-150

DEHUMIDIFIER SCHEDULE

UNIT TYPE:

1. HORIZONTAL DEHUMIDIFIER WITH DUCT COLLARS
2. VERTICAL DEHUMIDIFIER WITH DUCT COLLARS

NOTE:

ELECTRICAL TO PROVIDE DEDICATED 15 AMP CIRCUIT.

ACCESSORIES:

1. WALL MOUNTED HUMIDITY SENSOR
2. SPRING VIBRATION ISOLATORS.
3. MERV 13 FILTER
4. AUXILARY DRAIN PAN.
5. CONDENSATE PUMP (120/1/60) - 1 GPH @ 33 FT. HD.
6. UNITS ARE LOCATED ABOVE CEILING. PROVIDE HARD WIRED ELECTRICAL CONNECTION.

MARK	TYPE	WATER REMOVAL	AIRFLOW (CFM)	ELECTRICAL			MCA	MOCP	ACCESSORIES	UNIT WEIGHT (LBS)	BASIS OF DESIGN	
				V	PH	HZ					MANUFACTURER	MODEL
DEH-1	1	100 PINTS / DAY	245	120 V	1	60	12	20 A	1,2,3,4,5,6	110	AprilAire	E100
DEH-2	1	100 PINTS / DAY	245	120 V	1	60	12	20 A	1,2,3,4,5,6	110	AprilAire	E100

REFRIGERANT LEAK DETECTION CONTROLS:

1. THE LEAK DETECTION SYSTEM SHALL CONSIST OF ONE OR MORE REFRIGERANT LEAK DETECTION SENSORS INSTALLED IN THE HVAC EQUIPMENT BY THE HVAC EQUIPMENT MANUFACTURER.
   - A. UTILIZE A SET POINT, NONADJUSTABLE IN THE FIELD, TO GENERATE AN OUTPUT SIGNAL TO INITIATE MITIGATION ACTIONS.
   - B. FIELD RECALIBRATION OF THE REFRIGERANT DETECTION SYSTEM SHALL NOT BE PERMITTED.
   - C. BE CAPABLE OF DETECTING THE PRESENCE OF A SPECIFIED REFRIGERANT CORRESPONDING TO THE REFRIGERANT DESIGNATION OF THE REFRIGERANT CONTAINED IN THE REFRIGERATION SYSTEM.
   - D. HAVE ACCESS FOR REPLACEMENT OF REFRIGERANT DETECTION SYSTEM COMPONENTS.
   - E. HALF SELF-DIAGNOSTICS TO DETERMINE OPERATIONAL STATUS OF THE SENSING ELEMENT.
   - F. ENERGIZE AIR CIRCULATION FANS OF THE EQUIPMENT UPON FAILURE OF A SELF DIAGNOSTIC CHECK.
   - G. GENERATE AN OUTPUT SIGNAL IN NOT MORE THAN 30 SECONDS WHEN EXPOSED TO A REFRIGERANT CONCENTRATION OF 25% LFL (+0%,-1%).
2. WHEN THE SYSTEM DETECTS A LEAK, THE FOLLOWING MITIGATION ACTIONS WILL BE INITIATED UNTIL REFRIGERANT HAS NOT BEEN DETECTED FOR 5 MINUTES:
   - A. SUPPLY FANS SHALL BE ENERGIZED TO RUN AT 100% FAN SPEED.
   - B. COMPRESSOR OPERATION SHALL BE DISABLED.
   - C. ALL ZONING DAMPERS, SUCH AS VAV TERMINAL UNITS SHALL BE OPENED TO 100%.
   - D. ALL ELECTRIC HEAT OR GAS HEAT SHALL BE DISABLED.
3. THE BUILDING FIRE AND SMOKE SYSTEMS SHALL OVERRIDE THIS FUNCTION.
4. IF THE REFRIGERANT SENSOR HAS A FAULT, IS AT THE END OF ITS USEFUL LIFE, OR IS DISCONNECTED, THE AC UNIT WILL INITIATE THE ABOVE MITIGATION ACTIONS. MITIGATION ACTIONS SHALL BE VERIFIED BY DISCONNECTING THE SENSOR.
5. THE REFRIGERANT SENSORS DO NOT NEED ROUTINE MAINTENANCE. USE ONLY MANUFACTURER-APPROVED SENSORS WHEN REPLACEMENT IS REQUIRED.

HVAC EQUIPMENT REFRIGERANT GENERAL NOTES:

1. THIS PROJECT IS DESIGNED WITH HVAC EQUIPMENT WHICH USE A2L REFRIGERANT.
2. THE MECHANICAL DESIGN WILL COMPLY WITH THE 2024 INTERNATIONAL MECHANICAL CODE, ASHRAE 15-2022, AND ASHRAE 34-2022.
3. THE INSTALLATION SHALL ALSO COMPLY WITH THESE STANDARDS.
4. HVAC EQUIPMENT SHALL BE MANUFACTURED TO COMPLY WITH THESE STANDARDS, AS WELL AS UL 484, UL/CSA 60335-2-40, AND UL/CSA 60355-2-89.

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Project Number : 50171742

Revisions

No.	Date	Description

100% CDS

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: **MECHANICAL LEGEND AND SCHEDULES**

PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08.30.24**

DRAWN BY: **LWH** | CHECKED BY: **JWS**

SHEET NUMBER **M0.1**

SPLIT ENERGY RECOVERY UNIT

TYPE:
INDOOR, CONSTANT VOLUME, HORIZONTAL DRAW-THRU, WITH DX COOLING COIL, ELECTRIC HEAT, HOT GAS RE-HEAT COIL, ENERGY RECOVERY WHEEL, AND MATCHED CONDENSING UNIT.

REFRIGERANT: R454B

NOTES:
1. COOLING CAPACITY IS NET CAPACITY @ 95°F AMBIENT.
2. UNIT SHALL BE ASHRAE 90.1 - 2013 COMPLIANT.

* CFM LISTED FOR KITCHEN HOOD OFF / KITCHEN HOOD ON
**DUAL CIRCUIT: CIRCUIT 1 - SPP, CIRCUIT 2 - ELECTRIC HEAT

ACCESSORIES:
1. 2" THICK THROWAWAY FILTERS, MERV 13.
2. INVERTER DUTY RATED MOTORS
3. DIRECT DRIVE SUPPLY & EXHAUST FAN.
4. VARIABLE FREQUENCY DRIVE FOR SUPPLY & EXHAUST FAN.
5. HINGED ACCESS DOORS.
6. STAINLESS STEEL DRAIN PAN.
7. HOT GAS REHEAT COIL.
8. SINGLE DX CIRCUIT WITH TWO STAGE MANIFOLD COOLING.
9. REFRIGERANT LEAK DETECTION SYSTEM BY MANUFACTURER (SEE CONTROLS).

COMPONENTS

1. INTAKE SECTION WITH OUTSIDE AIR CONNECTION WITH AUTO DAMPERS.
2. FILTER SECTION WITH ANGLED FILTERS.
3. ENERGY RECOVERY WHEEL SECTION.
4. ELECTRIC HEAT SECTION.
5. DX COOLING COIL.
6. ACCESS SECTION.
7. DIRECT DRIVE PLENUM FAN IN SUPPLY FAN SECTION WITH HORIZONTAL DISCHARGE.
8. DIRECT DRIVE PLENUM FAN IN EXHAUST FAN SECTION WITH HORIZONTAL DISCHARGE.

MARK	SUPPLY FAN			EXHAUST FAN			SUMMER			WINTER			ELECTRICAL					ELECTRIC HEAT	DX COOLING COIL				WEIGHT (LBS)	ACCESSORIES	BASIS OF DESIGN	
	*CFM	W.G. E.S.P.	HP	* CFM	W.G. E.S.P.	HP	OUTSIDE AIR EAT (DB/WB)	OUTSIDE AIR LAT (DB/WB)	EXHAUST ENTERING (DB/WB)	OUTSIDE AIR EAT (DB/WB)	OUTSIDE AIR LAT (DB/WB)	EXHAUST ENTERING (DB/WB)	V	PH	Hz	** MCA	** MOCP	INPUT (kW)	STAGES	LAT (DB/WB)	TOTAL (MBH)	SENSIBLE (MBH)	NOM. TONS			MANUFACTURER	MODEL
ERU-1	1450 / 2120	1.2"	3	1320 / 1360	1.2"	1.5	95.0°F / 78.0°F	84.4°F / 70.6°F	75.0°F / 62.5°F	17.0°F / 15.0°F	43.3°F / 39.6°F	70.0°F / 58.0°F	208	3	60	27 / 94.3	40 / 100	26	SCR	53.8°F / 53.0°F	112.3	74.2	10	2510	1,2,3,4,5,6,7,8,9	TRANE	CSAA006

INDOOR HEAT PUMP UNIT - VARIABLE REFRIGERANT SCHEDULE

AIR HANDLER UNIT TYPE:
1. 4-WAY CEILING CASSETTE.
2. INDOOR, WALL MOUNTED.
3. CONCEALED ABOVE CEILING.

NOTES:
1. AIRFLOW RATED AT HIGH FAN SPEED.
2. COOLING CAPACITY RATED AT 95°F.
3. HEATING CAPACITY RATED AT 17°F.
4. ALL REFRIGERANT PIPING JOINTS TO BE BRAZED AND LEAK TESTED.
5. SIZE AND ROUTING OF REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.

ACCESSORIES:
1. 3-POLE DISCONNECT SWITCH.
2. HARD WIRED UNIT CONTROLLER.
3. FULL PORT BALL VALVES & SCHRADER VALVES WITH FLARED CONNECTIONS.
4. WASHABLE AIR FILTER (PROVIDE (1) EXTRA FILTER PER AC UNIT).
5. INTEGRAL CONDENSATE LIFT MECHANISM.
6. HARD WIRED UNIT CONTROLLER.
7. CONDENSATE PUMP (120/1/60) - 1 GPH @ 33 FT. HD.

MARK	TYPE	AIRFLOW (CFM)	E.S.P. (IN.-W.G.)	NOMINAL TONNAGE	CONNECTED TO: OUTDOOR UNIT	COOLING CAPACITY TOTAL (MBH)	COOLING CAPACITY SENSIBLE (MBH)	COOLING CAPACITY EAT (DB°F/WB°F)	DX HEATING CAPACITY TOTAL (MBH)	DX HEATING CAPACITY EAT (DB°F)	DIMENSIONS	ELECTRICAL V	PH	HZ	MCA (A)	MOCP (A)	ACCESSORIES	BASIS OF DESIGN
IHP-1-1	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-2	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-3	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-4	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-5	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-6	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-7	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-8	2	315	0.6	0.5	OHP-1	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE
IHP-1-9	3	885	0.6	1.5	OHP-1	16.9	16.8	75.0/62.5	20.0	70	44 x 29 x 10	208 V	1	60	2.88 A	15 A	1,2,3,4,5,6	TRANE
IHP-2-1	3	1270	0.6	2.5	OHP-2	28	25.8	75.0/62.5	33.0	70	56 x 29 x 10	208 V	1	60	4.25 A	15 A	1,2,3,4,6,7	TRANE
IHP-2-2	3	1270	0.6	2.5	OHP-2	28	25.8	75.0/62.5	33.0	70	56 x 29 x 10	208 V	1	60	4.25 A	15 A	1,2,3,4,6,7	TRANE
IHP-2-3	3	1270	0.6	2.5	OHP-2	28	25.8	75.0/62.5	33.0	70	56 x 29 x 10	208 V	1	60	4.25 A	15 A	1,2,3,4,6,7	TRANE
IHP-2-4	2	600	0.6	1.0	OHP-2	11.2	9.7	75.0/62.5	13.1	70	23 x 23 x 9	208 V	1	60	0.39 A	15 A	1,2,3,4,5,6	TRANE
IHP-2-5	3	885	0.6	1.5	OHP-2	16.9	16.8	75.0/62.5	19.4	70	44 x 29 x 10	208 V	1	60	2.88 A	15 A	1,2,3,4,6,7	TRANE
IHP-3-1	3	1270	0.6	3.0	OHP-3	33.7	28.3	75.0/62.5	40.0	70	56 x 29 x 10	208 V	1	60	4.25 A	15 A	1,2,3,4,6,7	TRANE
IHP-3-2	2	335	0.6	0.75	OHP-3	11.2	8.1	75.0/62.5	13.5	70	23 x 23 x 9	208 V	1	60	0.29 A	15 A	1,2,3,4,5,6	TRANE
IHP-3-3	2	335	0.6	0.75	OHP-3	11.2	8.1	75.0/62.5	13.5	70	23 x 23 x 9	208 V	1	60	0.29 A	15 A	1,2,3,4,5,6	TRANE
IHP-3-4	2	335	0.6	0.75	OHP-3	11.2	8.1	75.0/62.5	13.5	70	23 x 23 x 9	208 V	1	60	0.29 A	15 A	1,2,3,4,5,6	TRANE
IHP-3-5	3	885	0.6	1.5	OHP-3	16.9	16.8	75.0/62.5	20.0	70	44 x 29 x 10	208 V	1	60	2.88 A	15 A	1,2,3,4,5,6	TRANE
IHP-3-6	1	300	0.6	0.75	OHP-3	7.5	6.2	75.0/62.5	9.0	70	23 x 23 x 9	208 V	1	60	0.28 A	15 A	1,2,3,4,5,6	TRANE

OUTDOOR HEAT PUMP - VARIABLE REFRIGERANT SCHEDULE

TYPE:
1. OUTDOOR HEAT PUMP, VRF, HEAT RECOVERY

NOTES:
1. UNIT TO BE PROVIDED WITH HAIL GUARDS.
2. MANUFACTURER MUST BE CERTIFIED, LISTED, AND LABELED PER AHRI 1230.
3. SYSTEM RATING BASED ON DESIGN AMBIENT CONDITIONS FOR HEATING AND COOLING.
4. CONDENSING UNITS MUST HAVE AUTO CHANGEOVER FUNCTIONS.
5. CONDENSING UNITS MUST HAVE FULLY MODULATING INVERTER COMPRESSORS.
6. SUBMITTED PERFORMANCE DATA MUST BE FULLY DERATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING, BUT NOT LIMITED TO, LINE LENGTH, VERTICAL SEPERATION, CONNECTION RATIO, AND DESIGN.
7. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING TYPE TAMPER RESISTANT CAPS.
8. PROVIDE SEPARATE POWER CONNECTION WITH DISCONNECT SWITCH AT EACH OUTDOOR UNIT SECTION (DISCONNECT SWITCH PROVIDED BY ELECTRICAL).
9. ALL REFRIGERANT PIPING JOINTS TO BE BRAZED AND LEAK TESTED.

MARK	TYPE	COOLING CAPACITY (MBH)	COOLING AMBIENT (DB°F)	HEATING CAPACITY (MBH)	HEATING AMBIENT (WB°F)	ELECTRICAL VOLTAGE	PH	HZ	MCA	MOCP	EFFICIENCY EER	IEER	COP @ 17°F	BASIS OF DESIGN MANUFACTURER	MODEL
OHP-1	1	96	95°F	108	43°F	208 V	3	60	44 A	70 A	13.7	26.5	3.9	TRANE	TURYE096
OHP-2	1	120	95°F	135	43°F	208 V	3	60	56 A	90 A	12.6	25.0	3.7	TRANE	TURYE120
OHP-3	1	96	95°F	108	43°F	208 V	3	60	44 A	70 A	13.7	26.5	3.9	TRANE	TURYE096

BRANCH SELECTOR BOX SCHEDULE

NOTES:
1. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE BALL VALVES AND CAP ANY PIPING CONNECTION NOT USED.
3. PROVIDE BALL VALVES WITH SCHRADER VALVE IN EACH PIPE CONNECTION TO THE CONTROLLER ON THE INLET AND OUTLET.
4. PROVIDE DISCONNECT SWITCH FOR EACH BRANCH SELECTOR BOX.
5. PROVIDE CONDENSATE PUMP (120/1/60) - 1 GPH @ 33 FT. HD.

MARK	ELECTRICAL V	PH	HZ	MCA (A)	MOCP (A)	NUMBER OF CONNECTIONS	WEIGHT (LBS)	BASIS OF DESIGN
BCU-1	208	1	60	1.1	20	12	109	TRANE
BCU-2	208	1	60	0.55	20	6	109	TRANE
BCU-3	208	1	60	0.74	20	8	109	TRANE

CEILING HEATER SCHEDULE

HEATER TYPE:
1. ELECTRIC CEILING HEATER.
2. BASIS OF DESIGN: MARKEL 3470

ACCESSORIES:
1. SURFACE MOUNTING.
2. UNIT MOUNTED THERMOSTAT.
3. DISCONNECT SWITCH.
4. HIGH LIMIT CONTROLS.
5. RADIAL DIFFUSER.

MARK	SIZE	ELECTRICAL V	PH	HZ	ACCESSORIES
ECH-1	3.5 KW	208	1	60	1,2,3,4,5
ECH-2	5 KW	208	1	60	1,2,3,4,5
ECH-3	3.5 KW	208	1	60	1,2,3,4,5

CONDENSING UNIT SCHEDULE

TYPE:
1. AIR COOLED CONDENSING UNIT.

NOTES:
1. CAPACITY TO BALANCE RESPECTIVE INDOOR AC UNIT.
2. COOLING CAPACITY RATED AT 95°F.
3. UL LISTED, AHRI CERTIFIED.
4. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING TYPE TAMPER-RESISTANT CAPS. ANY ACCESS DEVICE REQUIRED SHALL BE LEFT ON SITE WITH THE OWNER AT PROJECT CLOSE OUT.
5. MANIFOLD COMPRESSORS AND SINGLE REFRIGERANT CIRCUIT FOR TWO STAGE COOLING.

REFRIGERANT: R454B

ACCESSORIES:
1. PHASE PROTECTION.
2. MICROPROCESSOR CONTROLS.
3. ISOLATION VALVES.
4. LIQUID LINE REFRIGERANT FILTER DRIER.
5. ANTI SHORT CYCLE TIMER.
6. LOW AMBIENT CONTROL DOWN TO 0°F.
7. HAIL / VANDAL GUARDS.
8. THERMAL EXPANSION VALVE.
9. HOT GAS BYPASS WITH RAWAL DEVICE AT CONDENSING UNIT.

MARK	TYPE	NOMINAL TONS	ELECTRICAL V	PH	HZ	MCA (A)	MOCP (A)	EFFICIENCY	BASIS OF DESIGN MANUFACTURER	MODEL
CU-1	1	10	208 V	3	60	41	50	11.5 EER / 14.8 IEER	TRANE	TTA120

FAN SCHEDULE

FAN TYPE:
1. CEILING MOUNTED EXHAUST FAN.
2. CENTRIFUGAL SQUARE INLINE FAN - DIRECT DRIVE WITH SPRING ISOLATOR HANGERS.
3. PROPELLER WALL FAN - BELT DRIVE.
4. CENTRIFUGAL SQUARE INLINE FANE - BELT DRIVE WITH SPRING ISOLATOR HANGERS.

NOTES:
1. TIE WITH LIGHTS. COORDINATE WITH ELECTRICAL CONTRACTOR.
2. TIE TO EMERGENCY WALL SWITCH.
3. TIE WITH THERMOSTAT AND CO2 SENSOR ON WALL.
4. INTERLOCK WITH DRYER.

FAN ACCESSORIES:
1. BACKDRAFT DAMPER.
2. DISCONNECT SWITCH.
3. ALUMINUM CEILING EXHAUST GRILLE.
4. DIRECT DRIVE WITH FAN MOUNTED SOLID STATE SPEED CONTROL EC MOTOR W/ VFD FOR SOFT START.
5. 5A-120V FAN SPEED CONTROLLER.
6. FLEXIBLE CONNECTION.
7. WEATHERPROOF MOTOR ENCLOSURE.
8. WALL SWITCHES FOR SF-1 AND ALL ASSOCIATED AUTO DAMPERS AND CONTROLS TO BE ON EMERGENCY POWER.
9. EF-1 AND EF-2 TO BE PLACED ON EMERGENCY POWER.
10. MOTOR SIDE GUARD.
11. LINT TRAP.
12. HINGED ACCESS TO IMPELLAR.
13. SHALL MEET UL 705 FOR USE IN DRYER EXHAUST DUCT SYSTEMS PROVIDE ALARM ANNUCIATOR PANEL WITH SIGNAGE. PROVIDE SIGNAGE FOR FAN LOCATION.

MARK	FAN TYPE	NOTES	AIRFLOW (CFM)	E.S.P. (IN.-W.G.)	WHEEL SIZE (INCHES)	FAN RPM	MOTOR (HP / W)	ELECTRICAL V	PH	HZ	WEIGHT (LBS)	ACCESSORIES	BASIS OF DESIGN MANUFACTURER	MODEL
EF-1	1	1	70	0.167	8"	665	28 W	120 V	1	60	15	1,2,3,5,9	LOREN COOK	GC
EF-2	1	1	50	0.167	8"	566	23 W	120 V	1	60	15	1,2,3,5,9	LOREN COOK	GC
EF-3	1	1	120	0.167	8"	910	40 W	120 V	1	60	15	1,2,3,5	LOREN COOK	GC
EF-DRYER	4	4	120	0.5	10"	1730	125 W	120 V	1	60	30	2,11,12,13	LOREN COOK	SQNB
SF-1	2	2	250	0.25	10"	1608	0.25 HP	120 V	1	60	70	1,2,4,6,8	LOREN COOK	SQND
VF-1	3	3	6500	0.25	36"	635	1 HP	120 V	1	60	120	2,7,10	LOREN COOK	AWB
VF-2	3	3	6500	0.25	36"	635	1 HP	120 V	1	60	120	2,7,10	LOREN COOK	AWB

SIGNAGE FOR DRYER BOOSTER EXHAUST FAN ALARM (REFER TO ARCHITECTURAL SIGNAGE SPECIFICATION FOR COLOR AND SIZE OF THE SIGN AND TEXT). COORDINATE EXACT LOCATION OF SIGN WITH ARCHITECT.

DRYER BOOSTER EXHAUST FAN. VERIFY PROPER OPERATION. FAN IS LOCATED IN CEILING OF_____.

(CONTRACTOR TO ADD EXACT LOCATION OF FAN TO THE SIGN.)

AIR PURIFICATION SCHEDULE

FLOW	GPS MODEL	GPS QUANTITY	MINIMUM NEEDLE SPACING	VOLTAGE	WATTS	MOUNTING LOCATION	MINIMUM ION DENSITY (IONS/CC)
CV	GPS-IMOD	1 PER COOLING COIL	1 EVERY 3/4"	115	15	UNIT SERVED	40 MILLION PER 0.75"

NOTES:
1. BASIS OF DESIGN: GLOBAL PLASMA SOLUTIONS: APPROVED EQUALS BY PHENOMENAL AIRE, ACTIVE AIR, AIRGENICS AND BIOXGEN SUBJECT TO SPECIFICATION COMPLIANCE.
2. MOUNT GPS-IMOD TO AIR INLET SIDE OF COOLING COIL.
3. IF CONTRACTOR SUBSTITUTES BASIS OF DESIGN WITH ANOTHER MANUFACTURER, CONTRACTOR SHALL COORDINATE ALL ELECTRICAL AND MECHANICAL CHANGES.
4. BI-POLAR IONIZATION SYSTEMS REQUIRING PERISHABLE GLASS TUBES ARE NOT ACCEPTABLE.
5. ALL MANUFACTURER'S MUST PASS UL-867-2007 OZONE CHAMBER TESTING BY EITHER US OR ETL.
6. IONIZATION BAR TO HAVE A MINIMUM OF 1 NEEDLEPOINT EVERY 0.75" OF COIL WIDTH. SYSTEMS WITH NEEDLES FURTHER APART SHALL NOT BE ACCEPTABLE.
7. IONIZATION SYSTEMS WITH MULTIPLE ION MODULES MOUNTED TO A BAR SHALL NOT BE AN ACCEPTABLE SUBSTITUTE.
7. IONIZATION SYSTEMS THAT DO NOT USE EPOXY TO PROTECT THE ION CIRCUITRY SHALL NOT BE ACCEPTABLE.
9. IONIZATION OUTPUT SHALL BE A MINIMUM OF 40 MILLION IONS/CC FOR EVERY 0.75" OF COIL WIDTH.

*PROVIDE FOR THE FOLLOWING UNITS: ERU-1

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2 Riverchase Office Plaza
Suite 205
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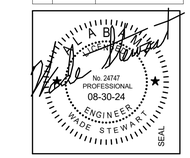
(205) 988-2069
www.dewberry.com

Project Number :
50171742

Revisions

No.	Date	Description



100% CDS

IRONDALE FIRE STATION #3
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
MECHANICAL SCHEDULES

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY: LWH
CHECKED BY: JWS

SHEET NUMBER
M0.2

INDOOR HEAT PUMP (SINGLE MINI-SPLIT SYSTEM) SCHEDULE

AIR HANDLER UNIT TYPE:

1. CEILING CASSETTE
2. CONCEALED, HORIZONTAL DUCTED
3. WALL MOUNTED

NOTES:

1. AIRFLOW RATED AT HIGH FAN SPEED.
2. POWER FOR INDOOR UNIT IS FED FROM OUTDOOR UNIT.
3. COOLING CAPACITY IS NET CAPACITY @ 95°F AMBIENT.
4. HEATING CAPACITY IS NET CAPACITY @ 47°F AMBIENT.

ACCESSORIES:

1. 3-POLE DISCONNECT SWITCH.
2. HARD WIRED UNIT CONTROLLER.
3. FULL PORT BALL VALVES & SCHRADER VALVES WITH FLARED CONNECTIONS.
4. CONDENSATE PUMP (120/1/60) - 1 GPH @ 33 FT. HD.

MARK	TYPE	AIRFLOW (CFM)	OUTSIDE AIR (CFM)	COOLING CAPACITY	HEATING CAPACITY	DIMENSIONS (WxDxH)	ELECTRICAL				ACCESSORIES	BASIS OF DESIGN	
							VOLTAGE	PH	HZ	MCA		MANUFACTURER	MODEL
AC-1	2	600	120	18.0 MBH	22.0 MBH	36 x 29 x 10	208/230	1	60	2.25	1,2,3,4	TRANE	PEAD-A18
AC-IT	3	455	0	12.0 MBH	18.0 MBH	36 x 10 x 12	208/230	1	60	1.0	1,2,3,4	TRANE	PKA-A12

OUTDOOR HEAT PUMP (SINGLE MINI-SPLIT SYSTEM) SCHEDULE

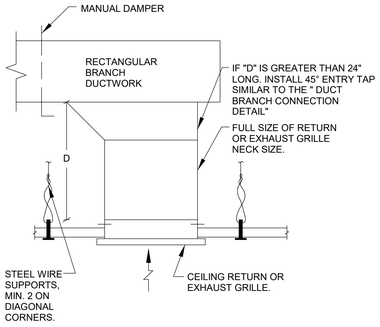
TYPE:

1. OUTDOOR HEAT PUMP

NOTES:

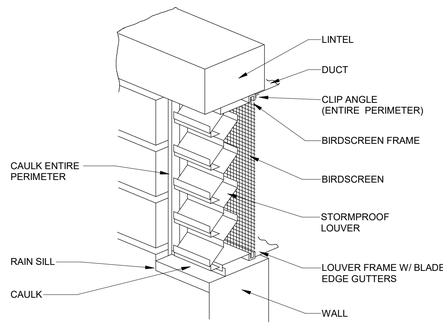
1. REFRIGERANT PIPING SHALL BE SIZED AND ROUTED PER MANUFACTURER'S RECOMMENDATIONS.
2. POWER TO INDOOR UNITS IS PROVIDED THRU OUTDOOR UNITS
3. REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS.
4. UNIT SHALL BE CAPABLE OF MINIMUM LINE LENGTH OF 65FT.

MARK	TYPE	COOLING CAPACITY	HEATING CAPACITY	ELECTRICAL					EFFICIENCY		BASIS OF DESIGN	
				VOLTAGE	PH	HZ	MCA	MOCP	SEER	HSPF	MANUFACTURER	MODEL
HP-1	1	18.0 MBH	22.0 MBH	208/230	1	60	17.0	20	19.8	10.2	TRANE	PUZ-A18
HP-IT	1	12.0 MBH	18.0 MBH	208/230	1	60	11.0	15	21.0	10.2	TRANE	PUZ-A12



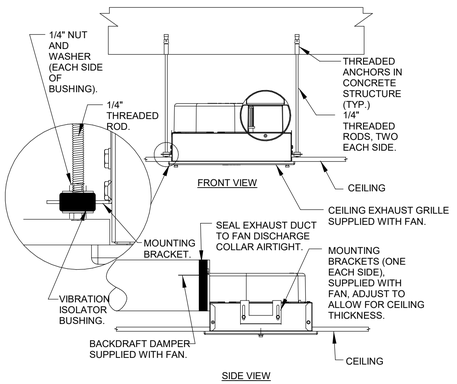
CEILING RETURN/EXHAUST BRANCH CONNECTION DETAIL

NO SCALE



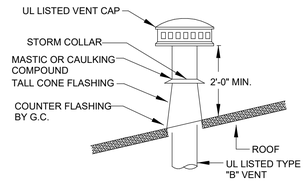
TYPICAL HVAC WALL LOUVER

NO SCALE



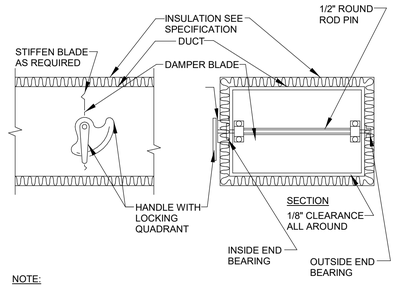
CEILING EXHAUST FAN DETAIL

NO SCALE



GAS VENT THRU ROOF DETAIL

NO SCALE

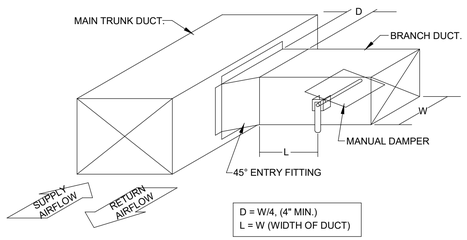


NOTE:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.
3. MANUAL DAMPERS SHALL BE EQUAL TO RUSKIN MD35 (FOR RECTANGULAR DUCTS) AND SHALL BE EQUAL TO RUSKIN MDRS25 (FOR ROUND DUCTS).

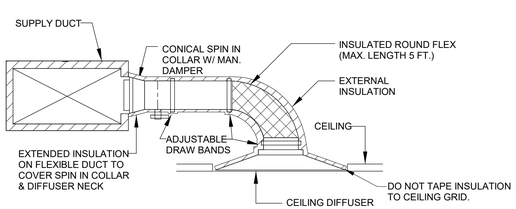
MANUAL DAMPER DETAIL

NO SCALE



DUCT BRANCH CONNECTION

NO SCALE

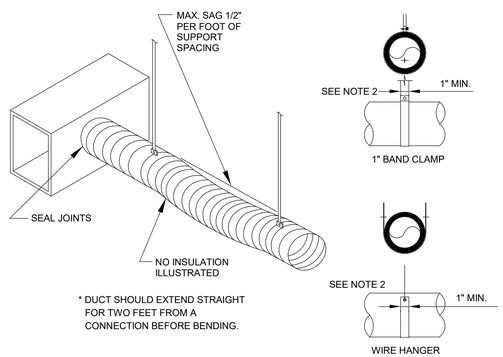


NOTE:

1. WHEREVER THE SUPPLY DUCT HEIGHT IS INSUFFICIENT TO CONNECT THE SPIN-IN, THE SPIN-IN MAY BE CONNECTED TO THE TOP OR BOTTOM OF THE DUCT. IF THE BRANCH DUCT MUST BE CONNECTED TO THE SIDE OF THE MAIN DUCT, USE A RECTANGULAR BRANCH DUCT CONNECTION OF EQUAL AIR VELOCITY AND TRANSITION TO ROUND DUCT. REFER TO SPECIFICATION FOR MAXIMUM TURNS IN FLEX DUCT.
2. PROVIDE EXTERNAL INSULATION ON ALL ROUND BRANCH DUCTWORK.SEE SPECS FOR THICKNESS AND EXTENT.
3. PROVIDE EXTERNAL INSULATION ON BACK SIDE OF CEILING DIFFUSERS. THICKNESS TO MATCH BRANCH DUCT INSULATION THICKNESS.

CEILING DIFFUSER INSTALLATION DETAIL

NO SCALE



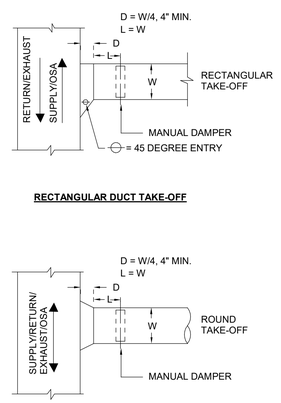
* DUCT SHOULD EXTEND STRAIGHT FOR TWO FEET FROM A CONNECTION BEFORE BENDING.

NOTES:

1. SUPPORT SYSTEM MUST NOT DAMAGE DUCT OR CAUSE OUT OF ROUND SHAPE.
2. DUCTS ARE FLEXIBLE WITH EXTERNAL INSULATION AND VAPOR BARRIER JACKETING.
3. MIN. CENTER LINE BEND LINE RADIUS IS ONE DIA. (OR INSIDE RADIUS OF D/2).
4. FLEXIBLE DUCT LENGTH SHALL NOT EXCEED 5 LINEAR FEET.

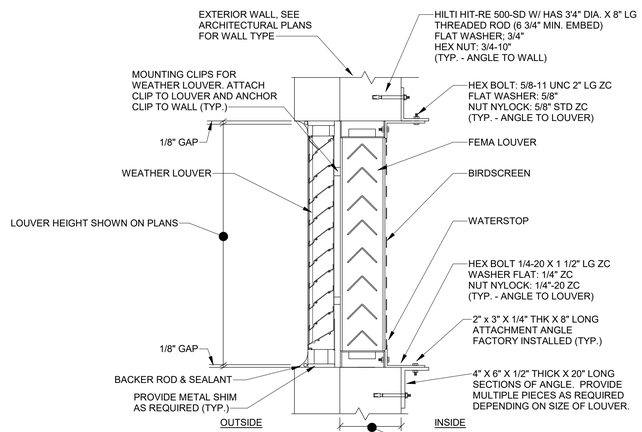
FLEXIBLE DUCT SUPPORT DETAIL

NO SCALE



DUCT TAKE-OFF CONNECTION DETAIL

NO SCALE



NOTES:

1. INSTALL WEATHER LOUVER AND FEMA LOUVER PER MANUFACTURER'S RECOMMENDATIONS.
2. WEATHER LOUVER SHALL HAVE DRAINABLE BLADES.
3. FEMA LOUVER SHALL BE TESTED AND MANUFACTURED TO FEMA 361 AND ICC500 SPECIFICATIONS FOR LARGE MISSILE IMPACT.
4. FEMA LOUVER SHALL HAVE A PERMANENT IDENTIFICATION TAG AFFIXED TO THE LOUVER THAT IS VISIBLE TO THE OWNER, ARCHITECT, ENGINEER, AND/OR AHJ.
5. INSTALLATION METHOD ABOVE IS ONE EXAMPLE FOR INSTALLING THE FEMA LOUVER. INSTALLING CONTRCTOR SHALL FOLLOW THIS DETAIL & ALL MANUFACTURER'S INSTALLATION GUIDELINES FOR DIFFERING WALL CONSTRUCTION.
6. ARCHITECT TO SELECT COLOR FOR WEATHER LOUVER.

WEATHER LOUVER & FEMA LOUVER INSTALLATION DETAIL

NO SCALE

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Revisions

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100% CDS

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PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
MECHANICAL SCHEDULES & DETAILS

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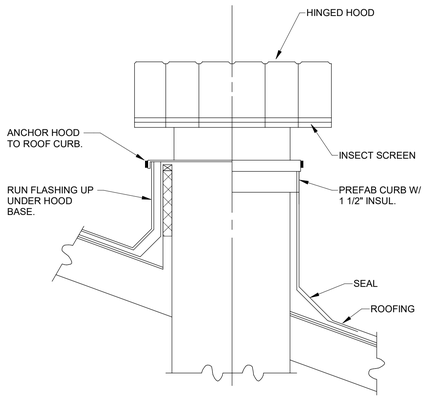
08.30.24

DRAWN BY:	CHECKED BY:
LWH	**JWS**

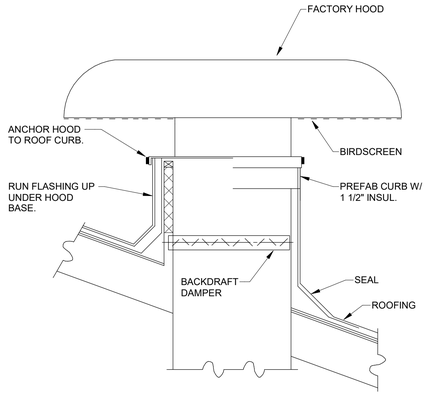
SHEET NUMBER

M0.3



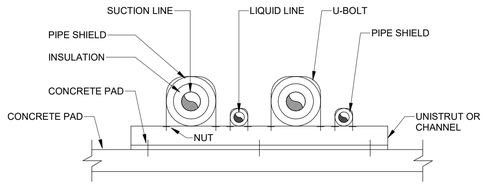
OUTSIDE AIR HOOD DETAIL - SLOPED ROOF

NO SCALE



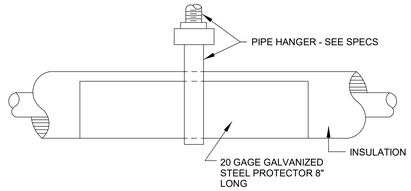
EXHAUST HOOD DETAIL - SLOPED ROOF

NO SCALE

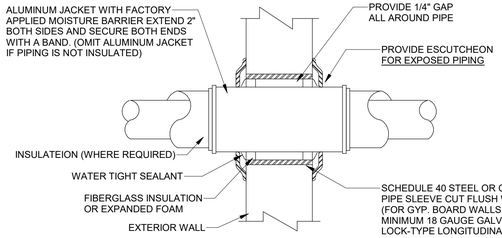


REFRIGERANT PIPE SUPPORT FROM CONCRETE PAD DETAIL

NO SCALE

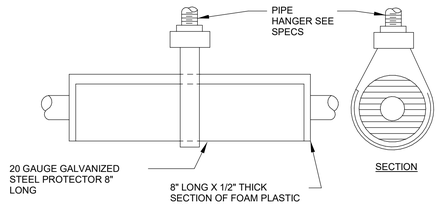


INSULATED LINES



PIPE PENETRATION DETAIL

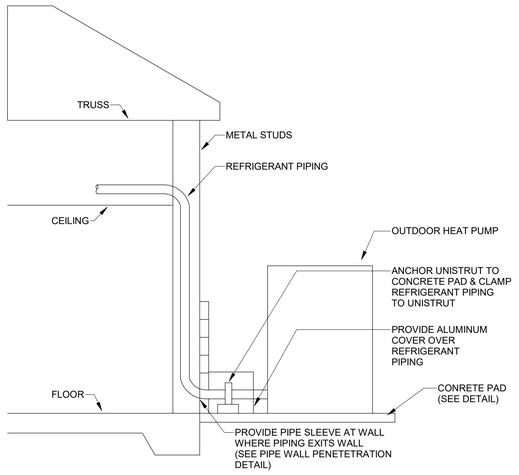
NO SCALE



UNINSULATED LINES

REFRIGERANT PIPING HANGER DETAIL

NO SCALE



CONDENSING UNIT INSTALLATION DETAIL

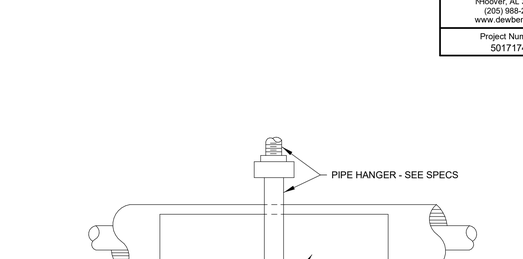
NO SCALE

NOTES:

1. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.

