FIRE STATION #32
FOR
CITY OF PANAMA CITY BEACH
BAY COUNTY, FLORIDA

PCB 23-48 ITB

BID DOCUMENTS
AUGUST 1, 2023

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8-1-23
REGISTERED ARCHITECT

PANAMA CITY BEACH GOVERNMENT

CITY COUNCIL

Mayor	Mark Sheldon
Ward 1 Councilman	Paul Casto
Ward 2 Councilman	Phil Chester
Ward 3 Councilman	Mary Coburn
Ward 4 Councilman	Michael Jarman
CITY MANAGER	Drew R. Whitman
ASST. CITY MANAGER	Holly White
CITY CLERK	Lynne Fasone

JRA ARCHITECTS
2211 THOMAS DRIVE, STE. 100
PANAMA CITY BEACH, FL 32408
PHONE: (850) 236-9832

Commission Number: 22833

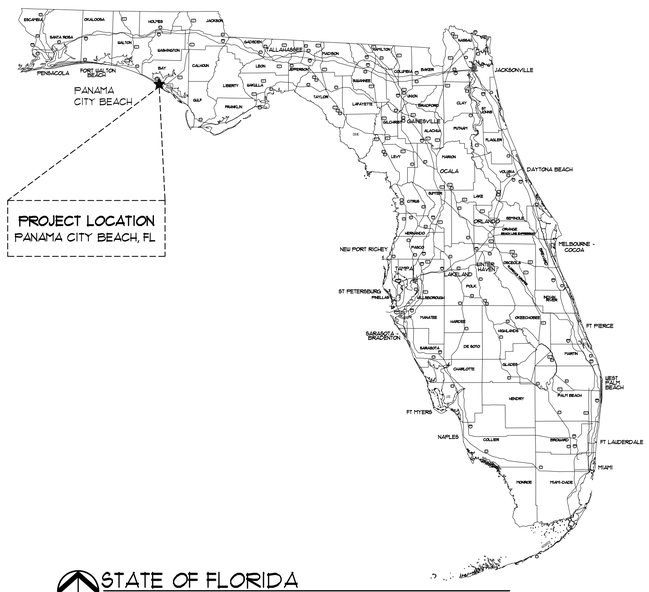
CIVIL
MCNEIL-CARROLL ENGINEERING
17800 Panama City Beach Pkwy
Panama City Beach, FL 32413
Phone: 850.234.1730

STRUCTURAL
BTK ENGINEERING
1101 Brickyard Road
Chipley, Florida 32428
Phone: 850.676.4140

MECHANICAL / PLUMBING / FP
WATFORD ENGINEERING
4452 Clinton Street
Marianna, FL 32446
Phone: 850.526.3447

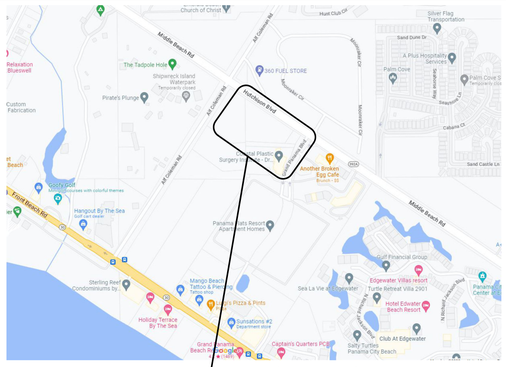
ELECTRICAL
HG ENGINEERS, INC.
621 N. Tyndall Pkwy, Unit C
Panama City, FL 32404
Phone: 850.243.6723

TELECOM / SECURITY / AV
LOGAN TECHNOLOGY GROUP
918 Highway 98 East
Destin, FL 32541
Phone: 850.427.2140



STATE OF FLORIDA

0 10 20 30 40 50 MILES



VICINITY MAP
NOT TO SCALE

CODE INFORMATION:

APPLICABLE CODES:	EDITION:
• FLORIDA BUILDING CODE, BUILDING (FBC-B)	2020
• FLORIDA BUILDING CODE, ACCESSIBILITY	2020
• FLORIDA BUILDING CODE, MECHANICAL (FBC-M)	2020
• FLORIDA BUILDING CODE, ENERGY CONSERVATION	2020
• FLORIDA BUILDING CODE, FUEL GAS (FBC-FG)	2020
• FLORIDA BUILDING CODE, PLUMBING (FBC-P)	2020
• FLORIDA FIRE PREVENTION CODE (FFPC)	2020
• NATIONAL ELECTRICAL CODE (NEC)	2020

ASBESTOS PROHIBITED (FBC, CHAPTER 453.86):

THE FEDERAL ASBESTOS HAZARD EMERGENCY RESPONSE ACT (AHERA) 40 CFR, PART 763, AS REVISED JULY 1, 1995, PROHIBITS THE USE OF ANY ASBESTOS CONTAINING MATERIALS ANY PUBLIC EDUCATION CONSTRUCTION PROJECT AND REQUIRES CERTIFICATION OF SAME BY THE ARCHITECT OF RECORD.

ARCHITECTURAL MATERIALS

EARTH
CONCRETE BLOCK (CMU)
ROUGH WOOD / BLOCKING
COMPACTED FILL
BRICK
FINISHED WOOD
SAND, MORTAR, CUT STONE, CAST STONE, GYPSUM
STEEL
BATT INSULATION
PLYWOOD
RIGID INSULATION
CAST IN PLACE CONCRETE

ARCHITECTURAL WALL TYPES

A — TYPICAL EXTERIOR WALL: 4" SPLIT-FACE VENEER, AIR SPACE, INSULATING CONCRETE FORM (ICF), AND 5/8" GWB ON INTERIOR FACE. ICF CORE SIZE IS 8".

B — EXTERIOR WALL: 4" SPLIT-FACE VENEER WITH AIR SPACE (CEMENT BOARD SIDING ABOVE SEE ELEVATIONS AND BUILDING SECTIONS), SERIES 1 INSULATING CONCRETE FORM (ICF), EXPOSED CONCRETE INTERIOR FACE. ICF CORE SIZE IS 10".

C — INTERIOR INSULATING CONCRETE FORM (ICF) WALL: ICF WITH 5/8" GWB (U.N.O.). SEE STRUCTURAL FOR ICF CORE SIZE.

D — INTERIOR INSULATING CONCRETE FORM (ICF) WALL: ICF WITH EXPOSED CONCRETE ON BOTH FACES. SEE STRUCTURAL FOR ICF CORE SIZE.

E — INTERIOR PARTITION: 3 5/8" (U.N.O.) GALV METAL STUDS (GMS) WITH 5/8" GWB EA. SIDE. EXTEND WALL TO MIN. 6" ABOVE HIGHEST ADJACENT CEILING. SEE FINISH SCHEDULE REMARKS FOR SOUND INSULATION REQUIREMENTS.

F — 1-HR RATED INTERIOR PARTITION (STC: U 419) : 3 5/8" (U.N.O.) GMS WITH 5/8" TYPE 'X' GWB EA. SIDE. EXTEND WALL TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE & FIRESAFE ALL GAPS AND PENETRATIONS. SEE FINISH SCHEDULE REMARKS FOR SOUND INSULATION REQUIREMENTS.

G — SMOKE INTERIOR PARTITION: 3 5/8" (U.N.O.) GMS WITH 5/8" TYPE 'X' GWB EA. SIDE. EXTEND WALL 6" ABOVE CEILING & CAULK ALL EDGES CEILING GRID. SEE FINISH SCHEDULE REMARKS FOR SOUND INSULATION REQUIREMENTS.

SEE ELEVATIONS AND SECTIONS FOR ADDITIONAL DETAIL OF WALL CONSTRUCTION

ARCHITECTURAL SYMBOLS

SECTION NUMBER
WALL SECTION
SHEET SECTION IS DRAWN ON
SECTION LETTER
BUILDING SECTION
SHEET SECTION IS DRAWN ON
DETAIL NUMBER
DETAIL / ENLARGED VIEW
SHEET DETAIL IS DRAWN ON
INTERIOR ELEVATION
ELEV NUMBER/SHEET ELEVATION IS DRAWN ON
COLUMN GRID MARK
LETTER OR NUMBER
Ø'-Ø" AFF ELEV DESCRIPTION — ELEVATION MARK
DOOR MARK
BLDG No.-DOOR No.
OR WINDOW MARK
LOUVER MARK
EQUIPMENT MARK
TOILET ACCESSORY MARK
CONSTRUCTION KEYNOTE

STANDARD ABBREVIATIONS

AB - Anchor Bolt
ABV - Above
A/C - Air Conditioning
ACI - American Concrete Institute
ACST - Acoustic
ACT - Actual
ADD - Addendum
ADJ - Adjacent
ADJT - Adjustable
AFF - Above Finish Floor
AGG - Aggregate
ALT - Alternate
ALUM - Aluminum
ANC - Anchor
ANSI - American National Stds. Inst.
APPROX - Approximate
ARCH - Architectural
ASPH - Asphalt
ASTM - American Society of Testg. & Mtls.
AWS - American Welding Society

BB - Beam Bolster
B&B - Board & Batten
BC - Bottom Chord
BD - Board
BEL - Below
BIDS - Baggage Information Display System
BIT - Bituminus
BLDG - Building
BLK - Block
BLKG - Blocking
BLT - Bolt
BM - Beam
BM - Bench Mark
BOT - Bottom
BR - Brace
BRDG - Bridging
BRG - Bearing
BRK - Brick
BRKT - Bracket
BSMT - Basement
BS - Both Sides
BTWN - Between
BUR - Built-up Roof
BVL - Bevel
BW - Both Ways

C - Channel
CAD - Cadmium
CAP - Capacity
CARP - Carpet
CAT - Catalog
CB - Catch Basin
C/C - Center to Center
CLG - Ceiling
CEM - Cement
CF - Cubic Feet
CFM - Cubic Feet Per Minute
CHAM - Chamfer
CI - Cast Iron
CIR - Circle
CIP - Cast-in-place
CJ - Control Joint
CK - Caulk
C/L - Chain Link (fence)
CL - Centerline
CLO - Closet
CLR - Clearance, Clear
CLS - Closure
CMU - Concrete Masonary Unit
CNTR - Counter
COL - Column
COMM - Communications
COMP - Compressor, Composite
CONC - Concrete
CONN - Connection, Connect
CONSTR - Construction
CONT - Continuous
CONTR - Contractor
CORR - Corrugated, Corridor
CR - Cold Rolled
CRS - Course
CS - Countersink
CT - Ceramic Tile
CTR - Center
CY - Cubic Yard
CYL - Cylinder

DBL - Double
DEG - Degrees
DEM - Demolish
DEPR - Depressed
DEPT - Department
DES - Double Extra Strong
DTL - Detail
DF - Drinking Fountain
DHM - Detention Hollow Metal
DIA - Diameter
DIAG - Diagonal
DIAPH - Diaphragm
DIM - Dimension
DIR - Director
DK - Deck
DL - Dead Load
DN - Down
DO - Ditto
DP - Damp Proofing
DR - Door
DS - Downspout
DTA - Dovetail Anchor
DTL - Detail
DTS - Dovetail Slot
DWG - Drawing
DWGS - Drawings
DWL - Dowel

E - East
EA - Each
EF - Each Face
EFS - Exterior Finish System
EIFS - Exterior Insulating Finish System
EJ - Expansion Joint
EL - Elevation
ELECT - Electrical
ELEV - Elevator, Elevation
EMER - Emergency
ENCL - Enclosure
ENT - Entrance
EQ - Equal
EQUIP - Equipment
EST - Estimated
EW - Each Way
EWC - Electric Water Cooler
EXH - Exhaust
EXIST - Existing
EXP - Exposed
EXPAN - Expansion
EXP JT - Expansion Joint
EXT - Exterior
F - Fahrenheit
F/F - Face to Face
FAC - Facility
FAS - Faster, Fastener
FBO - Furnished by Others
f'c - Ultimate Concrete Strength
FD - Floor Drain
FDC - Fire Department Connection
FDN - Foundation
FF - Finish Floor
FG - Finish Grade
FH - Flat Head
FHC - Fire Hose Cabinet
FIN - Finish
FL - Floor
FLASH - Flashing
FLT - Flat
FOB - Face of Brick
FPRFG - Fireproofing
FRT - Fire Retardant
FT - Foot or Feet
FTG - Footing
FURR - Furring
FU - Flatwasher
Fy - Yield Strength of Steel

GA - Gauge
GAL - Gallon
GALV - Galvanized
GB - Gypsum Board
GC - General Contractor
GEN - General
GL - Glass, Glu-lam
GND - Ground
GR - Grade
GRT - Grout
GWB - Gypsum Wallboard
GYP - Gypsum

HC - Hollow Core
HD - Heavy Duty, Head
HDR - Header
HDRL - Handrail
HDW - Hardware
HEX - Hexagonal
HK - Hook
HM - Hollow Metal
HORIZ - Horizontal
HR - Hour
HS - High Strength
HT - Height
HTR - Heater
HUS - Headed Welded Studs

ID - Inside Diameter (Dim.)
IF - Inside Face
IN - Inches
INCL - Include
INSUL - Insulation
INT - Interior
INTM - Intermediate
ISOL - Isolation

JAN - Janitor
JB - Jamb
JC - Janitor Closet
JST - Joist
JT - Joint
K - Kips (Kilo pound or 1000 lbs.)
KD - Kiln Dried
KSF - Kips Per Square Foot
KSI - Kips Per Square Inch

L - Steel Angel, Length
LAM - Laminated
LAV - Lavatory
LB - Lag Bolt, Ledger Beam
LBS - Pounds
LDG - Landing
LH - Left Hand
LL - Live Load
LLH - Long Leg Horizontal
LLV - Long Leg Vertical
LSL - Long Slotted
LT - Light
LTL - Lintel
LTWT - Lightweight
LPT - Low Point
LVR - Louver
LVT - Luxury Vinyl Tile

MACH - Machine
MAR - Marble
MAS - Masonary
MATL - Material
MAX - Maximum
MB - Machine Bolt
MBR - Member
MECH - Mechanical
MEMB - Membrane
MEZZ - Mezzanine
MFR - Manufacturer
MH - Manhole
MI - Malleable Iron
MIN - Minimum
MISC - Miscellaneous
MK - Mark
ML - Match Line
MM - Millimeter
MO - Masonary Opening
MRR - Men's Restroom
MS - Machine Screw
MTD - Mounted
MTL - Metal
MULL - Mullion

N - North
NA - Not Applicable
NIC - Not In Contract
NO - Number
NOM - Nominal
NS - Non Strink
NTS - Not To Scale

OA - Overall
OC - On Center
OD - Outside Diameter (Dim.)
OF - Outside Face
OH - Overhead
OPNG - Opening
OPP - Opposite
OPPH - Opposite Hand
OPS - Operations
OVS - Oversized
OZ - Ounce
PA - Public Address
PC - Precast
PCF - Pounds Per Cubic Foot
PED - Pedestal
PEMB - Pre-Engineered Metal Building
PK - Parking
PL - Plate
PLAS - Plastic
PLBG - Plumbing
PLF - Pounds Per Lineal Foot
PLYWD - Plywood
PNL - Panel
PP - Panel Point
PR - Pair
PRCST - Precast
PREFAB - Prefabricated
PREP - Preparation
PROJ - Projection
PSF - Pounds Per Square Foot
PSI - Pounds Per Square Inch
PSTR - Prestressed
PT - Pressure Treated, Paint, Point
PTD - Painted
PTN - Partition
PVC - Polyvinyl Chloride
PVMT - Pavement

QC - Quality Control
QT - Quarry Tile

R - Riser, Reaction, Radius
RMV - Remove and Dispose
RAC - Rent-a-car
RAD - Radius
RB - Racquetball
RD - Roof Drain
RECEPT - Reception
REF - Reference
REINF - Reinforced, Reinforcement
REM - Remove
REQ - Required
RET - Return, Retaining
REV - Revision, Reverse
RFG - Roofing
RH - Right Hand
RM - Room
RO - Rough Opening

S - South, Standard Beam
SAN - Sanitary
SAS - Self Adhering Sheet
SC - Solid Core
SCHED - Schedule
SCWD - Solid Core Wood Door
SECT - Section, Secretary
SEQUR - Security
SERV - Service
SEW - Sewer
SF - Square Feet
SGL - Single
SHT - Sheet
SHTH - Sheathing
SIM - Similar
SJ - Sased Joint
SJI - Steel Joist Institute
SL - Steel Line
SLV - Sleeve
SLO - Short Leg Out
SLNT - Sealant
SLV - Short Leg Vertical
SOG - Slab On Grade
SPCR - Spacer
SPEC - Specification
SPM - Single Ply Membrane
SQ - Square
SS - Stainless Steel
SSL - Short Slotted
STD - Standard
STL - Steel
STOR - Storage
STRUCT - Structural
SUPER - Supervision
SUSP - Suspended
SVC - Service
SY - Square Yard
SYM - Symetrical
SYS - System

T - Tread
T&B - Top & Bottom
TC - Top Chord
TEMP - Temporary, Temperature
T&G - Tongue & Groove
THK - Thick
THRESH - Threshold
TLT - Toilet
TOC - Top of Concrete
TOF - Top of Footing
TOL - Tolerance
TOS - Top of Steel
TPG - Topping
TS - Structural Tube
TV - Television
TYP - Typical

UN - Unless Noted
UNF - Unfinished
UNO - Unless Noted Otherwise
UON - Unless Otherwise Noted
UR - Urinal

VB - Vapor Barrier
VCT - Vinyl Composition Tile
VEL - Velocity
VERT - Vertical
VEST - Vestibule
VFY - Verify
VOL - Volume

W/ - With
WC - Water Closet
WD - Wood
WDW - Window
WLD - Weld
W/O - Without
WP - Waterproof, Working Point
WPFG - Waterproofing
WS - Waterstop Welded Stud
WT - Struct Tee Cut from W Section
WWF - Welded Wire Fabric

INDEX OF DRAWINGS

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA — DAVID VINCENT — AR0014954 — 8.1.23 — REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

DRAWING INDEX - SYMBOLS
LEGEND & ABBREVIATIONS

SHEET NUMBER:

INDEX

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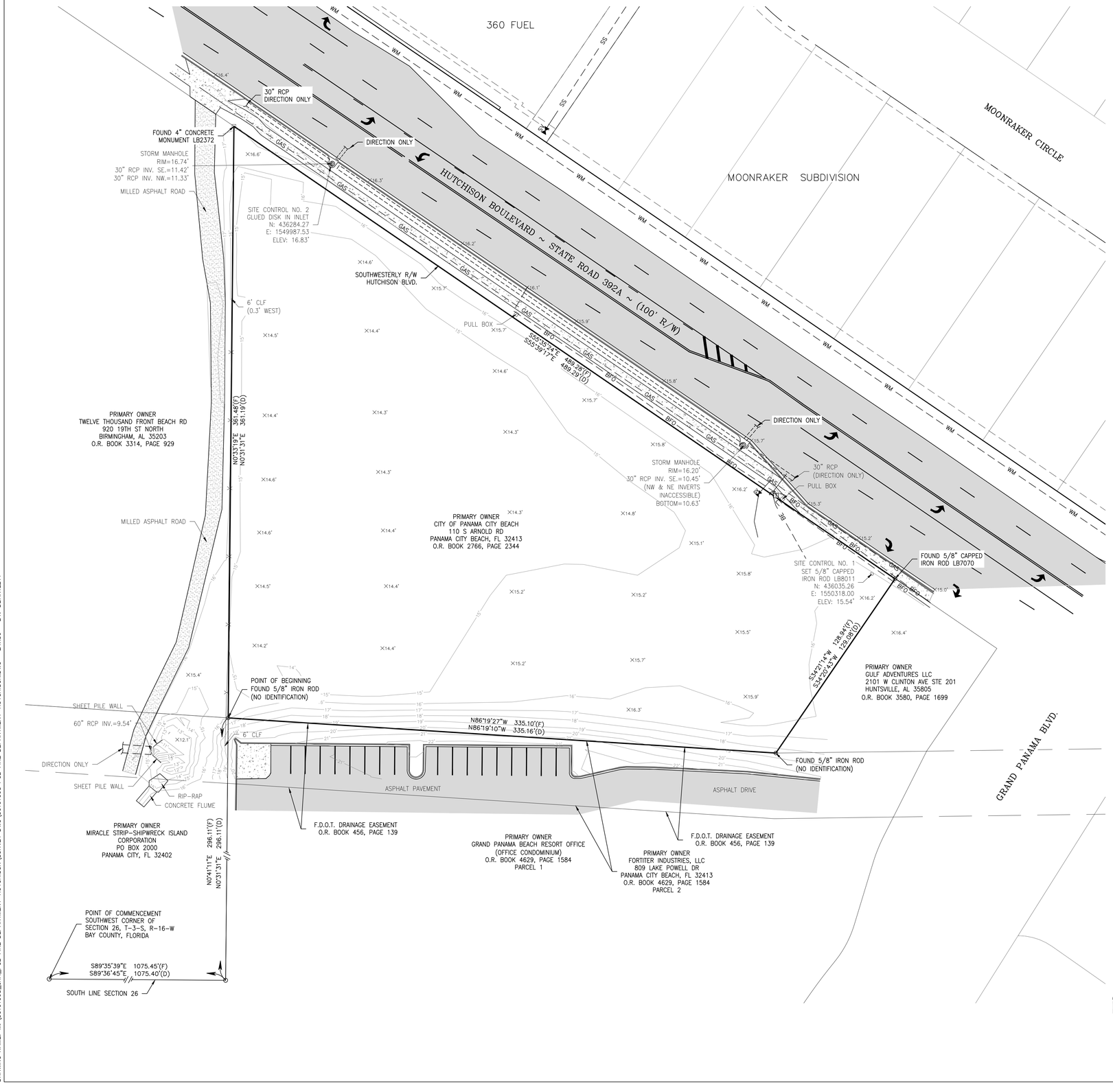


SYMBOLS & ABBREVIATIONS:

No.	= NUMBER
—//—	= DISTANCE NOT TO SCALE
L.B.	= LICENSED BUSINESS
L.S.	= LICENSED SURVEYOR
P.S.M.	= PROFESSIONAL SURVEYOR AND MAPPER
INV.	= INVERT
ELEV.	= ELEVATION
O.R.	= OFFICIAL RECORDS
±	= MORE OR LESS
(F)	= FIELD MEASUREMENT
(D)	= DESCRIPTION DATA
R/W	= RIGHT OF WAY
	= TRAFFIC SIGN
	= WATER VALVE
	= FIRE HYDRANT
	= SANITARY SEWER VALVE
	= STORM SEWER MANHOLE
	= GAS VALVE
	= TEMPORARY BENCHMARK
×10.38	= SPOT ELEVATION AT "X"
10'	= CONTOUR ELEVATION AT 1' INTERVALS
—BFO—	= BURIED FIBER OPTIC CABLE LINE
—BE—	= BURIED ELECTRIC LINE
—GAS—	= BURIED GAS LINE
—SS—	= BURIED SANITARY SEWER GRAVITY LINE
—WM—	= BURIED WATER MAIN
—OHU—	= OVERHEAD UTILITY LINE
	= EXISTING ASPHALT PAVEMENT
	= EXISTING CONCRETE
	= MILLED ASPHALT ROAD

SURVEYOR'S NOTES:

1. BEARINGS SHOWN HEREON ARE REFERENCED TO FLORIDA STATE PLANE COORDINATES, NORTH ZONE, NAD 1983/2011, U.S. SURVEY FEET, ESTABLISHED WITH SPECTRA PRECISION EPOCH 80 GNSS RTK GPS SYSTEM, TOGETHER WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION PERMANENT REFERENCE NETWORK (FPRN).
2. VERTICAL DATUM SHOWN HEREON IS REFERENCED TO NAVD 1988.
3. THIS SURVEY, MAP, AND REPORT IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
4. FLOOD NOTE; BY GRAPHIC PLOTTING ONLY; THE PROPERTY SHOWN HEREON LIES IN ZONE X AS PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE FOR THE CITY OF PANAMA CITY BEACH, BAY COUNTY, FLORIDA; SEE COMMUNITY PANEL NO. 120013 0304 H; WHICH BEARS A REVISED DATE OF JUNE 02, 2009.
5. SOURCE OF INFORMATION: DEEDS RECORDED IN THE PUBLIC RECORDS OF BAY COUNTY, FLORIDA.
6. NO TITLE SEARCH, TITLE OPINION OR ABSTRACT WAS PERFORMED BY, NOR PROVIDED TO DEWBERRY ENGINEERS INC. FOR THE SUBJECT PROPERTY. THERE MAY BE DEEDS OF RECORD, UNRECORDED DEEDS, EASEMENTS, ENCROACHMENTS, RIGHT-OF-WAYS, BUILDING SETBACKS, RESTRICTIVE COVENANTS OR OTHER INSTRUMENTS WHICH COULD AFFECT THE BOUNDARIES OR USE OF THE SUBJECT PROPERTY.
7. THE PROPERTY SURVEYED IS VACANT AND PARTIALLY WOODED.
8. NO ATTEMPT HAS BEEN MADE BY DEWBERRY ENGINEERS INC. TO LOCATE OR DETERMINE UNDERGROUND UTILITIES, UTILITY LINES, FOUNDATIONS, OR OTHER UNDERGROUND STRUCTURES, EXCEPT AS SHOWN.
9. NO ATTEMPT HAS BEEN MADE BY DEWBERRY ENGINEERS INC. TO LOCATE OR DETERMINE ENVIRONMENTAL WETLAND LINES, IF ANY EXIST.
10. THERE MAY BE ADDITIONAL RESTRICTIONS NOT SHOWN ON THIS SURVEY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF BAY COUNTY, FLORIDA.
11. THE SURVEY DEPICTED HEREON WAS PREPARED IN ACCORDANCE WITH THE STANDARDS OF PRACTICE FOR PROFESSIONAL SURVEYORS AND MAPPERS AS DEFINED IN CHAPTER 5J-17 OF THE FLORIDA ADMINISTRATIVE CODE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS PURSUANT TO SECTION 472.027 OF THE FLORIDA STATUTES.

DESCRIPTION: OFFICIAL RECORDS BOOK 2766, PAGE 2344 OF THE PUBLIC RECORDS OF BAY COUNTY, FLORIDA.

COMMENCE AT A CONCRETE MONUMENT MARKING THE SOUTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 16 WEST, BAY COUNTY, FLORIDA, AND THENCE RUN SOUTH 89 DEGREES 36 MINUTES 45 SECONDS EAST, ALONG THE SOUTH BOUNDARY LINE OF SAID SECTION 26, A DISTANCE OF 1075.40 FEET TO A NAIL AND DISC, THENCE RUN NORTH 00 DEGREES 31 MINUTES 31 SECONDS EAST 296.11 FEET TO AN IRON ROD FOR THE POINT OF BEGINNING, THENCE FROM SAID POINT OF BEGINNING CONTINUE NORTH 00 DEGREES 31 MINUTES 31 SECONDS EAST 361.19 FEET TO A CONCRETE MONUMENT ON THE SOUTHWESTERLY RIGHT OF WAY LINE OF HUTCHISON BOULEVARD (STATE ROAD 392A), THENCE RUN SOUTH 55 DEGREES 39 MINUTES 17 SECONDS EAST, ALONG SAID SOUTHWESTERLY RIGHT OF WAY LINE, 489.29 FEET TO AN IRON ROD, THENCE DEPARTING SAID SOUTHWESTERLY RIGHT OF WAY LINE RUN SOUTH 34 DEGREES 20 MINUTES 43 SECONDS WEST 129.08 FEET TO AN IRON ROD ON THE NORTH BOUNDARY LINE OF A FLORIDA DEPARTMENT OF TRANSPORTATION DRAINAGE EASEMENT AS RECORDED IN OFFICIAL RECORDS BOOK 456 PAGE 139 OF THE PUBLIC RECORDS OF BAY COUNTY, FLORIDA, THENCE RUN NORTH 86 DEGREES 19 MINUTES 10 SECONDS WEST, ALONG SAID NORTHERLY BOUNDARY LINE, 335.16 FEET TO THE POINT OF BEGINNING.

REVISIONS

DATE	REVISION	CKD

Dewberry
DEWBERRY ENGINEERS INC.
203 ABERDEEN PARKWAY
PANAMA CITY, FL 32405
PHONE: 850.522.0644 FAX: 850.522.1011
WWW.DEWBERRY.COM
CERTIFICATE OF AUTHORIZATION NO. LB 8011

DAVID JON BARTLETT, P.S.M. DATE SIGNED
PROFESSIONAL LAND SURVEYOR No. LS4018

BOUNDARY & TOPOGRAPHIC SURVEY
SECTION 26, T-3-S, R-16-W
CITY OF PANAMA CITY BEACH
BAY COUNTY, FLORIDA

FB/PG	N.A.
FIELD DATE	01/16/2023
DRAWING DATE	01/16/2023
BY	DJB
APPROVED	JHG
PROJECT NO.	50161063
SCALE	1" = 30'

S1

January 17, 2023 (08:16:13 EST)
DRAWING NAME: M:\50161063_JRA_PCB FIRE DEPARTMENT-HUTCHISON\SURVEY DWG\50161063 PCB FIRE DEPARTMENT-HUTCHISON.DWG 24X36 BY: DBARTLETT

LIFE SAFETY CODE INFORMATION

RESIDENTIAL OCCUPANCY

STORAGE OCCUPANCY

BUSINESS OCCUPANCY

USE AND OCCUPANCY CLASSIFICATION:

OCCUPANCY CLASSIFICATIONS:
- BUSINESS GROUP B (FBC 304.1)
- RESIDENTIAL GROUP R-2 (DORMITORIES) (FBC 310.4)
- STORAGE GROUP S-1 (FBC 311.2)

CONSTRUCTION TYPE: II B NON-COMBUSTABLE / UNPROTECTED (FBC 602.2)

BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM. ALLOWABLE BUILDING AREA/HEIGHT/STORIES (FBC 503) ARE SHOWN TO INCLUDE SPRINKLER SYSTEM INCREASES PER FBC 504.3, FBC 504.4 AND FBC 506.2.

GENERAL BUILDING HEIGHT AND AREA:

	ALLOWED	PROVIDED
BUILDING HEIGHT (TABLE 504.3a) B AND S OCCUP. (IIB/S):	75 FT	VARIES TO 22'-0" +/- MAX
BUILDING HEIGHT (TABLE 504.3a) R OCCUP. (IIB/S):	55 FT	VARIES TO 49'-0" +/- MAX
NO. OF STORIES (TABLE 504.4) B OCCUP. (IIB/S):	4	1
NO OF STORIES (TABLE 504.4) S-1 OCCUP. (IIB/S):	3	1
NO OF STORIES (TABLE 504.4) R-2 OCCUP. (IIB/S)	5	1
BUILDING AREA (TABLE 506.2) B OCCUP. (IIB/S):	92,000 SF.	3,465 SF.
BUILDING AREA (TABLE 506.2) S-1 OCCUP. (IIB/S):	64,000 SF.	6,504 SF.
BUILDING AREA (TABLE 506.2) R-2 OCCUP. (IIB/S):	70,000 SF.	2,278 SF.
TOTAL BUILDING AREA		12,247 SF.

OCCUPANT LOAD:

OCCUPANCY TYPE:	FLOOR AREA / MAX FLOOR AREA ALLOW PER OCCUP.	NO. OCCUP.
BUSINESS	3465 / 100 SF. GROSS	34
STOR. / MECH. (S-1)	6504 / 300 SF. GROSS	22
RESIDENTIAL (R-2 / DORMITORY)	2278 / 50 GROSS	44

TOTAL DESIGN OCCUPANT LOAD: 100

MEANS OF EGRESS:

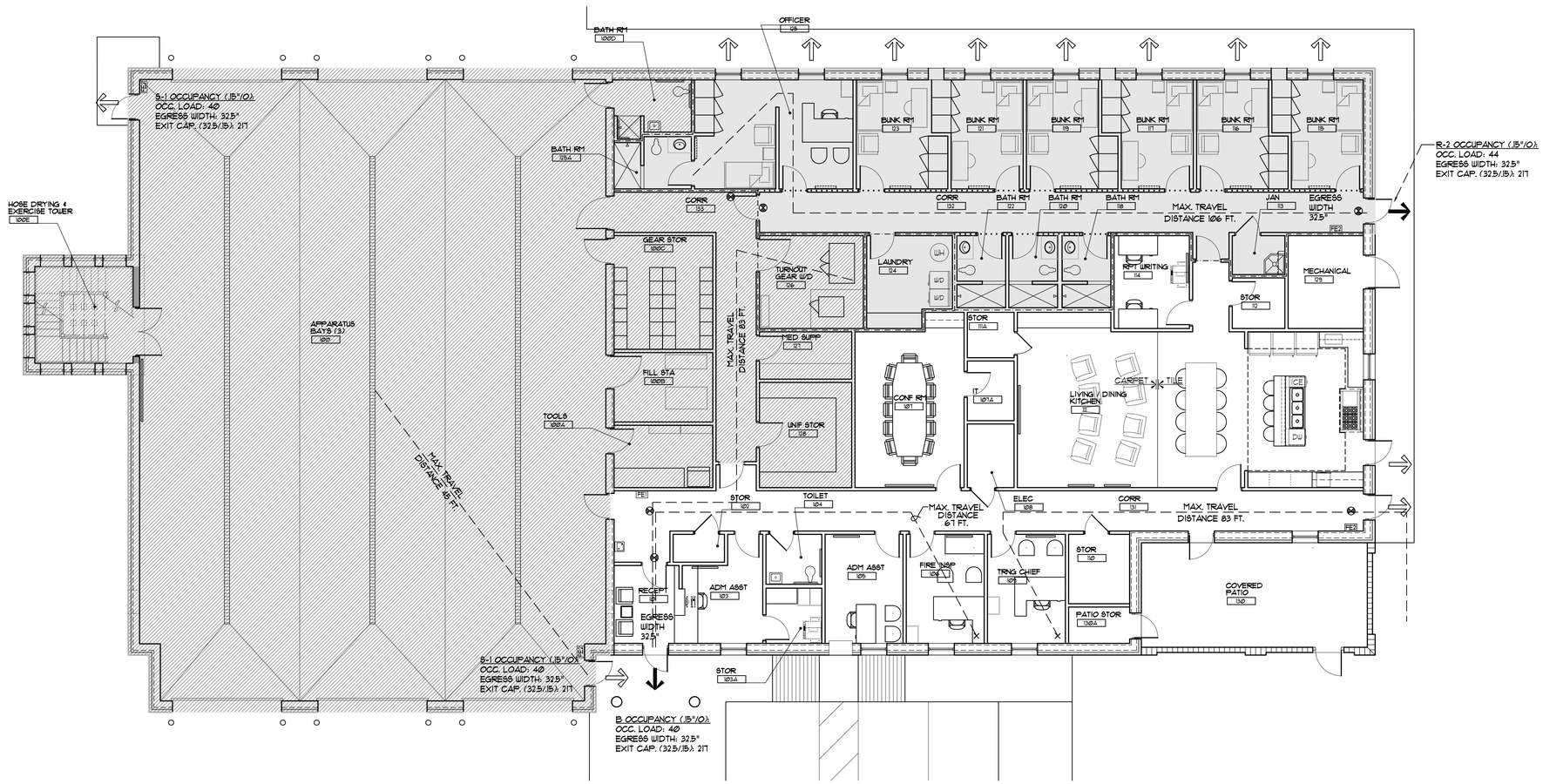
	REQUIRED	PROVIDED
NUMBER OF EXITS (TABLE 1006.3.2.):	2	2
MIN. CORRIDOR WIDTH (1005.3.2.):	44	56
MAX. TRAVEL DISTANCE (1017.2.):		
- BUSINESS (B)	300	
- STORAGE (S-1)	400	
- RESIDENTIAL (R-2)	250	
MAX. COMMON PATH TRAVEL OCCUP LOAD OVER 30 (SPRINKLERED) (TABLE 1006.2.1.):		
- BUSINESS (B)	100	
- STORAGE (S-1)	100	
- RESIDENTIAL (R-2)	125	

MISCELLANEOUS:

FIRE RESISTANCE RATINGS FOR BUILDING ELEMENTS (FBC TABLE 601.):	Ø REQUIRED (ALL)	
MIXED OCCUPANCY SEPARATION (FBC 508.4) SPRINKLERED:	R / B & S	1 HOUR
CORRIDOR FIRE RATING (FBC 1020.1.):	B & S:	NOT REQUIRED
	R-2:	Ø.5 HR

OTHER:

INTERIOR FINISHES:	A RATING
FIRE ALARMS:	MANUAL FIRE ALARM
SPRINKLERS SYSTEM:	PROVIDED
FIRE EXTINGUISHERS	REQUIRED / PROVIDED
EXIT SIGNS:	REQUIRED / PROVIDED
EMERGENCY LIGHTING:	REQUIRED / PROVIDED



NORTH

LIFE SAFETY PLAN

SCALE: 1/8" = 1'-Ø"

SYMBOL LEGEND

- EXIT LIGHT FIXTURE
- RECESSED EMERGENCY LIGHT
- EMERGENCY LIGHT
- (S) SPEAKER
- (S) SMOKE DETECTOR
- (H) HEAT DETECTOR
- (F) MANUAL PULL STATION
- (F) FIRE ALARM HORN WITH FLASHING LIGHT
- (F) FIRE ALARM FLASHING LIGHT
- F.A.C.P. FIRE ALARM CONTROL PANEL
- F.A.A. FIRE ALARM ANNUCIATOR PANEL
- SPACE NAME
  - BLDG No. - SPACE No.
  SQUARE FOOTAGE
- O. L.=100 OCCUPANCY LOAD (WHERE APPLICABLE)
- (FE) FIRE EXTINGUISHER IN SEMI-RECESSED CABINET, MOUNT CENTERLINE OF CABINET CONTROL @ MAX 50" AFF
- (FE) FIRE EXTINGUISHER, BRACKET MOUNTED MAX 54" TO TOP OF EXTINGUISHER.
- PRIMARY EGRESS
- SECONDARY EGRESS
- PATH OF TRAVEL

NOTES

1. BUILDING IS EQUIPPED WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH FBC 903.3.1.1
2. THIS LIFE SAFETY PLAN IS PROVIDED FOR REVIEW ONLY. SEE PLANS & SPECIFICATIONS FOR COMPLETE SCOPE AND REQUIREMENTS OF SYSTEMS AND CONSTRUCTION.
3. NOT ALL LEGEND SYMBOLS MAY BE USED. SEE PLAN
4. SEE MEP & FP DOCUMENTS FOR ADDITIONAL INFORMATION ON SYSTEMS REQUIREMENTS AND SCOPE.