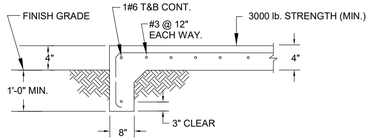
ACCESS DOOR DETAIL

NO SCALE



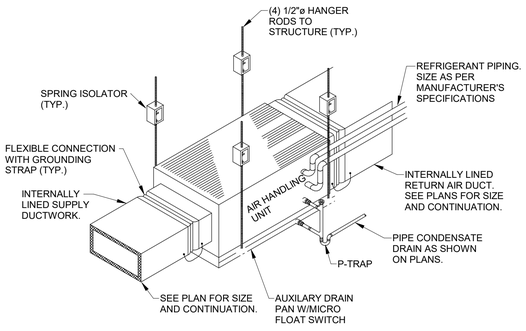
REFRIGERANT LINE SUPPORT DETAIL

NO SCALE



CONCRETE PAD DETAIL

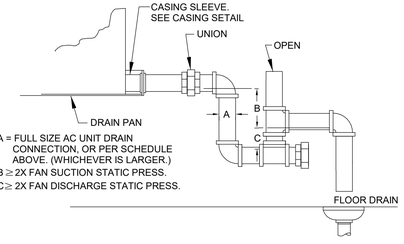
NO SCALE



HORIZONTAL AIR HANDLING UNIT DETAIL

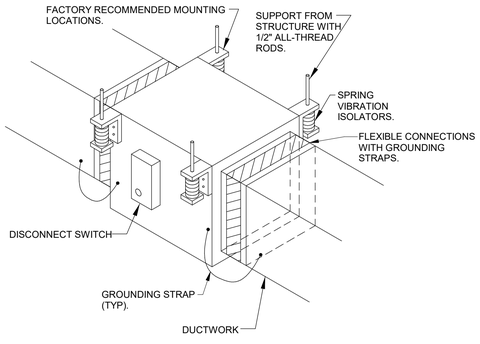
NO SCALE

MINIMUM CONDENSATE PIPE SIZE	
AC TONS	MIN. DRAIN SIZE
0 TO 20	1"
21 TO 40	1-1/4"
41 TO 60	1-1/2"
61 TO 100	2"
101 TO 250	3"
251 & LARGER	4"



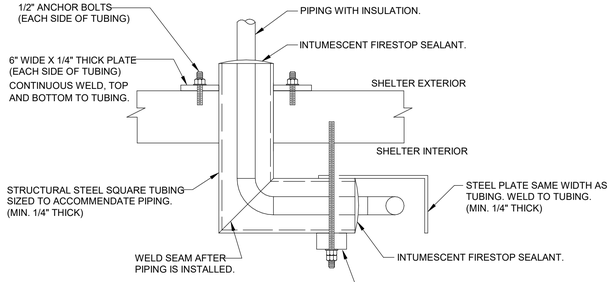
AC UNIT DRAIN TRAP DETAIL

NO SCALE



IN-LINE FAN INSTALLATION DETAIL

NO SCALE

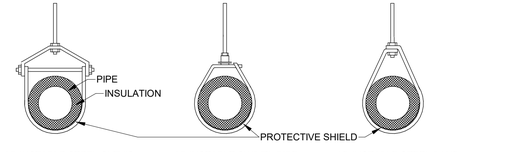


NOTE:

1. PROVIDE ALL WELDED CONSTRUCTION.

DETAIL OF PIPE PASSING THRU SHELTER WALL OR ROOF

NO SCALE



PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"
ROD DIAMETER	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	5/8"	3/4"	7/8"	7/8"
SPACING	6'	8'	8'	8'	10'	10'	10'	10'	10'	10'	10'	10'

NOTE: LOCATE ADDITIONAL HANGERS AT VALVES AND AT CHANGES IN DIRECTION.

* SPACING FOR PIPE HANGERS FOR PIPE SIZES LARGER THAN 3" AND HUNG FROM BAR JOISES SHALL BE DETERMINED BY STRUCTURAL ENGINEER. SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS.

PIPE HANGER DETAIL

NO SCALE

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Project Number :
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Revisions

No.	Date	Description

ALABAMA
No. 24747
PROFESSIONAL
08-30-24
ENGINEER
WADE STEWART
SEAL

100% CDS

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SHEET TITLE:
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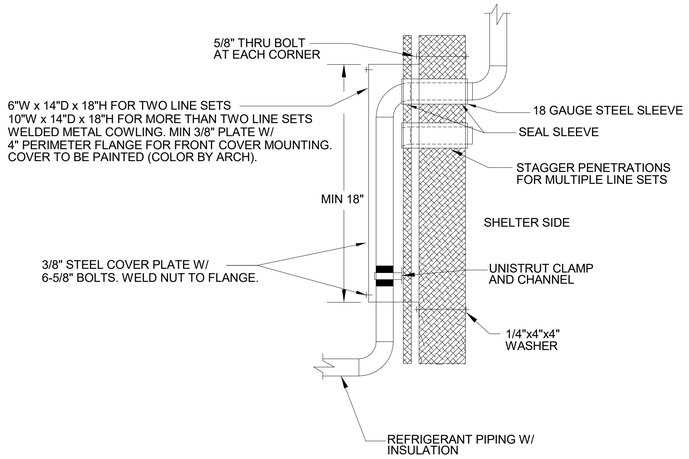
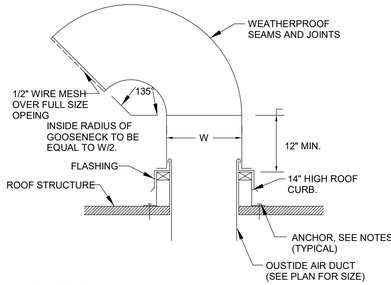


ASSEMBLY SHALL MEET ICC 500 & FEMA 361
TESTING PROCEDURE

REFRIGERANT PIPING PENETRATION THRU STORM SHELTER PROTECTION DETAIL

NO SCALE

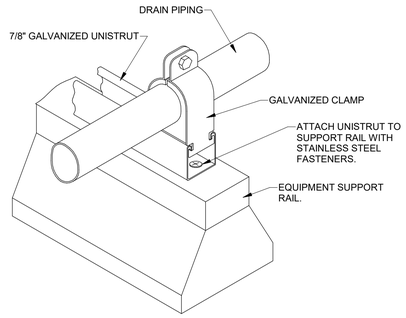


ANCHOR METHODS:

1. FOR STEEL STRUCTURES: ANCHOR CURB TO ROOF STRUCTURE WITH 1/4"-14 SELF DRILLING SCREWS. MINIMUM OF 1/2" OF THREADS SHALL BE SHOWING ON THE UNDERSIDE OF THE STRUCTURE. PROVIDE MINIMUM (4) FASTENERS PER SIDE, (TOTAL OF 16), EQUALLY SPACED ON EACH SIDE.
2. FOR CONCRETE STRUCTURES: ANCHOR CURB TO ROOF STRUCTURE WITH 3/8" HILTI EXPANSION ANCHORS, MINIMUM 2-1/2" ENGAGEMENT. PROVIDE MINIMUM (2) ANCHORS PER SIDE, (TOTAL OF 8), EQUALLY SPACED ON EACH SIDE.
3. ANCHOR HOOD TO CURB WITH A MINIMUM OF (4) 1/4"-14 SELF DRILLING SCREWS ON EACH SIDE OF THE HOOD (TOTAL OF 16 FASTENERS). ONE FASTENER SHALL BE INSTALLED 3" FROM EACH END ON THE SIDE OF THE HOOD AND THE OTHER TWO SHALL BE EQUALLY SPACED ALONG THE SIDE.

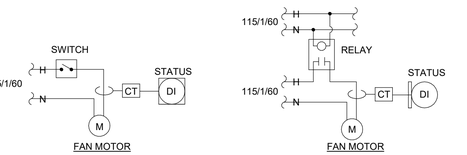
GOOSENECK INSTALLATION DETAIL

NO SCALE



PIPING SUPPORT DETAIL

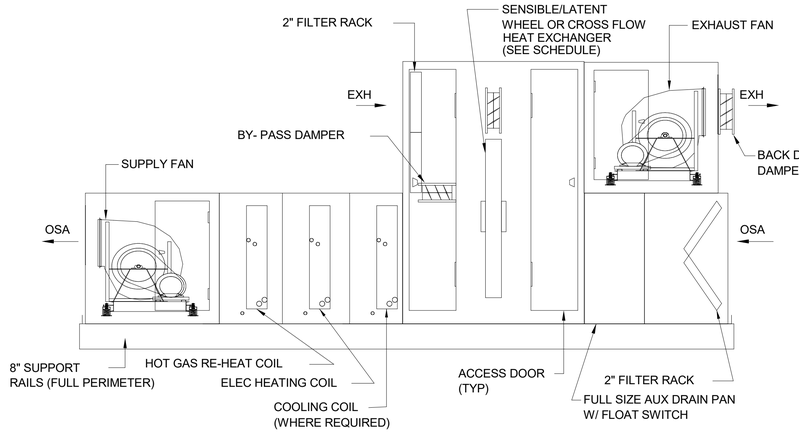
NO SCALE



EXHAUST FAN CONTROLLED BY SWITCH. EXHAUST FAN CONTROLLED BY LIGHTING CIRCUIT.

EXHAUST FAN CONTROLS

NO SCALE



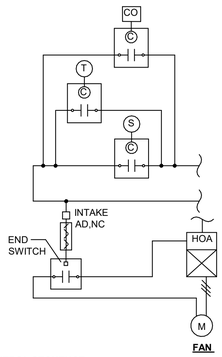
(SEE PLAN FOR EXACT UNIT CONFIGURATION)

ENERGY RECOVERY UNIT SCHEMATIC

NO SCALE

HVAC CONTROLS - GENERAL NOTES

1. MECHANICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR EXACT QUANTITY AND LOCATIONS OF 120V CONTROL POWER NECESSARY TO CONTROL PANELS AND EQUIPMENT THROUGHOUT PROJECT.
2. MECHANICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR EXACT QUANTITY AND LOCATIONS OF 120V CONTROL POWER NECESSARY TO POWER AUTOMATIC CONTROL VALVES, AUTOMATIC DAMPER ACTUATORS, AND SMOKE DAMPER ACTUATORS.
3. ALL SMOKE DETECTORS ARE PROVIDED AND WIRED BY ELECTRICAL, INSTALLED BY MECHANICAL.
4. PROVIDE ALL NECESSARY RELAYS, SWITCHES, SENSORS, LOW VOLTAGE CONTROL WIRING, ACTUATORS, ETC. FOR A COMPLETE AND FUNCTIONAL CONTROL SYSTEM.
5. PROVIDE LOCKING COVERS ON ALL THERMOSTATS AND CONTROL DEVICES AS INDICATED ON THE FLOOR PLANS.

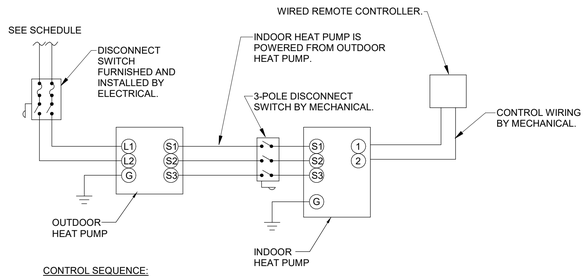


CONTROL SEQUENCE:

FAN:
VENTILATION FAN SHALL BE CONTROLLED BY A WALL MOUNTED THERMOSTAT AND A WALL MOUNTED SWITCH. THERMOSTAT SHALL BE SET TO 80°F (ADJ.), AND THE CARBON MONOXIDE SETPOINT SHALL BE 35 PPM. WHENEVER THE SWITCH IS ON OR THE TEMPERATURE RISES ABOVE SETPOINT OR THE CARBON MONOXIDE LEVEL RISES ABOVE SETPOINT, THE AUTOMATIC DAMPER ASSOCIATED WITH THE VENTILATION FAN SHALL OPEN AND THE VENTILATION FAN SHALL RUN.

VENTILATION FAN CONTROLS (VF-1 AND VF-2)

NO SCALE

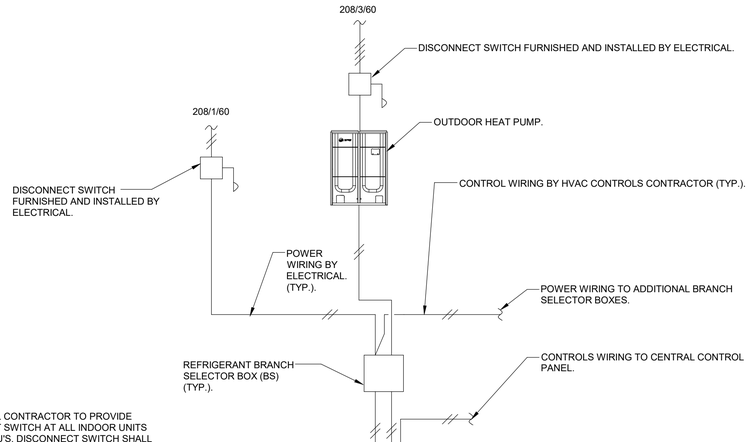


CONTROL SEQUENCE:

THE AC UNIT SHALL BE CONTROLLED BY A WIRED WALL MOUNTED REMOTE CONTROLLER. THE CONTROLLER SHALL CYCLE ON COMPRESSOR(S) TO MAINTAIN COOLING SETPOINT (74°F - ADJUSTABLE) AND HEATING SETPOINT (70°F - ADJUSTABLE). ALL MINI-SPLIT AC UNITS THAT SERVE ELECTRICAL AND IT ROOMS SHALL NOT SET THEIR TEMPERATURE BACK AT NIGHT. FOR ALL MINI-SPLIT AC UNITS THAT SERVE OFFICES, CLASSROOMS, ETC. SHALL SET THEIR TEMPERATURE BACK TO 4°F ABOVE SETPOINT IN SUMMER AND 4°F BELOW SETPOINT IN THE WINTER. COORDINATE WITH OWNER TO ESTABLISH OCCUPIED / UNOCCUPIED SCHEDULES.

DUCTLESS SPLIT SYSTEM CONTROLS

NO SCALE



NOTES:
1. MECHANICAL CONTRACTOR TO PROVIDE DISCONNECT SWITCH AT ALL INDOOR UNITS AND ALL MCU'S. DISCONNECT SWITCH SHALL BE INSTALLED AND WIRED BY ELECTRICAL.
2. ALL CONTROLS WIRING FROM OUTDOOR UNIT TO INDOOR UNITS AND MCU'S SHALL BE BY MECHANICAL CONTRACTOR.
3. ALL POWER WIRING TO ALL INDOOR UNITS AND BRANCH SELECTOR BOXES SHALL BE BY ELECTRICAL.

CONTROL SEQUENCE:
THE OUTDOOR HEAT PUMPS & INDOOR HEAT PUMPS SHALL BE STARTED / STOPPED BASED ON PROGRAMMABLE THERMOSTATS FOR EACH INDOOR UNIT.

OCCUPIED MODE:
THE AC UNIT SHALL BE CONTROLLED BY A WIRED WALL MOUNTED REMOTE CONTROLLER. THE INDOOR SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS. THE CONTROLLER SHALL CYCLE ON COMPRESSOR(S) TO MAINTAIN COOLING SETPOINT (75°F - ADJUSTABLE) AND HEATING SETPOINT (70°F - ADJUSTABLE). ALL INDOOR UNITS SHALL HAVE FULL INDIVIDUAL CONTROL AND WILL BE ABLE TO HEAT OR COOL INDEPENDENT OF WHAT MODE THE OTHER CONNECTED INDOOR UNITS ARE OPERATING IN.

UNOCCUPIED MODE:
THE CONTROLLER SHALL CYCLE ON THE SUPPLY FAN AND COMPRESSOR(S) TO MAINTAIN THE UNOCCUPIED SPACE SETPOINT (60°F HEATING / 80°F COOLING - ADJUSTABLE).

TYPICAL VARIABLE REFRIGERANT SYSTEM CONTROLS DIAGRAM

NO SCALE

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Project Number :
50171742

Revisions

No.	Date	Description

100% CDS

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
MECHANICAL CONTROLS & DETAILS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
LWH	**JWS**

SHEET NUMBER
M0.5

VENTILATION OUTSIDE AIR CALCULATIONS (AC-1)

		Az	Pz	Ra	Rp	Vbz	Ez	Required OSA (Voz)	Provided OSA
Room	**Room Type**	**FT²**	**PEOPLE**	**CFM/FT²**	**CFM / P**	**CFM**		**CFM**	**CFM**
141 - AUX. ROOM (STORM SHELTER)	Conference / Meeting	287	14	0.06	5	87	0.80	109	120
Notes: 1. Outside Air Calculations per 2021 IMC - Table 403.3.1.1			Total Outside Air Required by AC-1: 109 CFM						
			Total Outside Air Required & Provided by AC-1: 120 CFM						

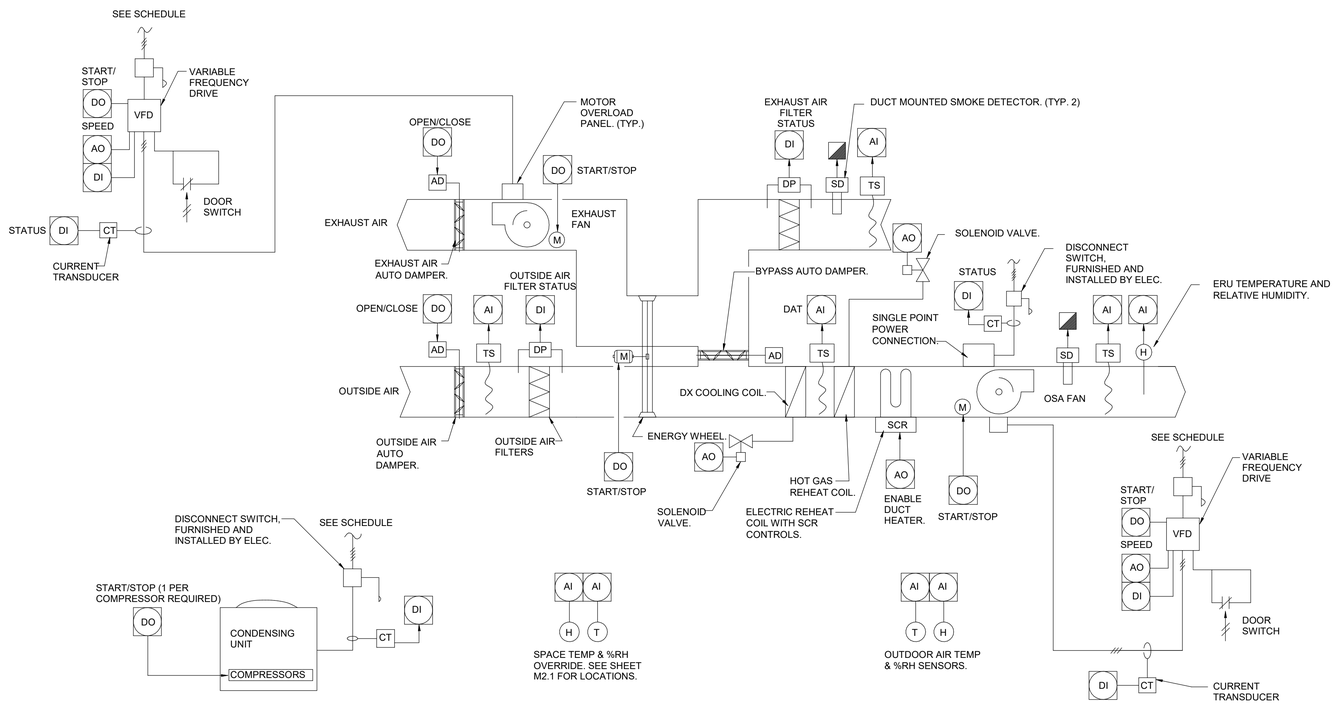
VENTILATION OUTSIDE AIR CALCULATIONS (ERU-1)

		Az	Pz	Ra	Rp	Vbz	Ez	Required OSA (Voz)	Required (IAQP Method)	Provided OSA
Room	**Room Type**	**FT²**	**PEOPLE**	**CFM/FT²**	**CFM / P**	**CFM**		**CFM**	**CFM**	**CFM**
100 - ENTRY LOBBY	Main Entry Lobbies	338	4	0.06	5	40	0.80	50	70	70
102 - EMS	Office spaces	105	2	0.06	5	16	0.80	20	10	10
105 - WATCH	Office spaces	155	2	0.06	5	19	0.80	24	10	10
107 - OFFICE	Office spaces	106	1	0.06	5	11	0.80	14	5	5
109 - OFFICE	Office spaces	120	1	0.06	5	12	0.80	15	5	5
120 - EXERCISE	Health Club/weight room	497	5	0.06	20	130	0.80	162	60	60
122 - DAYROOM	Day room	704	22	0.06	5	152	0.80	190	150	150
123 - KITCHEN	Kitchens (cooking)	503	10	0.12	7.5	135	0.80	169	150	150
D1 - DORM 1	Dormitory Sleeping Area	90	1	0.06	5	10	0.80	13	5	5
D1 - DORM 2	Dormitory Sleeping Area	90	1	0.06	5	10	0.80	13	5	5
D1 - DORM 3	Dormitory Sleeping Area	90	1	0.06	5	10	0.80	13	5	5
D1 - DORM 4	Dormitory Sleeping Area	91	1	0.06	5	10	0.80	13	5	5
D1 - DORM 5	Dormitory Sleeping Area	91	1	0.06	5	10	0.80	13	5	5
D1 - DORM 6	Dormitory Sleeping Area	91	1	0.06	5	10	0.80	13	5	5
D1 - DORM 7	Dormitory Sleeping Area	91	1	0.06	5	10	0.80	13	5	5
D1 - DORM 8	Dormitory Sleeping Area	89	1	0.06	5	10	0.80	13	5	5
Notes: 1. Outside Air Calculations per 2021 IMC - Table 403.3.1.1			Total Outside Air Required by ERU-1: 750 CFM							
			Total Outside Air Required & Provided by ERU-1 using IAQP: 2,120 CFM							

2021 IMC VOLUME PER SPACE CALCULATIONS

ROOM NUMBER	ROOM NAME	AREA (sq. ft.)	VOLUME (cu. ft.)	CONNECTED INDOOR UNIT	CONNECTED OUTDOOR UNIT	TOTAL REFRIGERANT CHARGE (lb)	MIN. REQUIRED ROOM VOLUME (cu.ft.)	NOTES
D1	DORM 1	90	855	IHP-1-1	OHP-1	38.6	1,485	2
D2	DORM 2	90	855	IHP-1-2	OHP-1	38.6	1,485	2
D3	DORM 3	90	855	IHP-1-3	OHP-1	38.6	1,485	2
D4	DORM 4	91	865	IHP-1-4	OHP-1	38.6	1,485	2
D5	DORM 5	91	865	IHP-1-5	OHP-1	38.6	1,485	2
D6	DORM 6	91	865	IHP-1-6	OHP-1	38.6	1,485	2
D7	DORM 7	91	865	IHP-1-7	OHP-1	38.6	1,485	2
D8	DORM 8	89	846	IHP-1-8	OHP-1	38.6	1,485	2
C1-4	CORRIDOR	453	4,530	IHP-1-9	OHP-1	38.6	1,485	1
116	RESTROOM	75	675	IHP-1-9	OHP-1	38.6	1,485	2
						CONNECTED TO BCU-1		
120	EXERCISE	497	6,794	IHP-2-1	OHP-2	44.51	1,712	1
122	DAYROOM	704	7,476	IHP-2-2	OHP-2	44.51	1,712	1
123	KITCHEN	503	4,693	IHP-2-3	OHP-2	44.51	1,712	1
146	STORAGE	266	2,660	IHP-2-4	OHP-2	84.39	3,246	2
C1-3	CORRIDOR	220	2,200	IHP-2-5	OHP-2	44.51	1,712	1
139	MECH / ELEC	422	5,908	IHP-2-5	OHP-2	44.51	1,712	1
						CONNECTED TO BCU-2		
100	ENTRY LOBBY	338	8,712	IHP-3-1	OHP-3	39.9	1,534	1
105	WATCH	155	1,421	IHP-3-2	OHP-3	39.9	1,534	2
107	OFFICE	106	972	IHP-3-3	OHP-3	39.9	1,534	2
109	OFFICE	120	1,100	IHP-3-4	OHP-3	39.9	1,534	2
C1-1	CORRIDOR	220	2,200	IHP-3-5	OHP-3	39.9	1,534	1
C1-2	CORRIDOR	157	1,570	IHP-3-5	OHP-3	39.9	1,534	1
102	EMS	105	945	IHP-3-6	OHP-3	39.9	1,534	2
						CONNECTED TO BCU-3		

1. COMPLIES WITH ASHRAE 15. NO FURTHER ACTION REQUIRED.
2. MULTIPLE ROOMS DUCTED TOGETHER, SERVED BY ONE COMMON ERU UNIT. COMPLIES WITH ASHRAE 15. NO FURTHER ACTION REQUIRED.



SPLIT OUTSIDE AIR UNIT - ENERGY RECOVERY WHEEL CONTROLS, DX WITH ELECTRIC HEAT

NO SCALE

ENERGY RECOVERY UNIT CONTROL SEQUENCE

THE CONTROLS FOR THE ENERGY RECOVERY UNIT ARE INTENDED TO BE STAND ALONE. ANY DIGITAL DEVICES SHOWN ARE INTENDED TO BE MONITORED OR CONTROLLED THROUGH THE FACTORY UNIT MOUNTED CONTROLLER.

THE ENERGY RECOVERY UNIT (ERU) SHALL BE STARTED AND STOPPED BY THE UNIT MOUNTED CONTROLLER SUBJECT TO AN OWNER'S OCCUPANCY SCHEDULE AND SUBJECT TO INTERNAL UNIT SAFETIES. OCCUPIED AND UNOCCUPIED HOURS SHALL BE DETERMINED BY THE OWNER AND SHALL BE FULLY ADJUSTABLE AT THE UNIT MOUNTED CONTROLLER BY THE OWNER.

UNOCCUPIED MODE:
DURING UNOCCUPIED MODE, THE EXHAUST AIR AND OUTSIDE AIR AUTO DAMPERS SHALL BE CLOSED AND THE EXHAUST AIR AND OUTSIDE AIR FANS SHALL BE OFF.

OCCUPIED MODE:
DURING OCCUPIED HOURS, THE EXHAUST AIR AND OUTSIDE AIR DAMPERS SHALL OPEN. ONCE THE DAMPERS ARE PROVEN TO BE OPEN, THE WHEEL MOTOR SHALL START, THE SUPPLY FAN AND EXHAUST FAN SHALL BE STARTED BY THE UNIT MOUNTED CONTROLLER AND SHALL RUN CONTINUOUSLY. TEST AND BALANCE SHALL ADJUST THE FAN SPEED AT THE VARIABLE FREQUENCY DRIVE FOR EACH FAN TO PROVIDE THE SCHEDULED OUTSIDE AIR AND EXHAUST AIR CFM. THIS FAN SPEED SHALL BE SET AND SHALL BE DISPLAYED AT THE UNIT MOUNTED CONTROLLER. WHEN THE KITCHEN HOOD FAN IS ON, UNIT SHALL VARY FANS SPEEDS TO PROVIDE THE SCHEDULED MAXIMUM OUTSIDE AIR AND EXHAUST AIR. WHEN KITCHEN HOOD FAN IS OFF, THE UNIT SHALL VARY FANS SPEEDS TO PROVIDE THE SCHEDULED MINIMUM OUTSIDE AIR AND EXHAUST AIR..

THE UNIT MOUNTED CONTROLLER SHALL STAGE ON COMPRESSORS AND OPEN/CLOSE SOLENOID VALVE(S) AT THE DX COIL TO MAINTAIN A 54degF SUPPLY AIR TEMPERATURE AS MEASURED AT THE TEMPERATURE SENSOR DOWNSTREAM OF THE DX COIL. THE HOT GAS REHEAT IN THE ERU SHALL MODULATE TO MAINTAIN A TEMPERATURE LEAVING THE ERU OF 72degF (SUMMER) AND 70degF (WINTER) AS MEASURED AT THE DISCHARGE AIR TEMPERATURE SENSOR. IN THE WINTER THE ELECTRIC HEATER SHALL STAGE ON TO PROVIDE A LEAVING AIR TEMPERATURE OF 70degF (ADJUSTABLE).

DEHUMIDIFICATION MODE:
IF THE SPACE MOUNTED RELATIVE HUMIDITY SENSOR RISES ABOVE 60% RH FOR LONGER THAN 10 MINUTES DURING OCCUPIED OR UNOCCUPIED MODES, THE ERU SHALL GO INTO DEHUMIDIFICATION MODE. IN DEHUMIDIFICATION MODE, THE EXHAUST AIR AND OUTSIDE AIR DAMPERS SHALL BE OPEN, THE EXHAUST AIR AND OUTSIDE AIR FANS SHALL RUN, THE CONDENSING UNIT SHALL BE ON AND PROVIDINING 100% COOLING, AND THE HOT GAS REHEAT AND ELECTRIC HEATER SHALL STAGE ON/OFF TO MAINTAIN A SPACE TEMPERATURE OF 72degF (SUMMER) AND 70degF (WINTER). ONCE THE HUMIDITY RETURNS TO BELOW 60%RH, THE ERU SHALL RETURN TO NORMAL OCCUPIED OR UNOCCUPIED MODE.

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Project Number :
50171742

Revisions

No.	Date	Description

ALABAMA
No. 24747
PROFESSIONAL
08-30-24
ENGINEER
WADE STEWART
SEAL

100% CDS

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

SHEET TITLE:
MECHANICAL CONTROLS AND ASHRAE 15 CALCS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

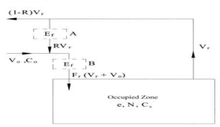
DRAWN BY:	CHECKED BY:
LWH	**JWS**

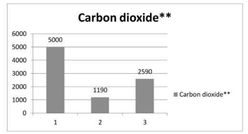
SHEET NUMBER
M0.6

IAQP OSA CALCULATION - TYPICAL DORM ROOM

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
Dorm Room	Office Buildings	Bedroom/Living Room	91.0	1.0	5.0	0.06	5	5	0.8	13
										OA required per VRP

Zone Height (feet)	9.5
Desired Outside Air (Vo) IAQP	5
Supply Air (Vs)	315
Return Air (Vr)	315
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant





***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html
1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove C02 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00017	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00168	0.00005	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.01531	0.00112	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00252	0.00004	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00019	0.00001	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	1190	2590	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00000	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00077	0.00002	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00001	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00008	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00077	0.00001	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00004	Yes	0.00000	50%	OSHA

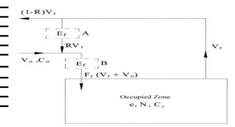
Building materials and furnishings assumed to have no VOCs and off-gassing is complete

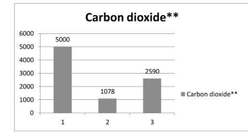
Is IAQ acceptable at reduced outside air levels? **Yes**

IAQP OSA CALCULATION - TYPICAL OFFICE

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
OFFICE 107 AND OFFICE 109	Office Buildings	Office Space	120.0	1.0	5.0	0.06	5	7	0.8	15
										OA required per VRP

Zone Height (feet)	9.2
Desired Outside Air (Vo) IAQP	5
Supply Air (Vs)	335
Return Air (Vr)	335
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant





***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html
1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove C02 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01111	0.00016	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00162	0.00005	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.01337	0.00105	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00252	0.00004	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00017	0.00001	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	1078	2590	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00000	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00076	0.00002	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00001	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00008	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00076	0.00001	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00003	Yes	0.00000	50%	OSHA

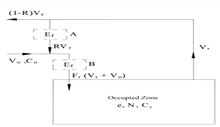
Building materials and furnishings assumed to have no VOCs and off-gassing is complete

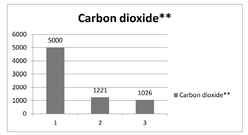
Is IAQ acceptable at reduced outside air levels? **Yes**

IAQP OSA CALCULATION - ENTRY LOBBY - 100

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
ENTRY LOBBY - 100	Office Buildings	Main Entry Lobby	338.0	4.0	5.0	0.06	20	20	0.8	50
										OA required per VRP

Zone Height (feet)	25.8
Desired Outside Air (Vo) IAQP	70
Supply Air (Vs)	1,270
Return Air (Vr)	1270
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant





***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html
1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove C02 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00032	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00169	0.00009	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.01584	0.00109	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00252	0.00013	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00019	0.00001	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	1221	1026	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00077	0.00004	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00002	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00027	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00077	0.00004	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00011	Yes	0.00000	50%	OSHA

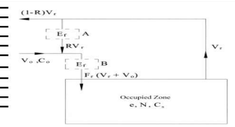
Building materials and furnishings assumed to have no VOCs and off-gassing is complete

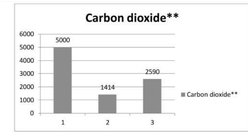
Is IAQ acceptable at reduced outside air levels? **Yes**

IAQP OSA CALCULATION - EMS - 102

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
EMS - 102	Office Buildings	Office Space	105.0	2.0	5.0	0.06	10	6	0.8	20
										OA required per VRP

Zone Height (feet)	9.0
Desired Outside Air (Vo) IAQP	10
Supply Air (Vs)	300
Return Air (Vr)	300
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant





***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html
1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove C02 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01113	0.00035	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00179	0.00011	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.01916	0.00227	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00252	0.00008	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00021	0.00002	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	1414	2590	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00000	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00079	0.00003	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00001	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00534	0.00017	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00078	0.00003	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00007	Yes	0.00000	50%	OSHA

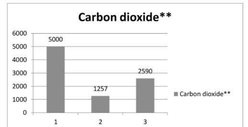
Building materials and furnishings assumed to have no VOCs and off-gassing is complete

Is IAQ acceptable at reduced outside air levels? **Yes**

IAQP OSA CALCULATION - WATCH 105

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
WATCH - 105	Office Buildings	Office Space	155.0	2.0	5.0	0.06	10	9	0.8	24
										OA required per VRP

Zone Height (feet)	9.2
Desired Outside Air (Vo) IAQP	10
Supply Air (Vs)	335
Return Air (Vr)	335
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant



***OSHA, NIOSH & WHO most conservative values used
http://www.cdc.gov/niosh/npg/npgsyn-a.html
1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove C02 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01132	0.00032	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00171	0.00010	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.01645	0.00205	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00252	0.00007	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00019	0.00002	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	1257	2590	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00000	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00077	0.00003	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00001	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00015	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00077	0.00003	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00006	Yes	0.00000	50%	OSHA

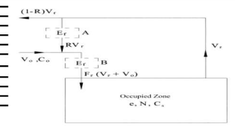
Building materials and furnishings assumed to have no VOCs and off-gassing is complete

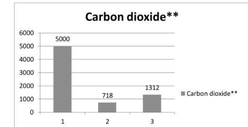
Is IAQ acceptable at reduced outside air levels? **Yes**

IAQP OSA CALCULATION - EXERCISE 120

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
EXERCISE - 120	Office Buildings	Health Club/Weight Rooms	497.0	5.0	20.0	0.06	100	30	0.8	162
										OA required per VRP

Zone Height (feet)	13.7
Desired Outside Air (Vo) IAQP	60
Supply Air (Vs)	1,270
Return Air (Vr)	1270
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant





***OSHA, NIOSH & WHO most conservative values used
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1 = ASHRAE & NIOSH C02 Limit
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Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01110	0.00048	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00143	0.00009	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.00720	0.00135	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00251	0.00011	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00014	0.00001	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	718	1312	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00000	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00072	0.00004	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00002	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00532	0.00023	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00075	0.00004	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00010	Yes	0.00000	50%	OSHA

Building materials and furnishings assumed to have no VOCs and off-gassing is complete

Is IAQ acceptable at reduced outside air levels? **Yes**

Dewberry
2 Riverchase Office Plaza
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(205) 988-2069
www.dewberry.com

Project Number :
50171742

Revisions

No.	Date	Description

100% CDS

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CWA
CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
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3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

SHEET TITLE:
MECHANICAL OUTSIDE AIR CALCULATIONS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
LWH	**JWS**

SHEET NUMBER
M0.7

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Suite 205
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Revisions

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100% CDS

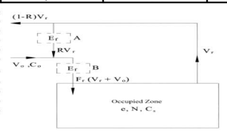
IRONDALE FIRE STATION #3

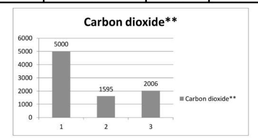
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

IAQP OSA CALCULATION - DAYROOM 122

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
DAYROOM - 122	Office Buildings	Day room	704.0	22.0	5.0	0.06	110	42	0.8	190
										OA required per VRP

Zone Height (feet)	10.6
Desired Outside Air (Vo) IAQP	150
Supply Air (Vs)	1,270
Return Air (Vr)	1270
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant





***OSHA, NIOSH & WHO most conservative values used
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1 = ASHRAE & NIOSH C02 Limit
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Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01113	0.00107	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00189	0.00027	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.02226	0.00514	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00253	0.00024	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00023	0.00004	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	1595	2006	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00081	0.00009	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00004	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00534	0.00051	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00078	0.00008	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00022	Yes	0.00000	50%	OSHA

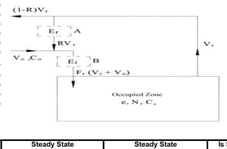
Building materials and furnishings assumed to have no VOCs and off-gassing is complete

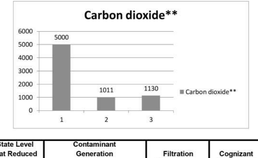
Is IAQ acceptable at reduced outside air levels?	Yes

IAQP OSA CALCULATION - KITCHEN 123

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
KITCHEN - 123	Office Buildings	Cafeteria/Fast Food Dining	503.0	10.0	7.5	0.12	75	60	0.8	169
										OA required per VRP

Zone Height (feet)	9.0
Desired Outside Air (Vo) IAQP	150
Supply Air (Vs)	1,270
Return Air (Vr)	1270
Recirc. Flow Factor (R)	1.00
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	**Sedentary**
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant





***OSHA, NIOSH & WHO most conservative values used
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Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01111	0.00106	Yes	0.00032	50%	OSHA
Acetone	250.0	0.00158	0.00019	Yes	0.00433	50%	NIOSH
Ammonia	25.00	0.01222	0.00243	Yes	0.14210	50%	NIOSH
Benzene	1.0000	0.00252	0.00024	Yes	0.00015	50%	OSHA
2- Butanone (MEK)	200.0	0.00017	0.00002	Yes	0.00088	50%	NIOSH
Carbon dioxide**	5000	1011	1130	Yes	292	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00003	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00075	0.00008	Yes	0.00080	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00004	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00532	0.00051	Yes	0.00021	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00076	0.00008	Yes	0.00038	50%	NIOSH
Xylene	100.0000	0.00230	0.00022	Yes	0.00000	50%	OSHA

Building materials and furnishings assumed to have no VOCs and off-gassing is complete

Is IAQ acceptable at reduced outside air levels?	Yes

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
MECHANICAL OUTSIDE AIR CALCULATIONS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
LWH	**JWS**

SHEET NUMBER

M0.8

GENERAL NOTES NOTES:

1. ALL DUCT WORK AND EQUIPMENT SHALL BE LOCATED BETWEEN THE CEILING AND BOTTOM OF THE TRUSSES UNLESS OTHERWISE SHOWN.

SHELTER OSA CALCULATIONS

Room	Room Type	Rp cfm / P	Pz People	Ra cfm/ft²	Az ft²	Vbz cfm	Ez	Voz cfm
AUX. ROOM (STORM SHELTER) 141	Conference / Meeting	5	50	0.00	287	250	1.00	250
TLT 142	Restroom	5	0	0.00	57	0	1.00	0
JAN 143	Janitor's Closet	5	0	0.00	54	0	1.00	0
						Total Required by SF-1:		250
						Total Provided by SF-1:		250

SIGNAGE FOR EMERGENCY VENTILATION FAN SWITCHES (REFER TO ARCHITECTURAL SIGNAGE SPECIFICATION FOR SIGN AND TEXT COLOR AND SIZE) (COORDINATE EXACT LOCATION WITH ARCHITECT).

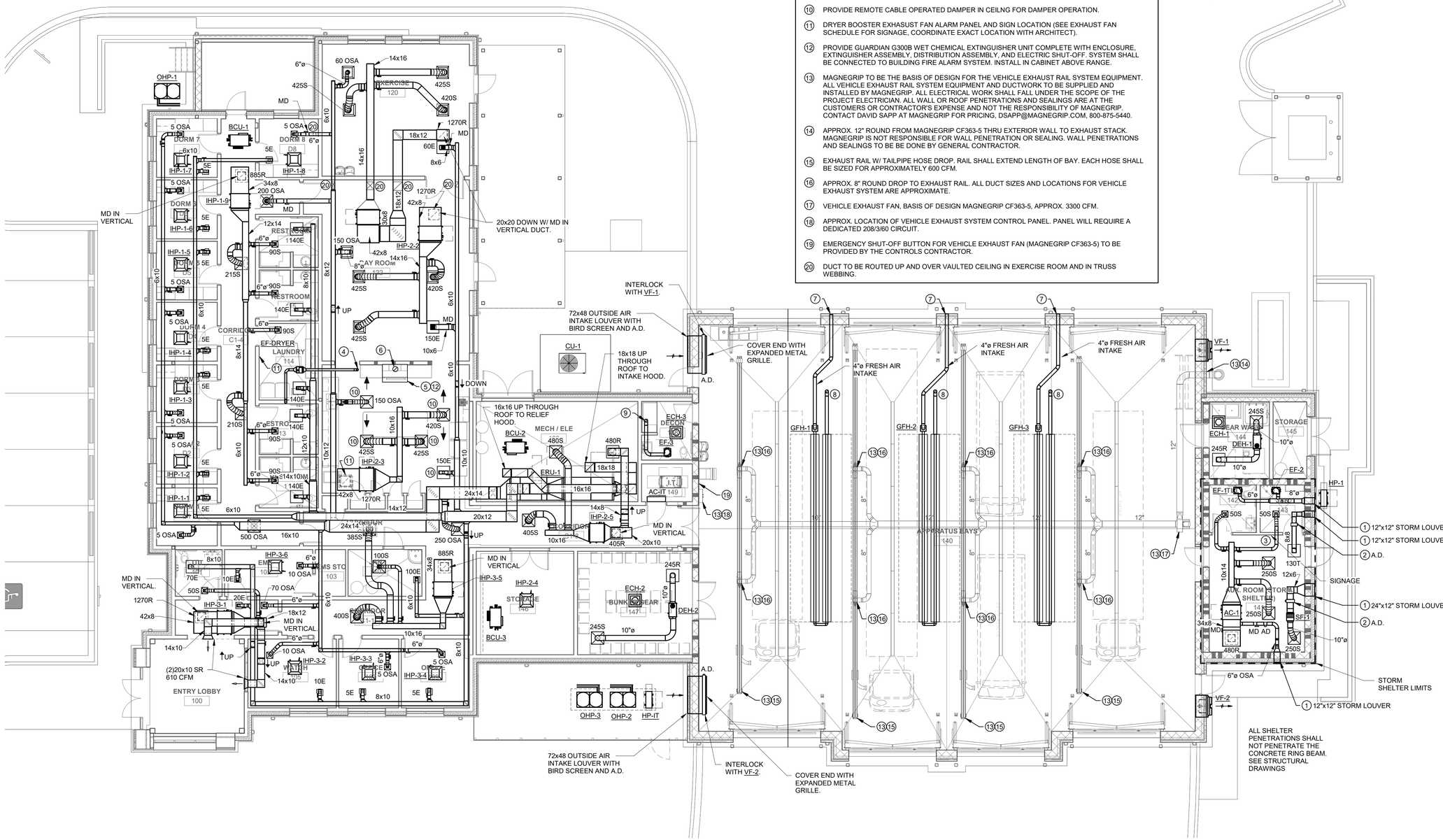
EMERGENCY VENTILATION FANS TO BE SWITCHED ON UPON A LOSS OF POWER IN THE SHELTER DURING A STORM EVENT.

ALL INTERIOR DOORS TO ROOMS IN SHELTER ARE TO BE OPENED IF EMERGENCY VENTILATION FANS ARE ON.

EMERGENCY VENTILATION FANS ARE TO BE SWITCHED OFF UPON POWER RESTORED.

KEYED NOTES:

1. HIGH IMPACT LOUVERS AND WEATHER LOUVERS. HIGH IMPACT LOUVERS SHALL MEET IMPACT TESTING CRITERIA FOR TORNADO SHELTERS IN ICC 500/FEMA 361. LOUVER TO BE RUSKIN XP500S-41S OR EQUAL. SEE DETAIL. WEATHER LOUVER SHALL BE INSTALLED ON EXTERIOR WALL WITH HIGH IMPACT LOUVER INSTALLED BEHIND WEATHER LOUVER. (EXTERIOR WALL APPLICATION ONLY).
2. NORMALLY CLOSED AUTO DAMPER TO REMAIN CLOSED WHEN POWERED CONTINUOUSLY. UPON THE LOSS OF POWER OR DE-ACTIVATION BY WALL SWITCH DURING STORM EVENT, THE DAMPERS SHALL OPEN. DAMPER TO RETURN TO NORMAL POSITION ONCE SWITCH IS DEACTIVATED OR POWER IS RESTORED.
3. WALL SWITCHES FOR SF-1 AND ALL ASSOCIATED AUTO DAMPERS TO BE ACTIVATED UPON THE LOSS OF POWER DURING A STORM EVENT. UPON THE ACTIVATION OF EITHER SWITCH. PROVIDE SIGNAGE OUTSIDE OF JANITOR 143, "EMERGENCY VENTILATION FAN SWITCHES" FOR SF-1. EF-1 AND EF-2 SHALL BE ON EMERGENCY POWER.
4. 4"ø DRYER EXHAUST UP TO GOOSENECK ON ROOF.
5. RESIDENTIAL STYLE KITCHEN HOOD WITH BUILT IN FAN, 800 CFM EXHAUST. PROVIDED BY OTHERS.
6. 10"ø EXHAUST DUCT UP TO GOOSENECK ON ROOF.
7. 4"ø COMBUSTION AIR INTAKE THRU EXTERIOR WALL TO MANUFACTURER'S APPROVED CAP WITH BIRDSCREEN. PROVIDE MATERIALS AND INSTALLATION PER MANUFACTURER.
8. 6"ø FLUE VENT UP THRU ROOF TO MANUFACTURER'S APPROVED CAP. PROVIDE MATERIALS AND INSTALLATION PER MANUFACTURER.
9. 6"ø EXHAUST DUCT UP TO GOOSNECK ON ROOF.
10. PROVIDE REMOTE CABLE OPERATED DAMPER IN CEILNG FOR DAMPER OPERATION.
11. DRYER BOOSTER EXHASUST FAN ALARM PANEL AND SIGN LOCATION (SEE EXHAUST FAN SCHEDULE FOR SIGNAGE, COORDINATE EXACT LOCATION WITH ARCHITECT).
12. PROVIDE GUARDIAN G300B WET CHEMICAL EXTINGUISHER UNIT COMPLETE WITH ENCLOSURE, EXTINGUISHER ASSEMBLY, DISTRIBUTION ASSEMBLY, AND ELECTRIC SHUT-OFF. SYSTEM SHALL BE CONNECTED TO BUILDING FIRE ALARM SYSTEM. INSTALL IN CABINET ABOVE RANGE.
13. MAGNEGRIP TO BE THE BASIS OF DESIGN FOR THE VEHICLE EXHAUST RAIL SYSTEM EQUIPMENT. ALL VEHICLE EXHAUST RAIL SYSTEM EQUIPMENT AND DUCTWORK TO BE SUPPLIED AND INSTALLED BY MAGNEGRIP. ALL ELECTRICAL WORK SHALL FALL UNDER THE SCOPE OF THE PROJECT ELECTRICIAN. ALL WALL OR ROOF PENETRATIONS AND SEALINGS ARE AT THE CUSTOMERS OR CONTRACTOR'S EXPENSE AND NOT THE RESPONSIBILITY OF MAGNEGRIP. CONTACT DAVID SAPP AT MAGNEGRIP FOR PRICING, DSAPP@MAGNEGRIP.COM, 800-875-5440.
14. APPROX. 12" ROUND FROM MAGNEGRIP CF363-5 THRU EXTERIOR WALL TO EXHAUST STACK. MAGNEGRIP IS NOT RESPONSIBLE FOR WALL PENETRATION OR SEALING. WALL PENETRATIONS AND SEALINGS TO BE BE DONE BY GENERAL CONTRACTOR.
15. EXHAUST RAIL W/ TAILPIPE HOSE DROP. RAIL SHALL EXTEND LENGTH OF BAY. EACH HOSE SHALL BE SIZED FOR APPROXIMATELY 600 CFM.
16. APPROX. 8" ROUND DROP TO EXHAUST RAIL. ALL DUCT SIZES AND LOCATIONS FOR VEHICLE EXHAUST SYSTEM ARE APPROXIMATE.
17. VEHICLE EXHAUST FAN, BASIS OF DESIGN MAGNEGRIP CF363-5, APPROX. 3300 CFM.
18. APPROX. LOCATION OF VEHICLE EXHAUST SYSTEM CONTROL PANEL. PANEL WILL REQUIRE A DEDICATED 208/3/60 CIRCUIT.
19. EMERGENCY SHUT-OFF BUTTON FOR VEHICLE EXHAUST FAN (MAGNEGRIP CF363-5) TO BE PROVIDED BY THE CONTROLS CONTRACTOR.
20. DUCT TO BE ROUTED UP AND OVER VAULTED CEILING IN EXERCISE ROOM AND IN TRUSS WEBBING.



1 M1.1 MECHANICAL - FLOOR PLAN
1/8" = 1'-0"

Dewberry
2 Riverchase Office Plaza
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Hoover, AL 352444
(205) 988-2069
www.dewberry.com

Project Number :
50171742

Revisions

No.	Date	Description

JAMES WADE STEWART
No. 24747
PROFESSIONAL
08-30-24
ENGINEER
SEAL

100% CDS

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
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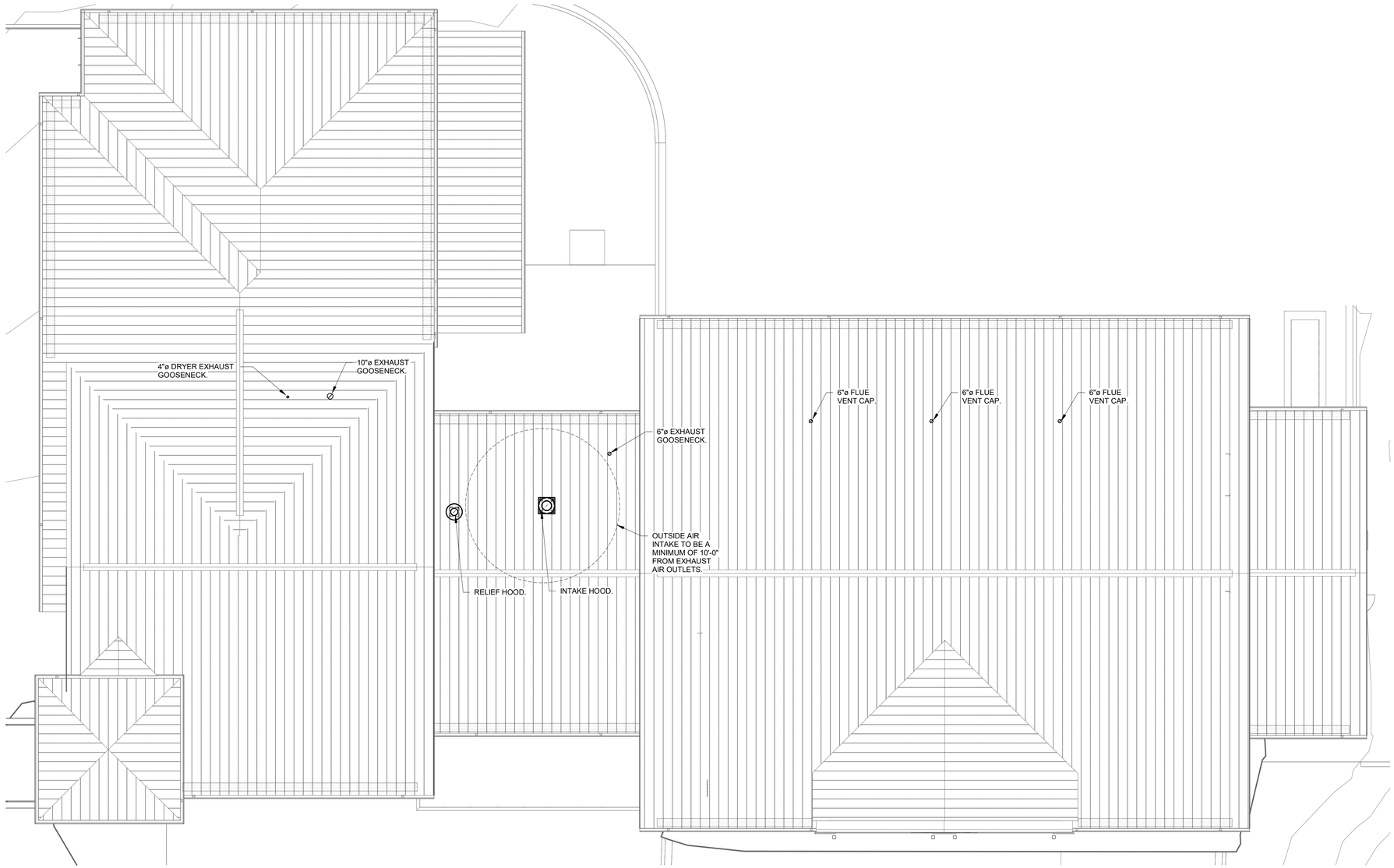
SHEET TITLE:
MECHANICAL - FLOOR PLAN

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY: LWH
CHECKED BY: JWS

SHEET NUMBER
M1.1



1 M1.2 MECHANICAL - ROOF PLAN
1/8" = 1'-0"

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ALABAMA
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08-30-24
ENGINEER
WADE STEWART
SEAL

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SHEET TITLE:
MECHANICAL ROOF PLAN

PROJECT NUMBER:
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DATE:
08.30.24

DRAWN BY:	CHECKED BY:
LWH	**JWS**

SHEET NUMBER
M1.2

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Revisions

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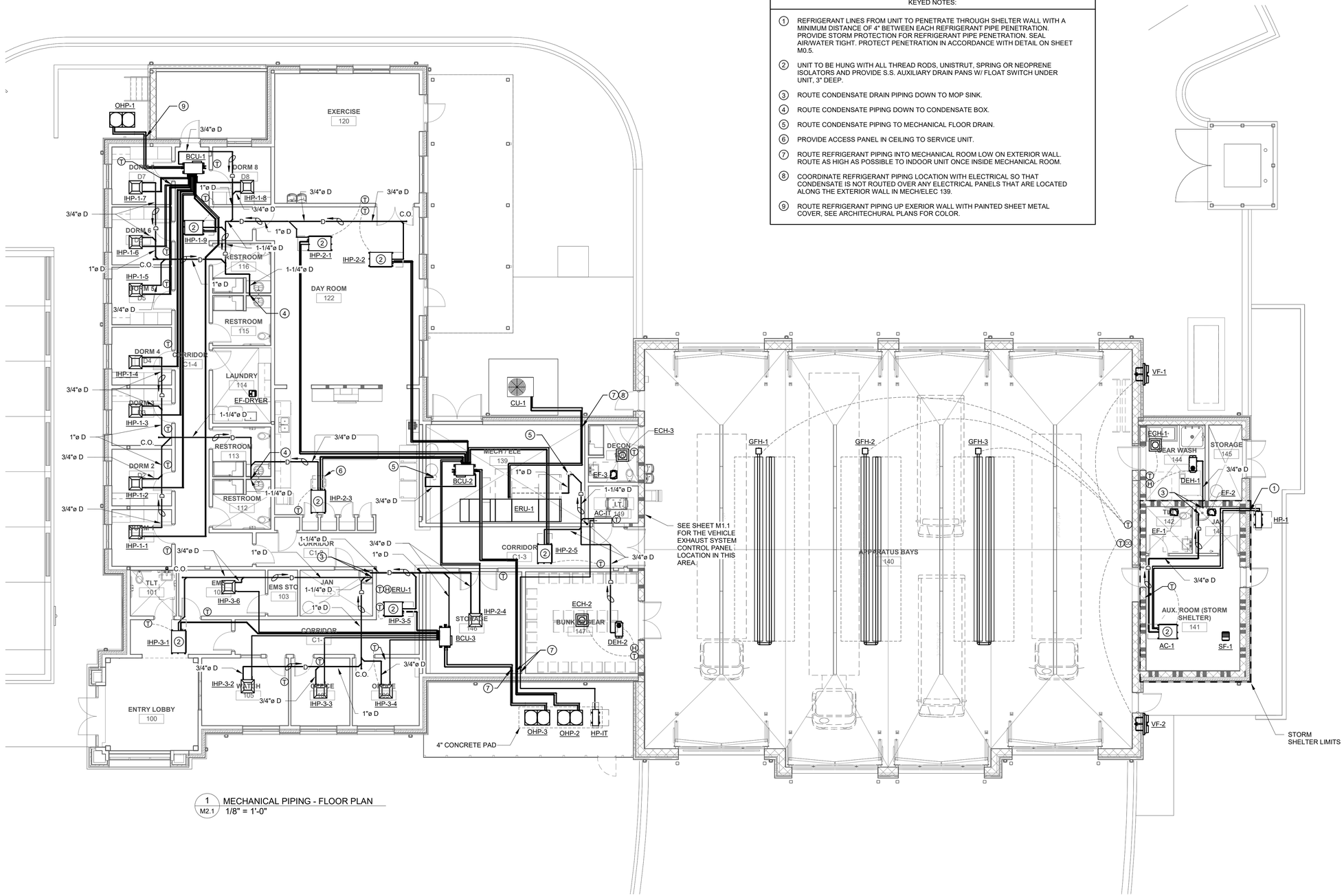
KEYED NOTES:

1. REFRIGERANT LINES FROM UNIT TO PENETRATE THROUGH SHELTER WALL WITH A MINIMUM DISTANCE OF 4" BETWEEN EACH REFRIGERANT PIPE PENETRATION. PROVIDE STORM PROTECTION FOR REFRIGERANT PIPE PENETRATION. SEAL AIR/WATER TIGHT. PROTECT PENETRATION IN ACCORDANCE WITH DETAIL ON SHEET M0.5.
2. UNIT TO BE HUNG WITH ALL THREAD RODS, UNISTRUT, SPRING OR NEOPRENE ISOLATORS AND PROVIDE S.S. AUXILIARY DRAIN PANS W/ FLOAT SWITCH UNDER UNIT, 3" DEEP.
3. ROUTE CONDENSATE DRAIN PIPING DOWN TO MOP SINK.
4. ROUTE CONDENSATE PIPING DOWN TO CONDENSATE BOX.
5. ROUTE CONDENSATE PIPING TO MECHANICAL FLOOR DRAIN.
6. PROVIDE ACCESS PANEL IN CEILING TO SERVICE UNIT.
7. ROUTE REFRIGERANT PIPING INTO MECHANICAL ROOM LOW ON EXTERIOR WALL. ROUTE AS HIGH AS POSSIBLE TO INDOOR UNIT ONCE INSIDE MECHANICAL ROOM.
8. COORDINATE REFRIGERANT PIPING LOCATION WITH ELECTRICAL SO THAT CONDENSATE IS NOT ROUTED OVER ANY ELECTRICAL PANELS THAT ARE LOCATED ALONG THE EXTERIOR WALL IN MECH/ELEC 139.
9. ROUTE REFRIGERANT PIPING UP EXERIOR WALL WITH PAINTED SHEET METAL COVER, SEE ARCHITECHURAL PLANS FOR COLOR.



1 M2.1 MECHANICAL PIPING - FLOOR PLAN
1/8" = 1'-0"

100% CDS

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SHEET TITLE:
MECHANICAL PIPING FLOOR PLAN

PROJECT NUMBER:
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DATE:
08.30.24

DRAWN BY:	CHECKED BY:
LWH	**JWS**

SHEET NUMBER
M2.1

FIRE PROTECTION GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BID. CONTRACTOR SHALL VERIFY EXACT SIZE, LOCATION, ELEVATION OF EXISTING STRUCTURE, CEILINGS, MECHANICAL, AND ELECTRICAL PRIOR TO INSTALLING ANY NEW PIPE.
2. CONTRACTOR SHALL COORDINATE ALL PIPE ROUTING TO AVOID CONFLICTS WITH ALL STRUCTURAL, ELECTRICAL, AND MECHANICAL FEATURES OF THE BUILDING.
3. ALL HORIZONTAL PIPING IS RAN ABOVE THE CEILING OR IN JOIST SPACE. ALL PIPING SHALL DRAIN DOWN AS REQUIRED BY NFPA 13. PIPING TO BE INSTALLED TO CONCEAL AS MUCH AS POSSIBLE.
4. INSTALL ALL FIRE PROTECTION MATERIALS IN AREAS WITH EXPOSED CEILINGS IN A NEAT FIRST CLASS MANNER. ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH INDUSTRY BEST PRACTICES. PIPING SHALL BE INSTALLED PARALLEL AND/OR PERPENDICULAR TO BUILDING STRUCTURE UNLESS INDICATED OTHERWISE.
5. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING PROJECT ENGINEERS FOR INSPECTION AND TESTING. PROVIDE A MINIMUM OF A WEEK.
6. CONTRACTOR TO REFER TO ARCHITECTURAL DRAWINGS FOR NEW WORK AREAS, CEILING HEIGHTS, SECTIONS, AND RATED WALLS.
7. CONTRACTOR RESPONSIBLE FOR COORDINATION OF PIPING WEIGHT AND LOCATION PRIOR TO INSTALLATION OF ANY PIPE.
8. PIPING LAYOUT AND SIZING SHOWN ON PLANS IS DIAGRAMMATIC AND SHOWN FOR SPACE REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR LAYOUT SHOP DRAWINGS, CALCULATIONS, SUBMITTAL DATA, TESTING, OWNER TRAINING AND CERTIFYING SYSTEM MEETS NFPA 13 AND CONTRACT DOCUMENTS.
9. CONTRACTOR SHALL OBTAIN APPROVAL FROM ARCHITECT PRIOR TO INSTALLING ANY SPRINKLER HEADS DIFFERENT FROM THE SPECIFIED SPRINKLERS HEADS.
10. CONTRACTOR SHALL OBTAIN APPROVAL OF "SPRINKLER HEAD TYPE" FROM ARCHITECT PRIOR TO INSTALLING ANY SPRINKLER HEADS.
11. CONTRACTOR SHALL PAINT ALL EXPOSED PIPING TO MATCH STRUCTURE. COORDINATE EXACT COLOR WITH ARCHITECT.

FIRE PROTECTION HYDRAULIC DEMANDS

1. SPRINKLER PROTECTION
   - A. ALL OFFICES, LOBBIES, VESTIBULES,TOILETS, COMMON AREAS, CORRIDORS: LIGHT HAZARD 0.10 GPM OVER HYDRAULICALLY MOST REMOTE 1500 SQ. FT.
   - B. MECHANICAL EQUIPMENT ROOMS, TRANSFORMER ROOMS, GENERAL PURPOSE STORAGE LESS THAN 100 SQ. FT.; ORDINARY HAZARD, GROUP 2, 0.20 GPM OVER HYDRAULICALLY MOST REMOTE 2000 SQ. FT.
   - C. GENERAL STORAGE, STORAGE HEIGHT LIMIT LESS THAN 12FT, LIMITED COMBUSTIBLES LESS THAN 25 GALLONS: ORDINARY GROUP 1 PER NFPA 13, 0.15 GPM PER 1500 SQ. FT.
2. HYDRAULIC CALCULATION SHALL BE CALCULATED WITH 10% SAFETY FACTOR OF SUPPLY CURVE.
3. FLOW DATA TO BE RESPONSIBILITY OF CONTRACTOR.

FIRE PROTECTION SHOP DRAWINGS AND SUBMITTALS

1. PROVIDE A NFPA 13 COMPLIANT SYSTEM TO PROVIDE COVERAGE TO NEW WORK AREA. CONTRACTOR RESPONSIBLE TO PROVIDE DETAILED SHOP DRAWINGS AND CALCULATIONS COMPLETE.
2. SHOP DRAWINGS SHALL INCLUDE:
   - A. A REFLECTED CEILING PLAN INDICATING LOCATION OF SPRINKLER HEADS, LIGHTS, CEILING DEVICES, GRILLES, AUDIO VISUAL, AND ANY DEVICES ATTACHED TO LIFT OUT CEILINGS. ALL SPRINKLER HEADS IN LAY-IN CEILINGS TO BE CENTERED IN TILES. COORDINATE EXACT LOCATION OF SPRINKLER HEADS IN HARD CEILINGS WITH ARCHITECT AND ENGINEER.
   - B. PREPARE A WORKING PIPE SHOP DRAWING BASED ON HYDRAULIC CALCULATIONS. THE PIPING DRAWINGS SHALL INDICATE THE ELEVATION OF THE PIPE, THE CONFIGURATION OF THE PIPING AND HANGERS, SIZE OF THE PIPE AND COORDINATION OF PIPING WITH OTHER DISCIPLINES, STRUCTURE AND DUCTWORK.
   - C. HYDRAULIC CALCULATIONS ARE TO BE PREPARED USING A FLOW TEST WITHIN 90 DAYS.
   - D. THE CONTRACTOR IS RESPONSIBLE FOR INCORPORATING LOCAL AUTHORITY HAVING JURISDICTION COMMENTS FOR COMPLIANCE.
   - E. ALL ADDITIONAL MATERIALS TO BE INDICATED ON SHOP DRAWINGS.
   - F. ALL LOW-POINT DRAIN DOWN LOCATION AND PENETRATIONS OF BUILDING STRUCTURE TO BE INDICATED ON SHOP DRAWINGS.
3. CONTRACTOR SHALL BE LICENSED IN THE STATE IN WHICH THE WORK IS PREFORMED. THE CONTRACTOR SHALL BE A NICET LEVEL III OR LEVEL IV OR SPECIAL HAZARD SUPPRESSION SYSTEMS. THE NICET LEVEL III DESIGNER SHALL BE AN EMPLOYEE OF FIRE PROTECTION CONTRACTOR.
4. ALL ELECTRICAL FIRE ALARM REQUIREMENTS TO BE COORDINATED WITH THE ELECTRICAL THE FLOW AND TAMPER SWITCHES TO BE PROVIDED UNDER FIRE PROTECTION CONTRACT. CONDUIT, ALARM WIRING AND PROGRAMMING THE RESPONSIBILITY OF THE FIRE ALARM CONTRACT AND SHALL BE COORDINATED WITH ELECTRICAL. NICET LEVEL III DESIGNER SHALL INSPECT PROJECT.
5. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS WITHIN 45 DAYS PRIOR TO THE START OF THE SPRINKLER SYSTEM INSTALLATION.
6. HYDRAULIC CALCULATIONS AND SPRINKLER SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF AN ENGINEER LICENSED IN THE STATE AND BEAR HIS OR HER SEAL WITH SIGNATURE AND DATE.
7. "HEAD RELOCATE" PLANS ARE NOT ACCEPTABLE. HYDRAULIC CALCULATIONS SHALL BE TO THE NEAREST TESTED RISER.
8. MAXIMUM DESIGN VELOCITY SHALL BE 30 FEET PER SECOND.

FIRE PROTECTION DESIGN ANALYSIS

REFER TO ARCHITECTURAL PLANS FOR COMPLIANCE NFPA 101
TYPE OF CONSTRUCTION: REFER TO ARCHITECTURAL

OCCUPANCY: REFERENCE ARCHITECTURAL LIFE SAFETY PLAN

FIRE DESIGN CODES /STANDARDS

APPLICABLE CODES AND STANDARDS:
INTERNATIONAL BUILDING CODE (IBC)
INTERNATIONAL FIRE CODE (IFC)
INTERNATIONAL PLUMBING CODE (IPC)
NATIONAL ELECTRIC CODE (NEC)
NATIONAL FIRE ALARM CODE NFPA 72
NATIONAL ENERGY CODE
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13,20,24,101

FIRE PROTECTION FLOW DATA

HYDRANT NUMBER: UNKNOWN
STATIC PRESSURE: 88 PSI
RESIDUAL PRESSURE: 85 PSI

OUTLET COEFFICIENT: UNKNOWN
OUTLET SIZE: UNKNOWN
HYDRANT FLOW: 1060 GPM

AVAILABLE GPM@ 20 PSI: 24026 GPM

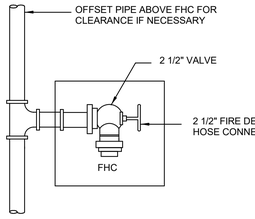
DATE OF TEST: JANUARY 6, 2015
LOCATION: APPLEGATE COVE PELHAM, AL

CONTRACTOR RESPONSIBLE FOR
WATER FLOW TEST

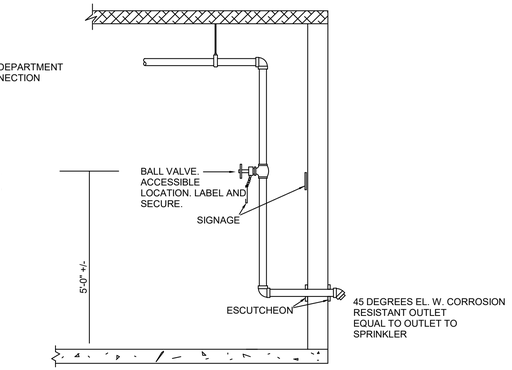
FIRE PROTECTION LEGEND

FIRE MAIN (F)	F — F
FIRE DRAIN LINE	FD — FD
BALL VALVE	
OS&Y VALVE (WITH TAMPER SWITCH)	TS — COORDINATE WITH ELECTRICAL FIRE ALARM SIGNAL TO BUILDING ALARM PANEL
FLOW SWITCH	FS — COORDINATE WITH ELECTRICAL FIRE ALARM SIGNAL TO BUILDING ALARM PANEL
	PIPE DOWN
	PIPE UP
GPM	GALLONS PER MINUTE
PSI	POUNDS PER SQUARE INCH
(S)C	CONCEALED PENDENT SPRINKLER HEAD (COVER SHALL BE FACTORY PAINTED W/ COLOR APPROVED BY ARCHITECT)
(S)U	UPRIGHT SPRINKLER HEAD
DS S	DRY SIDEWALL SPRINKLER HEAD
	CONNECT TO EXISTING, FIELD VERIFY EXACT LOCATION, SIZE,
FHC	FIRE HOSE CONNECTION

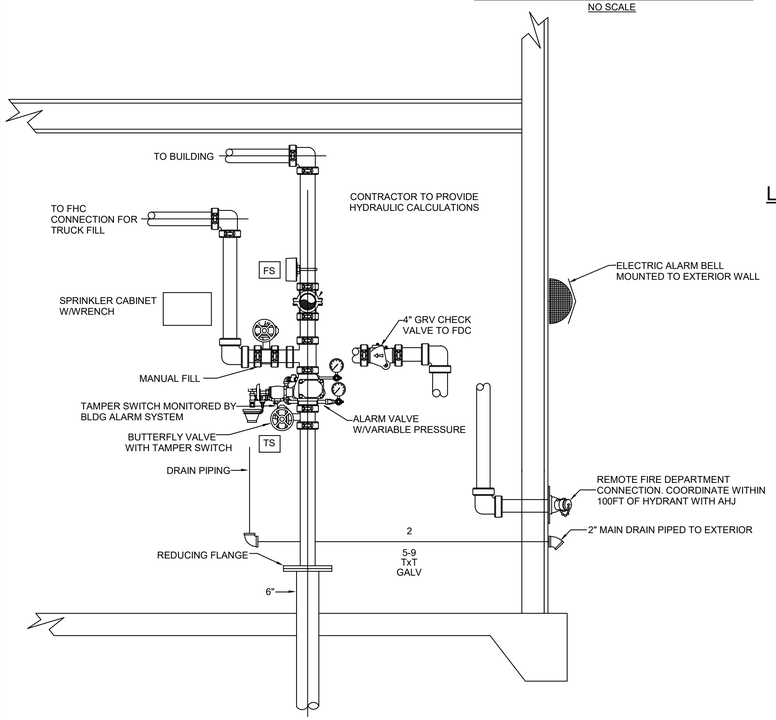
ARCHITECT TO SELECT COLORS ON ALL SPINKLER HEADS



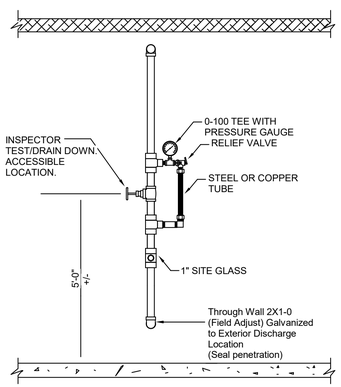
TYPICAL FIRE HOSE CABINET
NO SCALE



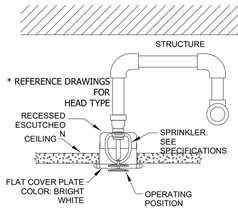
LOW POINT DRAIN DOWN DETAIL (EXTERIOR)
NO SCALE



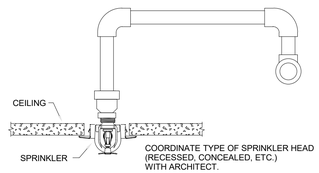
FIRE SERVICE ENTRY - BUILDING
NO SCALE



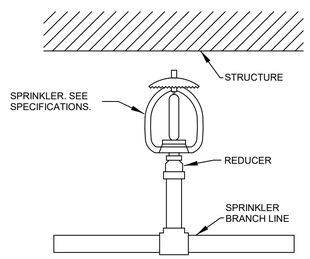
INSPECTOR'S TEST CONNECTION
NO SCALE



QUICK RESPONSE CONCEALED SPRINKLER
NO SCALE

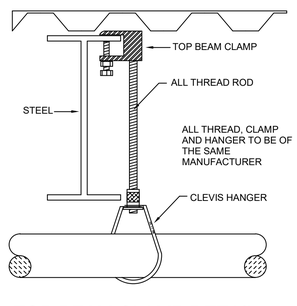


CENTER OF TILE FABRICATION AND INSTALLATION
NO SCALE



QUICK RESPONSE UPRIGHT SPRINKLER
NO SCALE

TRAPEZE HANGER DETAIL - UNISTRUT
NO SCALE



TOP BEAM CLAMP DETAIL
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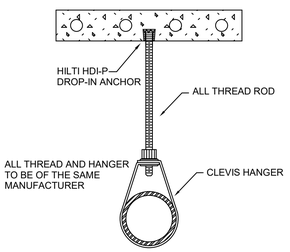

DROP-IN DETAIL
NO SCALE

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ALABAMA
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PROFESSIONAL
08-30-24
ENGINEER
WADE STEWART
SEAL

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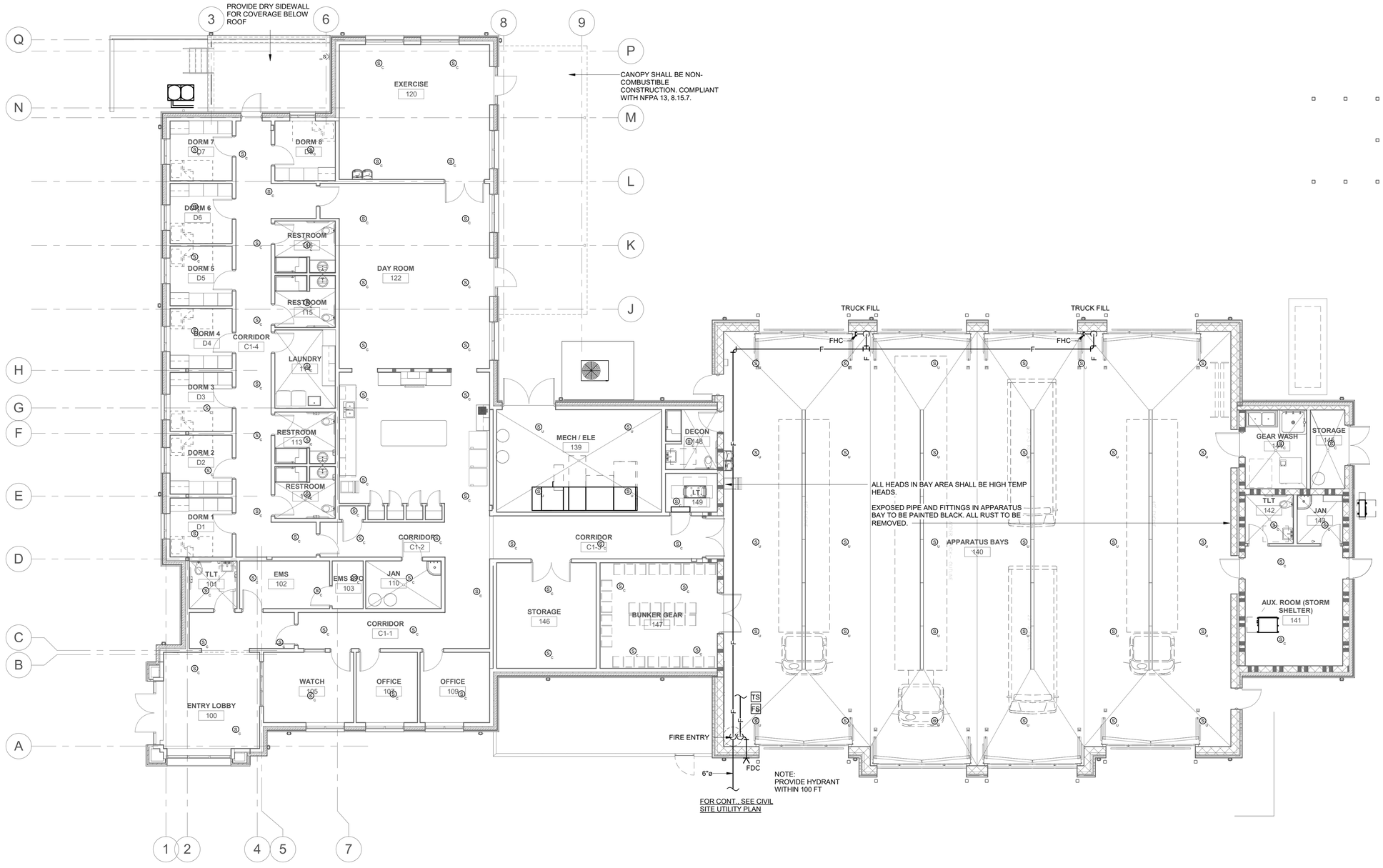
SHEET TITLE:
FIRE PROTECTION SCHEDULES AND NOTES

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
JTR	CLJ

SHEET NUMBER
FP0.1



1 FP1.1 FIRE PROTECTION - FLOOR PLAN
1/8" = 1'-0"

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PH: 205-250-0700
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SHEET TITLE:
FIRE PROTECTION FLOOR PLAN

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
JTR	CLJ

SHEET NUMBER
FP1.1

GENERAL NOTES

1. LOCATIONS OF UTILITIES SHOWN ON PLANS ARE APPROXIMATE. VERIFY WITH LOCAL UTILITY PRIOR TO BIDDING.
2. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, AND ELEVATION OF ALL EXISTING SERVICES PRIOR TO INSTALLING ANY NEW PIPE.
3. ALL OUTSIDE CLEANOUTS SHALL BE BROUGHT TO GRADE AND EMBEDDED IN 18"X18"X16" THICK CONCRETE PAD. (J.R. SMITH 4258 OR EQUAL.)
4. WHEREVER DISSIMILAR METALS ARE CONNECTED ON WATER LINES, A DIELECTRIC UNION SHALL BE USED.
5. ALL HORIZONTAL WATER AND VENT PIPING SHALL BE RUN ABOVE CEILING ON PLAN WHERE SHOWN UNLESS OTHERWISE NOTED.
6. ALL HORIZONTAL SANITARY PIPING IS RUN BELOW FLOOR ON PLAN WHERE SHOWN UNLESS OTHERWISE NOTED.
7. ALL WATER PIPING BELOW SLAB ON GRADE SHALL BE BENT UP AT ENDS SO THAT NO JOINTS OCCUR BELOW FLOOR.
8. ALL WATER PIPING INSTALLED IN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF THE EXTERIOR WALL INSULATION.
9. NO VENT THRU ROOF IS TO BE LOCATED WITHIN 10 FEET OF ANY BUILDING AIR INTAKES, PER CODE. COORDINATE WITH MECHANICAL AND GENERAL CONTRACTORS.
10. DOMESTIC WATER PIPING AND FIRE PROTECTION PIPING LOCATED ABOVE THE CEILING, SHALL BE INSTALLED BELOW CEILING INSULATION.
11. CONTRACTOR SHALL COORDINATE ALL SINKS WITH CASEWORK PRIOR TO ORDERING SINKS.
12. PROVIDE DISINFECTION OF WATER PIPING SYSTEM WITH CHLORINE SOLUTION AS PER CODE.
13. INSTALLATION OF BACKFLOW PREVENTER SHALL COMPLY WITH CURRENT INTERNATIONAL BUILDING CODE AND CURRENT INTERNATIONAL PLUMBING CODE.
14. ALL OVERHEAD WATER PIPING TO BE RUN BELOW INSULATION AT BOTTOM OF TRUSSES FOR FREEZE PROTECTION.
15. INSULATION ON ALL PIPING SHALL MEET SMOKE/ FLAME RATING OF 25 & 50.
16. NO JOINTS IN WATER PIPING BELOW SLAB.
17. THE LOCATION OF LAVATORIES AND WATER CLOSETS RELATIVE TO THE FINISHED WALL IS CRITICAL. REFER TO ARCHITECTURAL AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL WATER CLOSETS TO BE 18" FROM FINISH WALL TO CENTER OF WATER CLOSET.
18. WATER HAMMER ARRESTORS ARE REQUIRED TO PROTECT WATER PIPING SYSTEMS WHERE QUICK-CLOSING VALVES ARE UTILIZED. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE 1010.
19. THESE DRAWINGS NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE PLUMBING SYSTEM BE PROVIDED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES AND CONTROLS, COMPLETELY COORDINATED WITH ALL DISCIPLINES. ALL PARAMETERS GIVEN IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE PLUMBING SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE PROJECT, CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE PREPARING SHOP DRAWINGS.
20. COORDINATE PLUMBING PIPING WITH STRUCTURAL, PLUMBING, HVAC, AND ELECTRICAL. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL COST TO THE PROJECT.
21. COORDINATE ALL PLUMBING IN SLAB WITH BUILDING FOOTINGS.
22. NO PIPING TO BE RUN ABOVE ELECTRICAL PANELS. MAINTAIN ALL REQUIRED CLEARANCES.
23. CONTRACTOR SHALL VISIT JOB SITE AND VERIFY EXISTING CONDITIONS BEFORE SUBMITTING A PRICE, ORDERING MATERIALS OR PERFORMING ANY WORK. NOTIFY THE ARCHITECT OF ANY DEVIATION FROM PLUMBING PLAN.
24. SUPPORT PIPE AS REQUIRED BY THE CURRENT INTERNATIONAL PLUMBING CODE.
25. FIRESTOP ALL RATED WALL AND FLOOR PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR RATED WALL AND FLOOR LOCATIONS.
26. OFFSET ALL VTR'S TO BACKSIDE OF ROOF RIDGE.
27. DO NOT BEGIN WORK UNTIL ELEVATION OF FINAL CONNECTION POINT IS VERIFIED AND GRADING OF ENTIRE SYSTEM CAN BE DETERMINED (EVEN IF FINAL CONNECTION IS SPECIFIED UNDER ANOTHER SECTION).