RATED WALL TYPES

- INTERIOR INSULATING CONCRETE FORM (ICF) WALL:
- INTERIOR INSULATING CONCRETE FORM (ICF) WALL:
- 1-HR RATED INTERIOR PARTITION
- SMOKE INTERIOR PARTITION

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			Ø3/Ø9/23
95% DOCUMENTS			Ø3/31/23
CONSTRUCTION DOCUMENTS			Ø5/1Ø/23
BID DOCUMENTS			Ø8/Ø1/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8.1.23 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

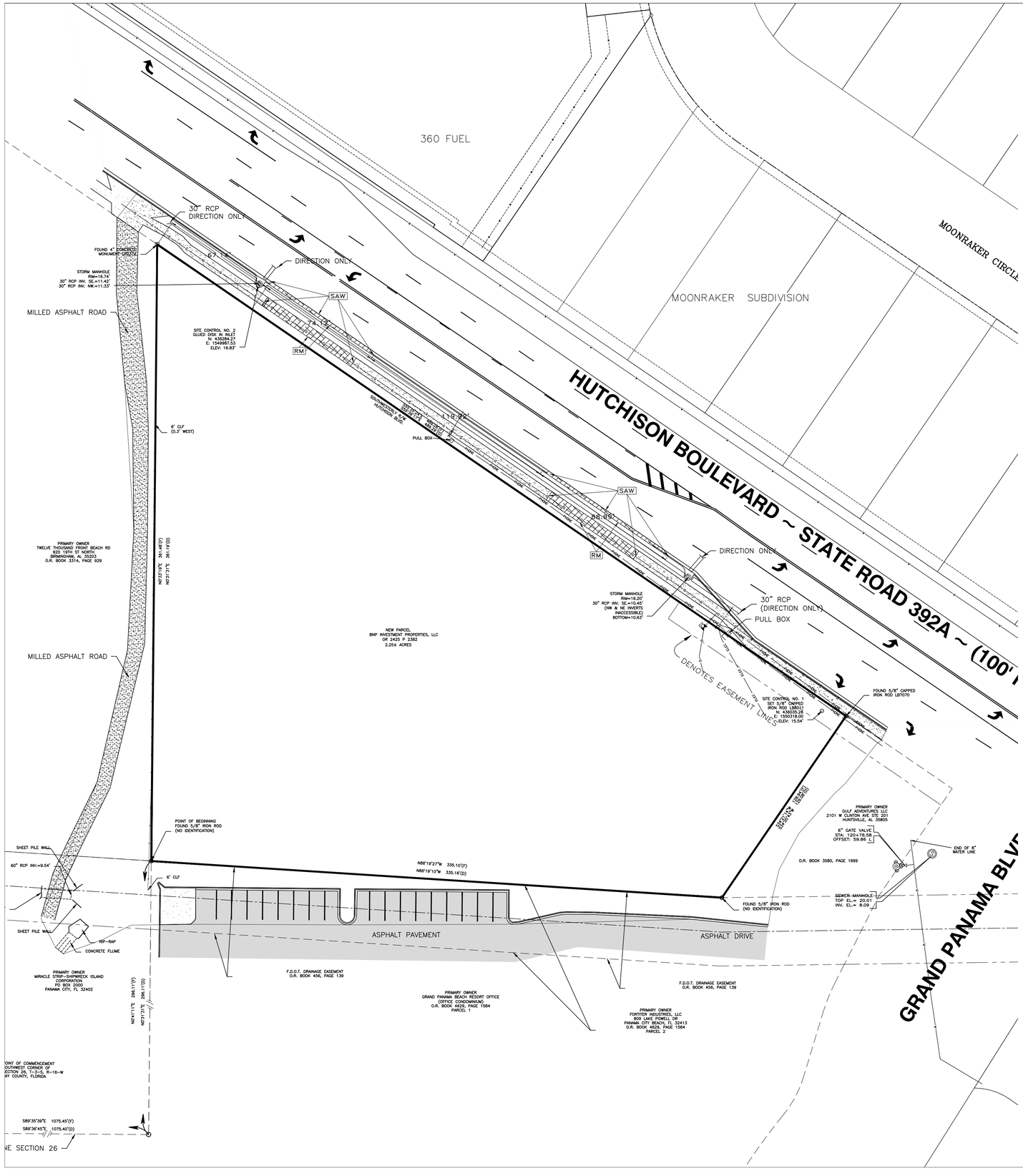
SHEET TITLE:

LIFE SAFETY PLAN

SHEET NUMBER:

LS1.1

J:\22833-PCB Fire Station #32 Hutchison Blvd\A1-1.dwg, 7/31/2023 2:27:33 PM, Shane Boullie, Adobe PDF, 1:1



SITE DEMOLITION DRAWING NOTES:

1. SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
2. ALL DEMOLISHED MATERIALS (ie., SIGNS, CONCRETE, ASPHALT, ETC...) TO BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
3. ALTHOUGH EVERY ATTEMPT TO LOCATE UNDERGROUND UTILITIES HAS BEEN MADE, THERE IS THE POSSIBILITY OF UNDERGROUND GAS, ELECTRICAL, WATER SEWER, ETC... THAT HAS NOT BEEN LOCATED. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
4. THE DEVELOPER AND/OR CONTRACTOR IS RESPONSIBLE FOR FOLLOWING REQUIRED WASTE MANAGEMENT PRACTICES AS DEFINED IN THE BAY COUNTY MUNICIPAL CODE SECTION 22-91 "UNLAWFUL DISPOSAL OF WASTE, FAILURE TO DELIVER WASTE", WHICH MAKES IT UNLAWFUL FOR ANY PERSON TO DUMP, LEAVE OR BURY ANY SOLID WASTE ON PUBLIC OR OR PRIVATE PROPERTY.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO CALL SUNSHINE ONE AT 811 FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.

SYMBOL LEGEND

- N1 (SEE NOTE ie., #1 - SEE NOTES ON THIS SHEET)
- RJ (REMOVE EXISTING MATERIALS TO NEAREST JOINT)
- RM (REMOVE EXISTING MATERIALS)
- SAW (SAW CUT AND REMOVE EXISTING MATERIALS)

DEMOLITION DATA SCHEDULE
TOTAL AREA OF SITE - ACRES - SQUARE FEET
TOTAL IMPERVIOUS AREA - ACRES - SQUARE FEET
TOTAL IMPERVIOUS AREA TO BE REMOVED - ACRES - SQUARE FEET

McNEIL CARROLL
SCALE
1" = 30'

0 15 30 60

Robert L Carroll
Digitally signed by Robert L Carroll
Date: 2023.08.01 12:08:29 -05'00'

ROBERT L. CARROLL LICENSE No. 57988 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/28/23

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LC # 57988

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR. , STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

McNEIL CARROLL ENGINEERING, INC.
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

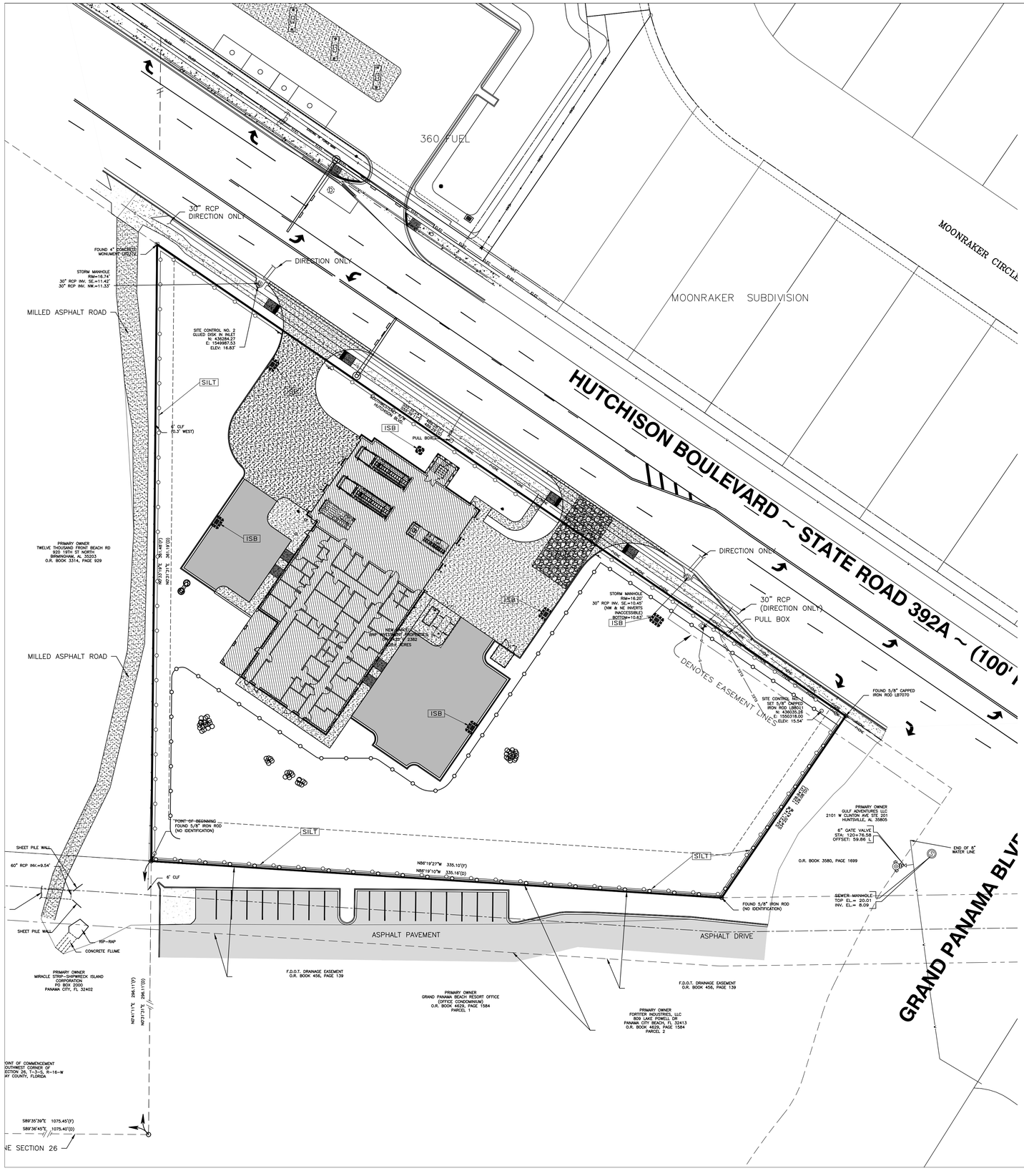
BAY COUNTY, FLORIDA

SHEET TITLE:

SITE DEMOLITION PLAN

SHEET NUMBER:

C1.1



SITE EROSION CONTROL DRAWING NOTES:

1. EROSION CONTROL SHALL BE MAINTAINED FOR THE DURATION FOR THE PROJECT.
2. ALL CONSTRUCTION OUTSIDE OF PROPERTY LINES IS SHOWN IN DETAIL ON PERMIT DRAWINGS. (SEE GENERAL NOTES.).
3. SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
4. SEE SECTIONS IN CONSTRUCTION DETAILS.
5. SILT FENCE TO BE INSTALLED AT PERIMETER OF SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES WILL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT TO RESTRICT ANY TURBID RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
6. CONTROL OF SEDIMENT-LADEN RUNOFF SHALL BE PROVIDED WITH HAY BALES AND/OR GEOTECH STYLE FABRICS. ALL CONTROL MEASURES SHALL BE PROPERLY LOCATED AND CONSTRUCTED TO PREVENT SEDIMENT TRANSPORT. THE MEANS FOR RETAINING THE SEDIMENTS WILL BE MAINTAINED BY THE CONTRACTOR UNTIL PERMANENT IMPROVEMENTS ARE COMPLETE.
7. THE CONTRACTOR IS RESPONSIBLE FOR TREATING ALL ONSITE STORMWATER DRAINAGE AS REQUIRED TO MEET THE CRITERIA OF 62-3 FLORIDA ADMINISTRATIVE CODE, F.A.C. PRIOR TO DISCHARGE.
8. ALL CATCH BASINS, INLETS AND ACCESSES TO UNDERGROUND STORMWATER SYSTEMS SHALL BE PROTECTED IN ACCORDANCE WITH THE ATTACHED DETAILS.
9. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS OF ANY STORMWATER PERMITS THAT MAY APPLY (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FLORIDA DEPARTMENT OF TRANSPORTATION, BAY COUNTY, WATER MANAGEMENT DISTRICT, ETC.).
10. CONSTRUCTION DRIVES SHALL SLOPE AWAY FROM THE ROADWAY AT A MINIMUM SLOPE OF 2.00% TO DISTANCE OF NOT LESS THAN 15 FEET FROM THE EDGE OF PAVEMENT. THE MAXIMUM WIDTH OF THE DRIVE SHALL BE 30 FEET WITH #57 GRAVEL SURFACE 6 INCHES THICK. SIGNS SHALL BE PLACED (IN ACCORDANCE WITH CITY AND STATE REQUIREMENTS) TO WARN APPROACHING DRIVERS AND PEDESTRIANS.
11. THE DEVELOPER AND/OR CONTRACTOR IS RESPONSIBLE FOR FOLLOWING REQUIRED WASTE MANAGEMENT PRACTICES AS DEFINED IN THE BAY COUNTY MUNICIPAL CODE SECTION 22-91 "UNLAWFUL DISPOSAL OF WASTE, FAILURE TO DELIVER WASTE", WHICH MAKES IT UNLAWFUL FOR ANY PERSON TO DUMP, LEAVE OR BURY ANY SOLID WASTE ON PUBLIC OR OR PRIVATE PROPERTY.
12. THE DEVELOPER AND/OR CONTRACTOR IS RESPONSIBLE FOR OBTAINING COVERAGE UNDER THE FDEP GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES PRIOR TO START OF CONSTRUCTION OR ANY DISTURBANCE OF LAND GREATER THAN 1 ACRE. THE DEVELOPER/CONTRACTOR WILL FORWARD A COPY OF THE PERMIT AND WILL PROVIDE 48 HOUR NOTIFICATION TO THE APPROPRIATE AGENCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL REQUIRED ELEMENTS OF THE SWPP MUST BE IN PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION. FAILURE TO COMPLY COULD RESULT IN CODE ENFORCEMENT ACTION AND FINES.
13. QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND/OR WITHIN 24 HOURS OF THE END OF A STORM EVENT (RAINFALL) THAT IS A 1/2 INCH OR GREATER:
    A. POINTS OF DISCHARGE TO WATERS OF THE UNITED STATES.
    B. POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM WATER SYSTEMS.
    C. DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
    D. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
    E. STRUCTURAL CONTROLS.
    F. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
14. THE CONTRACTOR SHALL INITIATE REPAIRS WITHIN 24 HOURS OF INSPECTION THAT INDICATE ITEMS ARE NOT IN GOOD WORKING ORDER. TO COMPLY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAGES AND DAILY RAINFALL RECORDS. WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. THE CONTRACTOR SHALL ALSO INSPECT AND CERTIFY THAT CONTROLS INSTALLED IN THE FIELD AGREE WITH THE LATEST STORMWATER POLLUTION PREVENTION PLAN.
15. IF INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT, AND PREVENT DISCHARGING POLLUTANTS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES, WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. AS NEEDED.
16. RECORDS OF THE INSPECTIONS AND THE CONSTRUCTION PERMIT MUST BE MAINTAINED AT THE CONSTRUCTION SITE AND BE READILY AVAILABLE FOR INSPECTION.
17. ALL STORMWATER MANAGEMENT FACILITIES AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, DEMOLITION OR OTHER DISTURBANCE TO THE SUBJECT SITE.

CONSTRUCTION SEQUENCE AND BMP'S NWFWMD

18. THE INITIAL PART OF THE CONSTRUCTION PROCESS SHALL BE THE INSTALLATION OF SILT FENCE AROUND THE PERIMETER OF THE AREA THAT IS TO BE DISTURBED TO ENSURE NO TURBID RUNOFF LEAVES THE CONSTRUCTION SITE. THE SILT FENCE SHALL BE INSTALLED PER THE CONSTRUCTION DETAILS. IF THERE IS A POSSIBILITY OF RUNOFF TO A WATER BODY, TURBIDITY CURTAIN SHALL BE INSTALLED PER THE CONSTRUCTION DETAILS. THE SECOND STEP SHALL BE THE INSTALLATION OF THE CONSTRUCTION ENTRANCE AND DEMOLITION OF ANY EXISTING IMPROVEMENTS AS NEEDED (SEE DEMOLITION PLAN). THE THIRD STEP SHALL BE TO CLEAR AND GRUB AREAS WHERE IMPROVEMENTS ARE TO BE INSTALLED. AS FILL IS BROUGHT INTO THE SITE, THE STORMWATER BASIN SHOULD BE CREATED TO CAPTURE ANY OVERLAND FLOW AND ACT AS A SEDIMENT TRAP. IT IS RECOMMENDED THAT THE BASIN BE CONSTRUCTED APPROXIMATELY ½' HIGHER THAN DESIGN AT THIS POINT TO ENSURE ALL SILTS AND FINES ARE REMOVED AT THE TIME OF FINAL GRADING OF THE STORMWATER BASIN.
19. TYPICALLY, THE SANITARY SEWER, STORM SEWER, AND WATER MAINS ARE INSTALLED RESPECTIVELY. UPON INSTALLATION OF THE STORM SEWER, HAY BALES AND FILTER FABRICS SHALL BE USED AT ALL INLET OPENINGS PER THE CONSTRUCTION DETAILS TO THE KEEP THE SYSTEM FREE OF SEDIMENTS DURING THE CONSTRUCTION PHASE. DEPENDING ON SITE CONDITIONS AND SIZE, SEDIMENT TRAPS SHALL BE UTILIZED TO PREVENT TURBID RUNOFF FROM LEAVING THE SITE (SEE EROSION CONTROL PLAN).
20. SITE STABILIZATION SHALL BE PROVIDED AS SOON AS THE GRADING WILL ALLOW IN ORDER TO STOP EROSION AND REDUCE TURBID RUNOFF. SEEDING, SODDING, OR HYDROSEEDING SHALL BE USED WHEN FINAL GRADES ARE ESTABLISHED.
21. EROSION CONTROL MEASURES SHALL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT AND BE MANAGED IN ACCORDANCE THE THE STATE NPDES PROGRAM.
22. THE DESIGN OF THE STORMWATER MANAGEMENT SYSTEM FOR THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT.
23. THE ENGINEER OF RECORD IS RESPONSIBLE FOR MONITORING CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITY AND SUBMITTING TO THE APPROPRIATE AGENCY NOTICE OF COMMENCEMENT AND AS-BUILT CERTIFICATIONS FOR THE PROJECT WHEN COMPLETED.