PLUMBING LEGEND

	DOMESTIC COLD WATER	BFF	BELOW FINISHED FLOOR
	DOMESTIC HOT WATER SUPPLY		CAP ON END OF PIPE
	DOMESTIC HOT WATER RETURN	TYP	TYPICAL
	SOIL, WASTE, OR SANITARY SEWER	CO	CLEANOUT
	VENT	FD	FLOOR DRAIN
A	COMPRESSED AIR	DN	DOWN
G	NATURAL GAS	P-#	PLUMBING FIXTURE
S	STORM PIPING	VS	VENT STACK
OIL	OIL WASTE PIPING	VSTR	VENT THROUGH ROOF
PI	PARTICLE INTERCEPTOR PIPING		BALL VALVE
	PIPE TURNING DOWN	MFD	MECHANICAL FLOOR DRAIN
	PIPE TURNING UP	WS	WASTE STACK
	TEE DOWN	HWR	HOT WATER RETURN
	TEE UP	HW	HOT WATER
CW	COLD WATER	ABV	ABOVE
WH - #	WATER HEATER	AFF	ABOVE FINISHED FLOOR
PI	PARTICLE INTERCEPTOR PIPING		

PLUMBING FIXTURE SCHEDULE

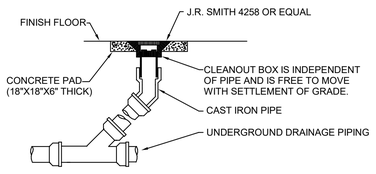
MARK	FIXTURE	WASTE	CW	HW	REMARKS
AC-1	AIR COMPRESSOR				INGERSOLL RAND PREMIUM SIMPLEX PACKAGE 2475 BARE, 80-GAL TANK, 175 PSIG, AS&S, 5 HP RECIP COMPRESSOR. PROVIDE WITH DRYER, POLYSEP PSG-7 OIL WATER SEPARATOR, FA75IG GENERAL PURPOSE FILTER AND FA75IH HIGH EFFICIENCY FILTER WITH AUTODRAIN. COORDINATE WITH ELECTRICAL.
CB	DRAIN BOX	2"	-	-	PROVIDE A SIOUX CHIEF MODEL #696-3F DRAIN BOX, #696-LC LOUVERED COVER, #696-CF SECONDARY DRAINAGE FUNNEL, AND J.R. SMITH TRAP SEAL INSERT. BOX TO COME COMPLETE WITH WALL FLANGE AND LOUVER. PIPE INDIRECT IN WALL TO DRAIN BOX. COORDINATE EXACT LOCATION WITH ARCHITECT AND GC.
FD	FLOOR DRAIN	3"	-	-	J.R. SMITH #2010 WITH 6" ROUND NICKEL BRONZE GRATE. PROVIDE WITH J.R. SMITH TRAP INSERT.
FS-1	FLOOR SINK	4"	-	-	J.R. SMITH #3100, 8" SQUARE, PORCELAIN ENAMELED CAST IRON INTERIOR WITH 3/4 CAST IRON PORCELAIN ENAMELED GRATE AND DOME BOTTOM STRAINERS. PROVIDE WITH J.R. SMITH TRAP INSERT.
FS-2	FLOOR SINK	4"	-	-	J.R. SMITH #3200, 16" SQUARE, PORCELAIN ENAMELED CAST IRON INTERIOR WITH 3/4 CAST IRON PORCELAIN ENAMELED GRATE AND DOME BOTTOM STRAINERS. PROVIDE WITH J.R. SMITH TRAP INSERT.
GT-1	GREASE TRAP	4"	-	-	ZURN GMC-OMC-SMC50-300
HB	HOSE BIBB	-	3/4"	-	WOODFORD B-24 SERIES. ANTI-SIPHON VACUUM BREAKER CLOSE COUPLED, POLISHED CHROME. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SUPPORT PIPING AND HOSE BIBB WITH UNI-STRUT MOUNTED TO THE STRUCTURE.
HR-A	HOSE REEL - AIR	-	-	-	REELCRAFT MODEL #7850 OLP COMPLETE WITH 50 FEET OF HOSE; MAXIMUM OPERATING PRESSURE OF 300 PSI. INSTALL PER MANUFACTURER'S INSTRUCTIONS. COORDINATE LOCATION AND MOUNTING HEIGHT WITH GENERAL CONTRACTOR.
HR-W	HOSE REEL - WATER	-	2"	-	CROKER 5000 SERIES ANGLE HOSE VALVE. VALVE SHALL BE COMPATIBLE WITH OWNERS EQUIPMENT.
MFD	MECHANICAL FLOOR DRAIN	4"	-	-	J.R. SMITH #2242 WITH SEDIMENT BUCKET. PROVIDE WITH J.R. SMITH TRAP INSERT.
OS-1	OIL/WATER SEPARATOR	4"	2"	-	J.R. SMITH #8599-50-100 COMPLETE WITH ANCHOR FLANGE, INSTALLATION SHALL COMPLY WITH REQUIREMENTS OF AUTHORITY HAVING JURISDICTION. PROVIDE 12" EXTENSION IF REQUIRED FOR INSTALLATION. PROVIDE CLEAN-OUT ACCESS. PROVIDE HIGH LEVEL SENSOR AND CONTROL PANEL.
P-1	WATER CLOSET - ADA COMPLIANT	4"	1"	-	FLOOR MOUNTED - KOHLER K-96057-SS-0 COMPLETE SLOAN ROYAL #111 FLUSH VALVE W/ITH YJ BRACKET AND CHURCH "DURA GUARD" MODEL # 2155 SSC SEAT.
P-2	LAVATORY - ADA COMPLIANT	1 1/4"	1/2"	1/2"	WALL HUNG - KOHLER K-2032 (20" X 18") COMPLETE. SYMMONS S-20-0 FAUCET, K7715 OUTLET WITH TAILPIECE, J.R. SMITH #700-M31-Z FIXTURE SUPPORT, MCGUIRE #165 SUPPLIES WITH STOPS AND MCGUIRE #8872 P-TRAP. INSULATE P-TRAP, STOPS AND SUPPLIES WITH "PRO-WRAP" BY MCGUIRE. MOUNT WITH RIM MAXIMUM 34" AFF. PROVIDE LAWLER 570 THERMOSTATIC MIXING VALVE MOUNTED BELOW LAVATORY. RUN 100° F WATER TO FAUCET. MUST MEET A.D.A. GUIDELINES.
P-3	LAVATORY	1 1/4"	1/2"	1/2"	COUNTERTOP - KOHLER K-2196-4 COMPLETE, SYMMONS S-20-0 FAUCET, MCGUIRE #8872 P-TRAP, MCGUIRE 165 SUPPLIES WITH STOPS. INSULATE ALL WITH "PRO-WRAP" BY MCGUIRE. PROVIDE LAWLER 570 MIXING VALVE MOUNTED BELOW LAVATORY UNLESS OTHERWISE NOTED ON THE DRAWINGS.
P-4	SHOWER VALVE - ADA COMPLIANT	-	1/2"	1/2"	CHICAGO FAUCET 1907-CP THERMOSTATIC/PRESSURE BALANCING SHOWER VALVE, 151-ACP HAND SHOWER AND GRAB BAR, 763-CP DIVERTER VALVE, FIXED SHOWER HEAD, WITH BLADE HANDLE, AND TRIM. ADJUST FOR 109°F MAXIMUM TEMP. PROVIDE BACK PLATE.
P-5	DOUBLE BOWL SINK	1 1/2"	1/2"	1/2"	ELKAY LRAD-3321, LK-35 STRAINERS, SYMMONS S-23-3 FAUCET. MCGUIRE #8912 P-TRAP, CONTINUOUS WASTE OUTLET, AND #165 STOPS WITH SUPPLIES.
P-6	WASHING MACHINE BOX (COMMERCIAL)	1 1/2"	1/2"	1/2"	FURNISH AND SET IN PLACE UNDER ANOTHER SECTION. ROUGH AND CONNECT COMPLETE. PROVIDE BALL VALVE CUT OFF ON HOT AND COLD WATER SUPPLY INSTALL ABOVE CEILING A LINE SIZE RPZBP WITH STRAINER ON INLET SIDE OF BACKFLOW PREVENTER AND SHOCK ARRESTOR PDI SIZE "B" ON THE OUTLET SIDE. PIPE BACKFLOW PREVENTER WASTE THRU FACTORY MADE AIR GAP DOWN IN WALL TO TRENCH DRAIN.
P-7	STRETCHER HOSE DOWN	3"	1/2"	1/2"	STERN WILLIAMS #SBC-1700 (24" X 24") COMPLETE, T-35 HOSE WITH WALL HOOK, STAINLESS STEEL BACKSPLASH AND CHICAGO FAUCET #897 FAUCET.
P-8	WASHING MACHINE BOX (RESIDENTIAL)	1 1/2"	1/2"	1/2"	GUY GRAY # WB-200. PROVIDE SHOCK ARRESTORS PDI SIZE "B" ABOVE CEILING ON HOT AND COLD WATER LINES.
P-9	MOP SINK	3"	1/2"	1/2"	STERN WILLIAMS #SBC-1700 (24" X 24") COMPLETE, T-35 HOSE WITH WALL HOOK, STAINLESS STEEL BACKSPLASH AND CHICAGO FAUCET #897 FAUCET.
P-10	WATER COOLER - ADA COMPLIANT	1 1/2"	1/2"	-	ELKAY # EZSTL8WSSK BI-LEVEL WATER COOLER WITH BOTTLE FILLER STATION. COMPLETE WITH STAINLESS STEEL CABINET AND WATERWAYS THAT ARE MANUFACTURED OF 100% LEAD FREE MATERIAL, J.R. SMITH #834 FIXTURE SUPPORT EBC TA150 P-TRAP AND EBC LA10 STOP WITH SUPPLY. FULLY INSULATE P-TRAP WITH EBC IK INSULATOR. INSTALL WITH LOWER SPOUT OUTLET MAXIMUM 36" AFF. MUST MEET A.D.A. INSTALL WITH BOTTLE FILLER. INSTALL COMPLETE. PROVIDE WITH ELKAY MODEL #LKAPREZL CANE APRON AS REQUIRED.
P-11	ICE MACHINE	-	1/2"	-	FURNISHED AND INSTALLED UNDER ANOTHER SECTION, ROUGH AND CONNECT COMPLETE, PROVIDE BALL VALVE STOP ON SUPPLY AND PIPE WASTE(S) TO FLOOR DRAIN. PROVIDE WATTS LF9D ON COLD WATER SUPPLY IF REQUIRED BY LOCAL CODES. PIPE RELIEF FULL SIZE TO FS.
P-12	UTILITY SINK	1 1/2"	1/2"	1/2"	ADVANCE TABCO #4-41-36, K-1 FAUCET, K-5 DRAIN, MCGUIRE #8912 P-TRAP.
PT-1	PARTICLE INTERCEPTOR	4"	-	-	STRIEM PS-50-S-M. MEDIUM, SCREEN, CAST IRON LOCKABLE MANHOLE COVER.
SD	SHOWER DRAIN	2"	-	-	J.R. SMITH #2010 WITH 4" ROUND STRAINER. PROVIDE WITH J.R. SMITH TRAP INSERT.
TD-1	TRENCH DRAIN	4"	-	-	PROVIDE JR SMITH 9960-M HEAVY DUTY CLASS E TRENCH WITH DUCTILE IRON SLOTTED GRATE. TERMINATE TRENCH WITH CATCH BASIN.
TD-2	TRENCH DRAIN	4"	-	-	PROVIDE SLOTTED TRENCH AT ICEMAKER JR SMITH 9930 WITH GRATE. GRATE TO BE CUT FOR INDIRECT WASTE BELOW ICEMAKER.
WH	WALL HYDRANT	-	3/4"	-	J.R. SMITH #5509-QT, WITH INTEGRAL BACKFLOW PREVENTER, LATCHING COVER, FREEZE-PROOF AND OF PROPER LENGTH FOR WALL IN WHICH INSTALLED, ALL BRONZE BOX. VALVE SEAT MUST BE ON BUILDING SIDE OF EXTERIOR WALL INSULATION. INSTALL WITH CENTER LINE 24" ABOVE FINISH GRADE. PROVIDE OWNER WITH ONE (1) LOOSE KEY FOR EACH WALL HYDRANT.

WATER HEATER SCHEDULE

MARK	FIXTURE	ELEC INFO.	MODEL	REMARKS
TWH-1	TANKLESS WATER HEATER	208V; 1 PHASE; 5 KW	EEMAX MODEL AM007240T	PROVIDE WITH INTEGRAL ASSE 1070 MIXING VALVE. PROVIDES 68°F TEMP. RISE AT 0.5 GPM. MOUNT BELOW LAVATORY WHERE SHOWN ON DRAWINGS. PIPE TO HW INLET OF FAUCET.
WH-1	WATER HEATER	208V, 1 PHASE, 15 KW	HS15-050	LOCHINVARH S15-050, 40 GALLON STORAGE, 41 GALLON RECOVERY AT 100°F RISE. NEW P&T RELIEF VALVE. SET OUTLET TEMPERATURE AT 140°F. INSTALL AS DETAILED ON DRAWINGS. 208V, 3 PHASE, 4.5 KW. VERIFY VOLTAGE WITH ELECTRICAL SECTION.
WH-2	WATER HEATER	208V, 1 PHASE, 15 KW	HS15-050	LOCHINVAR HS15-050, 40 GALLON STORAGE, 41 GALLON RECOVERY AT 100°F RISE. NEW P&T RELIEF VALVE. SET OUTLET TEMPERATURE AT 140°F. INSTALL AS DETAILED ON DRAWINGS. 208V, 3 PHASE, 4.5 KW. VERIFY VOLTAGE WITH ELECTRICAL SECTION.
WH-3	WATER HEATER	208V, 1 PHASE, 15 KW	HS15-050	LOCHINVAR HS15-050, 40 GALLON STORAGE, 41 GALLON RECOVERY AT 100°F RISE. NEW P&T RELIEF VALVE. SET OUTLET TEMPERATURE AT 140°F. INSTALL AS DETAILED ON DRAWINGS. 208V, 3 PHASE, 4.5 KW. VERIFY VOLTAGE WITH ELECTRICAL SECTION.

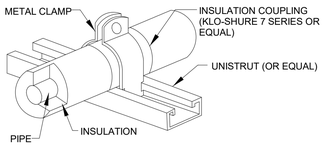
GAS EQUIPMENT SCHEDULE

EQUIPMENT NO.	DESCRIPTION	GAS PRESSURE REGULATOR		FLOW CFH	REMARKS
		INLET	OUTLET		
122	KITCHEN EQUIP, RANGE	2 PSI	7" WC	92	ROUGH AND CONNECT
GFH-1	HVAC EQUIPMENT	2 PSI	7" WC	150	ROUGH AND CONNECT
GFH-2	HVAC EQUIPMENT	2 PSI	7" WC	150	ROUGH AND CONNECT
GFH-3	HVAC EQUIPMENT	2 PSI	7" WC	150	ROUGH AND CONNECT
GENERATOR	HVAC EQUIPMENT	2 PSI	11" WC	2782	ROUGH AND CONNECT. 150 KW
SEE KITCHEN SCHEDULE FOR ADDITIONAL INFORMATION					



DETAIL OF CLEANOUT TO GRADE

NO SCALE

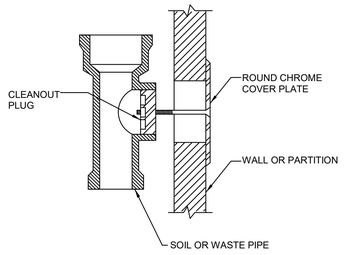


NOTES:

1. APPLICATION: FOR STRUT MOUNTED, 4 INCH AND SMALLER, COFFEE PIPE WITH FOAMED PLASTIC (ARMAFLEX) OR FIBERGLASS INSULATION.
2. ALLOWED FOR HORIZONTAL OR VERTICAL INSTALLATION.
3. FOR COLD PIPE APPLICATION, APPLY ADHESIVE TO END OF FOAMED PLASTIC INSULATION PRIOR TO INSERTING INTO COUPLING.

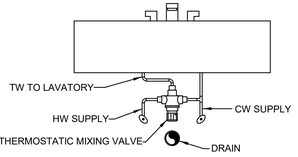
STRUT-MOUNTED PIPING SUPPORT INSULATION COUPLING DETAIL

NO SCALE



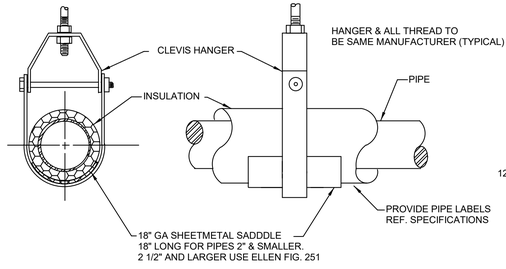
WALL CLEANOUT

NO SCALE



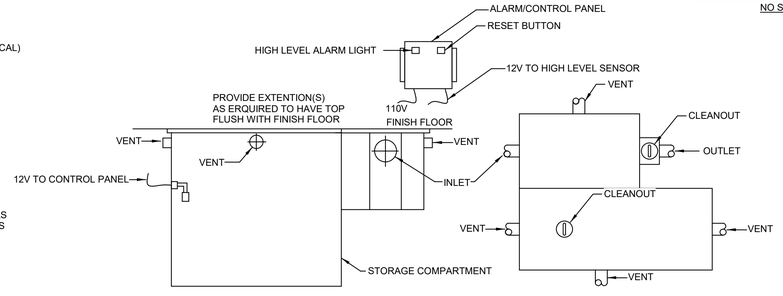
DETAIL OF TMV BELOW LAVATORY

NO SCALE



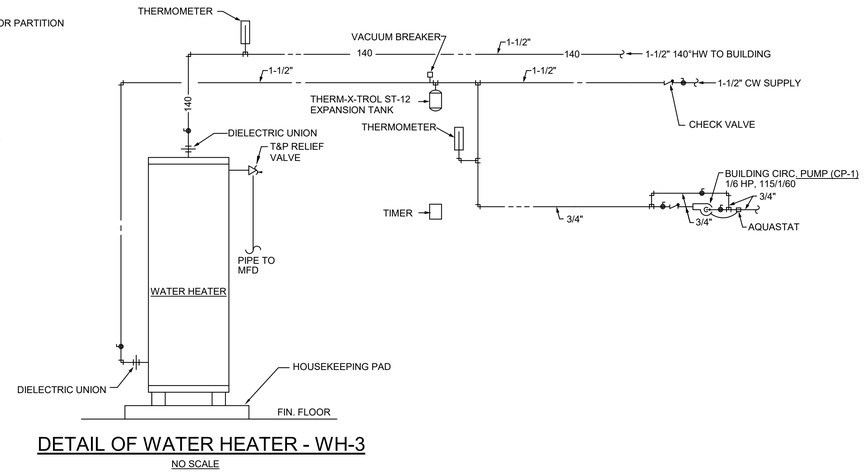
SUSPENDED PIPE SUPPORT

NO SCALE



DETAIL of OIL/WATER SEPARATOR

NO SCALE



DETAIL OF WATER HEATER - WH-3

NO SCALE

Dewberry
Keynote
2 Riverchase Office Plaza
Suite 205
Hoover, AL 352444
(205) 988-2069
www.dewberry.com

Project Number :
50171742

Revisions

No.	Date	Description

ALABAMA
No. 24747
PROFESSIONAL
08-30-24
ENGINEER
WADE STEWART
SEAL

100% CDS

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
PH: 205-250-0700
FAX: 205-250-0515
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222

SHEET TITLE:
PLUMBING SCHEDULES AND NOTES

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

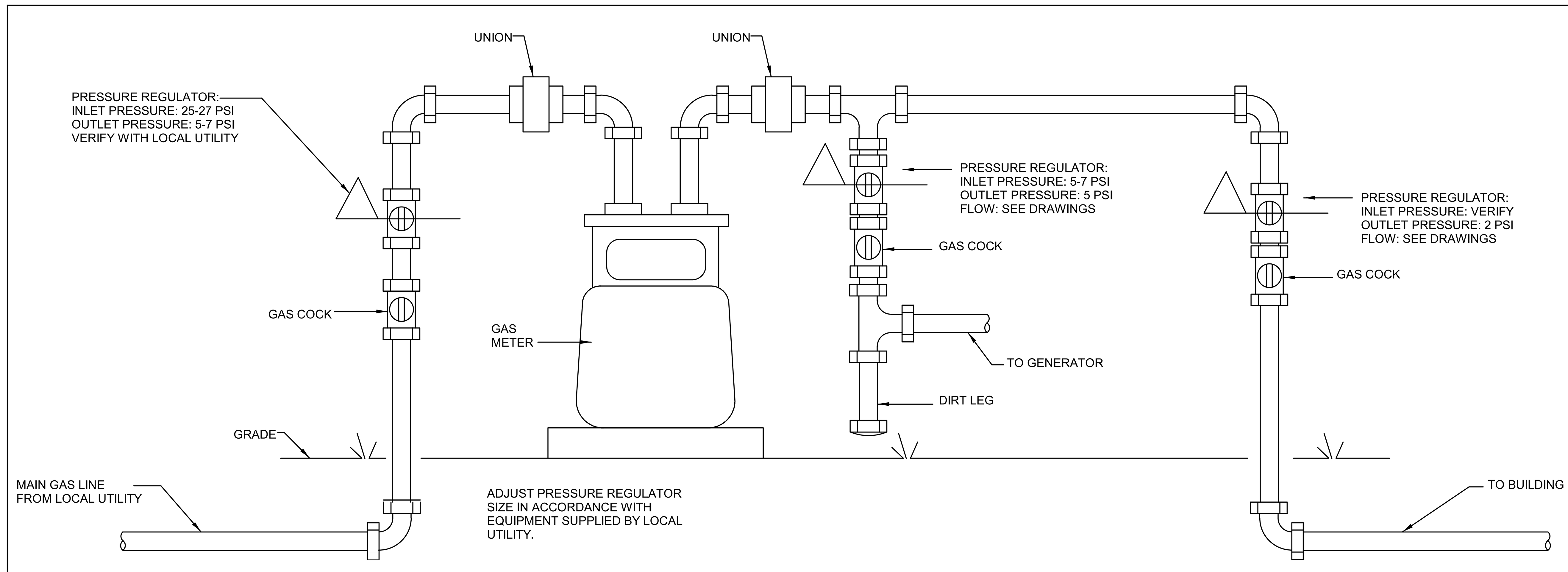
DRAWN BY:	CHECKED BY:
JTR	**CLJ**

SHEET NUMBER

P0.1

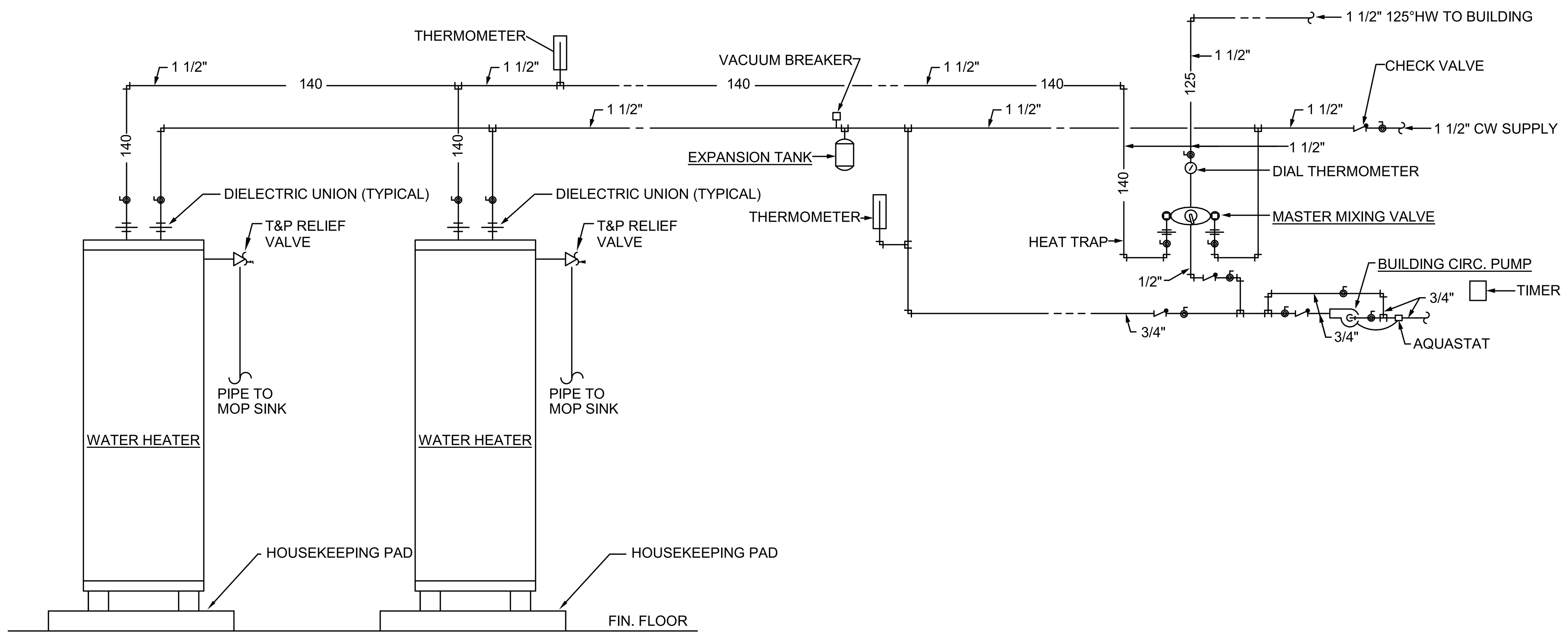
GAS METER DETAIL

NO SCALE



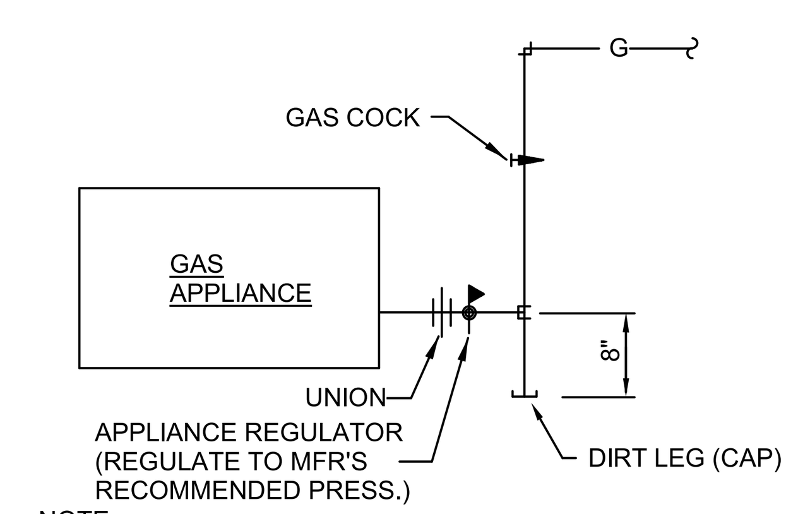
DETAIL OF WATER HEATERS - WH-1/ WH-2

NO SCALE



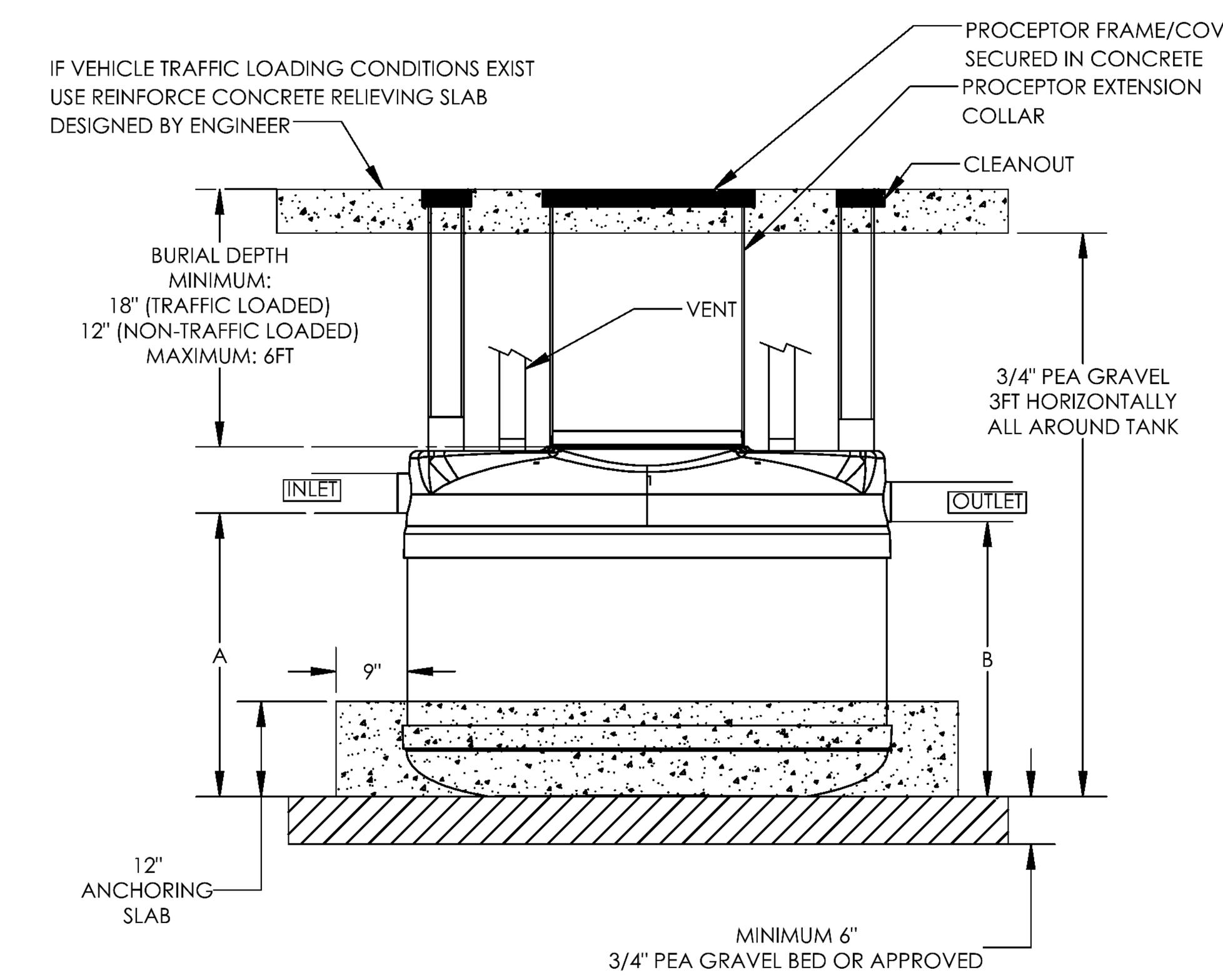
TYP. GAS CONNECTION

NO SCALE



NOTE:
ALL EXPOSED EXTERIOR PIPING TO BE PAINTED WITH TWO (2) COATS OF PAINT IN COMPLIANCE WITH LOCAL PLUMBING CODE AND LOCAL AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE EXACT PAINT COLOR WITH ARCHITECT AND AUTHORITY HAVING JURISDICTION.

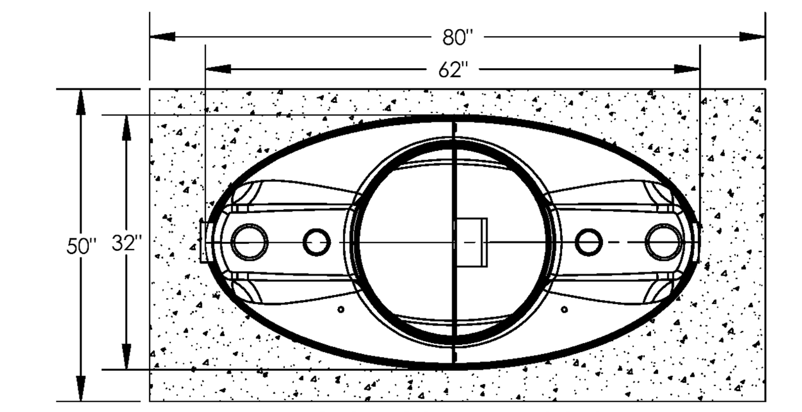
GT-1



NOTES:

1. REFER TO INSTALLATION PROCEDURE AND INSTALLATION CHECKLIST
2. GEOTEXTILE FABRIC SHOULD BE USED IF THE NATIVE SOIL HAS SMALL PARTICLES AND MORE THAN 3% OF ITS WEIGHT PASSING THROUGH A #8 SIEVE (2.38mm SQUARE SCREEN OPENING) REGARDLESS OF THE BACKFILL MATERIAL
3. PROCEPTOR SEPARATORS MUST BE INSTALLED IN ACCORDANCE WITH ALL RELEVANT FEDERAL, PROVINCIAL/STATE, AND LOCAL CODES INCLUDING LOCAL PLUMBING CODE
4. US PATENT #5,746,912; CDN PATENT #2,195,822
5. ZURN GREENTURTLE RECOMMENDS THE INSTALLATION OF THE ANCHORING SLAB TO SECURE TANK DURING INSTALLATION. CAST IN PLACE ANCHORING SLAB TO USE AT LEAST 3000PSI CONCRETE POURED ALL AROUND TANK. APPROXIMATELY 16CU FT NEEDED
6. IF ANCHORING SLAB IS NOT INSTALLED IT IS THE INSTALLERS RESPONSIBILITY TO ENSURE THE TANK IS SECURED AND WILL NOT SHIFT OR MOVE DURING INSTALLATION
7. BACKFILL MATERIAL (PREFERRED TO BE 3/4" PEA GRAVEL, ALTERNATIVE TO BE 3/4" CRUSHED STONE) SHALL BE COMPACTED TO 98% SPD
8. VENTS TO BE CONNECTED TO VENTING SYSTEM, AS PER LOCAL CODES
9. CLEANOUTS TO BE CAPPED IN FIELD, AS PER LOCAL CODES
10. IF THE GROUND WATER TABLE IS MORE THAN ONE FOOT HIGHER THAN THE BOTTOM OF THE TANK, A CUSTOM DESIGN TANK AND PROPER ANTI BUOYANCY SLAB SHOULD BE USED. PLEASE CONTACT GT FOR MORE INFORMATION.

MODEL	VOLUME (US GAL)	INLET (A)	OUTLET (B)	WEIGHT (LBS)
GMC 50, OMC 50, SMC 50	50	12	11	130
GMC 100, OMC 100, SMC 100	100	20	19	150
GMC 150, OMC 150, SMC 150	150	33	32	175
GMC 200, OMC 200, SMC 200	200	36	35	205
GMC 250, OMC 250, SMC 250	250	44	43	230
GMC 300, OMC 300, SMC 300	300	52	51	255



ANCHORING SLAB DIMENSIONS

DWG. TITLE: INSTALL GMC-OMC-SMC 50-300

PROJECT:

Proceptor®

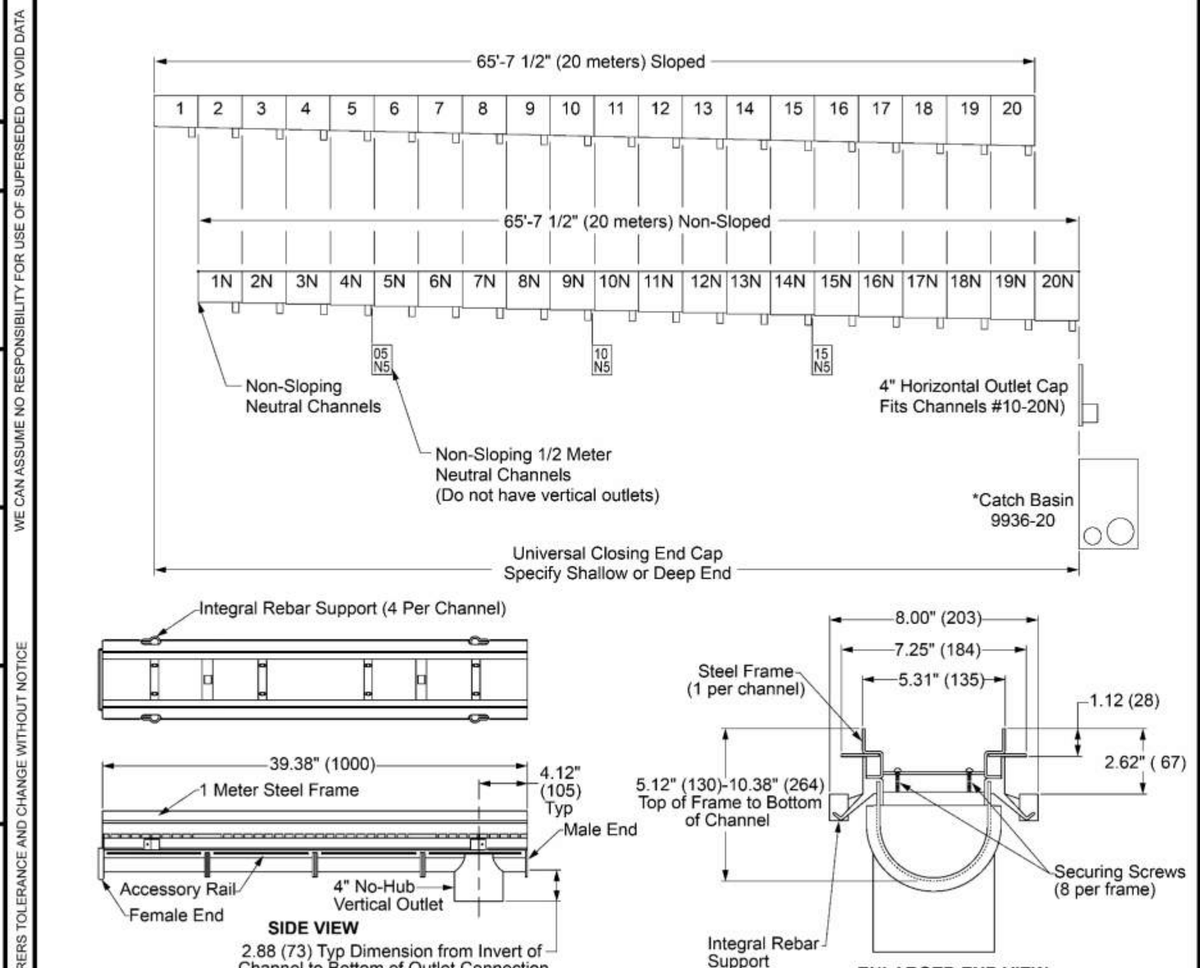
ZURN.

SIZE A | DRAWING NOT TO SCALE | DWG #: 18-4716-S | REV. 2

JAY R. SMITH MFG. CO.® — MEMBER OF MORRIS GROUP INTERNATIONAL — POST OFFICE BOX 3237 MONTGOMERY, ALABAMA 36109-0237 (USA) — TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com — MEMBER OF:

LOCATION: TRENCH IN BAY

9931-HDF SERIES ENVIRO-FLO® II EXTRA HEAVY DUTY DRAIN SYSTEM



REGULARLY FURNISHED:
1 Meter (3.28') 100% Polypropylene U.V. Inhibitors. Channel of Interlocking Design with a Built-in Slope of 0.6% with Radiused Bottom along with Black Painted Steel Frame System. Supplied with Secured Grate.

EXTRA HEAVY RATED GRATING CLASS E

VARIATIONS:
Grate Specifications (See Back)
Closing End Cap Shallow -ES
[redacted]
Horizontal Outlet 4" -H4
Catch Basin Only 9936-20
[redacted]
End Frame -EF (Specify 1/2 or 1 meter long)
Direction Change Coupling -MC
4" NO-HUB Bottom Outlet Adaptor -BO***
Stainless Steel Frame

Note: Dimensions in parentheses are in mm.
*Note: If Catch Basin is Specified For Any Other Channel Except For the #20 Channel, a Shim Must be Ordered, P/N: 9930-ES
Note: This Trench Drain System is Designed for "On Grade Applications Only" as There are No Provisions for a Flashing Flange or Flashing Clamp
**Note: All 1 Meter Long Sloped and Neutral Channels Have a Molded 4"(11) NO-HUB Bottom Connection
***Note: See Other side of sheet

PATENT NO. 10,047,512

REV.	DATE	DESCRIPTION	BY	CKD. BY
AA	9-8-23	Revised Variations	HS	CL
Z	9-10-19	Added Patent No.	TBW	PJ
Y	10-19-17	Added -HDF	TBW	PJ
X	6-1-17	Revised Variations	TBW	PJ

WEIGHT POUNDS | VOLUME CUBIC FEET | FIGURE NUMBER 9931-HDF

DRAWING NUMBER 9931-HDF | SIZE A | SCALE: NONE | DATE: 8-1-94 | APPROVED BY: PACE | CHECKED BY: PACE | DRAWN BY: TWK | FIGURE NUMBER 9931-HDF | REV. AA

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DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE

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LOCATION: TRENCH IN BAY

9931-HDF SERIES ENVIRO-FLO® II EXTRA HEAVY DUTY DRAIN SYSTEM

Extra Heavy Duty DIN 19580/EN 1433
Load Class E: 135,000 lbs - 2,788 psi.
For commercial solid tire traffic patterns, forklifts and impacts from steel struts or metal wheels.

- **9870-461-M** - 3 15/16 x 3/8 ductile iron slotted grate (34.10 sq. in)
- **9870-478-MADA** - longitudinal slot ductile iron grate (22.50 sq. in)

***Note: When installing the 9930-BO bottom outlet hub on channel #1, #1N, #2 or #2N, a slight modification is required to the hub due to the close proximity of the channel frame at the top of the channel to the accessory rail. This modification will require that the angled tabs on the clips at the top of the hub must be trimmed off. The clips will have to be pried over the accessory rail with a screwdriver. Refer to page 12 in the installation guide for more information on this modification.

HYDRAULIC CAPACITY AND DEEP END DEPTHS 9931 SYSTEM

CHANNEL NUMBER	DEEP END DEPTH IN.	DEEP END DEPTH MM.	SLOPE	SINGLE CHANNEL EST CFS	SINGLE CHANNEL EST GPM	WEIGHT Lbs.
9931-1	5.50	140	0.6%	.29	130	23.02
9931-1N	5.50	140	0.0%	.29	130	23.02
9931-2	5.75	146	0.6%	.31	139	23.12
9931-2N	5.75	146	0.0%	.31	139	23.12
9931-3	6.00	152	0.6%	.34	153	23.32
9931-3N	6.00	152	0.0%	.34	153	23.32
9931-4	6.25	159	0.6%	.36	162	23.42
9931-4N	6.25	159	0.0%	.36	162	23.42
9931-5	6.50	165	0.6%	.39	175	23.52
9931-5N	6.50	165	0.0%	.39	175	23.52
9931-6	6.75	171	0.6%	.42	189	23.72
9931-6N	6.75	171	0.0%	.42	189	23.72
9931-7	7.00	178	0.6%	.45	202	23.92
9931-7N	7.00	178	0.0%	.45	202	23.92
9931-8	7.25	184	0.6%	.47	211	24.32
9931-8N	7.25	184	0.0%	.47	211	24.32
9931-9	7.50	191	0.6%	.49	220	24.32
9931-9N	7.50	191	0.0%	.49	220	24.32
9931-10	7.75	197	0.6%	.53	238	24.32
9931-10N	7.75	197	0.0%	.53	238	24.32
9931-11	8.00	203	0.6%	.56	251	24.52
9931-11N	8.00	203	0.0%	.56	251	24.52
9931-12	8.25	210	0.6%	.58	261	24.52
9931-12N	8.25	210	0.0%	.58	261	24.52
9931-13	8.50	216	0.6%	.61	274	24.92
9931-13N	8.50	216	0.0%	.61	274	24.92
9931-14	8.75	222	0.6%	.64	287	24.92
9931-14N	8.75	222	0.0%	.64	287	24.92
9931-15	9.00	229	0.6%	.67	301	25.12
9931-15N	9.00	229	0.0%	.67	301	25.12
9931-16	9.25	235	0.6%	.70	314	25.32
9931-16N	9.25	235	0.0%	.70	314	25.32
9931-17	9.50	241	0.6%	.73	328	25.32
9931-17N	9.50	241	0.0%	.73	328	25.32
9931-18	9.75	248	0.6%	.76	341	25.52
9931-18N	9.75	248	0.0%	.76	341	25.52
9931-19	10.00	254	0.6%	.79	355	25.72
9931-19N	10.00	254	0.0%	.79	355	25.72
9931-20	10.25	260	0.6%	.82	368	25.92
9931-20N	10.25	260	0.0%	.82	368	25.92

Note: Channel flow rates based on channels less grates and open ended.

REV.	DATE	DESCRIPTION	BY	CKD. BY
R	5-15-24	Added EN 1433	HS	PJ
Q	10-19-17	Added -HDF	TBW	MD
P	10-3-16	Revised Grates, Removed Note	TBW	MD
N	12-11-13	Revised Grates & Added Note	TBW	MD

WEIGHT POUNDS | VOLUME CUBIC FEET | FIGURE NUMBER 9931-HDF-BS

DRAWING NUMBER s9931-HDF-BS | SIZE A | SCALE: NONE | DATE: 7-15-94 | APPROVED BY: PACE | CHECKED BY: PACE | DRAWN BY: TWK | FIGURE NUMBER 9931-HDF-BS | REV. R

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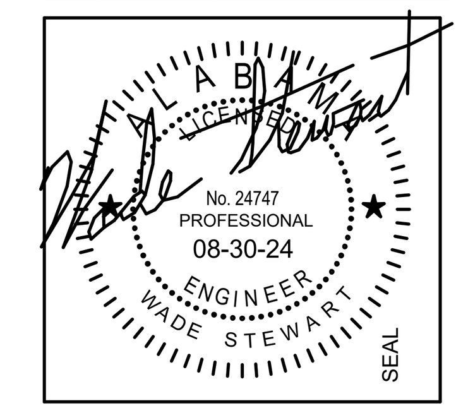
Revisions



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IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES
ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE: PLUMBING - DETAILS

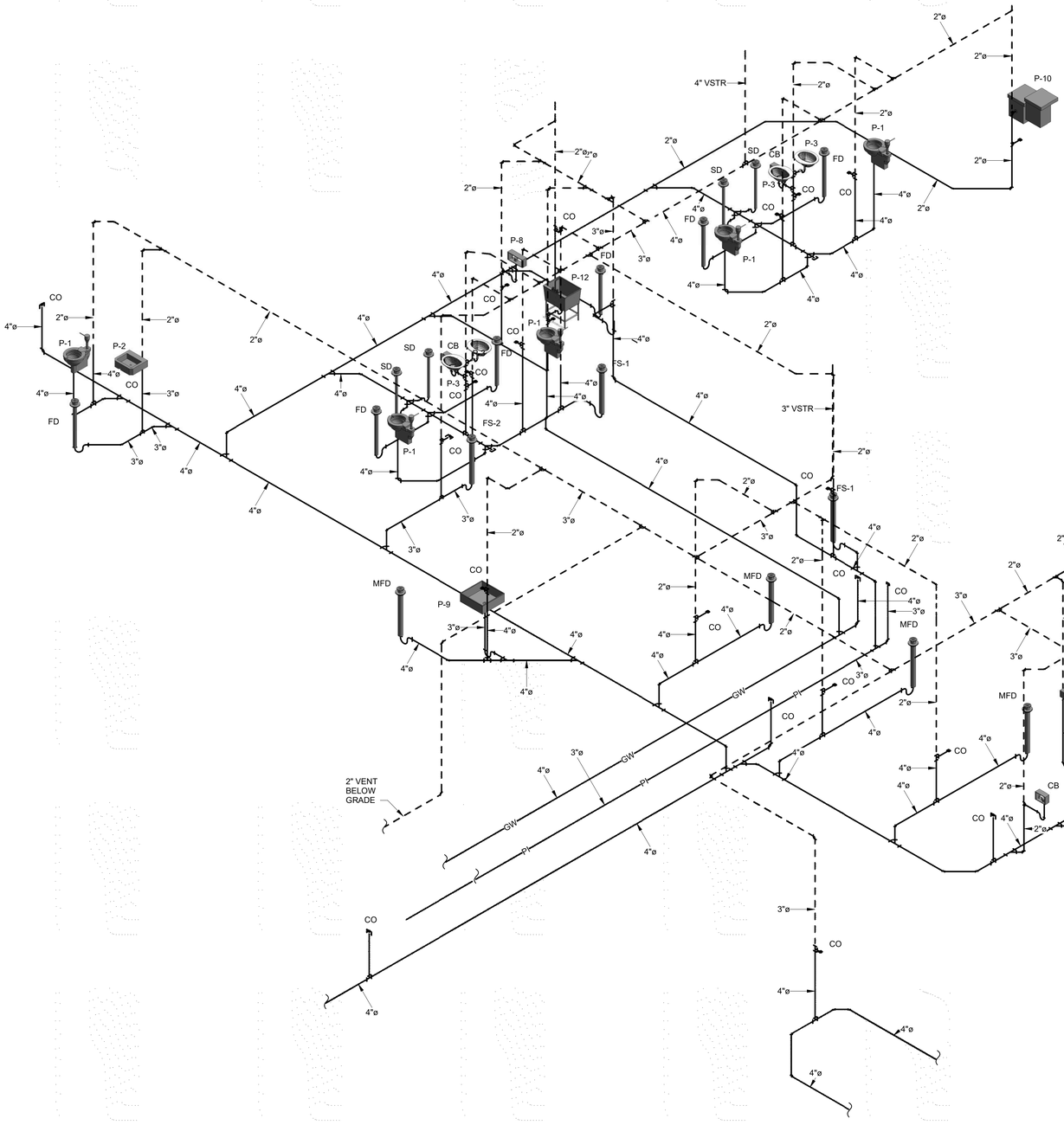
PROJECT NUMBER: CWA No. 2023-01

DATE: 08.30.24

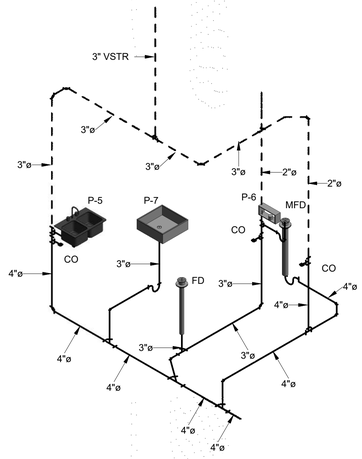
DRAWN BY:	CHECKED BY:
JTR	CLJ

SHEET NUMBER

P0.2



1 P0.3 SANITARY RISER - R1



2 P0.3 SANITARY RISER - R2

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Project Number :
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Revisions

No.	Date	Description

ALABAMA
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08-30-24
ENGINEER
WADE STEWART
SEAL

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SHEET TITLE:
PLUMBING - SANITARY RISERS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
JTR	CLJ

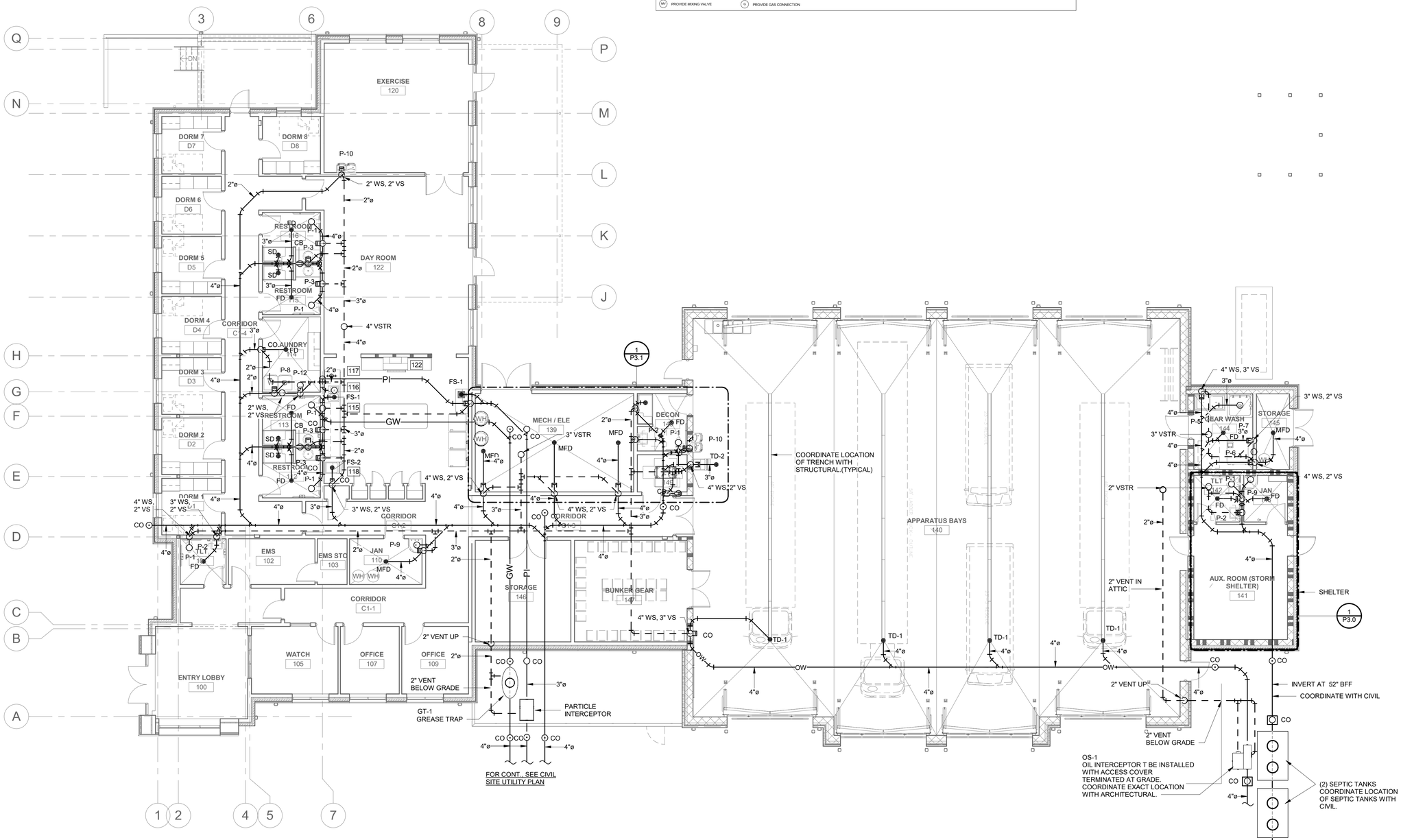
SHEET NUMBER
P0.3

KITCHEN PLUMBING ROUGH-IN DATA

ITEM	QTY	DESCRIPTION	HW (IN)	CW (IN)	GAS (IN)	WASTE (IN)	REMARKS
P102	1	JANITORIAL SINK W/ FAUCET & MOP RACK	-	-	-	-	REFER TO MECHANICAL PLAN
P105	2	BUILT-IN HANDSINK W/SPLASH & /FAUCET	1/2	1/2	-	1 1/2	(MV),(CK)
P106	1	COFFEE BREWER	-	1/4	-	1 1/2	(BFP)
P107	1	MILLWORK BASE COUNTER W/ SINK	1/2	1/2	-	1 1/2	-
P112	1	MILLWORK BASE COUNTER W/ SINK	1/2	1/2	-	1 1/2	-
P115	1	BUILT-IN SINK W/FAUCET	1/2	1/2	-	2"	(MV),(CK)
P116	5	DISPOSER	-	1/2	-	2"	(BFP)
P117	1	DISHWASHER	-	1/2	-	2"	-
P118	1	ICE MAKER W/BIN	-	1/2	-	3/4(IR)	(BFP)
P122	1	8 EYE RANGE WITH OVEN	1/2	-	3/4	-	(G)
P127	3	REFRIG/ FRZR COMBO	1/2	-	-	-	-

(BFP) PROVIDE B/F.P. PIPE RELIEF TO DRAIN. (CK) PROVIDE CHECK VALVE ON COLD WATER, HOT WATER BRANCHLINE TO FAUCET.

(MV) PROVIDE MIXING VALVE (G) PROVIDE GAS CONNECTION



1 / P1.1 NON-PRESSURE PIPING - FLOOR PLAN
1/8" = 1'-0"

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2 Riverchase Office Plaza
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Revisions

No.	Date	Description

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08-30-24
ENGINEER
WADE STEWART
SEAL

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FAX: 205-250-0515

SHEET TITLE:
NON-PRESSURE PIPING - FLOOR PLAN

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

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JTR	CLJ

SHEET NUMBER
P1.1

PRESSURE KEY NOTES

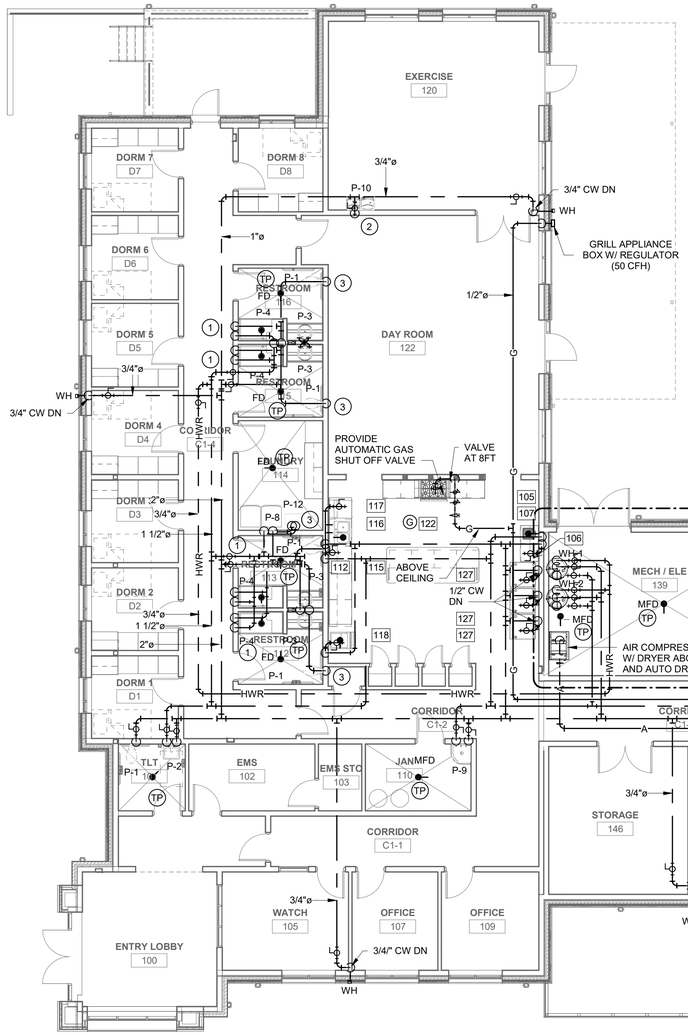
1. 1/2" CW, 1/2" HW DN.
2. 1/2" CW DN.
3. 1" CW DN

KITCHEN PLUMBING ROUGH-IN DATA

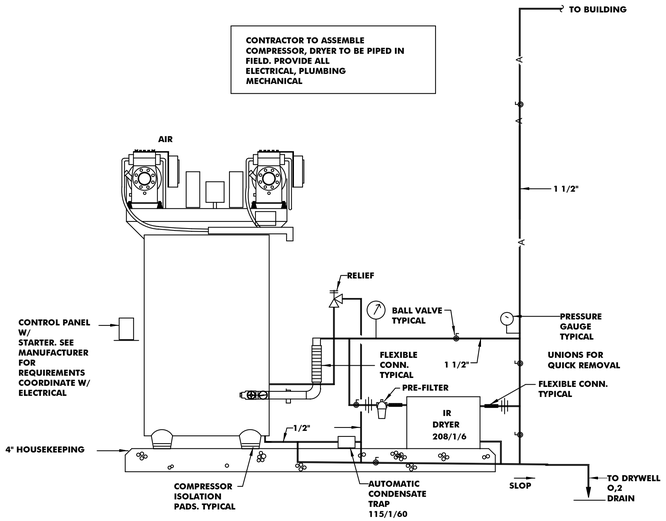
ITEM	QTY	DESCRIPTION	HW (IN)	CW (IN)	GAS (IN)	WASTE (IN)	REMARKS
P102	1	JANITORIAL SINK W/ FAUCET & MOP RACK	-	-	-	-	REFER TO MECHANICAL PLAN
P105	2	BUILT-IN HANDSINK W/SPLASH & FAUCET	1/2	1/2	-	1 1/2	(MV)(CK)
P106	1	COFFEE BREWER	-	1/4	-	1/2	(BFP)
P107	1	MILLWORK BASE COUNTER W/ SINK	1/2	1/2	-	1 1/2	-
P112	1	MILLWORK BASE COUNTER W/ SINK	1/2	1/2	-	1 1/2	-
P115	1	BUILT-IN SINK W/FAUCET	1/2	1/2	-	2"	(MV)(CK)
P116	5	DISPOSER	-	1/2	-	2"	(BFP)
P117	1	DISHWASHER	-	1/2	-	2"	-
P118	1	ICE MAKER W/BIN	-	1/2	-	3/4(IR)	(BFP)
P122	1	6 BYE RANGE WITH OVEN	1/2	-	3/4	-	(G)
P127	3	REFRIG/ FRZR COMBO	1/2	-	-	-	-

(BFP) PROVIDE BFP. PIPE RELIEF TO DRAIN. (CK) PROVIDE CHECK VALVE ON COLD WATER, HOT WATER BRANCHLINE TO FAUCET.

(MV) PROVIDE MIXING VALVE (G) PROVIDE GAS CONNECTION

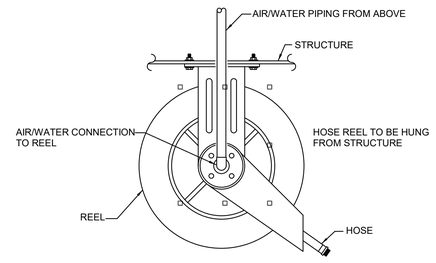


1 P2.1 PRESSURE PIPING - FLOOR PLAN
1/8" = 1'-0"



TYPICAL COMPRESSED AIR SYSTEM

NO SCALE



DETAIL OF HOSE REEL

NO SCALE

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SHEET TITLE:
PRESSURE PIPING - FLOOR PLAN

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

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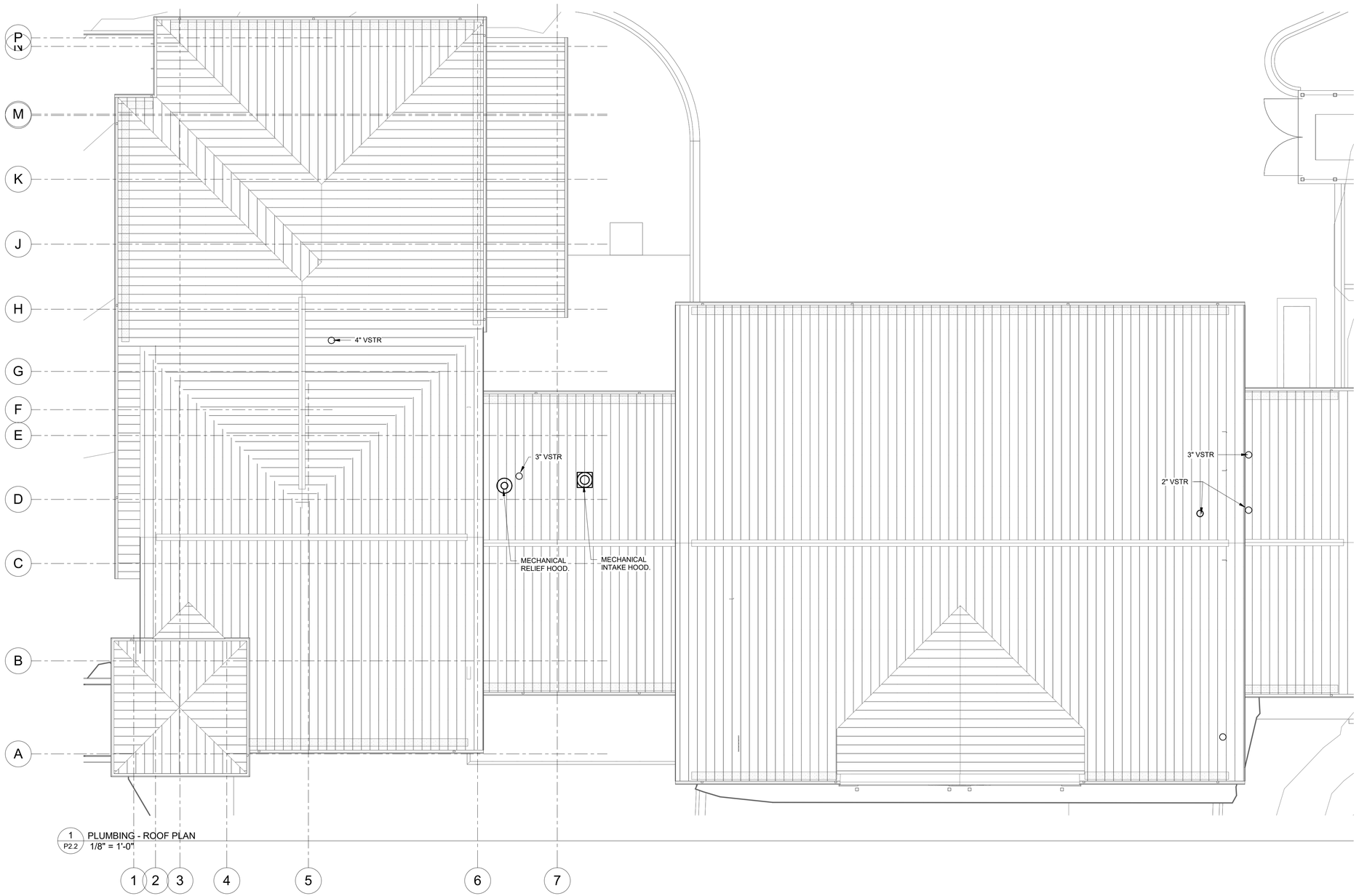
SHEET NUMBER
P2.1



1 / P2.2 PLUMBING - ROOF PLAN
1/8" = 1'-0"

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No.	Date	Description

ALABAMA
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PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
PLUMBING - ROOF PLAN

PROJECT NUMBER:
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DATE:
08.30.24

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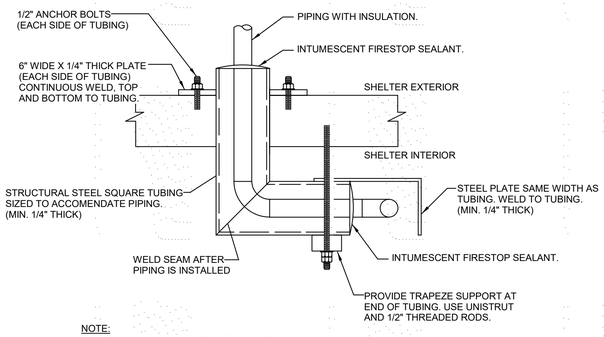
JTR	**CLJ**

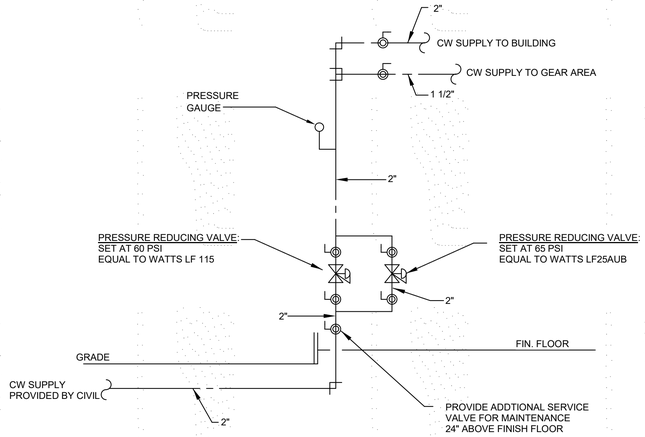
SHEET NUMBER
P2.2



NOTE:
1. PROVIDE ALL WELDED CONSTRUCTION.

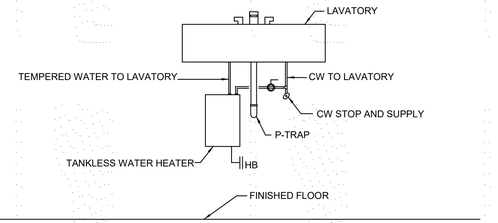
DETAIL OF 2" OR GREATER PIPING PENETRATION THRU A STORM SHELTER PERIMETER WALL/ROOF

NO SCALE



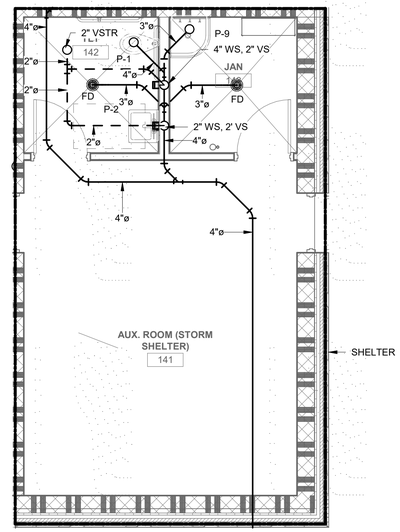
DETAIL OF WATER ENTRY AT SHELTER

NO SCALE

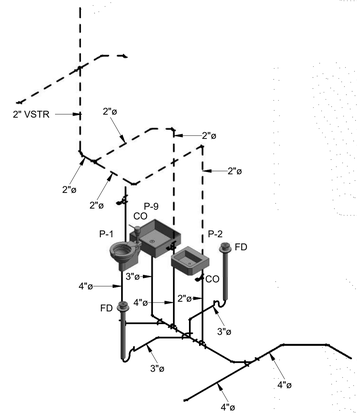


DETAIL OF TANKLESS WATER HEATER AT LAVATORY

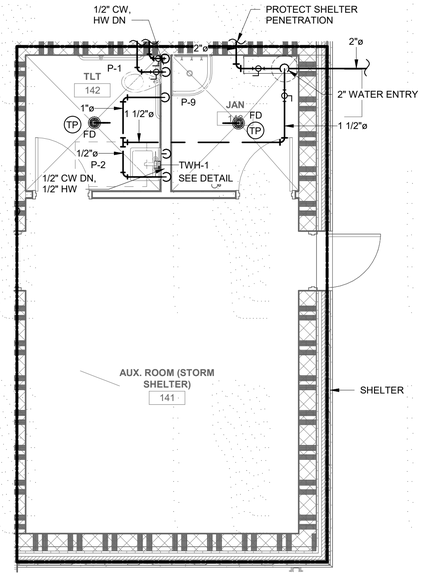
NO SCALE



1 P3.0 ENLARGED - NON-PRESSURE SHELTER PLAN
1/4" = 1'-0"



3 P3.0 SANITARY RISER - ENLARGED SHELTER PLAN



2 P3.0 ENLARGED - PRESSURE SHELTER PLAN
1/4" = 1'-0"

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Revisions

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FAX: 205-250-0515

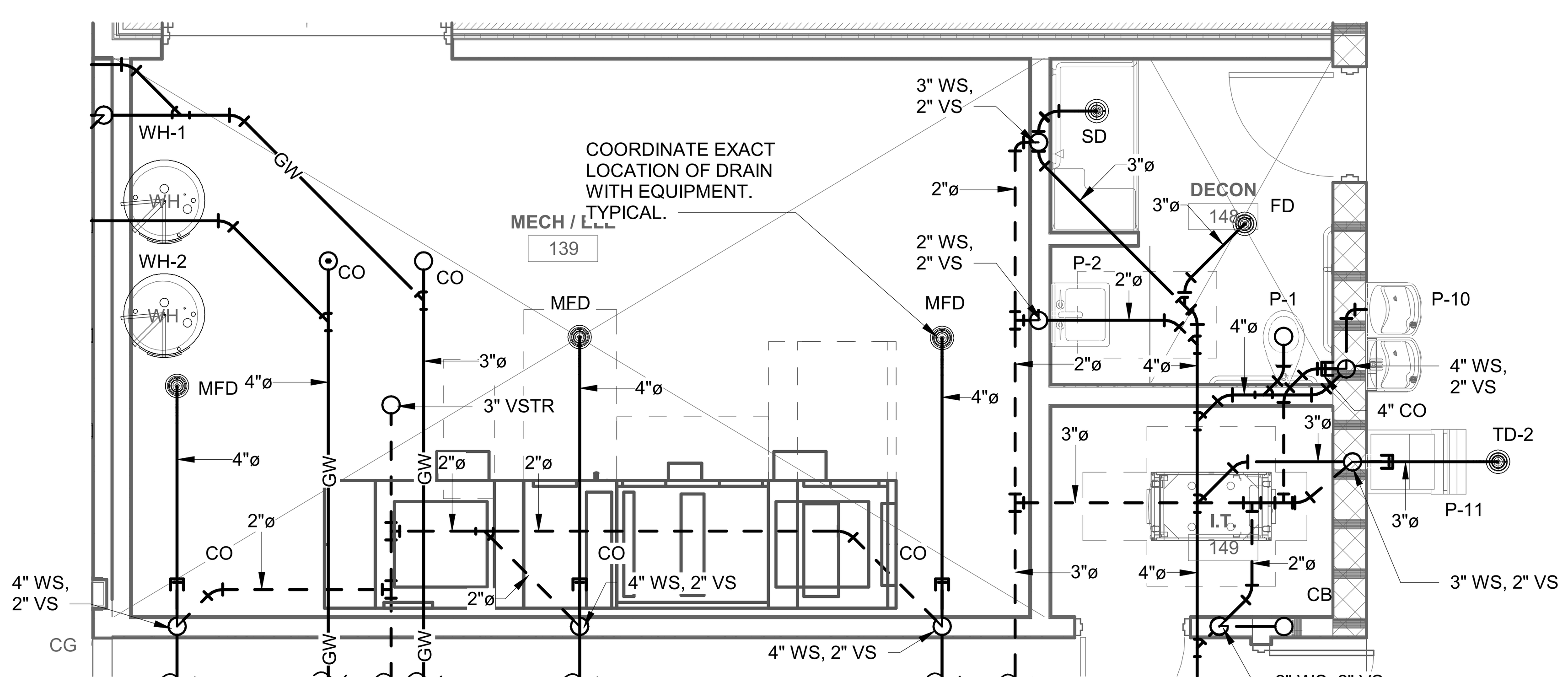
SHEET TITLE:
PLUMBING - ENLARGED SHELTER PLANS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

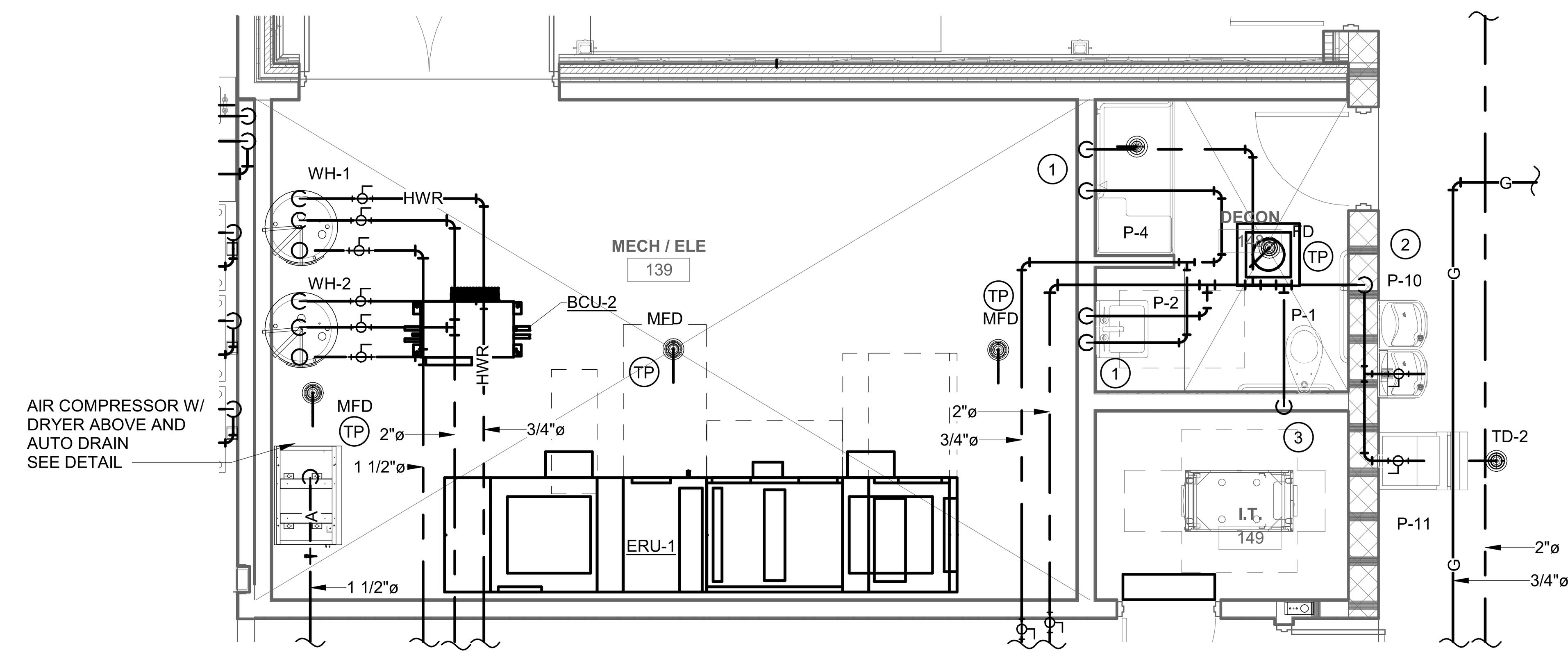
DRAWN BY:	CHECKED BY:
JTR	CLJ

SHEET NUMBER
P3.0



1 P3.1 ENLARGED - NON-PRESSURE MECH ROOM PLAN
1/4" = 1'-0"

CORRIDOR
C1-3



2 P3.1 ENLARGED - PRESSURE MECH ROOM PLAN
1/4" = 1'-0"

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Revisions		
No.	Date	Description

SEAL: WADE STEWART, No. 24747, PROFESSIONAL ENGINEER, 08-30-24

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PH: 205-250-0700
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SHEET TITLE:
PLUMBING - ENLARGED PLANS

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY: JTR
CHECKED BY: CLJ

SHEET NUMBER
P3.1

LIGHTING

- RECESSED OR SURFACE MOUNTED LIGHT FIXTURE
- RECESSED OR SURFACE MOUNTED LIGHT FIXTURE CONNECTED TO EMERGENCY POWER SOURCE OR WITH BATTERY BACK–UP
- SUSPENDED OR SURFACE MOUNTED LIGHT FIXTURE
- SUSPENDED OR SURFACE MOUNTED LIGHT FIXTURE CONNECTED TO EMERGENCY POWER SOURCE OR WITH BATTERY BACK–UP
- RECESSED OR SURFACE MOUNTED LIGHT FIXTURE
- RECESSED OR SURFACE MOUNTED LIGHT FIXTURE CONNECTED TO EMERGENCY POWER SOURCE OR WITH BATTERY BACK–UP
- WALL MOUNTED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE CONNECTED TO EMERGENCY POWER SOURCE OR WITH BATTERY BACK–UP
- WALL MOUNTED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE CONNECTED TO EMERGENCY POWER SOURCE OR WITH BATTERY BACK–UP
- CEILING FAN. SUPPORT WITH OUTLET BOX RATED 50LB MINIMUM.
- WALL MOUNTED SINGLE FACE EXIT SIGN WITH DIRECTIONAL CHEVRONS AS INDICATED BY ARROWS
- WALL MOUNTED DOUBLE FACE EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED OR REQUIRED
- CEILING MOUNTED SINGLE FACE EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED OR REQUIRED
- CEILING MOUNTED DOUBLE FACE EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED OR REQUIRED.
- COMBINATION CEILING MOUNTED SINGLE FACE EXIT SIGN WITH EMERGENCY LIGHTS AND DIRECTIONAL ARROWS AS INDICATED OR REQUIRED
- WALL MOUNTED UNITARY EMERGENCY LIGHT
- POLE MOUNTED SITE LIGHTING FIXTURE (2 HEAD SHOWN) – 1, 2, 3, OR 4 HEAD AS SHOWN ON PLANS.