SYMBOL LEGEND

- ⟹ (STORMWATER SURFACE FLOW)
- ISB (INLET SEDIMENT BARRIER – SEE CONSTRUCTION DETAILS)
- SILT (SILT FENCE – SEE CONSTRUCTION DETAILS)
- PVG (24' WIDE x 50' DEEP FDOT #1 OR #2 GRAVEL CONSTRUCTION ENTRANCE 6" THICK)

McNEIL CARROLL
SCALE
1" = 30'

0 15 30 60

ROBERT L. CARROLL
LICENSEE
No. 57988
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/28/23

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LC # 57988

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

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SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR. , STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

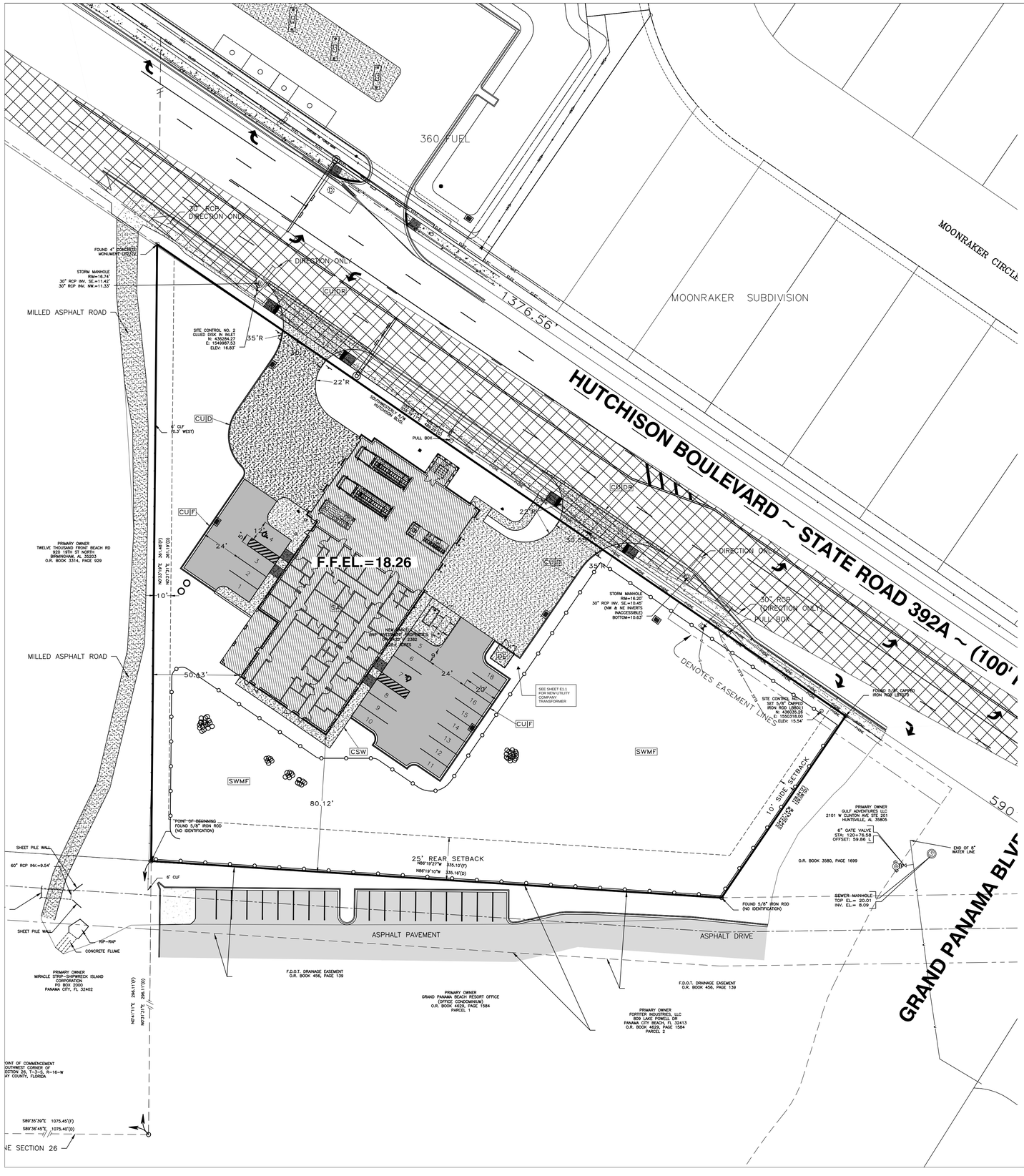
BAY COUNTY, FLORIDA

SHEET TITLE:

SITE EROSION CONTROL PLAN

SHEET NUMBER:

C1.2



SITE LAYOUT DRAWING NOTES:

1. ALL RADII AT FACE OF CURB ARE 5' UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL PROVIDE McNEIL CARROLL ENGINEERING, INC. FIVE (5) SETS OF AS-BUILT DRAWINGS AND ONE (1) DIGITAL COPY (AUTOCAD FORMAT) OF THE COMPLETED PROJECT. DRAWINGS SHALL BE PREPARED AND SIGNED & SEALED BY A FLORIDA REGISTERED SURVEYOR.
3. ALL DIMENSIONS AT CURB ARE FROM FACE OF CURB.
4. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION AND SODDED PER FDOT INDEX 105.
5. A COPY OF ALL REGULATORY PERMITS SHALL BE KEPT ON SITE.
6. THE CONTRACTOR SHALL REVIEW THE COMPLETE NWFWMD PERMIT PRIOR TO CONSTRUCTION COMMENCEMENT.
7. AN 8 1/2 x 11 NWFWMD WEATHER RESISTANT SIGN, INCLUDING THE PERMIT NUMBER SHALL BE PLACED ON THE PROPERTY FACING THE ROAD.
8. ALL PROPOSED UTILITIES TO BE PLACED UNDERGROUND.
9. ALL ABOVE GROUND UTILITIES TO BE SCREENED BY LANDSCAPING.

SYMBOL LEGEND

(DENOTES NEW "STOP" SIGN)

(DENOTES NEW "HANDICAP PARKING" SIGN)

(DENOTES NEW "DO NOT ENTER" SIGN)

(DENOTES NEW "YIELD" SIGN)

(DENOTES NEW "IN-WATER RECREATION IS PROHIBITED" SIGN)

* (DENOTES CRITICAL DIMENSION TO OUTSIDE FACE OF BUILDING)

(EXISTING MONITORING WELL WITH NEW MANHOLE COVER)

- BIKE (BIKE PARKING FOR 6 BICYCLES)
- CSW (CONCRETE SIDEWALK – SEE CONSTRUCTION DETAILS)
- CUD (F.D.O.T. CURB ie., TYPE D – SEE CONSTRUCTION DETAILS)
- CUF (F.D.O.T. CURB ie., TYPE F – SEE CONSTRUCTION DETAILS)
- CUDR (F.D.O.T. CURB ie., TYPE DR – SEE CONSTRUCTION DETAILS)
- DE (DUMPSTER ENCLOSURE – SEE CONSTRUCTION DETAILS)
- DS (DRAINAGE STRUCTURE – SEE GRADING & DRAINAGE PLAN)
- DW (DETECTABLE WARNINGS – SEE CONSTRUCTION DETAILS)
- FDOT (SEE F.D.O.T. CONNECTION PERMIT)
- N1 (SEE NOTE ie., #1 – SEE NOTES ON THIS SHEET)
- RP (RAMP – SEE GRADING & DRAINAGE PLAN)
- SA (SEE ARCH. PLANS)
- SS (SEWER STRUCTURE – SEE UTILITY PLAN)
- SWMF (STORM WATER MANAGEMENT FACILITY)
- WF (WATER FIXTURE – SEE UTILITY PLAN)
- WS (WHEEL STOP – SEE CONSTRUCTION DETAILS)

SITE DATA TABLE		
PARCEL ID: 34031-020-010		
GOVERNING ENTITY – PANAMA CITY BEACH		
ZONING – (CH) COMMERCIAL HIGH INTENSITY (FBO-2)		
TOTAL AREA OF SITE: 92,018 SQUARE FEET – 2.11 ACRES		
TOTAL BUILDING AREA: 12,009 SQUARE FEET – 0.29 ACRES		
FLOOD ZONES ON PROPERTY: N/A		
	ALLOWED/REQUIRED	PROPOSED
TOTAL IMPERVIOUS AREA	78,215 SQUARE FEET – 1.80 ACRES	31,172 SQUARE FEET – 0.72 ACRES
IMPERVIOUS SURFACE RATIO	0.85	0.34
FLOOR AREA RATIO	1.00	0.13
OPEN SPACE AREA	13,803 SQUARE FEET – 0.31 ACRES	60,846 SQUARE FEET – 1.40 ACRES
OPEN SPACE RATIO	0.15 MIN.	0.66
FRONT YARD SETBACK	0 FEET MIN; 8 FEET MAX	8 FEET
SIDE YARD SETBACK	10 FEET	50.13 FEET
REAR YARD SETBACK	25 FEET	80.12 FEET

PARKING SPACE SCHEDULE				
NO.	ANGLE	WIDTH	DEPTH	NOTES:
1-3	90°	9	20	
4	90°	12	20	W/ DRIVERS SIDE 5" WIDE AISLE
5-6	90°	9	20	
7	90°	12	20	W/ DRIVERS SIDE 5" WIDE AISLE
8-18	90°	9	20	

ALL PARKING STALLS SHALL BE 4" WHITE STRIPING ON ASPHALT AND 4" YELLOW ON CONCRETE. HANDICAP SIGNAGE AND STRIPING SHALL BE TO STATE AND CITY CODE. LANE SEPARATION LINES SHALL BE 6" WIDE.

McNEIL CARROLL
SCALE
1" = 30'

0 15 30 60

ROBERT L. CARROLL LICENSE No. 57988 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/28/23

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LC # 57988

REVISIONS

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JRA ARCHITECTS
2211 THOMAS DR., STE 100
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Commission Number: 21804

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17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

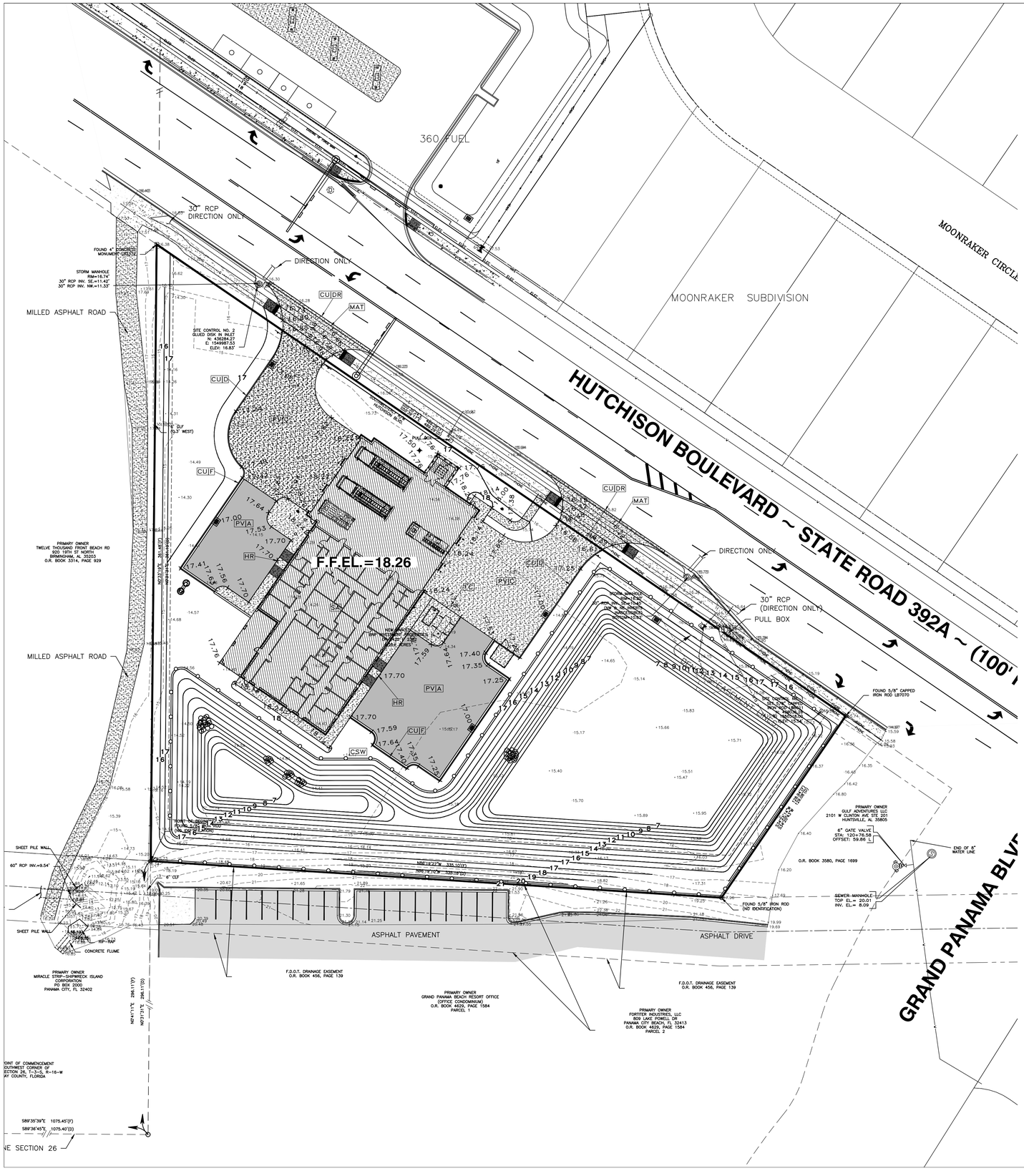
BAY COUNTY, FLORIDA

SHEET TITLE:

SITE LAYOUT PLAN

SHEET NUMBER:

C1.3



SITE GRADING AND DRAINAGE DRAWING NOTES:

1. SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
2. ALL DEMOLISHED MATERIALS (ie., SIGNS, CONCRETE, ASPHALT, ETC...) TO BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. ALL EXISTING MONITORING WELLS ARE NOT TO BE REMOVED. WELLS IN PAVEMENT SHALL HAVE A MANHOLE LID INSTALLED.
3. SEE SECTIONS IN CONSTRUCTION DETAILS.
4. ALL DRAINAGE PIPES TO BE DEDICATED TO THE CITY OF PANAMA CITY BEACH SHALL BE VIDEO RECORDED AND PLACED ON A DIGITAL MEDIA (NO TAPES). VIDEO MUST BE REVIEWED AND APPROVED BY THE CITY.
5. PROPOSED FINISHED FLOORS SHALL BE 1 FOOT (MIN.) ABOVE ROADWAY CENTERLINE.
6. CONTRACTOR SHALL PROVIDE McNEIL CARROLL ENGINEERING, INC. FIVE (5) SETS AND ONE (1) DIGITAL COPY (AUTOCAD FORMAT) OF AS-BUILT DRAWINGS OF THE COMPLETED PROJECT. DRAWINGS SHALL BE PREPARED AND SIGNED & SEALED BY A FLORIDA REGISTERED SURVEYOR.
7. IT IS THE CONTRACTORS RESPONSIBILITY TO CALL SUNSHINE ONE AT 811 FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.
8. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION AND SODDED PER FDOT INDEX 105.

SYMBOL LEGEND

34.60	(EXISTING SPOT ELEVATION)
—36—	(EXISTING CONTOUR)
+12.50	(PROPOSED FINISHED GRADE)
⟹	(STORMWATER SURFACE FLOW)
CSW	(CONCRETE SIDEWALK– SEE CONSTRUCTION DETAILS)
CU|D	(F.D.O.T. CURB ie., TYPE F – SEE CONSTRUCTION DETAILS)
CU|F	(F.D.O.T. CURB ie., TYPE F – SEE CONSTRUCTION DETAILS)
CU|DR	(F.D.O.T. CURB ie., TYPE F – SEE CONSTRUCTION DETAILS)
DP|16	(SEE DRAINAGE PIPE SCHEDULE THIS SHEET ie.,#16)
DS|12	(SEE DRAINAGE STRUCTURE SCHEDULE THIS SHEET ie.,#12)
FC	(CHAINLINK FENCE – SEE CONSTRUCTION DETAILS)
HR	(5' WIDE HANDICAP RAMP ie.,12:1 SLOPE)
PVI|A	(ASPHALT PAVEMENT – SEE CONSTRUCTION DETAILS)
PVI|C	(CONCRETE PAVEMENT – SEE CONSTRUCTION DETAILS)
MAT	(MATCH PROPOSED FLUSH WITH EXISTING SURFACE)
N|1	(SEE NOTE ie.,#1 – SEE NOTES THIS SHEET)
RD	(ROOF DRAIN CONNECTION – SEE CONSTRUCTION DETAILS)
SA	(SEE ARCHITECTURAL PLANS)
SWMF|1	(SEE STORM WATER MANAGEMENT FACILITY SCHEDULE THIS SHEET)
SK	(SKIMMER – SEE CONSTRUCTION DETAILS)
TRANS	(TRANSITION CURB 3')

McNEIL CARROLL
SCALE
1" = 30'

0 15 30 60

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

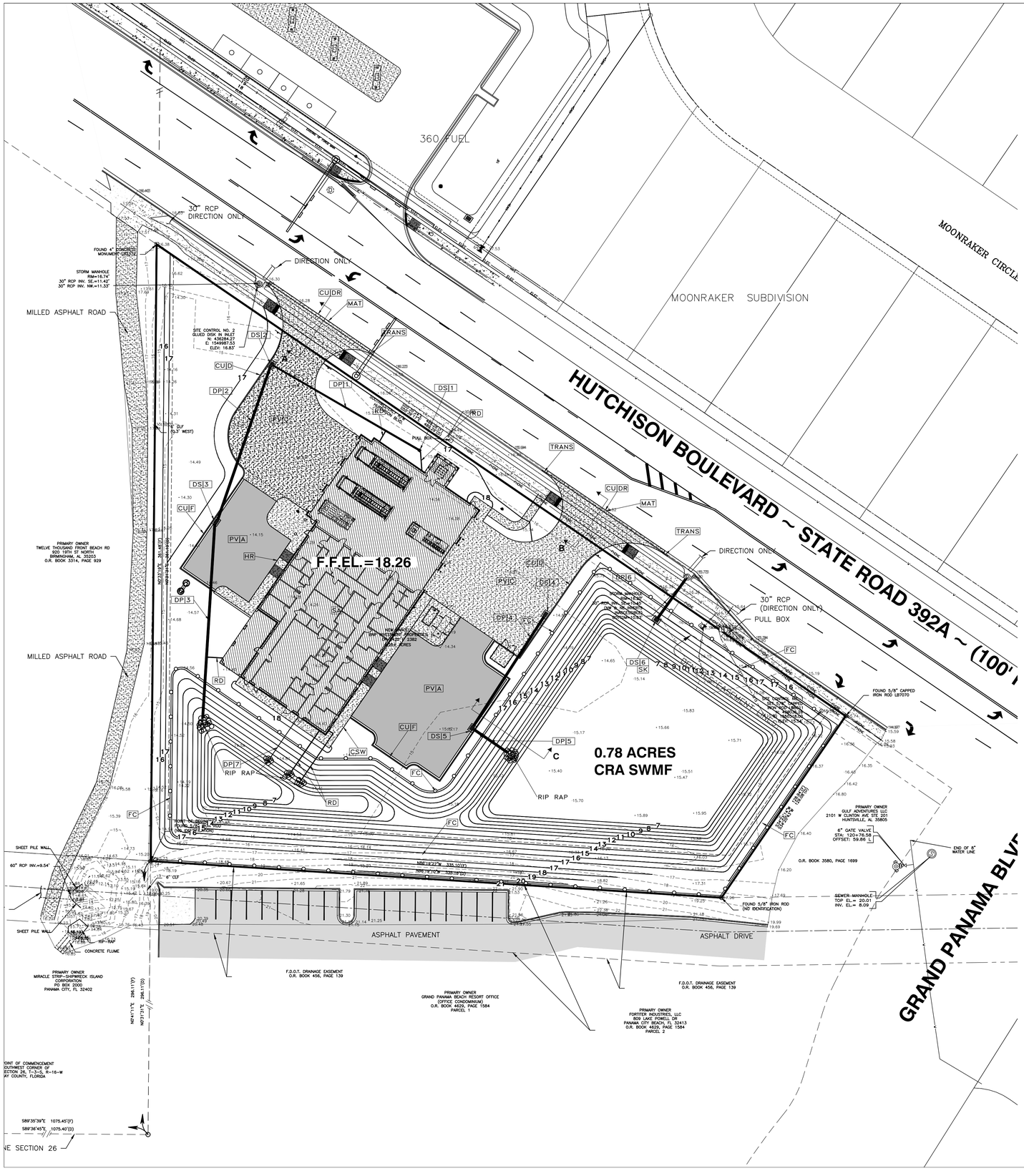
BAY COUNTY, FLORIDA

SHEET TITLE:

SITE GRADING PLAN

SHEET NUMBER:

C1.4



SITE GRADING AND DRAINAGE DRAWING NOTES:

1. SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
2. ALL DEMOLISHED MATERIALS (ie., SIGNS, CONCRETE, ASPHALT, ETC...) TO BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. ALL EXISTING MONITORING WELLS ARE NOT TO BE REMOVED. WELLS IN PAVEMENT SHALL HAVE A MANHOLE LID INSTALLED.
3. SEE SECTIONS IN CONSTRUCTION DETAILS.
4. ALL DRAINAGE PIPES TO BE DEDICATED TO THE CITY OF PANAMA CITY BEACH SHALL BE VIDEO RECORDED AND PLACED ON A DIGITAL MEDIA (NO TAPES). VIDEO MUST BE REVIEWED AND APPROVED BY THE CITY.
5. PROPOSED FINISHED FLOORS SHALL BE 1 FOOT (MIN.) ABOVE ROADWAY CENTERLINE.
6. CONTRACTOR SHALL PROVIDE McNEIL CARROLL ENGINEERING, INC. FIVE (5) SETS AND ONE (1) DIGITAL COPY (AUTOCAD FORMAT) OF AS-BUILT DRAWINGS OF THE COMPLETED PROJECT. DRAWINGS SHALL BE PREPARED AND SIGNED & SEALED BY A FLORIDA REGISTERED SURVEYOR.
7. IT IS THE CONTRACTORS RESPONSIBILITY TO CALL SUNSHINE ONE AT 811 FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.
8. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION AND SODDED PER FDOT INDEX 105.

SYMBOL LEGEND

- 34.60 (EXISTING SPOT ELEVATION)
- 36 (EXISTING CONTOUR)
- +12.50 (PROPOSED FINISHED GRADE)
- (STORMWATER SURFACE FLOW)
- CSW (CONCRETE SIDEWALK- SEE CONSTRUCTION DETAILS)
- CUD (F.D.O.T. CURB ie., TYPE F - SEE CONSTRUCTION DETAILS)
- CUF (F.D.O.T. CURB ie., TYPE F - SEE CONSTRUCTION DETAILS)
- CUDR (F.D.O.T. CURB ie., TYPE F - SEE CONSTRUCTION DETAILS)
- DP16 (SEE DRAINAGE PIPE SCHEDULE THIS SHEET ie.,#16)
- DS12 (SEE DRAINAGE STRUCTURE SCHEDULE THIS SHEET ie.,#12)
- FC (CHAINLINK FENCE - SEE CONSTRUCTION DETAILS)
- HR (5' WIDE HANDICAP RAMP ie.,12:1 SLOPE)
- PVIA (ASPHALT PAVEMENT - SEE CONSTRUCTION DETAILS)
- PVIC (CONCRETE PAVEMENT - SEE CONSTRUCTION DETAILS)
- MAT (MATCH PROPOSED FLUSH WITH EXISTING SURFACE)
- N1 (SEE NOTE ie.,#1 - SEE NOTES THIS SHEET)
- RD (ROOF DRAIN CONNECTION - SEE CONSTRUCTION DETAILS)
- SA (SEE ARCHITECTURAL PLANS)
- SWMF1 (SEE STORM WATER MANAGEMENT FACILITY SCHEDULE THIS SHEET)
- SK (SKIMMER - SEE CONSTRUCTION DETAILS)
- TRANS (TRANSITION CURB 3')

DRAINAGE PIPE SCHEDULE

NO.	SIZE	LF	TYPE	SLOPE
DP1	12"	99	ADS	0.50%
DP2	18"	95	ADS	0.50%
DP3	18"	104	ADS	0.50%
DP4	18"	77	ADS	0.50%
DP5	18"	25	ADS	0.50%
DP6	18"	37	ADS	0.50%
DP7	3"	30	ADS	1.00%

ALL ADS PIPE SHALL BE AS SHOWN OR EQUAL
ALL PERFORATED PIPE SHALL HAVE A GRAVEL PACK
ALL ADS PIPE SHALL BE RATED N-12
SEE CONSTRUCTION DETAILS.

STORM WATER MANAGEMENT FACILITY SCHEDULE

NO.	BASIN AREA	TOP OF BANK ELEV.	SIDE SLOPE	BOTTOM ELEV.	WATERSHED AREA
SWMF1	0.75 AC.	EL. 17.00	3 TO 1	EL. 7.00	2.08 AC.

SEE SITE LAYOUT PLAN FOR DIMENSIONS

DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE STRUCTURE	TOP OF GRATE	PIPE INVERT	SLOT INVERT
DS1	24" ADS BASIN	EL. 17.50	EL. 14.50	EL.
DS2	FDOT TYPE C INLET	EL. 17.00	EL. 13.50	EL.
DS3	FDOT TYPE C INLET	EL. 17.00	EL. 13.02	EL.
DS4	FDOT TYPE C INLET	EL. 17.00	EL. 13.50	EL.
DS5	FDOT TYPE C INLET	EL. 17.00	EL. 13.11	EL.
DS6	FDOT TYPE C INLET W/3" SLOT	EL. 16.75	EL. 14.50 N	EL. 15.00

SEE CONSTRUCTION DETAILS.
2" SUMP UNLESS OTHERWISE NOTED.

STORMWATER OPERATION AND MAINTENANCE SCHEDULE

AFTER EACH RAINFALL EVENT

1. PAVEMENT AREAS: CLEAN/SWEEP DEBRIS AND DIRT FROM PAVEMENT AREAS.
2. SEDIMENTS IN RETENTION/DETENTION AREAS: REMOVE IMMEDIATELY.
3. DEBRIS IN RETENTION/DETENTION AREAS: ALL DEBRIS AND FOREIGN MATERIAL SHALL BE REMOVED IMMEDIATELY.
4. YARD INLETS, CATCH BASINS, ETC.: ALL DEBRIS AND FOREIGN MATERIALS SHALL BE REMOVED IMMEDIATELY.

PERIODIC POND/SYSTEM MAINTENANCE

1. CLEANING/ SWEEPING OF PAVEMENT AREAS SHALL BE ACCOMPLISHED WEEKLY OR AS REQUIRED.
2. INSPECT POND AT LEAST TWICE A MONTH FOR ACCUMULATION OF TRASH AND DEBRIS AND REMOVE UPON DISCOVERY. UPON ANY DISCOVERY OF TRASH AND DEBRIS ACCUMULATION, REMOVE AT ONCE.
3. MOWING AND LANDSCAPING MAINTENANCE SHOULD BE DONE ON A MONTHLY BASIS DURING THE ACTIVE GROWING SEASON FOR THIS AREA. INSPECT AND MAINTAIN AS REQUIRED DURING THE GROWING SEASON.
4. WEEDS OR UNDESIRABLE GROWTH SHALL BE REMOVED UPON DISCOVERY.
5. ALL STORMWATER STRUCTURES AND PIPES BASINS SHALL BE FLUSHED AS NECESSARY.
6. THE OWNER SHALL RE-GRADE AND RE-STABILIZE SWALE/ RETENTION/ DETENTION AREAS AS REQUIRED TO MAINTAIN THE APPROVED DESIGN, CROSS-SECTIONS, GRADES, ETC.
7. REMOVE SEDIMENT FROM POND WHEN ACCUMULATION REACHES TWO (2) INCHES. MEASUREMENTS FOR ACCUMULATION SHALL BE PERFORMED EVERY SIX MONTHS AND AFTER EACH MAJOR STORM EVENT.

INSPECTIONS

1. A MAINTENANCE INSPECTION SHALL BE PERFORMED AT MINIMUM EVERY FIFTH YEAR BY A REGISTERED PROFESSIONAL. THE INSPECTOR SHALL BE WORKING UNDER THE CHARGE OF A LICENSED PROFESSIONAL ENGINEER.
2. THE MAINTENANCE INSPECTION SHALL BE DOCUMENTED ON THE FDEP AND/OR NWFWMD STANDARD INSPECTION FORM 62-330-311(1).
3. THE INSPECTION SHALL BE SIGNED, SEALED AND DATED BY THE REGISTERED PROFESSIONAL AND SUBMITTED TO EITHER THE FDEP OR NWFWMD WITHIN 30 DAYS OF THE INSPECTION.
4. THE INSPECTION MUST BE CONDUCTED USING THE PLANS, CALCULATIONS AND SPECIFICATIONS APPROVED BY THE FDEP AND/OR NWFWMD.
5. THERE MUST BE AN INSPECTION COMPLETED BY A REGISTERED PROFESSIONAL ONE YEAR AFTER THE CONVERSION INTO OPERATION.

McNEIL CARROLL
SCALE
1" = 30'
0 15 30 60

ROBERT L. CARROLL LICENSE No. 57988 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/28/23

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LIC # 57988

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

McNEIL CARROLL ENGINEERING, INC.
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

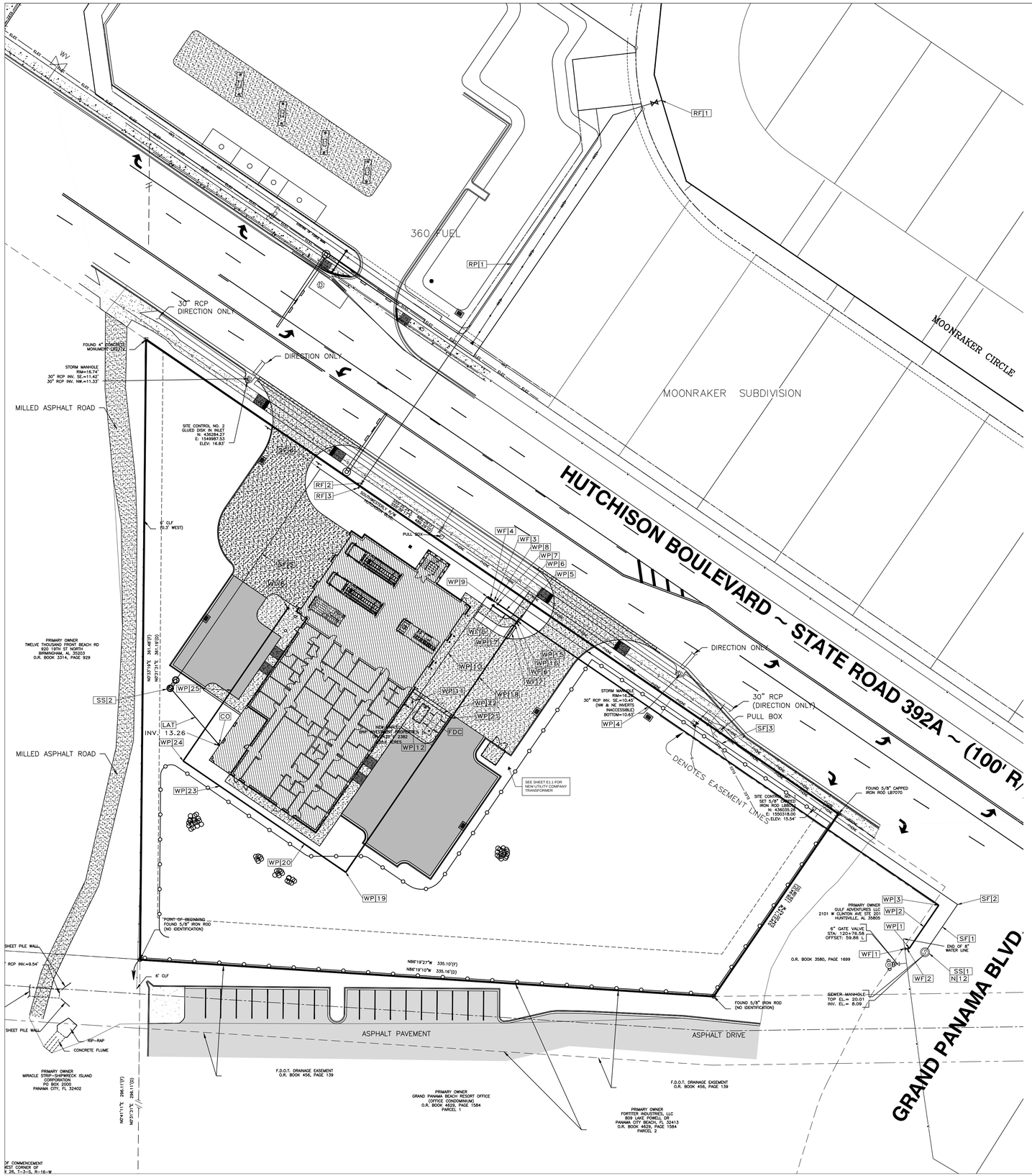
BAY COUNTY, FLORIDA

SHEET TITLE:

SITE DRAINAGE PLAN

SHEET NUMBER:

C1.5C



SITE UTILITY DRAWING NOTES:

1. SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
2. SEE SECTION AND DETAILS IN CONSTRUCTION DETAILS.
3. ALL PROPOSED UTILITIES SHALL BE PLACED UNDERGROUND.
4. CONTRACTOR SHALL PROVIDE McNEIL CARROLL ENGINEERING, INC. FIVE (5) SETS AND ONE (1) DIGITAL COPY (AUTOCAD FORMAT) OF AS-BUILT DRAWINGS OF THE COMPLETED PROJECT. DRAWINGS SHALL BE PREPARED AND SIGNED & SEALED BY A FLORIDA REGISTERED SURVEYOR.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO CALL SUNSHINE ONE AT 811 FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.
6. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION AND SODDED PER FDOT INDEX 105.
7. ADDITIONAL FITTINGS MAY BE REQUIRED. FORCE MAIN MUST PASS BENEATH POTABLE AND RECLAIMED WATER LINES IF AT ALL POSSIBLE.
8. SCHEDULE ALL PCB UTILITY INSPECTIONS 48 HOURS MINIMUM IN ADVANCE. JIMMY APPLEBY: 850-527-0241
9. CONNECT TO EXISTING 6" FORCE MAIN, MAY NEED BACK TAP.
10. MAINTAIN COVER MIN 3' TO MAX 5'. WORK IN ROW NOT TO EXCEED DEPTH OF 5'. DIRECTIONAL CROSSINGS NOT TO EXCEED DEPTH OF 6'.
11. ENSURE SEPARATION BETWEEN WATER AND SEWER PER PCB STANDARD DETAIL M-35A AND M-35B.
12. EXISTING MANHOLE TO BE LINED WITH SPECTRESHIELD (500 MIL DFT) OR APPROVED EQUAL.

SYMBOL LEGEND

- ⊠ CO (4" CLEANOUT – SEE CONSTRUCTION DETAILS)
- LAT (4" SEWER LATERAL – SEE CONSTRUCTION DETAILS)
- N|1 (SEE NOTE ie., #1 – SEE NOTES THIS SHEET)
- SA (SEE ARCHITECTURAL PLANS)
- RF|14 (SEE RE-USE WATER FIXTURE SCHEDULE THIS SHEET ie.,#14 SEE CONSTRUCTION DETAILS)
- RP|10 (SEE RE-USE WATER PIPE SCHEDULE THIS SHEET ie.,#10 SEE CONSTRUCTION DETAILS)
- SF|8 (SEE SEWER FORCE MAIN PIPE SCHEDULE THIS SHEET ie.,#8 SEE CONSTRUCTION DETAILS)
- SS|12 (SEE SEWER STRUCTURE SCHEDULE THIS SHEET ie.,#12 SEE CONSTRUCTION DETAILS)
- WF|14 (SEE WATER FIXTURE SCHEDULE THIS SHEET ie.,#14 SEE CONSTRUCTION DETAILS)
- WP|10 (SEE WATER PIPE SCHEDULE THIS SHEET ie.,#10 SEE CONSTRUCTION DETAILS)

WATER MAIN PIPE SCHEDULE			
NO.	SIZE	LF	TYPE
WP1	8"	--	45° BEND
WP2	8"	31	PVC
WP3	8"	--	90° BEND
WP4	8"	297	PVC
WP5	8"	--	TEE
WP6	8"	16	PVC
WP7	8"X2"	--	REDUCER
WP8	2"	2	PVC
WP9	2"	--	90° BEND
WP10	2"	74	PVC
WP11	2"	--	90° BEND
WP12	2"	5	PVC
WP13	2"	--	90° BEND
WP14	2"	2	PVC
WP15	8"	4	PVC
WP16	8"	--	TEE
WP17	8"	16	PVC
WP18	8"	167	TEE
WP19	8"	--	TEE
WP20	8"	60	PVC
WP21	8"X4"	--	TEE
WP22	4"	27	PVC
WP23	8"	56	PVC
WP24	8"	--	90° BEND
WP25	8"	108	PVC

LESS THAN 4" WATER MAIN – ASTM D2241 SDR-21
4"-6" WATER MAIN – AWWA C900 DR18
8"-12" WATER MAIN – AWWA C900 DR25
ALL LINES SHALL BE THE COLOR BLUE.