SWITCHES AND LIGHTING CONTROL

- S — SINGLE POLE, SWITCH, A.C. TYPE, 20A, 125/277V.
- S_3 — THREE–WAY, SWITCH, A.C. TYPE, 20A, 125/277V.
- S_4 — FOUR–WAY, SWITCH, A.C. TYPE, 20A, 125/277V.
- S_D — DIMMER SWITCH, A.C. TYPE, SINGLE POLE, 20A, 125/277V. PRESET SLIDE BAR WITH ON–OFF TOGGLE SWITCH.
- S_P — SWITCH WITH PILOT LIGHT, A.C. TYPE, SINGLE POLE, 20A, 125/277V.
- S_T — TIMER SWITCH, SINGLE POLE, A.C. TYPE, 20A, 125/277V.
- $S_{R/S/L}$ — RAISE–STOP–LOWER SWITCH.
- S_{OS} — SINGLE POLE WALL BOX OCCUPANCY SENSOR SWITCH
- S_{OS3} — THREE–WAY WALL BOX OCCUPANCY SENSOR SWITCH, 120/277VAC. SWITCH REQUIRES A NEUTRAL FOR PROPER OPERATION.
- S^a — LOW VOLTAGE ON–OFF SWITCH. CONTROLS FIXTURES ON SWITCH 'a'. SEE WIRING DIAGRAMS.
- S^b — LOW VOLTAGE ON–OFF SWITCH. CONTROLS FIXTURES ON SWITCH 'b'. SEE WIRING DIAGRAMS.
- S_{LV} — LOW VOLTAGE ON–OFF SWITCH. SEE WIRING DIAGRAMS.
- S_{LVD} — LOW VOLTAGE ON–RAISE–LOWER–OFF DIMMER SWITCH. SEE WIRING DIAGRAMS.
- PP — OCCUPANCY SENSOR LIGHTING CONTROL POWER SUPPLY RELAY MOUNTED ABOVE ACCESSIBLE CEILING.
- OS — CEILING MOUNTED OCCUPANCY SENSOR CONTROL. 'A' = 1000 SQ FT CONTROL 'B' = 2000 SQ FT CONTROL 'C' = CEILING CORNER MOUNT
- RC — ROOM CONTROLLER LOCATED ABOVE ACCESSIBLE CEILING. PROVIDE A BLUE DOT STICKER ON THE CEILING GRID TO IDENTIFY EACH LOCATION.

NOTE: LIGHT SWITCHES ARE TO BE INSTALLED ON STRIKE SIDE OF DOOR UNLESS SPECIFICALLY NOTED OTHERWISE. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGHING–IN.

MISCELLANEOUS

- J — JUNCTION BOX, CEILING MOUNTED.
- J — JUNCTION BOX, WALL MOUNTED.
- ○ — RISER – UP
- ● — RISER – DOWN

POWER DISTRIBUTION

- RECEPTACLE PANEL – SURFACE MOUNTED.
- RECEPTACLE PANEL – FLUSH MOUNTED.
- LIGHTING PANEL – SURFACE MOUNTED.
- LIGHTING PANEL – FLUSH MOUNTED.
- DISTRIBUTION OR POWER PANEL – SURFACE MOUNTED.
- T — TRANSFORMER. FLOOR MOUNTED: PROVIDE CONCRETE PAD AND FLOOR VIBRATION ISOLATORS. CEILING MOUNTED: PROVIDE CEILING HUNG VIBRATION DAMPERS.
- NON–FUSED DISCONNECT SWITCH.
- S_M — MOTOR RATED SWITCH WITH THERMAL OVERLOAD UNITS.
- EMERGENCY POWER OFF (EPO) PUSHBUTTON.
- GEN — GENERATOR.
- ATS — AUTOMATIC TRANSFER SWITCH
- EH R — RELAY – ELECTRICALLY HELD – CONTINUOUS DUTY
- MH R — RELAY – MECHANICALLY HELD – CONTINUOUS DUTY
- MOTOR – SEE PLANS FOR REQUIREMENTS.

RECEPTACLES

- DUPLEX RECEPTACLE, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- NL — RECEPTACLE, 20A, 125V., 3 WIRE, GROUNDING TYPE. WITH ONE OUTLET AND INTEGRAL NIGHT LIGHT.
- U — DUPLEX RECEPTACLE, 20A, 125V., 3 WIRE, GROUNDING TYPE. WITH 2 USB PORTS
- U — DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER. 20A, 125V., 3 WIRE, GROUNDING TYPE, WITH 2 USB PORTS. ('H' = HORIZONTAL MOUNTED)
- DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER. 20A, 125V., 3 WIRE, GROUNDING TYPE ('H' = HORIZONTAL MOUNTED)
- DOUBLE DUPLEX RECEPTACLE, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- DOUBLE DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- WP — DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER AND WEATHERPROOF COVER, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- DUPLEX RECEPTACLE, WITH GROUND FAULT INTERRUPTER, MOUNTED ABOVE COUNTER, 20A, 125V., 3 WIRE, GROUNDING TYPE. ('H' = HORIZONTAL MOUNTED)
- DOUBLE DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- DOUBLE DUPLEX RECEPTACLE, WITH GROUND FAULT CIRCUIT INTERRUPTER, MOUNTED ABOVE COUNTER, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- SINGLE RECEPTACLE, 20A, 125V., 3 WIRE, GROUNDING TYPE.
- SPECIAL PURPOSE RECEPTACLE. CHARACTERISTICS AS INDICATED OR REQUIRED BY EQUIPMENT SERVED.
- RANGE RECEPTACLE, 250V., 3 OR 4 WIRE, GROUNDING TYPE. NEMA CONFIGURATION TO MATCH APPLIANCE CORD AND PLUG.

FLOOR BOXES AND POKE-THRU

- FLOOR OUTLET – DUPLEX RECEPTACLE, 20A, 125V., 3 WIRE (GROUNDING TYPE), WIREMOLD #880 SERIES WITH BRASS COVER AND GASKET. UL SCRUB–WATER LISTED.
- F — FLOOR OUTLET WITH POWER CONNECTION TO PRE–WIRED FURNITURE. WIREMOLD #880 SERIES WITH BRASS COVER AND GASKET. UL SCRUB–WATER LISTED.
- V/D — FLOOR OUTLET WITH AUXILIARY CONNECTIONS TO PRE–WIRED FURNITURE. WIREMOLD #880 SERIES WITH BRASS COVER AND GASKET. UL SCRUB–WATER LISTED.
- FLOOR OUTLET – WIREMOLD #RFB6E–OG SERIES WITH DOUBLE DUPLEX RECEPTACLE, 20A, 125V., 3 WIRE AND PROVISIONS FOR VOICE/DATA JACKS. UL SCRUB–WATER LISTED.

ABBREVIATIONS

3R	NEMA 3R ENCLOSURE	EX	EXISTING TO REMAIN
RT	RAINTIGHT ENCLOSURE	XR	EXISTING TO BE REMOVED
WP	WEATHERPROOF	XRR	EXISTING TO BE REMOVED AND RELOCATED
UON	UNLESS OTHERWISE NOTED	XRL	EXISTING RELOCATED
EM	EMERGENCY	XRP	EXISTING TO BE REMOVED AND REPLACED WITH NEW
NL	NIGHT LIGHT	XRT	EXISTING TO BE RETROFITTED
AFF	ABOVE FINISHED FLOOR		
AFG	ABOVE FINISHED GRADE		
WG	WIRE GUARD		
NIC	NOT IN CONTRACT		
PIR	PASSIVE INFRARED		
IR	INFRARED		
DT	DUAL TECHNOLOGY		
EP	EXPLOSION PROOF		
EPO	EMERGENCY POWER OFF		

AUXILIARY

- VOICE/DATA OUTLET ROUGH–IN AT STANDARD OUTLET HEIGHT: DOUBLE GANG OUTLET BOX WITH SINGLE GANG MUD RING AND A 1" CONDUIT STUBBED UP TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING. PROVIDE AUXILIARY CABLING AS CALLED FOR IN DRAWING AND SPECIFICATIONS.
- VOICE/DATA ROUGH–IN ABOVE STANDARD HEIGHT OR MOUNTED ABOVE COUNTER: DOUBLE GANG OUTLET BOX WITH SINGLE GANG MUD RING AND A 1" CONDUIT STUBBED UP TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING. OUTLET HEIGHT AS INDICATED. PROVIDE AUXILIARY CABLING AS CALLED FOR IN DRAWING AND SPECIFICATIONS.
- CABLE TV ROUGH–IN – SINGLE GANG OUTLET BOX WITH SINGLE GANG MUD PLATE – PROVIDE 3/4" CONDUIT STUBBED UP TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING. PROVIDE AUXILIARY CABLING AS CALLED FOR IN DRAWING AND SPECIFICATIONS.
- CABLE TV ROUGH–IN ABOVE STANDARD HEIGHT OR MOUNTED ABOVE COUNTER: SINGLE GANG OUTLET BOX WITH SINGLE GANG MUD RING AND A 3/4" CONDUIT STUBBED UP TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING. OUTLET HEIGHT AS INDICATED. PROVIDE AUXILIARY CABLING AS CALLED FOR IN DRAWING AND SPECIFICATIONS.
- CEILING MOUNTED CAMERA – PROVIDE SINGLE GANG OUTLET BOX WITH SINGLE GANG MUD PLATE AND T–BAR SUPPORTS. PROVIDE GREEN CAT6 CABLE AS CALLED FOR ON PLANS.
- W — WALL MOUNTED CAMERA PROVIDE SINGLE GANG OUTLET BOX WITH SINGLE GANG MUD PLATE – PROVIDE 1" CONDUIT STUBBED TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING, AND PROVIDE PULLWIRE. PROVIDE GREEN CAT6 CABLE AS CALLED FOR ON PLANS.
- S — CEILING MOUNTED SPEAKER – PROVIDE SINGLE GANG OUTLET BOX WITH SINGLE GANG MUD PLATE AND T–BAR SUPPORTS.
- S — WALL MOUNTED SPEAKER – PROVIDE SINGLE GANG OUTLET BOX WITH SINGLE GANG MUD PLATE – PROVIDE 1" CONDUIT STUBBED TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING, AND PROVIDE PULLWIRE. VERIFY MOUNTING HEIGHT PRIOR TO ROUGH–IN.
- T — WALL MOUNTED T–STAT ROUGH–IN – COORDINATE LOCATION, MOUNTING HEIGHT, AND ORIENTATION WITH THE MECHANICAL CONTRACTOR. PROVIDE 3/4" CONDUIT STUBBED UP TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING, AND PROVIDE PULLWIRE.
- BB–* — LENGTH AS SHOWN ON PLANS x 8'–0" HIGH x 3/4" THICK PLYWOOD BACKBOARD PAINTED TWO COATS WITH FIRE RETARDANT PAINT. WALL MOUNTED 6" AFF TO BOTTOM. MOUNT BACKBOARD WITH LABEL LEGIBLE FROM ROOM SIDE.
- CT–** — CABLE TRAY – WALL MOUNTED – WIDTH AND DEPTH AS SHOWN ON PLANS – CABLOFIL #CF105 300 OR APPROVED EQUAL – PROVIDE ALL MOUNTING HARDWARE, FITTINGS, ELBOWS, T SECTIONS, CROSS SECTIONS, AND ACCESSORIES REQUIRED.
- DS — DOOR SECURITY – SEE DETAILS.
- SCP — SECURITY SYSTEM CONTROL PANEL. PROVIDED BY OTHERS.
- E911 — EMERGENCY CALL 911 CONTROL PANEL. PROVIDED BY OTHERS.
- W — WIRELESS ACCESS POINT (INCLUDED IN I.T. ALLOWANCE) INSTALLED AND WIRED BY THE E.C.– CEILING MOUNTED PROVIDE DOUBLE GANG OUTLET BOX WITH SINGLE GANG MUD PLATE – PROVIDE 1" CONDUIT STUBBED TO ABOVE NEAREST ACCESSIBLE CEILING, TERMINATED WITH SMOOTH BUSHING, AND PROVIDE PULLWIRE. PROVIDE CABLING AS DESCRIBED IN DRAWINGS, SPECIFICATIONS, AND/OR DETAILS.
- B — BELL – SEE DETAILS.
- BELL PUSH BUTTON – SEE DETAILS.

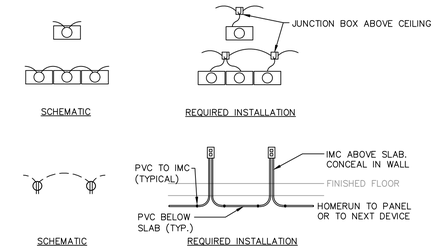
FIRE ALARM

- FACP — FIRE ALARM CONTORL PANEL
- FAA — FIRE ALARM ANNUNCIATOR PANEL
- NAC — REMOTE FIRE ALARM NOTIFICATION APPLIANCE CONTROL PANEL
- ADDRESSABLE MANUAL PULL STATION
- FIRE ALARM STROBE ONLY DEVICE
- FIRE ALARM HORN/STROBE
- FIRE ALARM LOW FREQUENCY HORN/STROBE
- H — ADDRESSABLE HEAT DETECTOR
- SMOKE DETECTOR
- HS — COMBINATION HEAT AND SMOKE DETECTOR
- SA RA — ADDRESSABLE DUCT DETECTOR (SA=SUPPLY AIR – RA=RETURN AIR) WITH SAMPLING TUBE (LENGTH AS REQUIRED) AND CONTROL MODULE (ZAM) FOR AIR HANDLER SHUTDOWN.
- RT — REMOTE TEST STATION (KEY OPERATED) FOR DUCT MOUNTED DETECTOR.
- FS — FLOW SWITCH. DEVICE FURNISHED AND INSTALLED BY FIRE PROTECTION CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE MONITORING ZAM AND MAKE CONNECTIONS FOR FIRE ALARM SYSTEM.
- TS — TAMPER SWITCH. DEVICE FURNISHED AND INSTALLED BY FIRE PROTECTION CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE MONITORING ZAM AND MAKE CONNECTIONS FOR FIRE ALARM SYSTEM.
- D■ — MAGNETIC DOOR HOLD OPEN DEVICE
- Z M — MONITORING ZAM
- Z C — CONTROL ZAM

WIRING

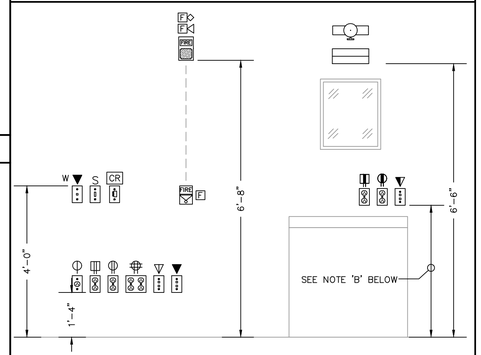
- BRANCH CIRCUIT – ROUTED ABOVE CEILING OR IN WALL.
- BRANCH CIRCUIT – ROUTED BELOW FLOOR OR GRADE.
- BRANCH CIRCUIT – ANY CIRCUIT WITHOUT FURTHER DESIGNATION IS (1) HOT, (1) NEUTRAL, (1) GROUND, IN RACEWAY.
- BRANCH CIRCUIT – SHORT HASH MARK INDICATES 'HOT' WIRE(S), LONG HASH INDICATES 'NEUTRAL' CONDUCTOR. GROUND WIRE IS NOT INDICATED BUT IS REQUIRED IN ALL CIRCUITS.
- BRANCH CIRCUIT – EXPOSED
- FEEDER – OVERHEAD
- FEEDER – UNDERGROUND

BRANCH CIRCUIT WIRING FOR LIGHTING AND POWER IS SHOWN SCHEMATICALLY. EACH ELECTRICAL DEVICE IS TO BE INSTALLED WITH AN INDIVIDUAL CONDUIT CONNECTION. FOR EXAMPLE:



NOTE: MINIMUM CONDUIT SIZE SHALL BE 1/2"C.

OUTLET LOCATIONS



NOTES:

A. ALL DIMENSIONS ARE TO THE BOTTOM OF OUTLET BOX.

B. WHERE OUTLETS ARE SHOWN TO BE MOUNTED ABOVE A COUNTERTOP, REFERENCE THE ARCHITECTURAL AND/OR CASEWORK DRAWINGS AND ROUGH–IN EACH DEVICE 2" ABOVE BACKSPLASH OR 6" ABOVE THE COUNTERTOP TO THE BOTTOM OF THE BOX, WHICHEVER IS HIGHEST.

C. SYMBOLS ON DRAWINGS AND MOUNTING HEIGHTS INDICATED SHALL BE VERIFIED ON THE JOB. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL TRADES, VERIFY ALL SPECIFIC CONSTRUCTION FEATURES, PRIOR TO ROUGH–IN AND PROVIDE CORRECT INSTALLATION IN ALL LOCATIONS.

D. MOUNT ALL RECEPTACLES WITH GROUND SLOT IN THE TOP POSITION.

CONSULTING CONSTRUCTION ENGINEERING, LLC
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CCE No. Date: Jan 23, 2025
File: EG-01.dwg Time: 1:20:54 pm

Revisions

No.	Date	Description

100% CD'S

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

SHEET TITLE:
Electrical Legend

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

DRAWN BY:	CHECKED BY:
JLB	JLB

SHEET NUMBER
E001

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING		MANUFACTURER	CATALOG NUMBER	L.E.D.			VOLTS	TOTAL WATTS
		TYPE	HEIGHT			LUMENS	COLOR	DRIVER QTY / TYPE		
X1	SINGLE FACE EDGE LIT L.E.D. EXIT SIGN WITH RED LETTERS AND DIRECTIONAL CHEVRONS AS SHOWN	UNIVERSAL	UNIVERSAL	DUAL LITE EXITRONIX CHLORIDE LITHONIA	LES-**-S-**-N-E-I-M APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	FURNISHED WITH UNIT			120	5
X2	DOUBLE FACE EDGE LIT L.E.D. EXIT SIGN WITH RED LETTERS AND DIRECTIONAL CHEVRONS AS SHOWN	UNIVERSAL	UNIVERSAL	DUAL LITE EXITRONIX CHLORIDE LITHONIA	LES-**-D-**-N-E-I-M APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	FURNISHED WITH UNIT			120	5
XD	WALL MOUNTED EXIT DISCHARGE LIGHT WITH INTEGRAL HEATER AND BATTERY	WALL	8'-0" AFF	LITHONIA EXITRONIX CHLORIDE LITHONIA	AFB-OLE-DDBTXD-UVOLT-LTP-SDRT-WT-CW APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	FURNISHED WITH UNIT		N/A	120	15
PL3	SINGLE HEAD LED SITE LIGHTING FIXTURE WITH TYPE III DISTRIBUTION, MOUNTED ON A 30'-0" SQUARE STRAIGHT STEEL POLE. FINISH TO BE SELECTED BY ARCHITECT.	POLE	30'-0"	McGRAW-EDISON	FIXTURE: GLEON-SA4C-740-SL3-**-FF POLE: SSS4A30SFM4	24,564	4000K	1	208	225
PL4	SINGLE HEAD LED SITE LIGHTING FIXTURE WITH TYPE IV DISTRIBUTION MOUNTED ON A 30'-0" SQUARE STRAIGHT STEEL POLE. FINISH TO BE SELECTED BY ARCHITECT.	POLE	30'-0"	McGRAW-EDISON	FIXTURE: GLEON-SA4C-740-T4FT-**-FF POLE: SSS4A30SFM4	23,340	4000K	1	208	225
PW4	WALL MOUNTED L.E.D. FLOOD LIGHT WITH TYPE IV DISTRIBUTION AND INTEGRAL DRIVER. U.L. LISTED FOR WET LOCATION. COLOR TO BE SELECTED BY THE ARCHITECT	WALL	14'-0"	McGRAW-EDISON	GWC-SA1A-740-U-SL4-**-F	4,729	4000K	1	120	40
FL1	STANCHION MOUNTED ADJUSTABLE L.E.D. FLOOD LIGHT WITH NARROW SPOT DISTRIBUTION. FIXTURE TO BE U.L. LISTED FOR WET LOCATION. COLOR TO BE SELECTED BY THE ARCHITECT.	GROUND	SEE DETAIL	LITHONIA HUBBELL EATON GARDCO	DSXF1-LED-P1-40K-NSP-MVOLT-**-THK APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	2,876	4000K	120	1	21

GENERAL NOTES:

A. MANUFACTURER CATALOG NUMBERS ARE SHOWN FOR GENERAL DESCRIPTIVE PURPOSES AND TO ESTABLISH A STANDARD OF QUALITY. MANUFACTURERS LISTED AS "EQUAL" DOES NOT ENSURE NOR GUARANTEE APPROVAL OF ANY PRODUCT BY THE LISTED MANUFACTURER. FOR APPROVAL, FIXTURES MUST PROVIDE EQUAL PERFORMANCE RELATIVE TO DELIVERY OF LIGHTING, ENERGY USE, AND BE OF SIMILAR DESIGN AND CONSTRUCTION. REQUESTS FOR PRIOR APPROVAL OF FIXTURES NOT LISTED IN THIS SCHEDULE **MUST** BE RECEIVED BY THE ENGINEER A MINIMUM OF 10 DAYS PRIOR TO BID (SEE SPECIFICATIONS) FOR REVIEW BY THE ARCHITECT/ENGINEER. MANUFACTURERS APPROVAL THROUGH THIS PROCESS WILL BE LISTED IN AN ADDENDUM PRIOR TO BID. FIXTURES NOT LISTED IN AN ADDENDUM ARE NOT APPROVED.

B. CONTRACTOR SHALL PROVIDE LUMINAIRES COMPLETE WITH ALL OPTIONS AND ACCESSORIES REQUIRED FOR A COMLPETE INSTALLATION. ALL PRODUCTS SHALL BE U.L. LISTED.

C. PROVIDE PROPER LAMP FOR REFLECTOR ASSEMBLY SPECIFIED AND AS RECOMMENDED BY LUMINAIRE MANUFACTURER.

D. VERIFY CONSTRUCTION AND TYPE CEILINGS TO BE INSTALLED AND PROVIDE LUMINAIRES IN APPROPRIATE CONFIGURATION WITH ALL HARDWARE AND ACCESSORIES REQUIRED FOR A COMPLETE AND PROPER INSTALLATION.

E. PROVIDE LUMINAIRES WITH JOINING PLATES, END CAPS, CANOPIES, MOUNTING HARDWARE, ETC., AS REQUIRED FOR COMPLETE INSTALLATION.

F. EXIT LIGHTS SHALL BE PROVIDED WITH RED LETTERS REQUIRED BY LOCAL CODE AUTHORITY. FURNISH WITH CHEVRON DIRECTIONAL INDICATORS AS INDICATED AND/OR AS REQUIRED.

G. PROVIDE DEVICES FOR SECURING LAY-IN TYPE LUMINAIRES TO CEILING GRID TO COMPLY WITH ARTICLE 410 OF THE NATIONAL ELECTRICAL CODE.

H. FURNISH LINEAR LUMINAIRES IN CONTINUOUS ROWS OR PATTERNS AS INDICATED ON DRAWINGS. PROVIDE WITH CORNER, ANGLE, AND END PIECES AS REQUIRED FOR A COMPLETE FINISHED INSTALLATION.

SCHEDULE NOTES:

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING		MANUFACTURER	CATALOG NUMBER	L.E.D.			VOLTS	TOTAL WATTS
		TYPE	HEIGHT			LUMENS	COLOR	DRIVER QTY / TYPE		
CF1	8'-0" PENDANT MOUNTED CEILING FAN WITH 6 BLADES. COLOR TO BE SELECTED BY THE ARCHITECT. FURNISHED WITH WALL MOUNTED CONTROLLER.	PENDANT	CEILING	BIG ASS FANS	FAN: MK-I61-08-18-06-**-100 WALL SWITCH: C-BTWC-03-04-00-US (FIXED WALL MOUNT)	---	---	N/A	120	50
CF2	OUTDOOR RATED 60" ROUND 6 BLADE CEILING FAN WITH LIGHT KIT. COLOR TO BE SELECTED BY THE ARCHITECT. FURNISHED WITH WALL MOUNTED CONTROLLER.	PENDANT	CEILING	BIG ASS FANS	FAN: MK-TRB1-062306-A786-I20 WALL SWITCH: C-BTWC-03-04-00-US (FIXED WALL MOUNT)	---	---	N/A	120	70
CF3	6'-0" PENDANT MOUNTED CEILING FAN WITH 6 BLADES. COLOR TO BE SELECTED BY THE ARCHITECT. FURNISHED WITH WALL MOUNTED CONTROLLER.	PENDANT	CEILING	BIG ASS FANS	FAN: MK-I61-06-18-06-**-100 WALL SWITCH: C-BTWC-03-04-00-US (FIXED WALL MOUNT)	---	---	N/A	120	50
P1	8'-0" PENDANT MOUNTED STRIP WITH SQUARE LENS AND INTEGRAL DRIVER. PROVIDE ALL THREAD DOWN RODS SECURES TO STRUCTURE AS REQUIRED	SURFACE	CEILING	METALUX COLUMBIA H.E. WILLIAMS LITHONIA	8T-SNLED-LD5-SLN/64SL-SLN-UNV-L835-CD-1 APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	6,063	3500K	1	120	45
P1E	SAME AS FIXTURE 'P1' EXCEPT WITH AN EMERGENCY BATTERY TO OPERATE FIXTURE FOR 90 MINUTES UPON LOSS OF POWER.	SURFACE	CEILING	METALUX COLUMBIA H.E. WILLIAMS LITHONIA	8T-SNLED-LD5-SLN/64SL-SLN-UNV-EL14W-L835-CD-1 APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	6,063	3500K	1	120	45
P2E	10'-0" PENDANT MOUNTED LIGHT FIXTURE WITH UP AND DOWN LIGHT. COLOR TO BE SELECTED BY THE ARCHITECT	PENDANT	VERIFY WITH ARCH DRAWINGS	PEERLESS	VMM9-LLP-10FT-MSL4-80CRI-35K-ID1350LMF-60/40-DARK-ZT-120-SCT-E10WLCP-F2-XX-**-DU	1350 PER FT	3500K	1	120	15 PER FT
P3	DECORATIVE PENDANT MOUNTED LUMINAIRE WITH 1 LAMP. PROVIDE AN ALLOWANCE OF $300 FOR EACH.	PENDANT	SEE ARCH DRAWINGS		TO BE SELECTED					
P4	2' x 2' SQUARE PENDANT MOUNTED LUMINAIRE WITH INTEGRAL DRIVER. COLOR TO BE SELECTED BY THE ARCHITECT. COLORS TO BE SELECTRD BY THE ARCHITECT	PENDANT	SEE ARCH DRAWINGS	PRUDENTIAL	BPR02-SQ-LIN-22-FLSH-LED35-SO-SAL-**-**-SC-UNV-SPM**-X3-DM01-	6,300	3500K	1	120	63
P5	3' x 3' SQUARE PENDANT MOUNTED LUMINAIRE WITH INTEGRAL DRIVER. COLOR TO BE SELECTED BY THE ARCHITECT. COLORS TO BE SELECTRD BY THE ARCHITECT	PENDANT	SEE ARCH DRAWINGS	PRUDENTIAL	BPR02-SQ-LIN-33-FLSH-LED35-SO-SAL-**-**-SC-UNV-SPM**-X3-DM01-	9,400	3500K	1	120	94
P6	4' x 4' SQUARE PENDANT MOUNTED LUMINAIRE WITH INTEGRAL DRIVER. COLOR TO BE SELECTED BY THE ARCHITECT. COLORS TO BE SELECTRD BY THE ARCHITECT	PENDANT	SEE ARCH DRAWINGS	PRUDENTIAL	BPR02-SQ-LIN-44-FLSH-LED35-SO-SAL-**-**-SC-UNV-SPM**-X3-DM01-	12,600	3500K	1	120	125
R1	6" ROUND L.E.D. DOWNLIGHT WITH SWITCHABLE LUMEN OUTPUT, CLEAR SEMI-DIFFUSE REFLECTOR AND INTEGRAL 0-10 VOLT DIMMABLE DRIVER	RECESSED	CEILING	LITHONIA PRESCOLITE H.E. WILLIAMS PRESCOLITE	LDN6-AL02-SWW1-LO6-AR-LSS-WD-MVOLT-UGZ APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	1,500	3500K	1	120	20
R1E	SAME AS FIXTURE 'R1' EXCEPT WITH AN EMERGENCY BATTERY PACK TO OPERATE FIXTURE FOR 90 MINUTES UPON LOSS OF POWER	RECESSED	CEILING	PRESCOLITE PATHWAY H.E. WILLIAMS LITHONIA	LDN6-AL02-SWW1-LO6-AR-LSS-WD-MVOLT-UGZ-EL APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	1,500	3500K	1	120	20
R2	RECESSED 2x2 L.E.D. FIXTURE WITH 0-10 VOLT DIMMABLE DRIVER	RECESSED	CEILING	METALUX COLUMBIA H.E. WILLIAMS LITHONIA	22EN-LD2-39-UNV-L835-CD1-U APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	3,979	3500K	1	120	35
R2E	SAME AS FIXTURE 'R2' EXCEPT WITH AN EMERGENCY BATTERY PACK TO OPERATE FIXTURE FOR 90 MINUTES UPON LOSS OF POWER	RECESSED	CEILING	METALUX COLUMBIA H.E. WILLIAMS LITHONIA	22EN-LD2-39-UNV-EL14W-L835-CD1-U APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	3,979	3500K	1	120	35
R3	RECESSED 2x4 L.E.D. FIXTURE WITH 0-10 VOLT DIMMABLE DRIVER	RECESSED	CEILING	METALUX COLUMBIA H.E. WILLIAMS LITHONIA	24EN-LD2-54-UNV-L835-CD1-U APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	5,410	3500K	1	120	45
R3E	SAME AS FIXTURE 'R3' EXCEPT WITH AN EMERGENCY BATTERY PACK TO OPERATE FIXTURE FOR 90 MINUTES UPON LOSS OF POWER	RECESSED	CEILING	METALUX COLUMBIA H.E. WILLIAMS LITHONIA	24EN-LD2-54-UNV-EL14W-L835-CD1-U APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	5,410	3500K	1	120	45
S1	4'-0" SURFACE MOUNTED L.E.D. STRIP WITH LENS AND INTEGRAL DRIVER	SURFACE	CEILING	LITHONIA METALUX H.E. WILLIAMS COLUMBIA	ZL1N-L48-SMR-5000LM-FST-MVOLT-35K-80CRI-WH APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	4,585	3500K	1	120	35
S1E	SAME AS FIXTURE 'S1' EXCEPT WITH AN EMERGENCY BATTERY TO OPERATE FIXTURE FOR 120 MINUTES UPON LOSS OF POWER.	SURFACE	CEILING	LITHONIA METALUX H.E. WILLIAMS COLUMBIA	ZL1N-L48-SMR-5000LM-FST-MVOLT-35K-80CRI-EM(2HR)-WH APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	4,585	3500K'	1	120	35
SH	6" ROUND RECESSED SHOWER LIGHT WITH INTEGRAL DRIVER. U.L. LISTED FOR WET LOCATION	RECESSED	CEILING	H.E. WILLIAMS PRESCOLITE PORTFOLIO LITHONIA	LSL60-L30C-8-35-DPL-DRV-120 APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	800	3500K	1	120	36
UC	2'-0" UNDER CABINET LIGHT WITH INTEGRAL DRIVER	SURFACE	UNDER CABINET	KICHLER	6UCSK22NIT	735	3000K	N/A	120	10
UC1	30" UNDER CABINET LIGHT WITH INTEGRAL DRIVER	SURFACE	UNDER CABINET	KICHLER	6UCSK30NIT	1,000	3000K	N/A	120	10
W1	WALL MOUNTED 12" GOOSE NECK MOUNTED FIXTURE. U.L. LISTED FOR WET LOCATION. COLOR TO BE SELECTED BY THE ARCHITECT	WALL	SEE ARCH DRAWINGS	BOCK LIGHTING	512-**-LAC02-**-GN17A-17-**	1500 - 2400	4000K	1	120	25
W2	WALL MOUNTED VANITY SCONCE. COLOR TO BE SELECTED BY THE ARCHITECT	WALL	SEE ARCH DRAWINGS	TGS	MVR-24-24-C3000-BN	1,700	3000K	N/A	120	24
W3	WALL MOUNTED SCONCE WITH UP AND DOWNLIGHT. COLOR TO BE SELECTED BY THE ARCHITECT	WALL	SEE ARCH DRAWINGS	CONTECH	CY3T-3-40K-MVD2-AW-X-WF-BZ-RD	2,286	4000K	1	120	20
W4	WALL MOUNTED SCONCE WITH INTEGRAL DRIVER. U.L. LISTED FOR WET LOCATION. COLOR TO BE SELECTED BY THE ARCHITECT	WALL	SEE ARCH DRAWINGS	LITHONIA	WST-LED-P2-40K-VW-120-**	3,201	4000K	1	120	30
W5	WALL MOUNTED SCONCE WITH UP AND DOWNLIGHT. COLOR TO BE SELECTED BY THE ARCHITECT	WALL	SEE ARCH DRAWINGS	CONTECH	CY3S-3-40K-MVD2-AW-X-WF-BZ	2,286	4000K	1	120	20
W6	WALL MOUNTED 20" GOOSE NECK MOUNTED FIXTURE. U.L. LISTED FOR WET LOCATION. COLOR TO BE SELECTED BY THE ARCHITECT	WALL	SEE ARCH DRAWINGS	BOCK LIGHTING	520-**-LAH01-**-GN22H-22-**	3000 - 5000	4000K	1	120	45

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Revisions		
No.	Date	Description

ALABAMA REGISTERED PROFESSIONAL ENGINEER
No. 31921 PROFESSIONAL
JAMES L. BOLEY
8/30/24
SEAL

100% CD'S

IRONDALE FIRE STATION #3
INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

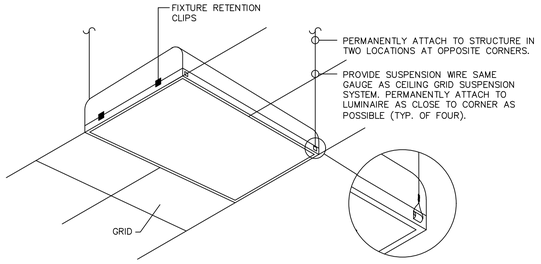
SHEET TITLE:
Lighting Fixture Schedule & Details

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

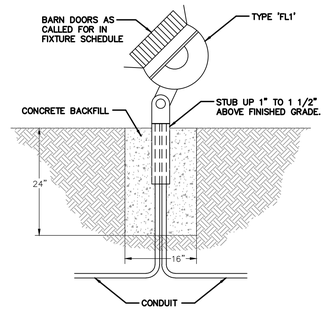
DRAWN BY:	CHECKED BY:
JLB	**JLB**

SHEET NUMBER
E002



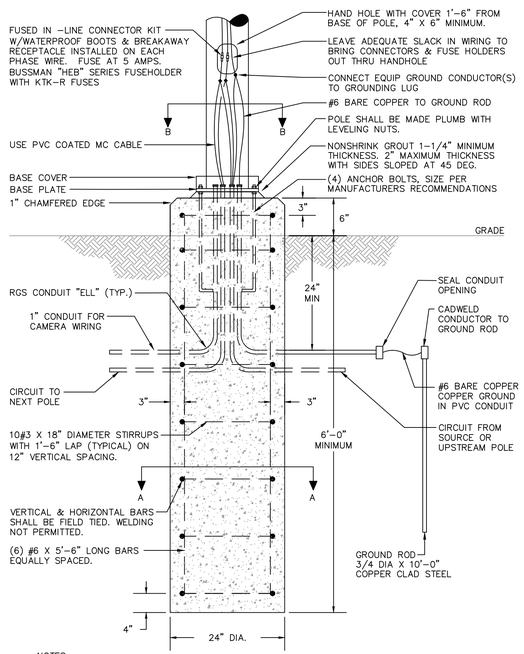
TROFFER MOUNTING DETAIL

NOT TO SCALE



FLOOD LIGHT 'FL1' - INSTALLATION DETAIL

NOT TO SCALE



NOTES:
1. 3500 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH CONCRETE WITH GRADE 60 RE-BARS.
2. IF WATER IS PRESENT IN HOLE, REMOVE BEFORE POURING CONCRETE.
3. FOUNDATION EXCAVATION SHALL BE BY 24" AUGAR IN UNDISTURBED OR PROPERLY COMPACTED FILL.
4. MINIMUM ALLOWABLE SOIL BEARING PRESSURE 3000 PSF. NOTIFY ENGINEER IF BEARING PRESSURE IS LESS.
5. AIR ENTRAINMENT: 4 TO 6%.

SITE LIGHTING POLE BASE DETAILS

TYPICAL FOR: 'PL2H', 'PL3H', & 'PL4'

NOT TO SCALE

LIGHTING CONTROL PANEL RELAY SCHEDULE

RELAY	AREA	CONTACTS	DIMMING	CONTROLLED BY	LCP WIRING DIAGRAM #	E911 OVERRIDE	NOTES
CR-1	DORM #1	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-2	DORM #2	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-3	DORM #3	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-4	DORM #4	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-5	DORM #5	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-6	DORM #6	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-7	DORM #7	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-8	DORM #8	120	YES	LVD SWITCH / OCCUPANCY SENSOR	1	YES	A
CR-9	CORRIDOR C1-4	120	NO	LV SWITCH	1	YES	A
CR-10	RESTROOM 112	120	NO	LV SWITCH	1	YES	A
CR-11	RESTROOM 113	120	NO	LV SWITCH	1	YES	A
CR-12	LAUNDRY	120	NO	LV SWITCH	1	YES	A
CR-13	RESTROOM 115	120	NO	LV SWITCH	3	YES	A, B
CR-14	RESTROOM 116	120	NO	LV SWITCH	2	YES	A
CR-15	EXERCISE	120	NO	CLG FAN SW. / LV SWITCH	3	YES	A, B
CR-16	DAY ROOM	120	YES	LV SWITCH	2	YES	A
CR-17	KITCHEN DOWNLIGHTS	120	NO	LV SWITCH	3	YES	A, B
CR-18	KITCHEN PENDANTS	120	NO	LV SWITCH	1	YES	A
CR-19	CORRIDOR C1-1	120	NO	LV SWITCH	3	YES	A, B
CR-20	ENTRY LOBBY	120	NO	LV SWITCH	3	YES	A, B
CR-21	WATCH 105	120	NO	LV SWITCH	3	YES	A, B
CR-22	OFFICE 107	120	YES	LVD SWITCH / OCCUPANCY SENSOR	3	YES	A, B
CR-23	OFFICE 109	120	YES	LVD SWITCH / OCCUPANCY SENSOR	3	YES	A, B
CR-24	TLT 101	120	NO	LV SWITCH	3	YES	A, B
CR-25	EMS 102	120	NO	LV SWITCH	3	YES	A, B
CR-26	EMS STO 103	120	NO	LV SWITCH	3	YES	A, B
CR-27	JAN 110	120	NO	LV SWITCH	3	YES	A, B
CR-28	STORAGE 146	120	NO	LV SWITCH	3	YES	A, B
CR-29	BUNKER GEAR	120	NO	LV SWITCH	3	YES	A, B
CR-30	CORRIDOR C1-3	120	NO	LV SWITCH	3	YES	A, B
CR-31	MECH/ELE 139	120	NO	LV SWITCH	1	YES	A
CR-32	DECON 148	120	NO	LV SWITCH	1	YES	A
CR-33	LT. 149	120	NO	LV SWITCH	1	YES	A
CR-34	APPARATUS BAY	120	NO	LV SWITCH	1	YES	A
CR-35	GEAR WASH	120	NO	LV SWITCH	1	YES	A
CR-36	STORAGE 145	120	NO	LV SWITCH	1	YES	A
CR-37	TOILET 142	120	NO	OCCUPANCY SENSOR SWITCH	1	YES	A
CR-38	JAN 143	120	NO	OCCUPANCY SENSOR SWITCH	1	YES	A
CR-39	AUX. ROOM / STORM SHELTER	120	NO	OCCUPANCY SENSOR SWITCH	1	YES	A
CR-40	SPARE						
CR-41	RANGE / GAS SOLENOID	120	NO	LV KEYED SWITCH	4	YES	C
CR-42	BUILDING MOUNTED LIGHTS	120	NO	PHOTOCELL (DUSK TO DAWN)	---	NO	
CR-43	FLAG POLE	120	NO	PHOTOCELL (DUSK TO DAWN)	---	NO	
CR-44	PYLON SIGNAGE	120	NO	PHOTOCELL (DUSK TO DAWN)	---	NO	
CR-45	LANDSCAPE LIGHTING	120	NO	PHOTOCELL (DUSK TO DAWN) / TIMECLOCK (ON-OFF)		NO	D
CR-46	APPARATUS BAY EXTERIOR	120	NO	PHOTOCELL (DUSK TO DAWN)	---	NO	
CR-47	SITE LIGHTING	208	NO	PHOTOCELL (DUSK TO DAWN)	---	NO	
CR-48	SITE LIGHTING	208	NO	PHOTOCELL (DUSK TO DAWN)	---	NO	

NOTES:
- A. RELAY TO TURN ON FOR 15 MINUTES UPON SIGNAL BEING RECEIVED FROM E911 DISPATCH CONTROL PANEL REGARDLESS OF SWITCH ON-OFF STATUS. RELAY TO RETURN TO NORMAL OPERATING SCHEDULE AFTER 15 MINUTE DURATION.
- B. POWER PACK TO CONTROL LIGHT IN CEILING FAN ONLY. SEE CONTROL WIRING DIAGRAM. SENSOR TO BE PROGRAMMED FOR VACANCY MODE.
- C. RELAY TO TURN OFF UPON RECEIVING A SIGNAL FROM E911 DISPTACH CONTROL PANEL. RELAY TO TURN ON UPON ACTIVATION OF KEYED SWITCH. SEE WIRING DIAGRAM.
- D. RELAY TO BE PROGRAMMED AS DIRECTED BY THE OWNER.

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Revisions

No.	Date	Description

ALABAMA REGISTERED ENGINEER No. 31921 PROFESSIONAL JAMES L. BILLEY
8/30/24
SEAL

100% CD'S

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700
FAX: 205-250-0515

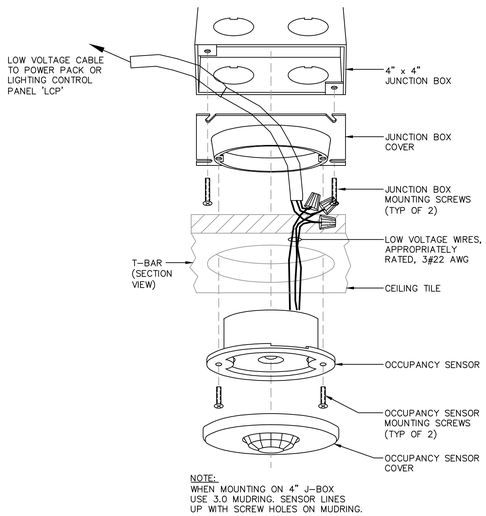
SHEET TITLE:
Lighting Fixture Schedule & Details

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

DRAWN BY:	CHECKED BY:
JLB	JLB

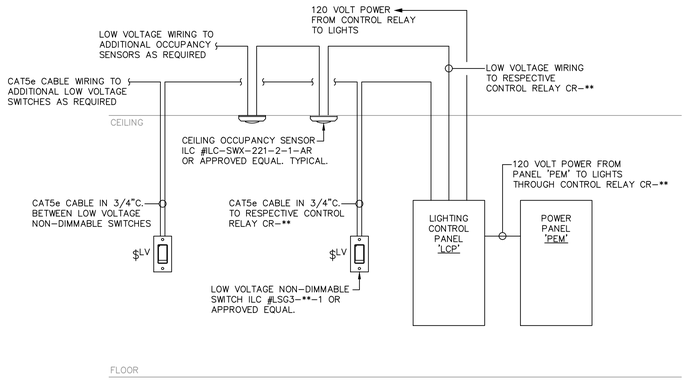
SHEET NUMBER
E003



NOTE:
WHEN MOUNTING ON 4" J-BOX USE 3.0 MUDRING. SENSOR LINES UP WITH SCREW HOLES ON MUDRING.

OCCUPANCY SENSOR 'OS' - MOUNTING DETAIL

NOT TO SCALE

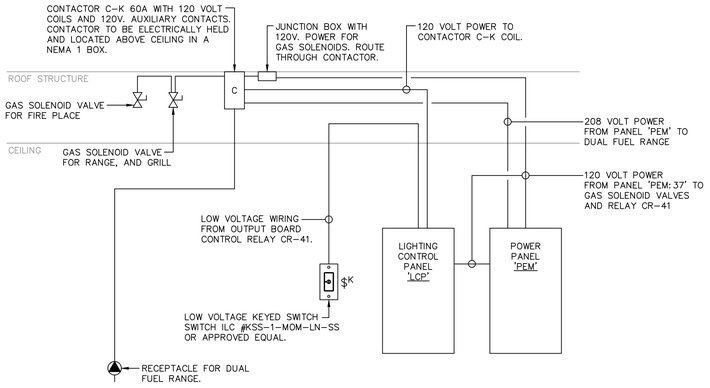


SEQUENCE OF CONTROL:

- LOW VOLTAGE NON-DIMMABLE SWITCH TO TURN LIGHTS ON-OFF
- OCCUPANCY SENSOR TO TURN LIGHTS OFF IF NO MOTION IS SENSED FOR 15 MINUTES. LIGHTS TO ENERGIZE UPON DEVICE SENSING MOVEMENT.
- LIGHTS TO AUTOMATICALLY TURN ON UPON RECEIVING A CALL FROM E911 DISPATCH CONTROL PANEL REGARDLESS OF RELAY POSITION.

LIGHTING CONTROL PANEL 'LCP' WIRING DIAGRAM #1 - NON DIMMING

SCALE: NONE

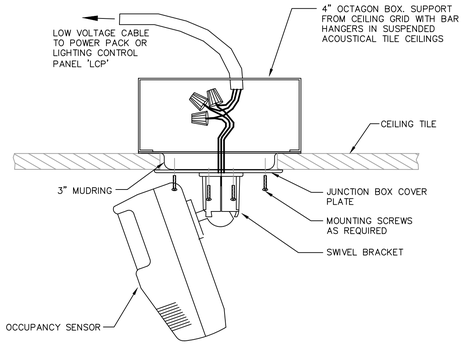


SEQUENCE OF CONTROL:

- CIRCUITS TO DUAL FUEL RANGE AND GAS SOLENOID VALVES TO BE ROUTED THROUGH CONTACTOR C-K.
- UPON ACTIVATION OF E911 DISPATCH PANEL THE RESPECTIVE RELAY (CR-41) SHALL DE-ENERGIZE AND INTERRUPT POWER TO CONTACTOR COIL SHUTTING DOWN THE GAS AND POWER TO THESE PIECES OF EQUIPMENT.
- KEYED SWITCH SHALL BE USED TO SEND A SIGNAL BACK TO THE 'LCP' TO TURN ON RELAY CR-41, ENERGIZE CONTACTOR, AND TURN ON POWER TO EQUIPMENT.

LIGHTING CONTROL PANEL 'LCP' WIRING DIAGRAM #4 - KITCHEN

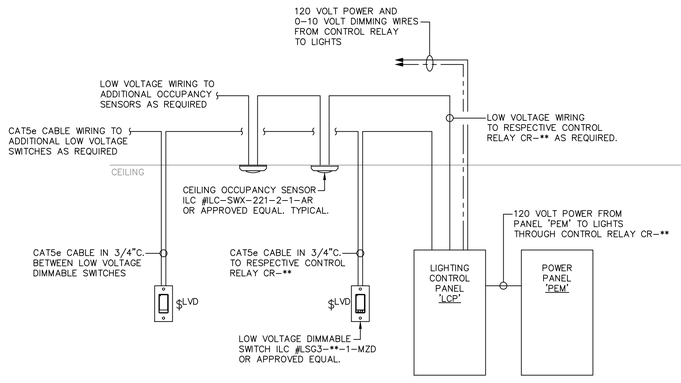
SCALE: NONE



NOTE: SENSOR SHALL BE FIELD ADJUSTED PER MANUFACTURER'S RECOMMENDATIONS.

OCCUPANCY SENSOR 'OSW' - MOUNTING DETAIL

NOT TO SCALE

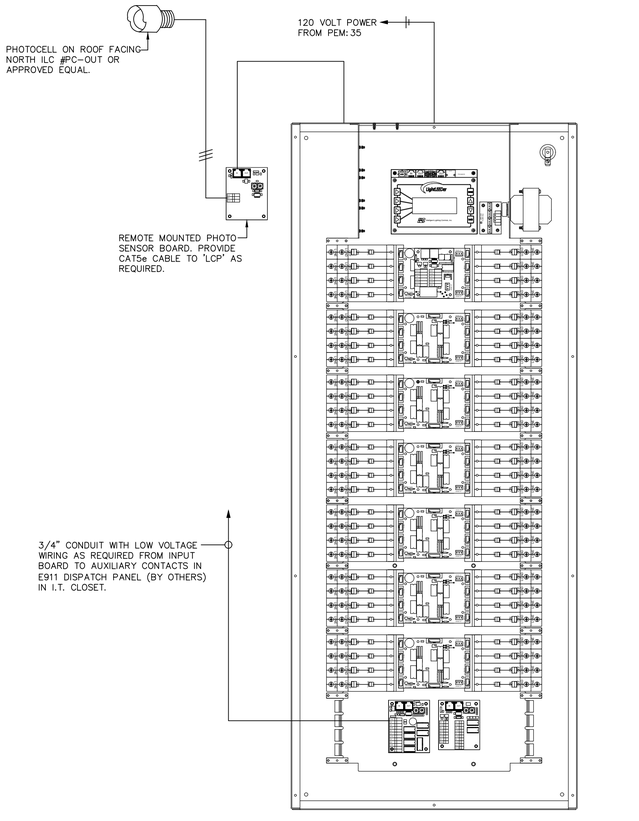


SEQUENCE OF CONTROL:

- LOW VOLTAGE DIMMABLE SWITCH TO TURN LIGHTS ON-OFF. RAISE-LOWER BUTTONS TO BE USED TO DIM LIGHTS.
- OCCUPANCY SENSOR TO TURN LIGHTS OFF IF NO MOTION IS SENSED FOR 15 MINUTES. LIGHTS TO ENERGIZE UPON DEVICE SENSING MOVEMENT.
- LIGHTS TO AUTOMATICALLY TURN ON UPON RECEIVING A CALL FROM E911 DISPATCH CONTROL PANEL REGARDLESS OF RELAY POSITION.

LIGHTING CONTROL PANEL 'LCP' WIRING DIAGRAM #2 - DIMMING

SCALE: NONE



LIGHTING CONTROL PANEL GENERAL NOTES:

A. LIGHTING CONTROL PANEL 'LCP' IS AN INTELLIGENT LIGHTING CONTROLS (ILC) LIGHTLEEDER SERIES #LL-56-S-R40/1(46)-R40/2(2) OR APPROVED EQUAL. FURNISHED COMPLETE WITH ILC #LSCIM-P-O CONDITIONAL INPUT MODULE, ILC #LL-DCO-MOM-P CONTACT OUTPUT BOARD, AND ILC #LSPSC-OUT-PR-P PHOTO SENSOR (REMOTE MOUNTED).

B. RELAYS SHALL BE HORIZONTALLY NUMBERS TO COORDINATE WITH THE SCHEDULE.

LIGHTING CONTROL PANEL 'LCP'

SCALE: NONE

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Revisions

No.	Date	Description

ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BAILEY
8/30/24
SEAL

100% CD'S

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
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CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

SHEET TITLE: **Electrical Details**

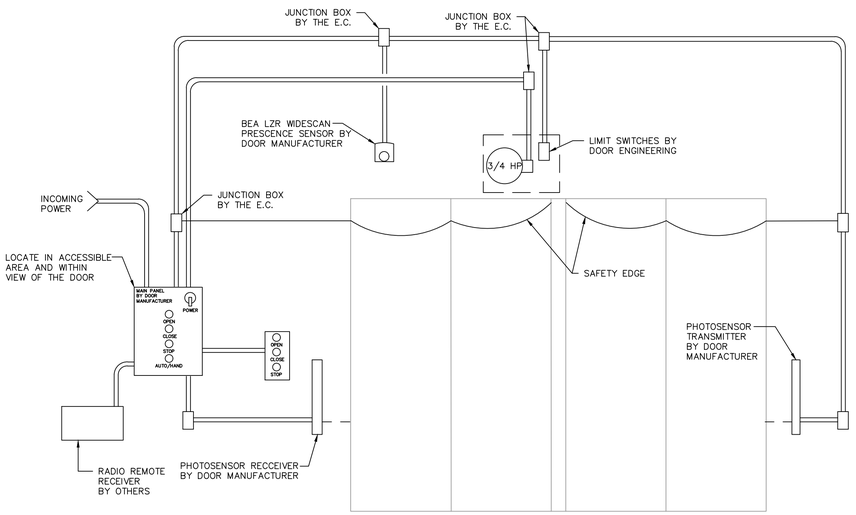
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08/30/24**

DRAWN BY:	CHECKED BY:
JLB	JLB

SHEET NUMBER

E004

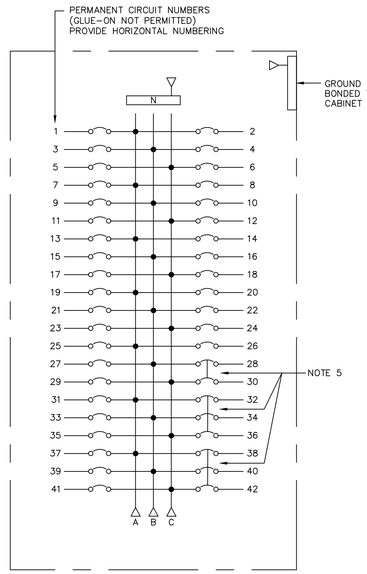


DETAIL NOTES:

A. CONTRACTOR TO FURNISH ALL CONDUIT, POWER, AND CONTROL WIRING REQUIRED FOR MOTORIZED FOLDING DOOR AS RECOMMENDED BY MANUFACTURER. CONTRACTOR TO OBTAIN A COPY OF APPROVED SHOP DRAWINGS SUBMITTALS PRIOR TO ANY WORK.

APPARATUS BAY FOLDING DOOR WIRING DIAGRAM

SCALE: NONE

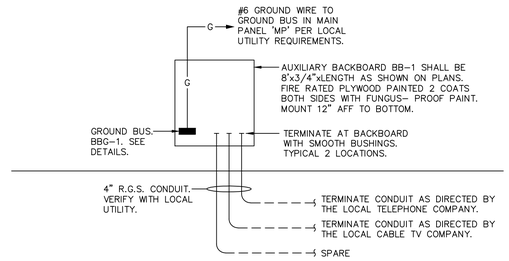


DETAIL NOTES:

1. ALL PANELS TO HAVE DOOR-IN-DOOR (HINGED TRIM) CONSTRUCTION.
2. INSTALL NAMEPLATE (PER DETAIL) USING MACHINE SCREWS OR 2 PART EPOXY (12HR)
3. PANEL TO HAVE WELDED METAL DIRECTORY CARD HOLDER.
4. ALL MULTI-POLE BREAKERS SHALL HAVE A COMMON TRIP MECHANISM FOR SIMULTANEOUS OPERATION.
5. PROVIDE HANDLE TIE FOR MULTIPLE BREAKERS WITH CIRCUITS THAT SHARE A COMMON NEUTRAL.

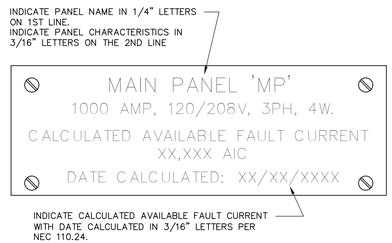
PANELBOARD CONNECTION AND NUMBERING DETAL

NOT TO SCALE

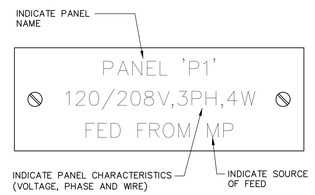


TELEPHONE AND CATV SERVICE ENTRANCE RISER

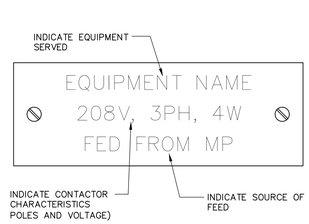
NOT TO SCALE



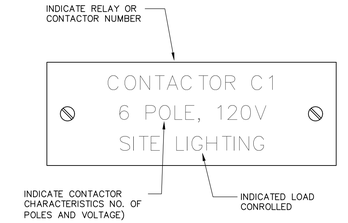
MAIN PANEL NAMEPLATE DETAIL



PANELBOARD NAMEPLATE DETAIL



SAFETY SWITCHES AND/MOTOR STARTERS



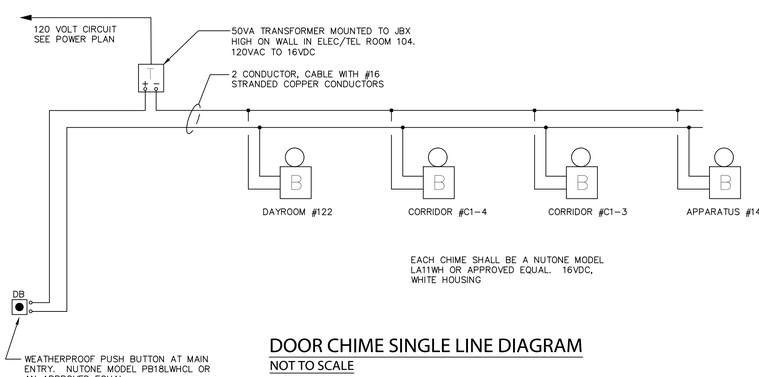
CONTACTOR AND RELAY ENCLOSURES

DETAIL NOTES:

1. PROVIDE NAMEPLATES FOR MAIN PANEL, ALL BREAKERS IN TYPE 'CCB' PANELS, TRANSFER SWITCH(ES), PANELBOARDS, ALL SAFETY SWITCHES, MOTOR STARTERS, CONTACTOR AND RELAY ENCLOSURES, ETC.
2. ALL NAMEPLATES SHALL BE WHITE WITH 1/4" HIGH ENGRAVED LETTERING, BLACK FOR NORMAL POWER AND RED FOR EMERGENCY POWER UNLESS NOTED OTHERWISE.
3. ALL NAMEPLATES TO BE SECURED TO THE EQUIPMENT WITH SCREWS OR HIGH STRENGTH WATERPROOF EPOXY ADHESIVE.

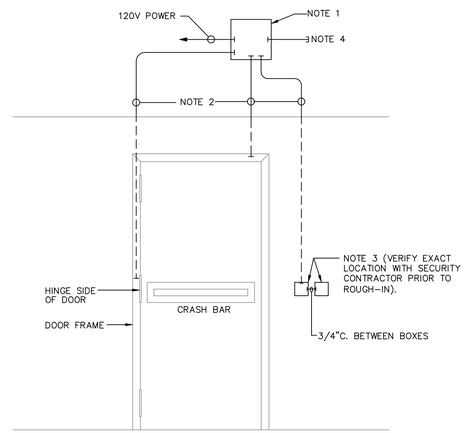
ELECTRICAL EQUIPMENT NAMEPLATE DETAILS

NOT TO SCALE



DOOR CHIME SINGLE LINE DIAGRAM

NOT TO SCALE

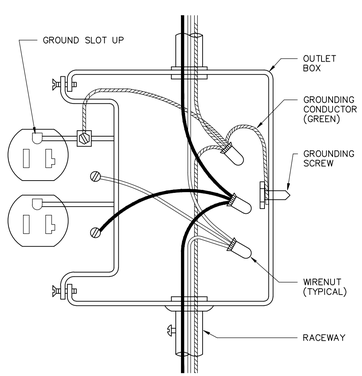


NOTES THIS DETAIL:

1. 8"x8"x4" SURFACE JUNCTION BOX WITH COVER FOR SECURITY WIRING. MOUNT ABOVE ACCESSIBLE CEILING OR AS HIGH AS POSSIBLE AT STRUCTURE.
2. 3/4"C. WITH PULLWIRE FROM OUTLET BOX OR DOOR FRAME STUBBED INTO JUNCTION BOX. PROVIDE BUSHING AND PULLWIRE.
3. DOUBLE GANG BOX WITH SINGLE GANG MUD RING. MOUNT AT 48" AFF TO TOP (VERIFY).
4. 1" CONDUIT STUBBED OUT 12" FROM JUNCTION BOX ABOVE ACCESSIBLE CEILING. PROVIDE BUSHING.

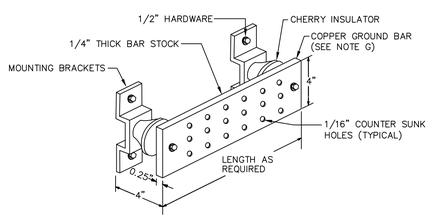
DOOR SECURITY ROUGH-IN DETAIL DS

NOT TO SCALE



TYPICAL RECEPTACLE INSTALLATION DETAIL

NOT TO SCALE



GROUND BAR GENERAL NOTES:

A. FURNISH AND INSTALL BUS BAR AND CONDUCTORS AS SHOWN UNLESS OTHERWISE NOTED.

B. LABEL ALL BUS BARS WITH PERMANENT ENGRAVED NAMEPLATE.

C. GROUNDING CONDUCTORS, OTHER THAN AC POWER FEEDERS SHALL BE INSTALLED IN NONMETALLIC RIGID CONDUITS EXCEPT AS NOTED.

D. GROUND BAR CONDUCTORS SHALL NOT SHARE CONDUITS OR PULL BOXES WITH CONDUCTORS OR CABLES OF OTHER SYSTEMS.

E. PULL BOX USED FOR GROUND CONDUCTORS SHALL BE NONMETALLIC.

F. SEE SPECIFICATIONS FOR REQUIRED MAXIMUM RESISTANCE TO GROUND.

G. GROUND BAR KIT SHALL BE OTRONICS #WWBB-** (LENGTH AS REQUIRED) MOUNT INSULATORS DIRECT TO INSIDE BACKING OF NEMA 3R ENCLOSURE (SEE EQUIPMENT ELEVATIONS FOR APPROXIMATE LOCATION). ENCLOSURE SHALL BE SIZE SUCH THAT ADEQUATE WIRE BENDING SPACE IS PROVIDED ON ALL SIDES.

DETAIL: GROUND BUS BAR

NOT TO SCALE

BBG-1

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CCE No. Date: Jan 23, 2025
File: EG-05.dwg Time: 1:22:38 pm

Revisions

No.	Date	Description

ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BILLEY
8/30/24
SEAL

100% CD'S

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

SHEET TITLE: Electrical Details
PROJECT NUMBER: CWA No. 2023-01
DATE: 08/30/24
DRAWN BY: JLB CHECKED BY: JLB

SHEET NUMBER
E005

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CCE No. Date: Jan 23, 2025
File: EG-06.dwg Time: 1:23:14 pm

Revisions

No.	Date	Description

ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BILLEY
8/30/24
SEAL

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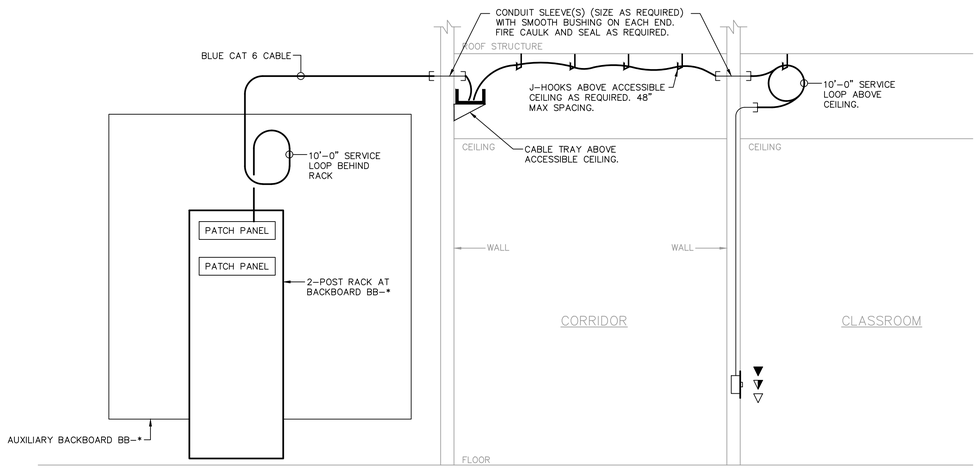
IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE



DATA WIRING NOTES:

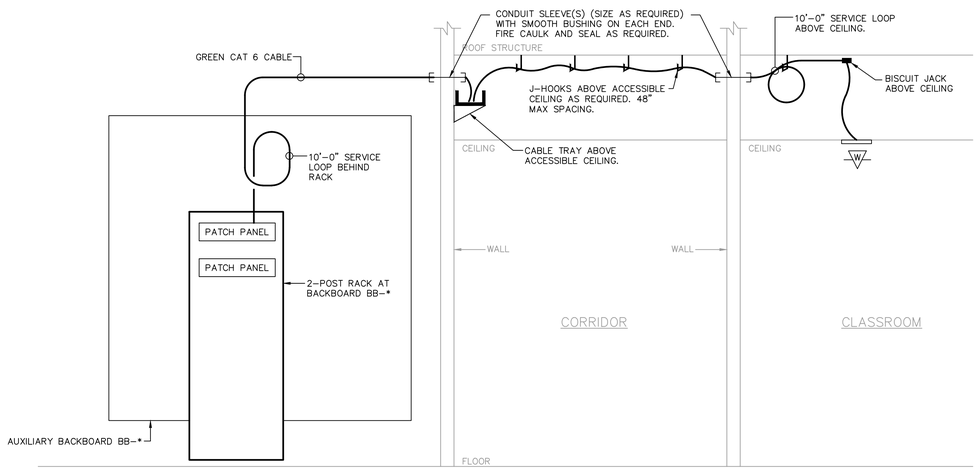
A. DATA OUTLET (# DATA AS INDICATED) – FLUSH MOUNTED IN 4" SQUARE BOX WITH SINGLE GANG RAISED COVER. FURNISH AND INSTALL CAT6 CONNECTOR WITH DATA ICONS FOR EACH DATA JACK AS INDICATED WITH PORT CAPACITY FOR EACH DATA JACK AS INDICATED AND TO PROVIDE A MINIMUM OF ONE FUTURE PORT. FURNISH AND INSTALL CAT6 RATED CABLES (# AS INDICATED FOR DATA) FROM OUTLET TO BACKBOARD BB-* VIA CONDUIT, CABLE TRAY, J-HOOKS, AND SLEEVES. ALL CABLES SHALL BE TERMINATED, BOTH ENDS, AS DIRECTED BY OWNER.

B. PROVIDE 10'-0" BLUE PATCH CORD PER DROP AT EACH PATCH PANEL PORT.

C. PROVIDE 7'-0" BLACK PATCH CORD PER DROP AT EACH WORK AREA OUTLET

DATA OUTLET DETAIL ▽◥▼

SCALE: NONE



WIRELESS ACCESS POINT WIRING NOTES:

A. DATA OUTLET (# DATA AS INDICATED) – FURNISH AND INSTALL CAT6 CONNECTOR WITH DATA ICONS FOR EACH DATA JACK AS INDICATED. FURNISH AND INSTALL CAT6 RATED CABLES (# AS INDICATED FOR DATA) FROM OUTLET TO BACKBOARD BB-* VIA CONDUIT, CABLE TRAY, J-HOOKS, AND SLEEVES. ALL CABLES SHALL BE TERMINATED, BOTH ENDS, AS DIRECTED BY OWNER.

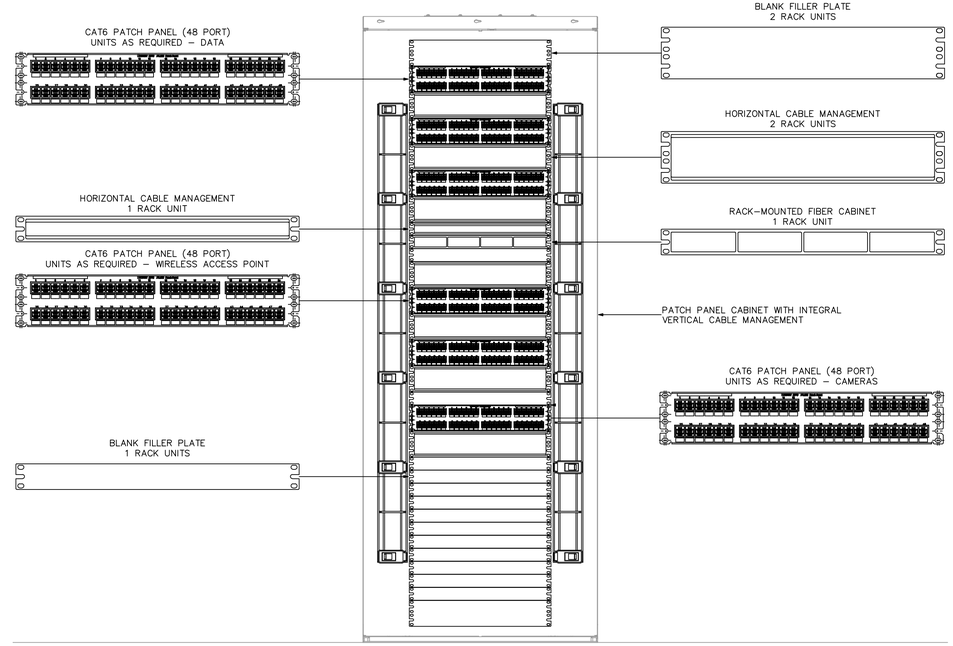
B. PROVIDE 10'-0" GREEN PATCH CORD PER DROP AT EACH PATCH PANEL PORT.

C. PROVIDE 10'-0" GREEN PATCH CORD PER DROP AT EACH WIRELESS ACCESS POINT.

D. PROVIDE A GREEN DOT STICKER ON CEILING GRID UNDER THE BISCUIT JACK TO IDENTIFY THE LOCATION OF THE DEVICE.

WIRELESS ACCESS POINT DETAIL W

SCALE: NONE



DATA RACK LAYOUT NOTES:

A. PROVIDE DATA RACK AS CALLED FOR IN SPECIFICATIONS.

B. ALL PATCH PANELS SHALL BE DEDICATED FOR DATA, WIRELESS ACCESS POINT (WAP), OR CAMERAS. DO NOT INTERMIX CABLING BETWEEN PATCH PANELS.

C. PROVIDE UNINTERRUPTIBLE POWER SUPPLY AT EACH RACK AS CALLED FOR IN SPECIFICATIONS AT BOTTOM OF EACH CABINET.

TYPICAL DATA RACK LAYOUT

SCALE: NONE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
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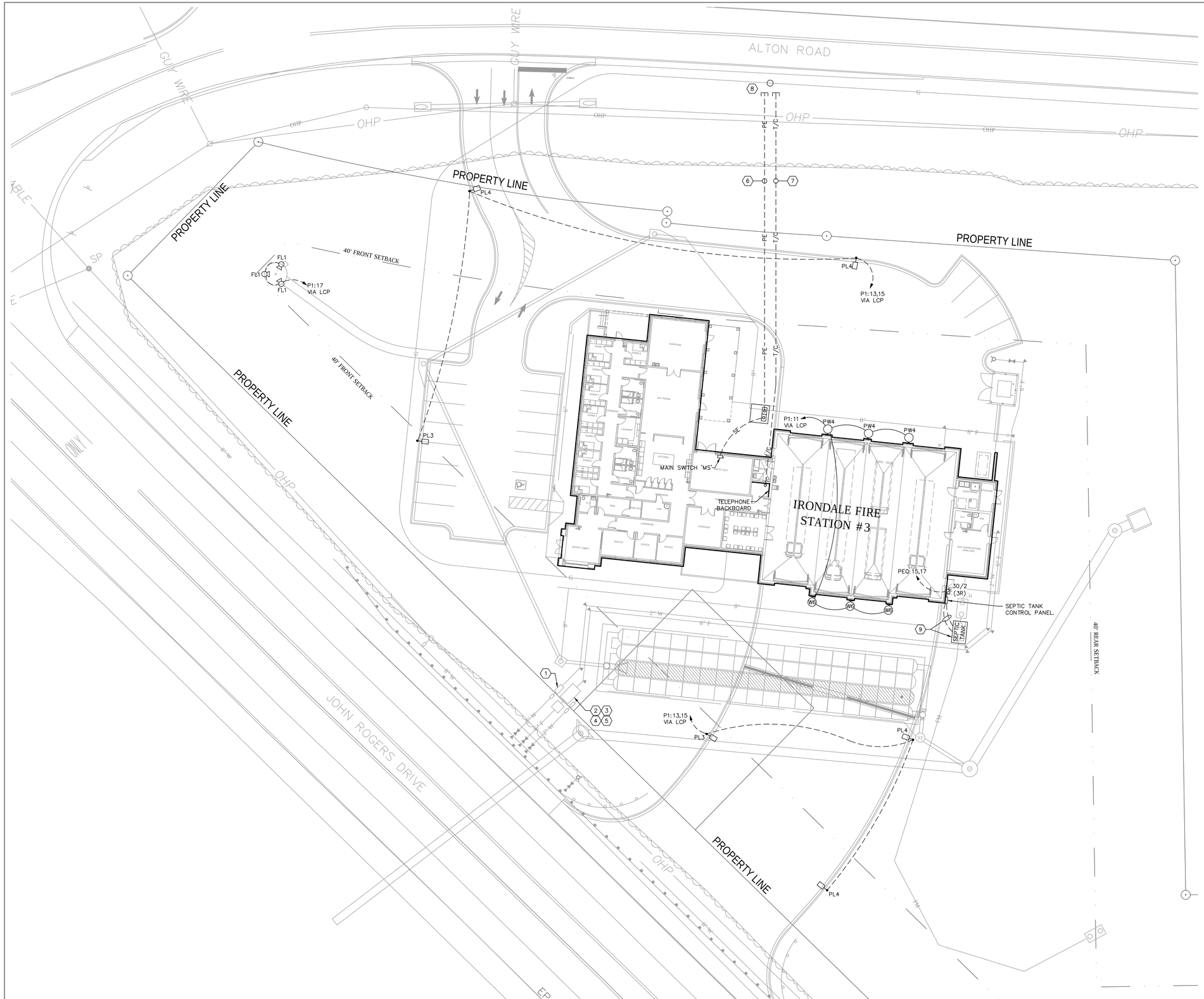
SHEET TITLE:
Electrical Details

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08/30/24

DRAWN BY:	CHECKED BY:
JLB	**JLB**

SHEET NUMBER
E006



SITE PLAN - ELECTRICAL

SCALE: 1" = 20'-0"

GENERAL NOTES THIS SHEET:

A. ALL SITE LIGHTING SHOWN ON THIS SHEET SHALL BE #8–1"C.

PLAN NOTES THIS SHEET:

1. WATER VAULT LOCATED IN ABOVE GROUND ENCLOSURE WITH HEAT TAPE. PROVIDE 120 POWER TO INTEGRAL GFCI RECEPTACLE AS REQUIRED. CONNECT TO 20/1 BREAKER PANEL 'P1: __' WITH 2#10,1#10G–1"C.
2. TAMPER SWITCHES LOCATED IN FIRE VAULT. VERIFY EXACT LOCATION WITH THE CIVIL AND FIRE PROTECTION CONTRACTOR PRIOR TO ANY ROUGHING. PROVIDE LIGHTNING PROTECTION ON FIRE ALARM CIRCUIT(S) AS REQUIRED.
3. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED TO SUMP PUMP (120V.) IN FIRE PROTECTION VAULT. CONNECT TO PANEL P1: __ WITH 2#10,1#10G–1"C. VERIFY ALL WIRING REQUIREMENTS PRIOR TO ANY WORK.
4. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED TO HEAT TAPE (120V.) IN FIRE PROTECTION VAULT. CONNECT TO PANEL P1: __ WITH 2#10,1#10G–1"C. VERIFY ALL WIRING REQUIREMENTS PRIOR TO ANY WORK.
5. PROVIDE SPARE 1" CONDUIT FROM FIRE VAULT TO PANEL RP2 IN BUILDING #2 ELECTRICAL ROOM.
6. (2) 5" PVC SCH80 CONDUITS FOR PRIMARY ELECTRIC INSTALLED PER LOCAL POWER COMPANY WRITTEN SPECIFICATIONS.
7. (4) 4" PVC SCH80 CONDUITS FOR FIBER, TELEPHONE AND CATV SERVICE. SEE AUXILIARY RISER.
8. TERMINATE UTILITY SERVICE CONDUITS AT RISER POLE AS DIRECTED BY RESPECTIVE UTILITY COMPANY.
9. APPROXIMATE LOCATION OF 1000 GALLON SEPTIC TANK WITH PUMPS. ELECTRICAL CONTRACTOR TO PROVIDE (2) 1 1/2" CONDUIT FROM TANK TO PUMP CONTROLLER/ALARM PANEL MOUNTED ON BUILDING . PROVIDE POWER WIRING CONNECTIONS TO PUMPS AS REQUIRED. VERIFY EXACT LOCATION IN FIELD.