WATER FIXTURE SCHEDULE	
NO.	TYPE
WF1	8" TAPPING SADDLE
WF2	8" VALVE ASSEMBLY
WF3	2" WATER METER ASSEMBLY
WF4	2" REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
WF5	8" FIRE HYDRANT ASSEMBLY
WF6	8" VALVE ASSEMBLY
WF7	8" DOUBLE DETECTOR CHECK VALVE
WF8	8" FIRE HYDRANT ASSEMBLY

SEE CONSTRUCTION DETAILS.
ALL LINES SHALL BE THE COLOR BLUE

FORCE MAIN SEWER PIPE SCHEDULE			
NO.	SIZE	LF	TYPE
SF1	2"	32	HDPE
SF2	2"	--	90° BEND
SF3	2"	451	HDPE
SF4	2"	--	90° BEND
SF5	2"	148	HDPE

ALL CONSTRUCTION TO BE IPS TUBING – 200 P.S.I. SDR9 – ASTM D-2737 SERVICE TUBING WITH GREEN STRIPE
4"-6" FORCE MAIN – AWWA C900 DR18
8"-12" FORCE MAIN – AWWA C900 DR25
GREATER THAN 12" FORCE MAIN – AWWA C905 DR25
ALL LINES SHALL BE THE COLOR GREEN.
HDPE ≥ 3" SHALL BE SDR 11

REUSE WATER MAIN PIPE SCHEDULE			
NO.	SIZE	LF	TYPE
RP1	2"	296	PVC

UP TO 4" WATER MAIN – CLASS 200
4-12" WATER MAIN – C900 DR18
ALL LINES SHALL BE THE COLOR PURPLE.

REUSE WATER FIXTURE SCHEDULE	
NO.	TYPE
RF1	6"x2" TAPPING SADDLE W/ VALVE
RF2	2" VALVE ASSEMBLY
RF3	1" REUSE WATER METER ASSEMBLY

SEE CONSTRUCTION DETAILS.
ALL LINES SHALL BE THE COLOR PURPLE

SEWER STRUCTURE SCHEDULE						
NO.	TYPE STRUCTURE	TOP OF M.H.	NORTH INVERT	SOUTH INVERT	EAST INVERT	WEST INVERT
SS1	EXISTING SEWER MANHOLE	EL. 20.01	EL. 16.50 2" IN (NEW)	EL. 8.09 8" OUT (EX)	EL.	EL.
SS2	GRINDER STATION	EL. 18.00	EL.	EL.	EL. 12.86 4" IN	EL.

SEE CONSTRUCTION DETAILS.

PANAMA CITY BEACH UTILITY CONTACTS		
UTILITY	CONTACT	
TELEPHONE	SUNSHINE STATE ONE CALL	1-800-432-4770
ELECTRIC	GULF POWER	1-850-872-3212
CABLE TV	COMCAST WOW CABLE	1-850-769-0392 1-850-747-0139
WATER & SEWER	CITY OF PANAMA CITY BEACH	1-850-233-5100
GAS	TECO PEOPLES GAS FLORIDA GAS TRANSMISSION	1-850-872-6140 1-800-432-4770

McNEIL CARROLL
SCALE
1" = 30'

0 15 30 60

ROBERT L. CARROLL
LICENSE
No. 57988
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/28/23

Robert L. Carroll, P.E.
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FL LC # 57988

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JRA ARCHITECTS
2211 THOMAS DR., STE 100
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PHONE: (850) 236-9832
Commission Number: 21804

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1720
Fax: 850-234-1731

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

SITE UTILITY PLAN

SHEET NUMBER:

C1.6

GENERAL NOTES

PREVENTION, CONTROL AND ABATEMENT OF EROSION

ALL ON AND OFF SITE WORK INCLUDED CONSISTS OF BUT NOT LIMITED TO THE FOLLOWING:

10.2643; SEEDING AND MULCHING OR SODDING FOR STABILIZATION.

CONSTRUCTION OF SEDIMENT BASINS, CHECK DAMS OR FLOATING BARRIERS.

PLACEMENT OF SILTATION FENCES DURING THE COURSE OF CONSTRUCTION.

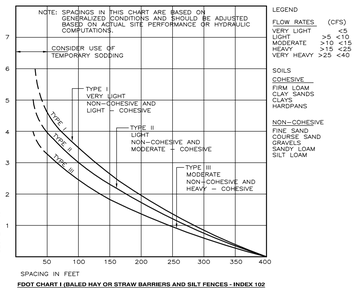
SILT FENCE TO BE INSTALLED AT PERIMETER OF SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES WILL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT TO RESTRICT ANY TURBID RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CONTROL OF SEDIMENT-LADEN RUNOFF SHALL BE PROVIDED WITH HAY BALES AND/OR GEOTECH STYLE FABRICS. ALL CONTROL MEASURES SHALL BE PROPERLY LOCATED AND CONSTRUCTED TO PREVENT SEDIMENT TRANSPORT. THE MEANS FOR RETAINING THE SEDIMENTS WILL BE MAINTAINED BY THE CONTRACTOR UNTIL PERMANENT IMPROVEMENTS ARE COMPLETE.

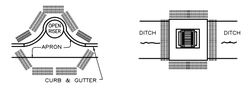
THE CONTRACTOR IS RESPONSIBLE FOR TREATING ALL ONSITE STORM WATER DRAINAGE AS REQUIRED TO MEET THE CRITERIA OF 62-3 FLORIDA ADMINISTRATIVE CODE, F.A.C. PRIOR TO DISCHARGE.

ALL CATCH BASINS, INLETS AND ACCESSES TO UNDERGROUND STORM WATER SYSTEMS SHALL BE PROTECTED IN ACCORDANCE WITH THE ATTACHED DETAILS.

THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS OF ANY STORM WATER PERMITS THAT MAY APPLY (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FLORIDA DEPARTMENT OF TRANSPORTATION, BAY COUNTY, WATER MANAGEMENT DISTRICT, ETC.).

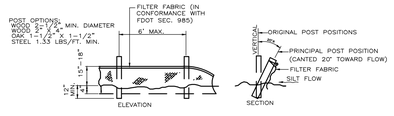


FDOT CHART I (BALED HAY OR STRAW BARRIERS AND SILT FENCES - INDEX 102



ANCHOR BALES WITH 2 - 2"X2"X4" STAKES PER BALE (SEE DETAIL)

PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

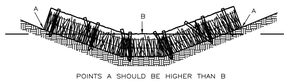


NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR THE STAKED SILT FENCE (LF.)

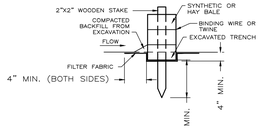
TYPE III SILT FENCE

NOTE:

L0.315,T0.252;DO NOT DEPLOY SILT FENCES IN A MANNER THAT WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES.
SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND AS TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
SILT FENCE SHOULD BE REPLACED EVERY SIX (6) MONTHS.
SILT FENCE SHALL EXTEND A MINIMUM OF 4" BELOW GRADE.
SILT FENCE SHALL EXTEND 4" AWAY FROM STAKES.

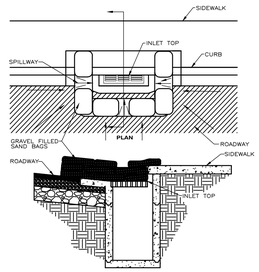


PROPER PLACEMENT OF BALES IN DRAINAGE WAY



EROSION CONTROL DETAILS

NOT TO SCALE

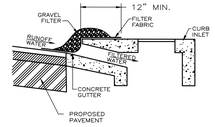


NOTE:

1. GRAVEL FILLED BAGS TO BE PLACED TIGHTLY TOGETHER AS TO NOT ALLOW ANY GAPS IN BETWEEN THE BAGS VERTICALLY AND HORIZONTALLY.
2. IF SEDIMENT IS PENETRATING BAGS, BAGS MAY NEED TO BE WRAPPED IN ADDITIONAL FILTER FABRIC.

CURB INLET SEDIMENT BARRIER (OPTION 1)

NOT TO SCALE

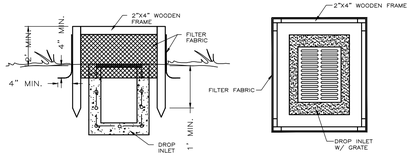


NOTES:

1. GRAVEL SHALL BE #57 STONE.

GRAVEL CURB INLET SEDIMENT FILTER (OPTION 2)

NOT TO SCALE

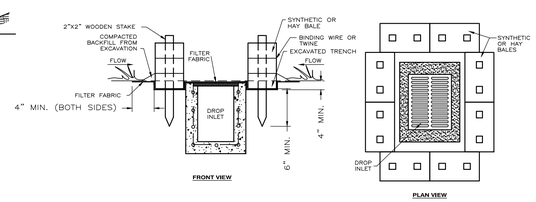


NOTES:

1. TOP FRAME REQUIRED FOR STABILITY.
2. THIS METHOD OF INLET PROTECTION IS NOT TO BE USED IN RIGHT-OF-WAYS OR MEDIANS.
3. STAKES SHALL EXTEND 1' MIN. BELOW GRADE.
4. FILTER FABRIC SHALL EXTEND 4" MIN. BELOW GRADE AND 4" MIN. BEYOND WOODEN FRAME.

DROP INLET SEDIMENT FILTER OPTION 1

NOT TO SCALE



DROP INLET SEDIMENT FILTER OPTION 2

NOT TO SCALE

WORK IN RIGHTS-OF-WAYS

ALL WORK WITHIN RIGHTS-OF-WAYS SHALL BE IN STRICT ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE RESPECTIVE AGENCIES.

THE CONTRACTOR SHALL COOPERATE WITH THE GOVERNING STATE AND LOCAL AGENCIES IN ALL PROCEDURES, MATERIALS AND METHODS OF CONSTRUCTION.

ALL OFF-SITE WORK INCLUDED CONSISTS OF BUT IS NOT LIMITED TO THE FOLLOWING:

CONSTRUCTION OF DRIVEWAY CONNECTIONS TO EXISTING MUNICIPAL ROADWAYS AS SHOWN ON PLANS.

PLACEMENT OF ABOVE OR BELOW GROUND UTILITIES AND CONNECTION TO EXISTING UTILITIES AS SHOWN ON PLANS.

SITE CLEARING AND DEMOLITION

ANY WORK WITHIN STREET OR HIGHWAY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNMENTAL AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL THESE GOVERNING AUTHORITIES HAVE BEEN NOTIFIED AND PROPER PERMITS OBTAINED.

KEEP ALL AREAS WITHIN THE CONSTRUCTION AREA SUFFICIENTLY DAMPENED TO PREVENT DUST FROM RISING DUE TO CONSTRUCTION; COMPLY WITH ALL ANTI-POLLUTION ORDINANCES.

THIS SUBCONTRACTOR SHALL SEE TO IT THAT TRUCKS LEAVING THE SITE SHALL DO SO IN SUCH A MANNER THAT MUD AND EARTH WILL NOT BE DEPOSITED ON ADJACENT STREET PAVEMENTS. ANY MUD OR EARTH DEPOSITED ON STREET PAVEMENTS SHALL BE PROMPTLY REMOVED BY THIS SUBCONTRACTOR.

ALL CLEARING SHALL BE PERFORMED IN A MANNER SUCH AS TO PREVENT ANY WASH-OFF OF SOILS FROM THE SITE INTO STREAMS AND/OR STORM DRAINAGE SYSTEMS. APPROPRIATE SEDIMENTATION PONDS, DIKES, DOLLARS, AND FILTER MEDIA SHALL BE EMPLOYED TO INSURE COMPLIANCE WITH THESE REQUIREMENTS. WHERE A SPECIFIC STATUTE GOVERNS THESE PROCEDURES, SUCH STATUTE SHALL BE COMPLIED WITH IN IT'S ENTIRETY.

TOPSOIL IS DEFINED AS FRIABLE CLAY LOAM SURFACE SOIL FOUND IN A DEPTH OF NOT LESS THAN 4". SATISFACTORY TOPSOIL IS REASONABLY FREE OF SUBSOIL, CLAY LUMPS, STONES, AND OTHER OBJECTS OVER 2" IN DIAMETER, AND WITHOUT WEEDS, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.

STRIP TOPSOIL TO WHATEVER DEPTHS ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OTHER OBJECTIONABLE MATERIAL.

REMOVE HEAVY GROWTHS OF GRASS FROM AREAS BEFORE STRIPPING. WHERE TREES ARE INDICATED TO BE LEFT STANDING, STOP TOPSOIL STRIPPING A SUFFICIENT DISTANCE TO PREVENT DAMAGE TO MAIN ROOT SYSTEM. DISPOSE OF UNSUITABLE OR EXCESS TOPSOIL SAME AS WASTE MATERIAL, HEREIN SPECIFIED.

BURNING WILL NOT BE PERMITTED ON PROJECT SITE.

ALL EXISTING STRUCTURES, UTILITIES AND OTHER OBSTACLES IN CONFLICT WITH THE PROPOSED FACILITY SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. SEE OTHER UTILITY AND MISCELLANEOUS NOTES CONCERNING REMOVAL.

ALLOW TESTING SERVICES TO INSPECT AND APPROVE SUBGRADE AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS PERFORMED.

ATTENTION IS CALLED TO THE FACT THAT THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES TO OBTAIN LOCATIONS OF ALL EXISTING UTILITIES OR OBSTRUCTIONS WHICH HE MAY ENCOUNTER DURING CONSTRUCTION.

AFTER LOCATION OF UTILITIES BY THE APPROPRIATE UTILITY COMPANY, IT IS THE CONTRACTOR'S LIABILITY TO PROTECT ALL SUCH UTILITY LINES, INCLUDING SERVICE LINES AND APPURTENANCES, AND TO REPLACE AT HIS OWN EXPENSE ANY WHICH MAY BE DAMAGED BY THE CONTRACTOR'S EQUIPMENT OR FORCES DURING CONSTRUCTION.

TO PROTECT PERSON FROM INJURY AND TO AVOID PROPERTY DAMAGE, ADEQUATE BARRICADES, CONSTRUCTION SIGNS, TORCHES, RED LANTERNS AND GUARDS AS REQUIRED SHALL BE PLACED AND MAINTAINED DURING THE PROGRESS OF THE CONSTRUCTION WORK.

ADEQUATE PROVISION SHALL BE MADE FOR THE FLOW OF SEWERS, DRAINS, AND WATER COURSES ENCOUNTERED DURING CONSTRUCTION, AND THE STRUCTURES WHICH MAY HAVE BEEN DISTURBED SHALL BE SATISFACTORILY RESTORED BY THE CONTRACTOR.

EXCAVATING, FILLING AND GRADING

ALL ON AND OFF-SITE WORK INCLUDED CONSISTS OF BUT IS NOT LIMITED TO THE FOLLOWING:

ALL ON AND OFF-SITE PREPARATION WORK FOR EXCAVATION, PIPE BED PREPARATION AND BACKFILL FOR UNDERGROUND UTILITIES.

COMPACTION OF BACKFILL.

REMOVAL OF ALL EXCESS OR UNUSABLE MATERIAL.

APPROVAL REQUIRED: ALL FILL MATERIAL SHALL BE SUBJECT TO APPROVAL OF THE GEO-TECHNICAL ENGINEER.

ALL ON-SITE FILL MATERIAL SHALL BE SOIL-ROCK MIXTURE WHICH IS FREE FROM ORGANIC MATTER (LESS THAN 3% BY IGNITION), AND OTHER DELETERIOUS SUBSTANCE. IT SHALL CONTAIN NO ROCKS OR LUMPS OVER SIX (6) INCHES IN GREATEST DIMENSION AND NOT MORE THAN 15% OF THE ROCKS OR LUMPS BY DRY WEIGHT, SHALL BE LARGER THAN 2 AND 1/2 INCHES IN GREATEST DIMENSION.

ALL IMPORTED FILL MATERIAL SHALL MEET THE REQUIREMENTS OF ON-SITE FILL MATERIAL AND SHALL IN ADDITION, BE PREDOMINANTLY GRANULAR WITH A MAXIMUM PARTICLE SIZE OF TWO (2) INCHES AND A PLASTICITY INDEX OF 12 OR LESS.

ALL ON-SITE FILL MATERIAL USED FOR TRENCH AND STRUCTURAL BACKFILL SHALL MEET THE REQUIREMENTS OF ARTICLE ABOVE.

ALL IMPORTED COHESIONLESS MATERIAL USED FOR TRENCH AND STRUCTURAL BACKFILL SHALL BE FREE FROM ORGANIC SUBSTANCE (LESS THAN 3% BY IGNITION) AND OTHER DELETERIOUS MATTER, SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

PRIOR TO ALL WORK OF THIS SECTION, CONTRACTOR IS TO BECOME THOROUGHLY FAMILIAR WITH THE SITE, THE SITE CONDITIONS, AND ALL PORTIONS OF THE WORK, FALLING WITHIN THIS SECTION.

DO NOT ALLOW OR CAUSE ANY OF THE WORK PERFORMED OR INSTALLED TO BE COVERED UP OR ENCLOSED BY WORK OF THIS SECTION PRIOR TO ALL REQUIRED INSPECTIONS, TESTS AND APPROVALS.

AFTER THE WORK HAS BEEN COMPLETELY TESTED, INSPECTED AND APPROVED, MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO RESTORE THE WORK TO THE CONDITION IN WHICH IT WAS FOUND AT THE TIME OF UNCOVERING, ALL AT NO ADDITIONAL COST TO THE OWNER.

FOR SETTING AND ESTABLISHING FINISH ELEVATIONS AND LINES, SECURE THE SERVICES OF A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR ACCEPTABLE TO THE OWNER. CAREFULLY PRESERVE ALL DATA AND ALL MONUMENTS SET BY THE CIVIL ENGINEER OR LAND SURVEYOR, AND IF DISPLACED OR LOST, IMMEDIATELY REPLACE TO THE APPROVAL OF THE OWNER AND AT NO ADDITIONAL COST TO THE OWNER.