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Revisions		
No.	Date	Description

ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BITTEN
8/30/24
SEAL

100% CD'S

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH
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PH: 205-250-0700
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SHEET TITLE: **Site Plan - Electrical**

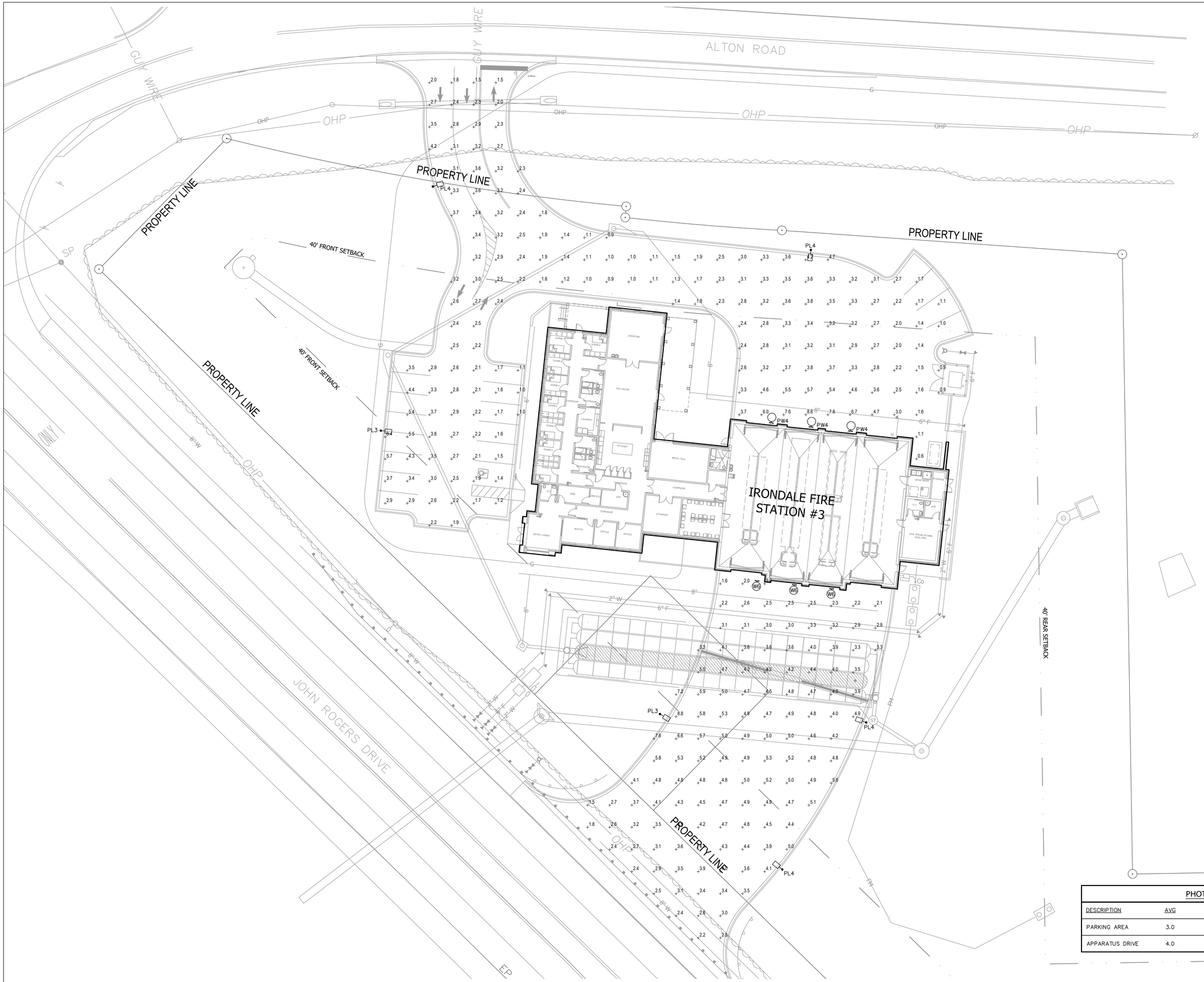
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08/30/24**

DRAWN BY:	CHECKED BY:
JLB	JLB

SHEET NUMBER

E101



SITE PLAN - PHOTOMETRICS

SCALE: 1" = 20'-0"

PHOTOMETRIC STUDY

DESCRIPTION	AVG	MAX	MIN	MAX./MIN	AVG./MIN
PARKING AREA	3.0	8.7	1.0	8.7	3.0
APPARATUS DRIVE	4.0	8.8	1.5	5.9	2.7

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File: ES-01.dwg | Time: 4:49:40 pm

Revisions

No.	Date	Description

ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BILLEY
8/30/24
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IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
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SHEET TITLE: **Site Plan - Photometrics**

PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08/30/24**

DRAWN BY:	CHECKED BY:
JLB	JLB

SHEET NUMBER

E102

CONSULTING CONSTRUCTION ENGINEERING, LLC
1028 23rd Street South
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CCE No. Date: Mar 21, 2024
File: 23CWA04.dwg Time: 2:25:10 pm

Revisions		
No.	Date	Description

ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BOLEY
8/30/24

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IRONDALE FIRE STATION #3

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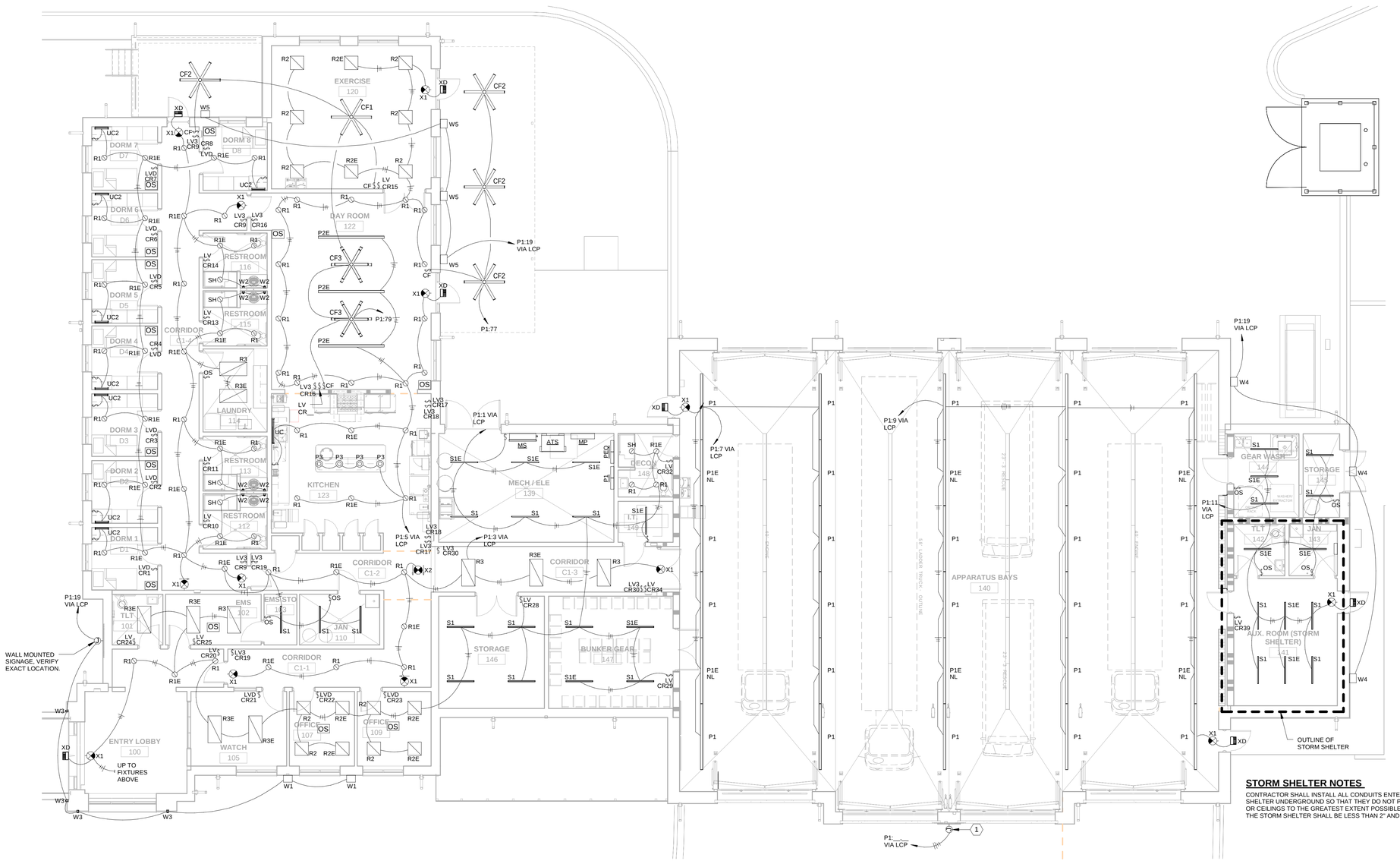
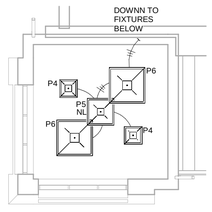
CITY OF IRONDALE



Level 1 Plan - Lighting
1/8" = 1'-0"



Cupola Plan - Lighting
1/8" = 1'-0"

PLAN NOTES THIS SHEET:

1. JUNCTION BOX WITH (2) 120V. CIRCUITS FOR BUILDING MOUNTED SIGNAGE. HOMERUN THROUGH 'LCP' AS REQUIRED.

GENERAL NOTES THIS SHEET:

A. CONNECT ALL EXIT SIGNS AND FIXTURES DESIGNATED 'NL' TO THE LOCAL LIGHTING CIRCUIT SHOWN AHEAD OF THE SWITCHLEG FOR CONTINUOUS OPERATION.

B. FIXTURES WITH AN INTEGRAL BATTERY PACK SHALL HAVE THE BATTERY CONNECTED AHEAD OF THE SWITCHLEG FOR CONTINUOUS POWER. BATTERY SHALL OPERATE FIXTURE UPON LOSS OF POWER.

C. REFER TO LIGHTING CONTROL SCHEDULE AND WIRING DIAGRAMS. LOW VOLTAGE WIRING AND AUXILIARY CABLING NOT SHOWN FOR CLARITY.

D. HOMRUNS FOR EACH LIGHTING CIRCUIT SHALL BE ROUTED THROUGH THE LIGHTING CONTROL PANEL AS REQUIRED FOR EACH AREA BEING SERVED BY A RELAY IN THE LCP.

STORM SHELTER NOTES

CONTRACTOR SHALL INSTALL ALL CONDUITS ENTERING OR EXITING THE STORM SHELTER UNDERGROUND SO THAT THEY DO NOT PENETRATE STORM SHELTER WALLS OR CEILINGS TO THE GREATEST EXTENT POSSIBLE. ANY PENETRATION(S) REQUIRED IN THE STORM SHELTER SHALL BE LESS THAN 2" AND SHALL CONFORM TO ICC 500.

CWA CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
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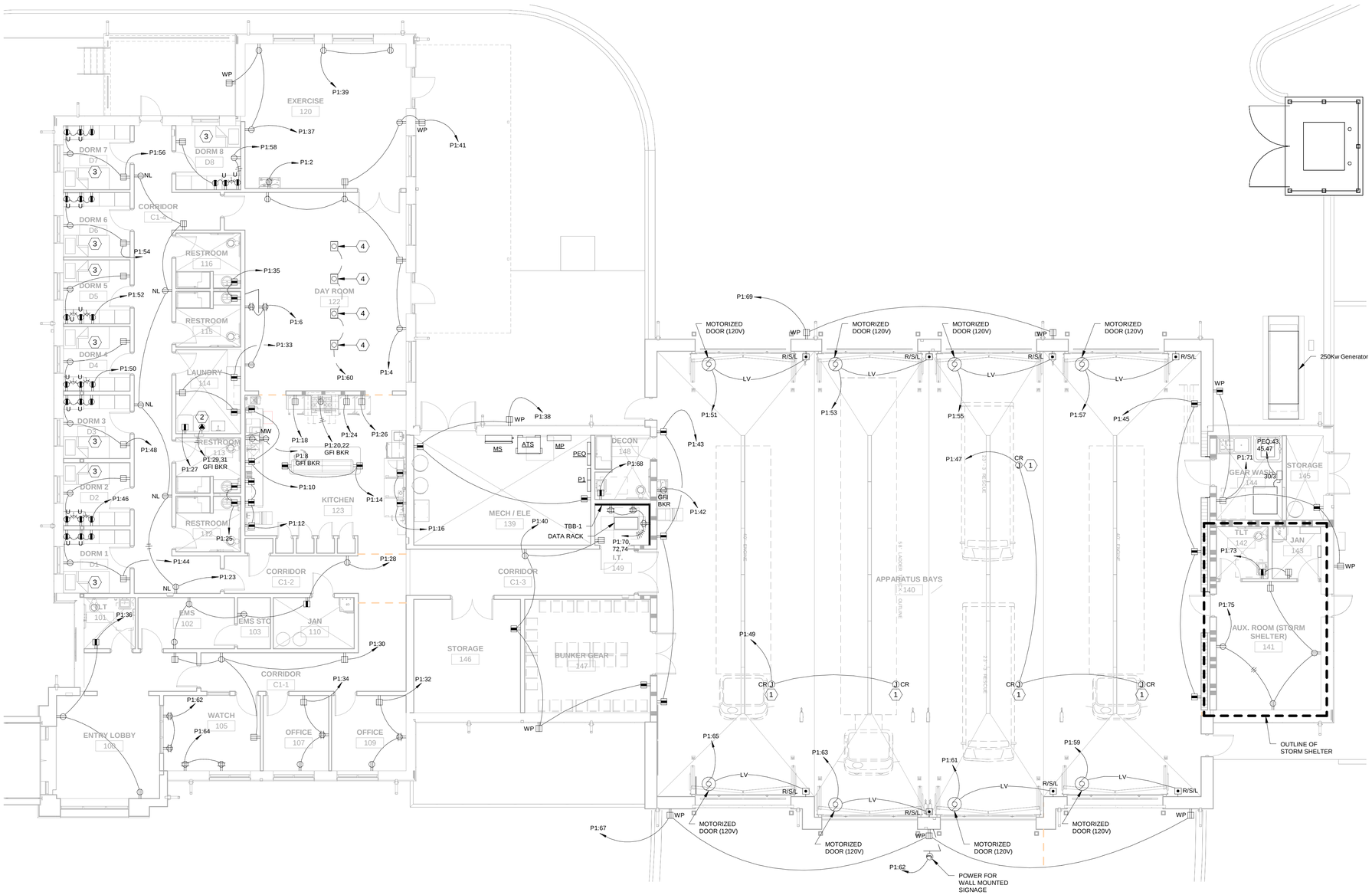
SHEET TITLE:
Level 1 Plan - Lighting

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
JLB	**JLB**

SHEET NUMBER
E201



Level 1 Plan - Power
1/8" = 1'-0"

PLAN NOTES THIS SHEET:

1. CORD REEL MOUNTED TO STRUCTURE. VERIFY EXACT LOCATION WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN. REEL CRAFT #H-7122 OR APPROVED EQUAL.
2. VERIFY NEMA CONFIGURATION PRIOR TO PURCHASE.
3. ALL RECEPTACLES IN THIS ROOM SHALL BE TAMPER RESISTANT PER NEC 210.12(B).
4. SINGLE GANG FLOOR OUTLET WITH (1) DUPLEX RECEPTACLE. WIREMOLD 880 SERIES OR APPROVED EQUAL.

STORM SHELTER NOTES

CONTRACTOR SHALL INSTALL ALL CONDUITS ENTERING OR EXITING THE STORM SHELTER UNDERGROUND SO THAT THEY DO NOT PENETRATE STORM SHELTER WALLS OR CEILINGS TO THE GREATEST EXTENT POSSIBLE. ANY PENETRATION(S) REQUIRED IN THE STORM SHELTER SHALL BE LESS THAN 2" AND SHALL CONFORM TO ICC 500.

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CCE No. Date: Mar 21, 2024
File: 23CWA04.dwg Time: 2:25:10 pm

Revisions		
No.	Date	Description

ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BOLEY
8/30/24

100% CD'S

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
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SHEET TITLE: **Level 1 Plan - Power**

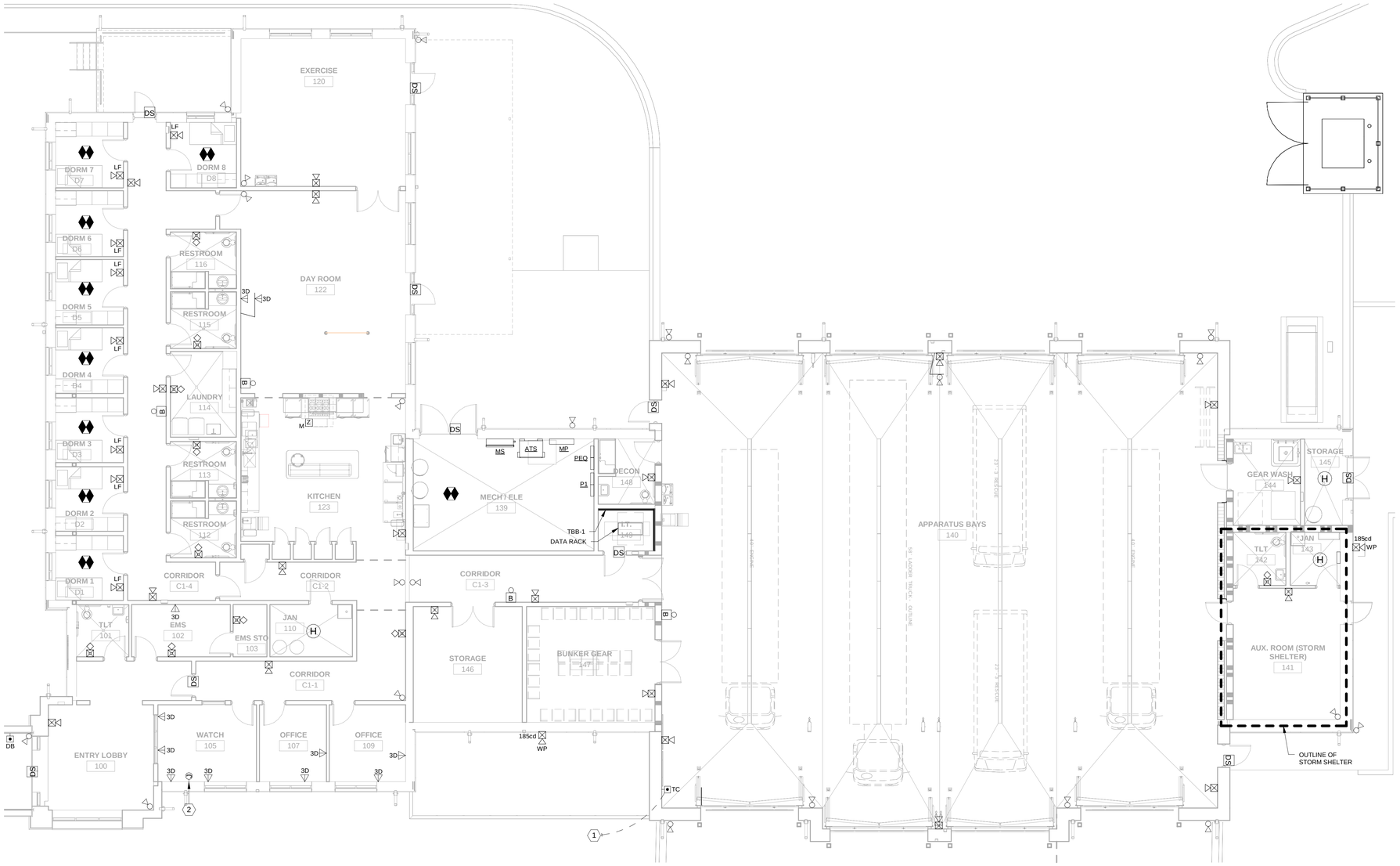
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08.30.24**

DRAWN BY:	CHECKED BY:
JLB	JLB

SHEET NUMBER

E202



Level 1 Plan - Auxiliary
1/8" = 1'-0"

PLAN NOTES THIS SHEET:

1. TRAFFIC CONTROL PUSH BUTTON. PROVIDE A 1"C. STUBBED FROM BUILDING TO TRAFFIC CONTROLLER LOCATED ON SITE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
2. JUNCTION BOX WITH 1"C. STUBBED UP TO ABOVE CEILING FOR PAGING RADIO. TERMINATE WITH SMOOTH BUSING AND PROVIDE PULLWIRE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.

STORM SHELTER NOTES

CONTRACTOR SHALL INSTALL ALL CONDUITS ENTERING OR EXITING THE STORM SHELTER UNDERGROUND SO THAT THEY DO NOT PENETRATE STORM SHELTER WALLS OR CEILINGS TO THE GREATEST EXTENT POSSIBLE. ANY PENETRATION(S) REQUIRED IN THE STORM SHELTER SHALL BE LESS THAN 2" AND SHALL CONFORM TO ICC 500.

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No.	Date	Description

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8/30/24

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IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
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CITY OF IRONDALE

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SHEET TITLE: **Level 1 Plan - Auxiliary**

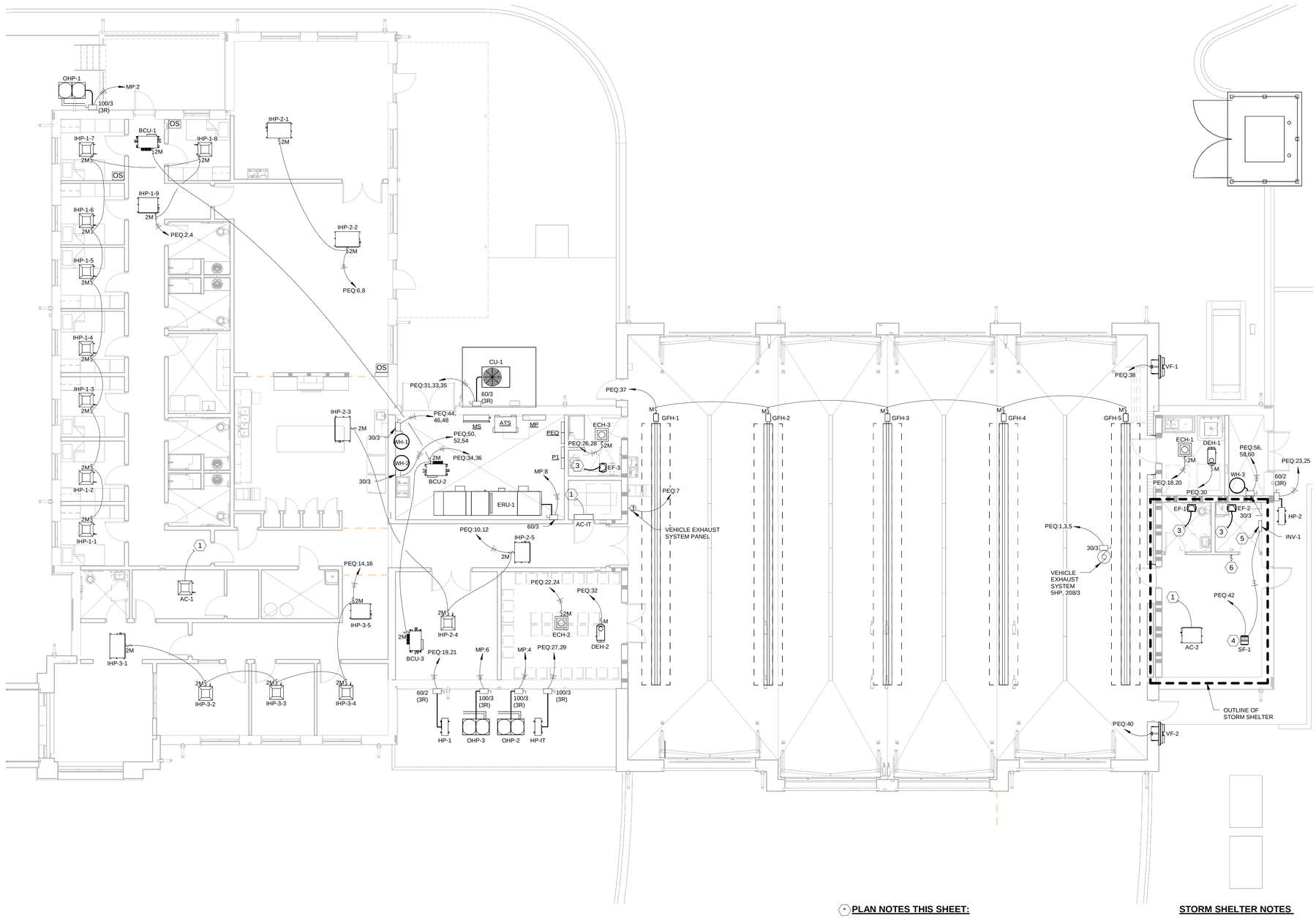
PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08.30.24**

DRAWN BY:	CHECKED BY:
JLB	**JLB**

SHEET NUMBER

E203



Level 1 Plan - Equipment Connections
1/8" = 1'-0"

PLAN NOTES THIS SHEET:

1. INDOOR UNIT RECEIVES ITS POWER FROM ASSOCIATED OUTDOOR UNIT ON ROOF. PROVIDE 2#12, 1#12G-3/4"C. UP TO OUTDOOR UNIT AND CONNECT EACH END AS REQUIRED. CIRCUIT TO BE ROUTED ADJACENT TO REFRIGERANT PIPIING AND CONNECTED THROUGH 2 POLE HORSEPOWER RATED SWITCH AS SHOWN.
2. JUNCTION BOX WITH 120 VOLT POWER FOR IONIZER (120V.) AT HVAC UNIT. CONNECT TO NEAREST 120V. RECEPTACLE CIRCUIT IN AREA WITH 2#12,1# 12G.-3/4"C.. COORDINATE WITH THE HVAC CONTRACTOR AND MAKE ALL WIRING CONNECTIONS AS REQUIRED. PROVIDE HORSEPOWER RATED THERMAL SWITCH AT EACH LOCATION.
3. FAN CONNECTED TO LOCAL LIGHTING CIRCUIT NOTE.
4. SUPPLY FAN TO BE CONTROLLED VIA ON-OFF SWITCH AND INVERTER INV-1.
5. 1500 WATT INVERTER INV-1 (WITH EXTRA RUN TIME BATTERIES) MOUNTED ON WALL AS HIGH AS POSSIBLE. INVERTER SHALL PROVIDE EMERGENCY POWER TO SUPPLY FAN SF-1 (557 WATTS, 120V.). CALCULATED RUN TIME IS +120 MINUTES. DUAL LITE SERIES DLS-1500-120-120-20-2-ERT OE APPROVED EQUAL. FAN TO BE CONTROLLED VIA SWITCH ON WALL. COORDINATE WITH THE MECHANICAL CONTRACTOR AS REQUIED.
6. ON-OFF SWITCH WITH PILOT LIGHT IN LOCKABLE COVER TO CONTROL SUPPLY FAN SF-1. COORDINATE EXACT LOCATION WITH THE MECHANICAL CONTRACTOR AS REQUIRED.

STORM SHELTER NOTES

CONTRACTOR SHALL INSTALL ALL CONDUITS ENTERING OR EXITING THE STORM SHELTER UNDERGROUND SO THAT THEY DO NOT PENETRATE STORM SHELTER WALLS OR CEILINGS TO THE GREATEST EXTENT POSSIBLE. ANY PENETRATION(S) REQUIRED IN THE STORM SHELTER SHALL BE LESS THAN 2" AND SHALL CONFORM TO ICC 500.

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ALABAMA REGISTERED No. 31921 PROFESSIONAL ENGINEER JAMES L. BOLEY
8/30/24

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IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
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CITY OF IRONDALE

CWA CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
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FAX: 205-250-0515

SHEET TITLE:
Level 1 Plan - Equipment Connections

PROJECT NUMBER:
CWA No. 2023-01

DATE:
08.30.24

DRAWN BY:	CHECKED BY:
JLB	**JLB**

SHEET NUMBER
E204

PANEL:	PANEL AMPS	250	VOLTAGE:	MOUNTING	SURFACE
PEQ	MAIN TYPE	M.L.O.	120 / 208, 3 PHASE, 4 WIRE, 60 HZ	NEMA RATING	NEMA 1
	MAIN BREAKER RATING	N/A	AIC RATING 22,000	LOCATION	ELECTRICAL ROOM
TYPE:	SOLID NEUTRAL	100%	CALC FAULT CURRENT	FED FROM	PANEL 'MP' - 400/3 BKR
BQL	GROUND BUS	100%	BREAKER FEATURES: **GFI** = GROUND FAULT CIRCUIT INTERRUPTER; **ST** = SHUNT TRIP; **TH** = TIE HANDLE		
			AF - ARC FAULT CIRCUIT INTERRUPTER; **LO** = LOCK-ON DEVICE		

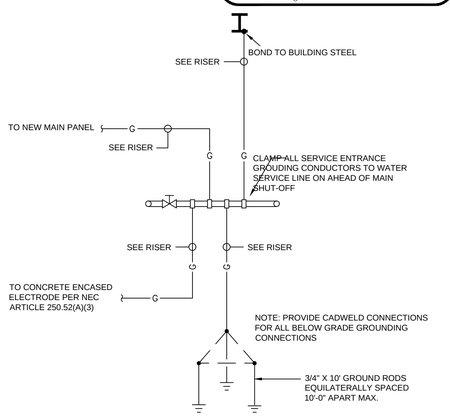
	CKT NO	BREAKER		LOAD TYPE	DESCRIPTION	WIRE SIZE	CKT LOAD	PHASE A	PHASE B	PHASE C	CKT LOAD	WIRE SIZE	DESCRIPTION	LOAD TYPE	BREAKER		CKT NO
ONE SECTION PANEL	1			EQUIP			2100	2526			426	#12	HP-1-1,2,3,4,5,6,7,8,9	A/C	20/2		2
	3	30/3		EQUIP	VEHICLE EXHAUST SYSTEM	#10	2100		2526		426			A/C			4
	5			EQUIP			2100			2807	707	#12	HP-2-1,2	A/C	20/2		6
	7	20/1		RCPT	VEHICLE EXHAUST SYSTEM PANEL	#12	1000	1707			707			A/C			8
	9	20/1			SPARE				626		626	#12	HP-2-3,4,5	A/C	20/2		10
	11	20/1			SPARE					626	626			A/C			12
	13	20/1			SPARE			666			666	#12	HP-3-1,2,3,4,5	A/C	20/2		14
	15	30/2		MTR	SEPTIC TANK CONTROL PANEL	3#10-1#10G.-1"C.	2400		3066		666			A/C			16
	17			MTR			2400			4150	1750	#12	ECH-1	HTG	20/2		18
	19	20/2		A/C	HP-1	3#12-1#12G.-1/2"C.	C	#VALUE!			1750			HTG			20
	21			A/C			749		3249		2500	#10	ECH-2	HTG	30/2		22
	23	20/2		A/C	HP-2	3#12-1#12G.-1/2"C.	1414			3914	2500			HTG			24
	25			A/C			1414	3164			1750	#12	ECH-3	HTG	20/2		26
	27	20/2		A/C	HP-IT	3#12-1#12G.-1/2"C.	915		2665		1750			HTG			28
	29			A/C			915			2067	1152	#12	DEH-1	EQUIP	20/1		30
	31	50/3		A/C	CU-1	4#6-1#10G.-1"C.	3936	5088			1152	#12	DEH-2	EQUIP	20/1		32
	33			A/C			3936		4119		183	#12	BCU-1,2,3	EQUIP	20/2		34
	35			A/C			3936			4119	183			EQUIP			36
	37	20/1		EQUIP	GFH-1,2,3,4,5	#12	864	2400			1536	#12	VF-1	MTR	20/1		38
	39								1536		1536	#12	VF-2	MTR	20/1		40
	41									557	557	#12	SF-1	MTR	20/1		42
SECTION TWO	43			MISC			1000	2500			1500			WTR HTR			44
	45	20/3		MISC	DECON WASHER	#12	1000		2500		1500	#12	WH-1	WTR HTR	20/3		46
	47			MISC			1000			2500	1500			WTR HTR			48
	49							1500			1500			WTR HTR			50
	51								1500		1500	#12	WH-2	WTR HTR	20/3		52
	53									1500	1500			WTR HTR			54
	55							1500			1500			WTR HTR			56
	57								1500		1500	#12	WH-3	WTR HTR	20/3		58
	59									1500	1500			WTR HTR			60
	61							0									62
	63								0								64
	65									0							66
	67							0									68
	69								0								70
	71									0							72
	73							0									74
	75								0								76
	77									0							78
	79							0									80
	81								0								82
	83									0							84
						PHASE TOTALS		#VALUE!	23287	23740							

PANEL:	PANEL AMPS	300	VOLTAGE:	MOUNTING	SURFACE
P1	MAIN TYPE	M.L.O.	120 / 208, 3 PHASE, 4 WIRE, 60 HZ	NEMA RATING	NEMA 1
	MAIN BREAKER RATING	N/A	AIC RATING 18,000	LOCATION	ELECTRICAL RM
TYPE:	SOLID NEUTRAL	100%	CALC FAULT CURRENT	FED FROM	PANEL MP - 300/3 BKR (VIA A.T.S.)
BQL	GROUND BUS	100%	BREAKER FEATURES: **GFI** = GROUND FAULT CIRCUIT INTERRUPTER; **ST** = SHUNT TRIP; **TH** = TIE HANDLE		
			AF - ARC FAULT CIRCUIT INTERRUPTER; **LO** = LOCK-ON DEVICE		

	CKT NO	BREAKER		LOAD TYPE	DESCRIPTION	WIRE SIZE	CKT LOAD	PHASE A	PHASE B	PHASE C	CKT LOAD	WIRE SIZE	DESCRIPTION	LOAD TYPE	BREAKER		CKT NO
SECTION ONE	1	20/1		LTG	LIGHTS	#12	1200	1700			500	#12	WATER COOLER	RCPT	20/1	GFI	2
	3	20/1		LTG	LIGHTS	#12	1200		1920		720	#12	DAY ROOM RECEPTS	RCPT	20/1		4
	5	20/1		LTG	LIGHTS	#12	1200			2100	900	#12	DAY ROOM RECEPTS	RCPT	20/1		6
	7	20/1		LTG	LIGHTS	#12	1200	2200			1000	#12	APPPLIANCE RECEPTS	RCPT	20/1	GFI	8
	9	20/1		LTG	LIGHTS	#12	1200		2380		1180	#12	APPLIANCE RECEPTS	KIT	20/1		10
	11	20/1		LTG	BUILDING MOUNTED LIGHTS	#12	600			1600	1000	#12	APPLIANCE RECEPTS	KIT	20/1		12
	13	20/2		LTG	PARKING LOT LIGHTS	#8	1000	2000			1000	#12	APPLIANCE RECEPTS	KIT	20/1		14
	15			LTG			1000		2000		1000	#12	APPLIANCE RECEPTS	KIT	20/1		16
	17	20/1		LTG	FLAG POLE LIGHTS	#12	360			860	500	#12	REFIGERATOR	KIT	20/1		18
	19	20/1		LTG	BUILDING MOUNTED LIGHTS	#12	1000	2500			1500	#10	RANGE	KIT	30/2	GFI	20
	21	20/1			SPARE					1500	1500			KIT			22
	23	20/1		RCPT	CORRIDOR C1-4 RECEPTS	#12	900			1400	500	#12	REFIGERATOR	KIT	20/1		24
	25	20/1		RCPT	RESTROOM RECEPTS	#12	360	860			500	#12	REFIGERATOR	KIT	20/1		26
	27	20/1		RCPT	WASHER	#12	500		1040		540	#12	CORRIDOR C1-2 RECEPTS	RCPT	20/1		28
	29	30/2	GFI	RCPT	DRYER	#10	1500			2220	720	#12	CORR., WATCH, EMS RECEPTS	RCPT	20/1		30
	31			RCPT			1500	2220			720	#12	OFFICE 109 RECEPTS	RCPT	20/1		32
	33	20/1		RCPT	LAYNDRY RECEPTS	#12	540		1260		720	#12	OFFICE 110 RECEPTS	RCPT	20/1		34
	35	20/1		RCPT	RESTROOM RECEPTS	#12	360			900	540	#12	ENTRY, TOILET RECEPTS	RCPT	20/1		36
	37	20/1		RCPT	EXERCISE RECEPTS	#12	540	1080			540	#12	MECH/ELEC RECEPTS	RCPT	20/1		38
	39	20/1		RCPT	EXERCISE RECEPTS	#12	360		1080		720	#12	CORR., STOR., BUNKER RECEPTS	RCPT	20/1		40
	41	20/1		RCPT	EXERCISE RECEPTS	#12	540			1040	500	#12	APP. BAY WATER COOLER	RCPT	20/1	GFI	42
SECTION TWO	43	20/1		RCPT	APP. BAY RECEPTS	#12	540	1440			900	#12	DORM 1 RECPTS	RCPT	20/1	AF	44
	45	20/1		RCPT	APP. BAY RECEPTS	#12	540		1440		900	#12	DORM 2 RECPTS	RCPT	20/1	AF	46
	47	20/1		RCPT	CORD REELS	#12	900			1800	900	#12	DORM 3 RECPTS	RCPT	20/1	AF	48
	49	20/1		RCPT	CORD REELS	#12	600	1500			900	#12	DORM 4 RECPTS	RCPT	20/1	AF	50
	51	20/1		RCPT	MOTORIZED DOOR	#12	500		1400		900	#12	DORM 5 RECPTS	RCPT	20/1	AF	52
	53	20/1		RCPT	MOTORIZED DOOR	#12	500			1400	900	#12	DORM 6 RECPTS	RCPT	20/1	AF	54
	55	20/1		RCPT	MOTORIZED DOOR	#12	500	1400			900	#12	DORM 7 RECPTS	RCPT	20/1	AF	56
	57	20/1		RCPT	MOTORIZED DOOR	#12	500		1400		900	#12	DORM 8 RECPTS	RCPT	20/1	AF	58
	59	20/1		RCPT	MOTORIZED DOOR	#12	500			1220	720	#12	DAY ROOM FLOOR RECPTS	RCPT	20/1		60
	61	20/1		RCPT	MOTORIZED DOOR	#12	500	1500			1000	#12	WALL MOUNTED SIGNAGE	RCPT	20/1		62
	63	20/1		RCPT	MOTORIZED DOOR	#12	500		1220		720	#12	WATCH RECPTS	RCPT	20/1		64
	65	20/1		RCPT	MOTORIZED DOOR	#12	500			1220	720	#12	WATCH RECPTS	RCPT	20/1		66
	67	20/1		RCPT	EXTERIOR RECEPTS	#12	540	720			180	#12	DECON RECPT	RCPT	20/1		68
	69	20/1		RCPT	EXTERIOR RECEPTS	#12	360		720		360	#12	TBB RECPT	RCPT	20/1		70
	71	20/1		RCPT	GEAR, STOR., EXT. RECEPTS	#12	720			1080	360	#12	TBB RECPT	RCPT	20/1		72
	73	20/1		RCPT	TOILET, JAN. RECEPTS	#12	360	720			360	#12	TBB RECPT	RCPT	20/1		74
	75	20/1		RCPT	STORM SHELTER RECEPTS	#12	720		720				SPACE				76
	77	20/1		MTR	CEILING FANS	#12	600			600			SPACE				78
	79	20/1		MTR	CEILING FANS	#12	800	800					SPACE				80
	81	20/1		LTG	BLDG MOUNTED SIGNAGE	#12	1000		1000				SPACE				82
	83	20/1		LTG	BLDG MOUNTED SIGNAGE	#12	1000			1000			SPACE				84
						PHASE TOTALS		20640	19080	18440							

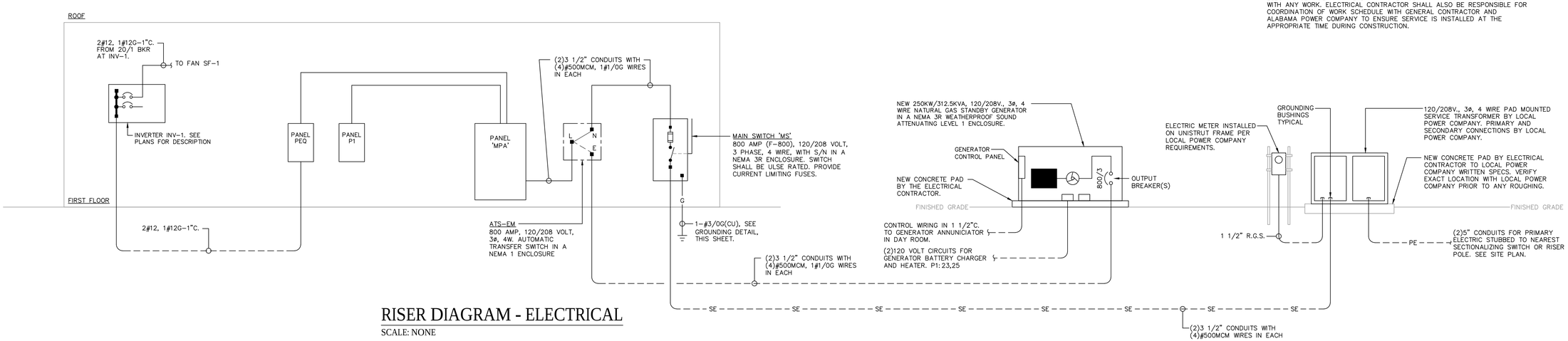
PANEL:	PANEL AMPS	800	VOLTAGE:	MOUNTING	SURFACE
MP	MAIN TYPE	M.L.O.	120 / 208, 3 PHASE, 4 WIRE, 60 HZ	NEMA RATING	NEMA 1
	MAIN BREAKER RATING	N/A	AIC RATING 42,000	LOCATION	ELECTRICAL ROOM
TYPE:	SOLID NEUTRAL	100%	CALC FAULT CURRENT	FED FROM	MAIN SWITCH MS
CCB	GROUND BUS	100%	BREAKER FEATURES: **GFI** = GROUND FAULT CIRCUIT INTERRUPTER; **ST** = SHUNT TRIP; **TH** = TIE HANDLE		
			AF - ARC FAULT CIRCUIT INTERRUPTER; **LO** = LOCK-ON DEVICE		

	CKT NO	BREAKER		LOAD TYPE	DESCRIPTION	WIRE SIZE	CKT LOAD	PHASE A	PHASE B	PHASE C	CKT LOAD	WIRE SIZE	DESCRIPTION	LOAD TYPE	BREAKER		CKT NO
ONE SECTION PANEL	1	250/3		PANEL	PANEL P1	4#250MCM, 1#4G.-3"C.	20640	24864			4224	4#4-1#6G.-1 1/4"C.	OHP-1	A/C	70/3		2
				PANEL			19080		23304		4224			A/C			
				PANEL			18440			22664	4224			A/C			
	3	300/3		PANEL	PANEL PEQ	4#350MCM, 1#4G.-3"C.	#VALUE!	#VALUE!			5376	4#3-1#6G.-1 3/4"C.	OHP-2	A/C	90/3		4
				PANEL			23287		28663		5378			A/C			
				PANEL			23740			29116	5378			A/C			
	5				SPACE			4224			4224	4#4-1#6G.-1 1/4"C.	OHP-3	A/C	70/3		6
									4224		4224			A/C			
										4224	4224			A/C			
	7				SPACE			5597			5597	4#6-1#10G.-1"C.	ERU-1	A/C	60/3		8
									5597		5597			A/C			
										5597	5597			A/C			
	9				SPACE			0					SPACE				10
									0								
										0							
	11				SPACE			0					SPACE				12
									0								
										0							
	13				SPACE			0					SPACE				14
									0								
										0							
						PHASE TOTALS		#VALUE!	61788	61601							



SERVICE ENTRANCE GROUND DETAIL

NOT TO SCALE



RISER DIAGRAM - ELECTRICAL

SCALE: NONE

GENERAL NOTES THIS SHEET:

A. THE ELECTRIC CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR THE ELECTRIC SERVICE WITH ALABAMA POWER COMPANY PRIOR TO PROCEEDING WITH ANY WORK. ELECTRICAL CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR COORDINATION OF WORK SCHEDULE WITH GENERAL CONTRACTOR AND ALABAMA POWER COMPANY TO ENSURE SERVICE IS INSTALLED AT THE APPROPRIATE TIME DURING CONSTRUCTION.

CONSULTING CONSTRUCTION ENGINEERING, LLC
1028 23rd Street South
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Phone: (205) 352-2500 Δ Web: www.cce-eng.com

CCE No. Date: Jan 24, 2025
File: ER-01.dwg Time: 9:47:19 am

Revisions		
No.	Date	Description

ALABAMA REGISTERED ENGINEER No. 31921 PROFESSIONAL JAMES L. BUTLER 8/30/24 SEAL

100% CD'S

IRONDALE FIRE STATION #3

INT. OF JOHN ROGERS DRIVE & ALTON ROAD
Birmingham, Alabama
CITY OF IRONDALE

CHARLES WILLIAMS & ASSOCIATES ARCHITECTS
3601 8TH AVE. SOUTH BIRMINGHAM, ALABAMA 35222
PH: 205-250-0700 FAX: 205-250-0515

SHEET TITLE: **Electrical Riser Diagram & Panel Schedules**

PROJECT NUMBER: **CWA No. 2023-01**

DATE: **08/30/24**

DRAWN BY:	CHECKED BY:
JLB	JLB

SHEET NUMBER

E301