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, ETC. NECESSARY AND INCIDENTAL TO THE COMPLETION OF ALL EARTHWORK AS SHOWN ON THE DRAWINGS AND SPECIFICATIONS. ALL OFF-SITE WORK INCLUDED CONSISTS OF BUT IS NOT LIMITED TO THE FOLLOWING: THIS WORK CONSISTS OF GRADING IN ORDER TO ACHIEVE FINISHED ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS.

ALL GRADED SURFACES SHALL BE SMOOTH AND UNIFORM, WITHOUT ABRUPT CHANGES IN SLOPE OR GRADE. AREAS TO BE COVERED WITH PAVING SHALL BE FINE GRADED TO THE REQUIRED ELEVATIONS AND SLOPES. FINISHED SURFACES IN ALL OTHER AREAS MAY VARY UP TO 0.1 FEET FROM THE REQUIRED ELEVATIONS.

PERFORM EXCAVATION WORK IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF GOVERNMENTAL AGENCIES HAVING JURISDICTION. ALL MATERIAL AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 120 OF THE STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, LATEST EDITION.

EMPLOY, AT CONTRACTOR'S EXPENSE, DESIGN LABORATORY TO PERFORM SOIL TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL TESTING DURING EARTHWORK OPERATIONS. SUBMIT FOLLOWING REPORTS DIRECTLY TO ENGINEER AND COPIES TO CITY ENGINEERING DEPARTMENT FROM THE TESTING SERVICES, WITH COPY TO THE CONTRACTOR:

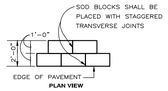
TEST REPORTS ON BORROW MATERIAL.

FIELD DENSITY TEST REPORTS.

ONE OPTIMUM MOISTURE-MAXIMUM DENSITY CURVE FOR EACH TYPE OF SOIL ENCOUNTERED.

WHERE REQUIRED, THE SITE SHALL BE EXCAVATED TO THE GRADES COURSE. EXCAVATED MATERIAL THAT IS SUITABLE SHALL BE USED IN THE FILL SECTIONS OF THE SITE. NO SUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE. ANY EXCESS SUITABLE MATERIAL SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER.

EXCAVATION FOR MANHOLES, CATCH BASINS, AND OTHER ACCESSORIES SHALL BE SUFFICIENT TO LEAVE AT LEAST 12 INCHES IN THE CLEAR BETWEEN THEIR OUTER SURFACES AND THE EMBANKMENT OF TIMBER THAT MAY BE USED TO PROTECT THEM.



THIS WORK CONSISTS OF SODDING AREAS CLEARED DURING CONSTRUCTION AND NOT PAVED, OR AS OTHERWISE SHOWN ON THE CONSTRUCTION PLANS. ALL MATERIAL AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 570, 571, 573, OR 575 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, LATEST REVISION.

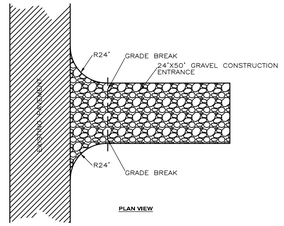
USE ST. AUGUSTINE GRASS (FLORATAM) SOD. THE SOD SHALL BE LIVE, FRESH AND UNINJURED AT THE TIME OF PLANTING AND SHALL HAVE A THICK MAT OF ROOTS WITH ENOUGH ADHERING SOIL TO ASSURE GROWTH. APPLY SOD WITHIN 72 HOURS OF CUTTING OR STACKING TO KEEP MOIST.

PREPARE THE GROUND BY LOOSENING THE SOIL. PLACE SOD ON THE PREPARED SOIL WITH EDGES IN CLOSE CONTACT. STAGGER THE SOD PIECES SO AS TO AVOID A CONTINUOUS DOWNHILL SEAM. TAMP THE OUTER EDGES OF THE SODDED AREA TO PRODUCE A SMOOTH CONTOUR.

KEEP SOD CONTINUOUSLY MOIST TO A DEPTH BELOW THE ROOT ZONE FOR THREE WEEKS AFTER PLACEMENT.

SODDING DETAIL

NOT TO SCALE



NOTE:

1. GRAVEL CONSTRUCTION ENTRANCE SHALL BE 24' WIDE AND 50' LONG.
2. CONSTRUCTION ENTRANCE SHALL BE 6" OF #57 STONE OVERLAYING FILTER FABRIC.
3. ALGEBRAIC DIFFERENCE OF SLOPE FROM EXISTING ROAD AND SLOPE FROM EDGE OF PAVEMENT TO GRADE BREAK SHALL NOT EXCEED 12%.
4. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS.
5. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR BASIN.

CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

REVISIONS:

NO.	DESCRIPTION	DRAWN	CHECKED	DATE
1				

PHASE:	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			05/10/23

JRA ARCHITECTS
2211 THOMAS DRIVE, SUITE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
COMMISSION NUMBER 21804

CONSULTANTS:

McNEIL-CARROLL ENGINEERING, INC.
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288

PROJECT:

PANAMA CITY BEACH
FIRE STATION # 32
HUTCHISON BLVD

PANAMA CITY BEACH, FLORIDA

SHEET TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

C2.1

SITE DRAINAGE

ALL OFF–SITE AND ON–SITE WORK INCLUDED CONSISTS OF BUT IS NOT LIMITED TO THE FOLLOWING:

EXCAVATION, BEDDING, FILTER MATERIAL AND BACKFILL FOR ALL STORM SEWER, SUBSURFACE DRAINS AND DRAINAGE STRUCTURES.

COMPLETE INSTALLATION OF ALL STORM SEWER, SUBSURFACE DRAINS, CATCH BASINS, JUNCTION BOXES, MANHOLES, ETC., INCLUDING ALL RELATED FITTINGS, JOINTS COVERS, GRATES, FRAMES, RUNGS, ETC.

ANY WORK WITHIN STREET OR HIGHWAY RIGHT–OF–WAY SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNMENTAL AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL OF THESE GOVERNING AUTHORITIES HAVE BEEN NOTIFIED.

POLYVINYL CHLORIDE (PVC), FOR PIPE UP TO AND INCLUDING TEN INCHES (10") IN DIAMETER, SHALL CONFORM TO ASTM D3034 SDR 35 WITH ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM D3212.

REINFORCED CONCRETE PIPE, FOR PIPE TWELVE INCHES (12") IN DIAMETER AND UP, SHALL CONFORM TO ASTM C–76, CLASS IV OR AASHTO M–170 WITH BELL AND SPIGOT OR TONGUE AND GROOVE COMPRESSION JOINT CONFORMING TO ASTM C–443.

MANHOLES, CATCH BASINS, ETC. SHALL BE SIZE AND TYPE INDICATED ON THE DRAWINGS AND SHALL BE CONSTRUCTED OF THE FOLLOWING:

REINFORCED PRECAST CONCRETE MANHOLE SECTIONS INCLUDING CONCENTRIC OR ECCENTRIC CONES AND GRADE RINGS SHALL BE 4000 PSI CONCRETE AND CONFORM TO ASTM C478 OR AASHTO M–199. SECTIONS SHALL BE COMPLETE WITH 3/4" ROUND CAST IN PLACE WROUGHT IRON STEPS.

BRICK SHALL BE SOUND, HARD BURNED THROUGHOUT AND OF UNIFORM SIZE AND QUALITY AND SHALL BE IN ACCORDANCE WITH ASTM C–32, GRADE MS OR MM.

CONCRETE MASONRY SHALL BE SOLID PRECAST SEGMENTAL CONCRETE MASONRY UNITS CONFORMING TO ASTM C–139.

IRON CASTINGS SHALL CONFORM TO ASTM A–48, CLASS 30. BEARING SURFACES BETWEEN CAST IRON FRAMES, COVERS AND GRATES SHALL BE MACHINED, FITTED TOGETHER AND MATCH MARKED TO PREVENT ROCKING.

SYSTEM IDENTIFYING LETTER 2" HIGH SHALL BE STAMPED OR CAST INTO ALL COVERS SO THAT THE MAY BE PLAINLY VISIBLE.

CASTINGS SHALL BE MANUFACTURED BY EAST JORDAN IRON WORKS, INC. NEENAH FOUNDRY COMPANY, VULCAN FOUNDRY COMPANY OR EQUAL.

MANHOLE STEPS FOR BRICK OR CONCRETE MASONRY STRUCTURES SHALL BE CAST IRON ASPHALT COATED, NEENAH FOUNDRY COMPANY "R–1980–E" OR EQUAL.

CONCRETE AND MASONRY MATERIALS FOR CONSTRUCTION OF STORM DRAINAGE STRUCTURES SHALL CONSIST OF THE FOLLOWING:

PORTLAND CEMENT SHALL BE STANDARD BRAND OF PORTLAND CEMENT CONFORMING TO ASTM C–150, TYPE I OR II.

FINE AND COARSE AGGREGATES FOR CONCRETE SHALL BE PER ASTM C–33. AGGREGATES SHALL BE WELL GRADED FROM FINE TO COARSE WITHIN LIMITS SPECIFIED IN ASTM C–33. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4".

AGGREGATE FOR CEMENT MORTAR SHALL BE CLEAN, SHARP SAND CONFORMING TO ASTM C–144. GRADE SAND FROM COARSE TO FINE WITH 100% PASSING NO. 8 SIEVE, AND NOT OVER 10 TO 30% PASSING NO. 50 SIEVE. HYDRATED LIME SHALL COMPLY WITH ASTM C–207, TYPE S. WATER SHALL BE CLEAN AND FREE FROM DELETERIOUS MATERIALS.

ALL MATERIAL USED FOR CONCRETE AND THE DESIGN OF ALL CONCRETE MIXES SHALL CONFORM WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI 211.1–81).

ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL DEVELOP A 28–DAY COMPRESSIVE STRENGTH OF 3000 PSI.

JOINT SEALANT SHALL BE HOT LAID BITUMINOUS SEALER.

RIP RAP SHALL BE SOUND, TOUGH DURABLE ROCK OR BROKEN CONCRETE AS APPROVED BY THE GEOTECHNICAL ENGINEER. RIP RAP SHALL BE AT LEAST EIGHT INCH (8") IN ONE DIMENSION AN SHALL HAVE A VOLUME OF NOT LESS THAN J1/3 CUBIC FOOT. SMALLER PIECES PERMITTED FOR FILLING VOIDS.

REINFORCING STEEL FOR CONCRETE SHALL BE INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A–615, GRADE 40. WELDED WIRE MESH SHALL CONFORM TO ASTM DESIGNATION A185 FOR SMOOTH WIRE AND ASTM A497 FOR DEFORMED WIRE.

FORMS FOR FOUNDATIONS AND OTHER CONCRETE WORK SHALL BE WOOD. FORMS SHALL BE OF SUFFICIENT STRENGTH TO PREVENT DEFORMATION UNDER LOAD AND TIGHT ENOUGH TO PREVENT LEAKAGE. FOUNDATIONS MAY BE POURED AGAINST EARTH WHERE CONDITIONS PERMIT.

ALL REINFORCEMENT SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH ACI 318–77. WELDED WIRE MESH SHALL BE LAPPED 6–INCHES AT ALL EDGES.

THE MIXING, PLACING, CURING AND FINISHING OF CONCRETE SHALL COMPLY WITH ACI 304 AND ACI 318. ALL EXPOSED SURFACES SHALL BE GIVEN A HARD STEEL TROWEL FINISH WITH NO TROWEL MARKS REMAINING. NO CEMENT SHALL BE DUSTED ON THE SURFACE. ALL CONCRETE SHALL BE CURED BY COATING WITH A CLEAR CURING NO CEMENT CONFORMING TO ASTM C–304, OR BY KEEPING IT WET FOR AT LEAST SIX DAYS AFTER POURING. AFTER THE FORMS ARE STRIPPED, ALL EXPOSED CONCRETE SURFACES SHALL BE POINTED AS NEEDED AND RUBBED TO A UNIFORM FINISH.

CONCRETE, UNLESS OTHERWISE NOTED, SHALL HAVE COMPRESSIVE STRENGTH AFTER 28 DAYS OF 3000 PSI MINIMUM. MIX SHALL BE SO PROPORTIONED TO PROVIDE A MINIMUM OF 517 POUNDS OF CEMENT PER CUBIC YARD.

CONCRETE FILL BELOW GRADE FOR PIPE CRADLES ETC. MAY BE 2500 PSI AT 28 DAYS.

CONCRETE, WHERE EXPOSED TO THE WEATHER, SHALL BE AIR ENTRAINED. AIR ENTRAINMENT SHALL BE ACCOMPLISHED BY THE USE OF ADDITIVES CONFORMING TO ASTM C–260. AIR CONTENT SHALL BE 6% + 1%. ADDITIVE SHALL BE USED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S PRINTED DIRECTIONS.

READY–MIX CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C–94.

CEMENT MORTAR SHALL BE AS SPECIFIED HEREINAFTER. USE METHODS OF MIXING MORTAR MATERIALS CAN BE CONTROLLED AND ACCURATELY MAINTAINED DURING WORK PROGRESS. MORTAR SHALL NOT BE MIXED IN GREATER QUANTITIES THAN SATISFACTORY WORKABILITY. RETEMPERING OF MORTAR IS NOT PERMITTED.

MORTAR FOR LAYING BRICK OR CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C–270, TYPE M, AVERAGE COMPRESSIVE STRENGTH 2500 AT 28 DAYS. MORTAR MIX SHALL BE PROPORTIONED BY VOLUME. MORTAR FOR PARGING SHALL CONSISTS OF ONE PART PORTLAND CEMENT AND TWO PARTS SAND.

MORTAR FOR GROUTING OF RIP RAP SHALL CONSIST OF ONE PART PORTLAND CEMENT AND THREE PARTS SAND.

STORM WATER SEWERS: STORM SEWERS SHALL BE INSTALLED IN LOCATIONS AND OF SIZES INDICATED ON DRAWING.

LAY PIPE, EMBED IT FIRMLY TO REQUIRED LINE AND GRADE WITH BELLS OF GROOVE END UP–GRADE. FIT ENDS TOGETHER, EXCAVATE BELL HOLES SO THAT SEWER WILL HAVE SMOOTH AND UNIFORM INVERT THROUGHOUT ITS LENGTH.

CORRUGATED METAL PIPE SHALL BE PLACED ON A FLAT BOTTOM TRENCH WITH HAUNCHES SOLIDLY SUPPORTED BY TAMPED BEDDING MATERIAL.

WHERE GROUND IS FOUND UNSUITABLE TO SUPPORT PIPE, PROVIDE CONCRETE CRADLES. DEPOSIT CONCRETE FULL WIDTH OF TRENCH 4" DEEP MINIMUM TO BOTTOM OF PIPE, REINFORCE CONTINUOUSLY WITH TWO (2) NO. 4 REINFORCING BARS. BEFORE CONCRETE IS SET, EMBED PIPE EVENLY, DEPOSIT REMAINDER OF CONCRETE TO CENTERLINE OF PIPE AND TAMP IN A MANNER TO AVOID DISTURBING PIPE.

WHERE STORM SEWER CROSSES A SANITARY SEWER OR WATER LINE AND THE STORM SEWER IS WITHIN ONE AND A HALF (1–1/2) FEET OF THE SANITARY SEWER PIPE OR WATER LINE, THE INTERSECTION OF THE PIPE OR LINE SHALL BE EMBEDDED IN CONCRETE FOR A DISTANCE OF FIVE FEET (5') EACH WAY FROM CENTERLINE OF INTERSECTION.

PROVIDE POURED CONCRETE FOUNDATIONS FOR DRAINAGE STRUCTURES.

PRECAST CONCRETE BASE MAY BE USED WHERE APPROVED BY THE GEO–TECHNICAL ENGINEER. PRECAST CONCRETE BASE MUST BE SET LEVEL ON SAND CUSHION OF NOT LESS THAN 2" NOR MORE THAN 4".

MANHOLES AND CATCH BASINS SHALL BE CONSTRUCTED OF BRICK, CONCRETE MASONRY OR PRECAST CONCRETE WITH CAST IRON FRAMES, COVERS AND MANHOLE STEPS, AS INDICATED ON DRAWINGS AND SPECIFIED HEREIN.

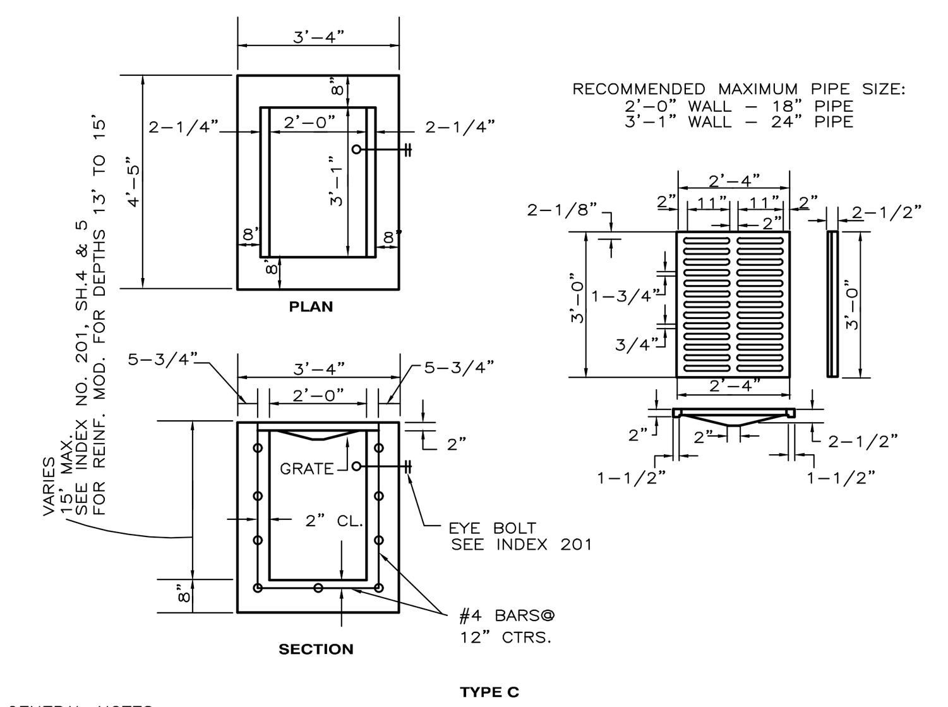
RIP RAP SHALL BE LAID OVER FILTER FABRIC FROM THE BOTTOM UPWARD, STONES SHALL BE LAID BY HAND WITH EIGHT (8") INCH MINIMUM DIMENSION PERPENDICULAR TO GRADE WITH WELL BROKEN JOINTS, COMPACTED AS IT GOES, TRUE TO LINE. ALL JOINTS SHALL BE FILLED WITH CEMENT MORTAR SURFACE OF STONE TO BE EXPOSED. CLEAN JOINTS WITH SIRE BRUSH.

BEFORE BACKFILLING AROUND DRAINAGE STRUCTURES, ALL FORMS, TRASH AND DEBRIS SHALL BE REMOVED AND CLEARED AWAY. SELECTED EXCAVATED MATERIAL SHALL BE PLACED SYMMETRICALLY ON ALL SIDES IN EIGHT INCH (8") MAXIMUM LAYERS; EACH LAYER SHALL BE MOISTENED AND COMPACTED WITH MECHANICAL OR HAND TAMPERS.

INFILTRATION OF THE STORM DRAINAGE SYSTEM SHALL NOT EXCEED 0.60 GALLONS PER INCH OF INTERNAL PIPE DIAMETER PER ONE HUNDRED FEET (100') OF PIPELINE PER HOUR WITH A MAXIMUM HYDROSTATIC HEAD AT THE CENTER LINE OF THE PIPE OF TWENTY FIVE FEET (25'), OR AS REQUIRED BY GOVERNING CODE AUTHORITIES.

CATCH BASIN FRAMES AND GRATINGS: ASPHALT COATED GRAY CAST IRON, ANSI/ASTM A 48, CLASS 30 B.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY ALL MATERIALS NECESSARY TO COMPLETE DRAINAGE.



TYPE C

GENERAL NOTES

1. THESE INLETS ARE SUITABLE FOR BICYCLE AND PEDESTRIAN AREAS AND ARE TO BE USED IN DITCHES, MEDIANS AND OTHER AREAS SUBJECT TO INFREQUENT TRAFFIC LOADINGS BUT ARE NOT TO BE PLACED IN AREAS SUBJECT TO ANY HEAVY WHEEL LOADS.

2. INLETS SUBJECT TO MINIMAL DEBRIS SHOULD BE CONSTRUCTED WITHOUT SLOTS. WHERE DEBRIS IS A PROBLEM INLETS SHOULD BE CONSTRUCTED WITH SLOTS. SLOTTED INLETS LOCATED WITHIN ROADWAY CLEAR ZONES AND IN AREAS ACCESSIBLE TO PEDESTRIANS SHALL HAVE TRAVERSABLE SLOTS. THE TRAVERSABLE SLOT MODIFICATION IS NOT ADAPTABLE TO INLET TYPE H. SLOTS MAY BE CONSTRUCTED AT EITHER OR BOTH ENDS AS SHOWN ON PLANS.

3. STEEL GRATES ARE TO BE USED ON ALL INLETS WHERE BICYCLE TRAFFIC IS ANTICIPATED. STEEL GRATES ARE TO BE USED ON ALL INLETS WITH TRAVERSABLE SLOTS. EITHER CAST IRON OR STEEL GRATES MAY BE USED ON INLETS WITHOUT SLOTS WHERE BICYCLE TRAFFIC IS NOT ANTICIPATED. EITHER CAST IRON OR STEEL GRATES MAY BE USED ON ALL INLETS WITH NON–TRAVERSABLE SLOTS. SUBJECT TO THE SELECTION DESCRIBED ABOVE, WHEN ALTERNATE G GRATE IS SPECIFIED IN THE PLANS, EITHER THE STEEL GRATE, HOT DIPPED GALVANIZED AFTER FABRICATION, OR THE CAST IRON GRATE MAY BE USED, UNLESS THE PLANS STIPULATE THE PARTICULAR TYPE.

4. RECOMMENDED MAXIMUM PIPE SIZES SHOWN ARE FOR CONCRETE PIPE. PIPE SIZES LARGER THAN THOSE RECOMMENDED MUST BE CHECKED FOR FIT.

5. ALL EXPOSED CORNERS AND EDGES OF CONCRETE ARE TO CHAMFERED 3/4".

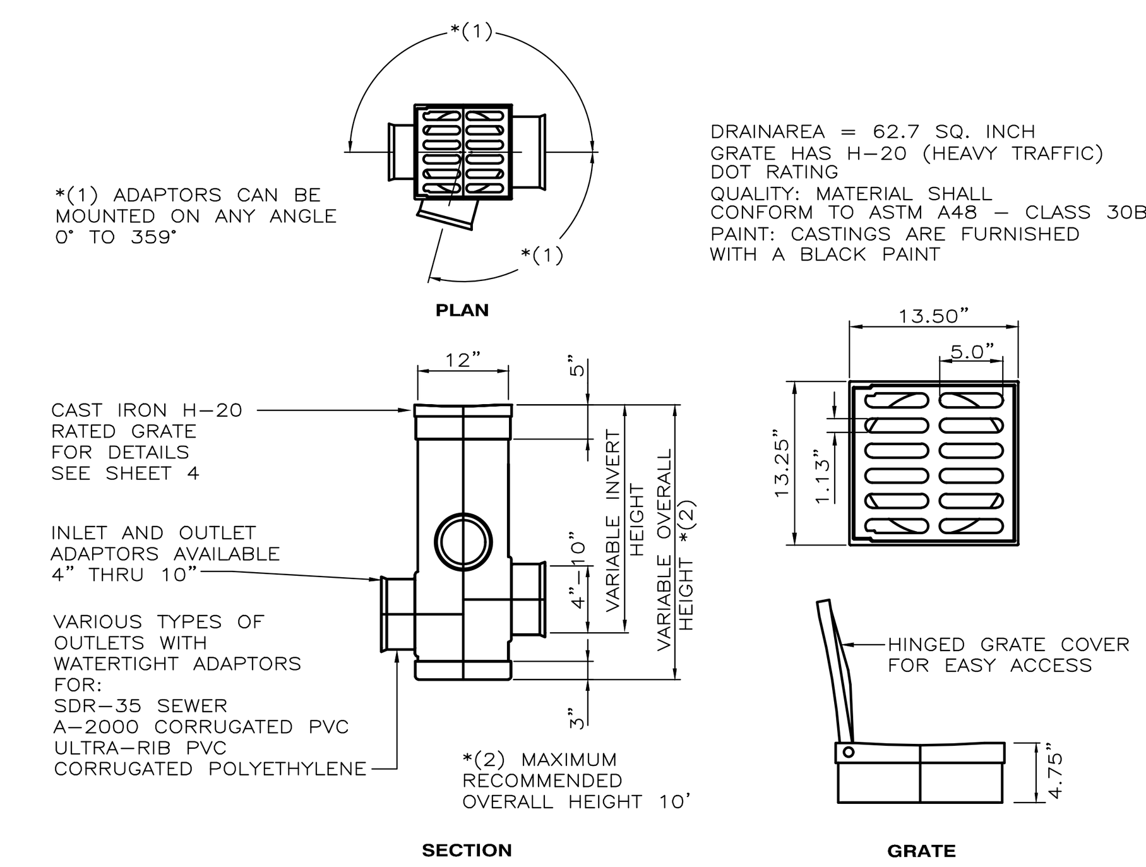
6. PAVEMENT TO BE USED ON INLETS WITHOUT SLOTS AND INLETS WITH NON–TRAVERSABLE SLOTS ONLY WHEN CALLED FOR IN THE PLANS; BUT REQUIRED ON ALL TRAVERSABLE SLOT INLETS. COST TO BE INCLUDED IN CONTRACT UNIT PRICE FOR INLETS. QUANTITIES SHOWN ARE FOR INFORMATION ONLY.

7. TRAVERSABLE SLOTS CONSTRUCTED IN EXISTING INLETS SHALL BE PAID FOR AS INLETS PARTIAL, AND SHALL INCLUDE THE COST FOR SLOT OPENINGS, PAVING AND ANY REQUIRED REPLACEMENT GRATES.

8. SODDING TO BE USED ON ALL INLETS NOT LOCATED IN PAVED AREAS AND PAID FOR UNDER CONTRACT UNIT PRICE FOR SODDING, SY.

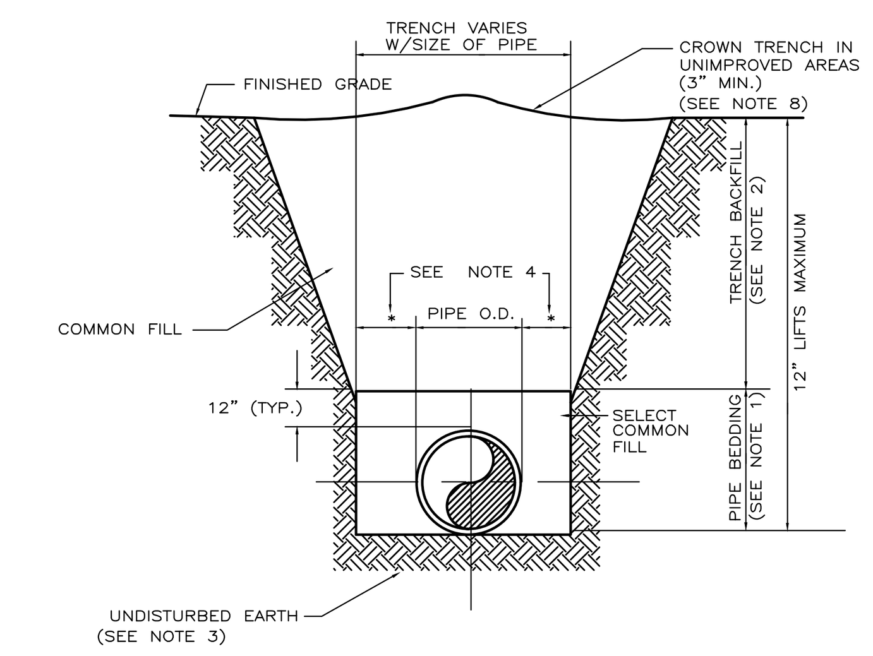
9. FOR SUPPLEMENTARY DETAILS SEE INDEX NO. 201.

FDOT TYPE "C" INLET DETAIL
NOT TO SCALE



NOTE: USE ADS CATCH BASIN OR EQUAL.

12" ADS CATCH BASIN DETAIL
NOT TO SCALE



NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (6" LIFTS) OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE CITY.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW
7. REFER TO SECTION 32.5 OF THE MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN CITY RIGHT–OF–WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT–OF–WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

TRENCHES AND EXCAVATION PITS SHALL NOT BE BACKFILLED UNTIL ALL TESTS AND INSPECTIONS COVERING THE INSTALLATION OF THE STORM DRAINAGE SYSTEM HAVE BEEN PERFORMED AND APPROVED.

ALL TIMBER SHEETING BELOW A PLANE ONE FOOT ABOVE TOP OF PIPE SHALL REMAIN IN PLACE IN ORDER NOT TO DISTURB PIPE GRADING. BEFORE BACKFILLING, REMOVE ALL OTHER SHEETING, BRACING AND SHORING. PIPE TO BE CAREFULLY COMPACTED TO NINETY FIVE PERCENT (95%) OF MAXIMUM DENSITY AS PER ASTM D–1557 UNTIL ONE FOOT (1') OF COVER EXISTS OVER PIPE.

IN STREETS, DRIVES, PARKING LOTS AND OTHER AREAS TO HAVE OR HAVING IMPROVED HARD SURFACES, BACKFILL SHALL BE MATERIAL SPECIFIED AS FOR PIPE BEDDING AND SHALL BE DEPOSITED IN SIX INCH (6"0 LOOSE LAYERS AS OPTIMUM MOISTURE CONTENT (+ 2%) AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D–1557 WHERE SERVICES OR UTILITY LINES CROSS STREET, BEDDING SHALL BE CARRIED TO FIVE FEET (5') BEHIND THE CURB, OR WHERE SIDEWALKS EXISTS, TO THE SIDE OF SIDEWALK FARTHEST AWAY FROM THE STREET.

MATERIAL USED FOR BEDDING SHALL MEET CURRENT RECOMMENDATIONS OF THE PIPE MANUFACTURER AND SHALL BE APPROVED BY THE ENGINEER. THE SPECIFIED COHESIONLESS MATERIAL SHALL BE PLACED IN THE TRENCH SIMULTANEOUSLY ON EACH SIDE OF THE PIPE TO THE FULL WIDTH OF THE TRENCH. MATERIAL WILL BE PLACED IN A MAXIMUM LIFT OF SIX (6) INCHES (COMPACTED DEPTH) TO A MINIMUM DEPTH OF ONE (1) FOOT ABOVE THE CROWN OF THE PIPE.

PERFORM ALL TRENCHING REQUIRED FOR THE INSTALLATION OF UTILITIES AS SHOWN ON PLANS AND SPECIFIED HEREIN. MAKE ALL TRENCHES OPEN VERTICAL CONSTRUCTION WITH SUFFICIENT WIDTH TO PROVIDE FREE WORKING SPACE AT BOTH SIDE OF THE TRENCH AND AROUND THE INSTALLED ITEMS AS REQUIRED FOR CAULKING, JOINING, BACKFILLING AND COMPACTING.

PROPERLY SUPPORT ALL TRENCHES IN STRICT ACCORDANCE WITH ALL PERTINENT RULES AND REGULATIONS.

GRADE THE TRENCH BOTTOM TO PROVIDE A SMOOTH, FIRM AND STABLE FOUNDATION FREE OF ROCK POINTS THROUGHOUT THE LENGTH OF THE PIPE. IN AREAS WHERE SOFT, UNSTABLE MATERIALS ARE ENCOUNTERED AT THE SURFACE UPON WHICH COHESIONLESS MATERIAL IS TO BE PLACED, REMOVE THE UNSTABLE MATERIAL AND REPLACE IT WITH MATERIAL APPROVED BY THE ENGINEER, MAKE SUFFICIENT DEPTH TO DEVELOP A FIRM FOUNDATION FOR THE ITEM BEING INSTALLED.

AT EACH JOINT IN PIPE, RECESS THE BOTTOM OF THE TRENCH AS REQUIRED INTO THE FIRM FOUNDATION IN SUCH A MANNER AS TO RELIEVE THE BELL OF THE PIPE OF ALL LOAD AND TO ENSURE CONTINUOUS BEARING OF THE PIPE BARREL ON THE FIRM FOUNDATION.

ACCURATELY SHAPE ALL PIPE SUBGRADE AND FIT THE BOTTOM OF THE TRENCH TO THE PIPE SHAPE; USE A DRAG TEMPLATE SHAPED TO CONFORM TO THE OUTER SURFACE OF THE PIPE IF OTHER METHODS DO NOT PRODUCE SATISFACTORY RESULTS. SHAPING WILL CONFORM TO THE OUTSIDE OF THE PIPE FOR A DEPTH OF NOT LESS THAN 10% OF THE TOTAL HEIGHT (OUTSIDE DIMENSION) OF THE PIPE.

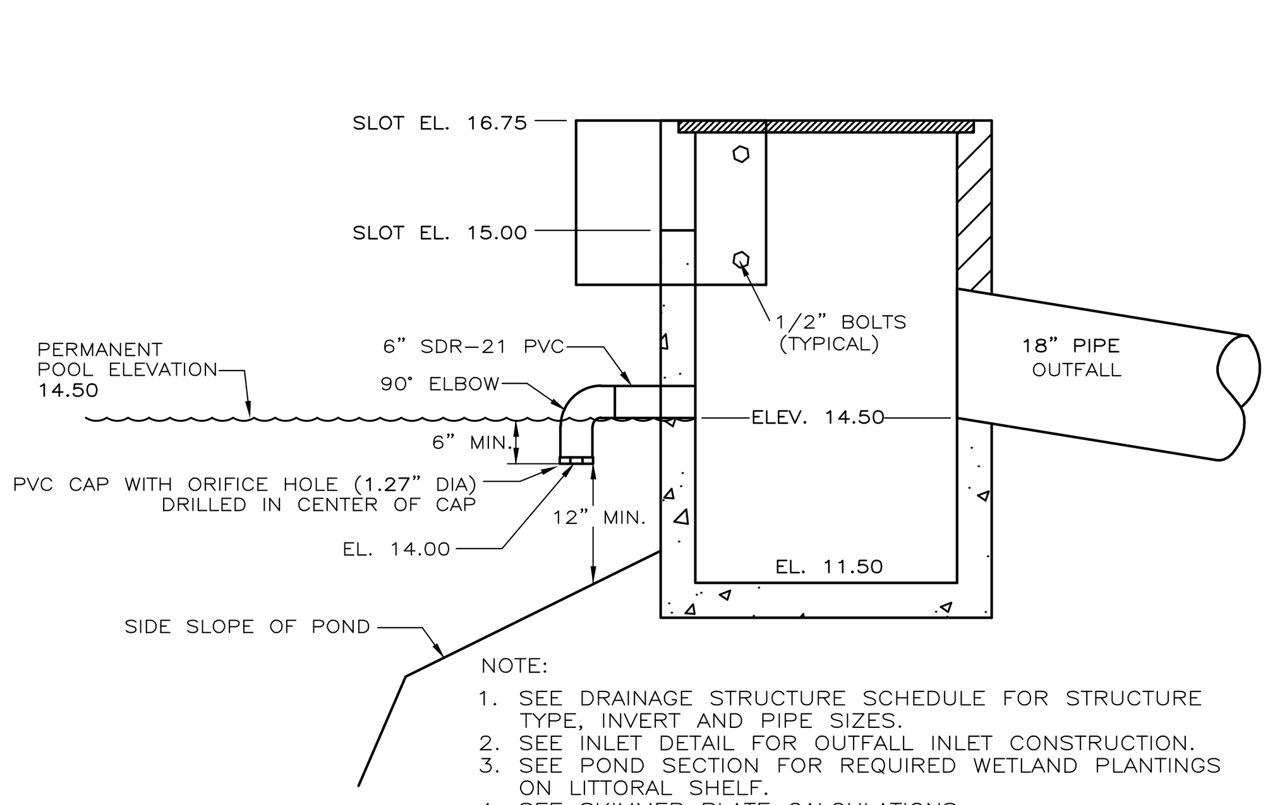
PIPE TRENCHES SHALL BE EXCAVATED TO A DEPTH THAT WILL INSURE A MINIMUM OF THIRTY INCHES OF COVER LESS OTHERWISE SHOWN ON THE DRAWINGS OR DIRECTED.

BACKFILL OF EARTH AROUND MANHOLES SHALL BE FILLED WITH THOROUGHLY COMPACTED SAND OR GRAVEL AT THE EXPENSE OF THE CONTRACTOR.

TRENCHES SHALL BE BACKFILLED WITH EXCAVATED MATERIALS, FREE FROM LARGE CLODS OR STONES. BACKFILL SHALL BE DEPOSITED IN LAYERS NOT TO EXCEED 6–INCHES (6") IN THICKNESS, MOISTENED, AND COMPACTED TO DENSITY EQUAL TO OR GREATER THAN 95% OF THE MAXIMUM DENSITY OF AASHTO STANDARD METHOD T–99 , TO A MINIMUM DEPTH OF 12–INCHES OVER THE PIPE. THE REMAINDER OF THE BACKFILL SHALL BE PLACED IN 8–INCH LAYERS COMPACTED TO 95% MAXIMUM DENSITY UNLESS THE BACKFILL IS BENEATH PAVED OR BUILDING AREAS IN WHICH CASE IT SHALL BE COMPACTED TO 95% OF A MODIFIED PROCTOR.

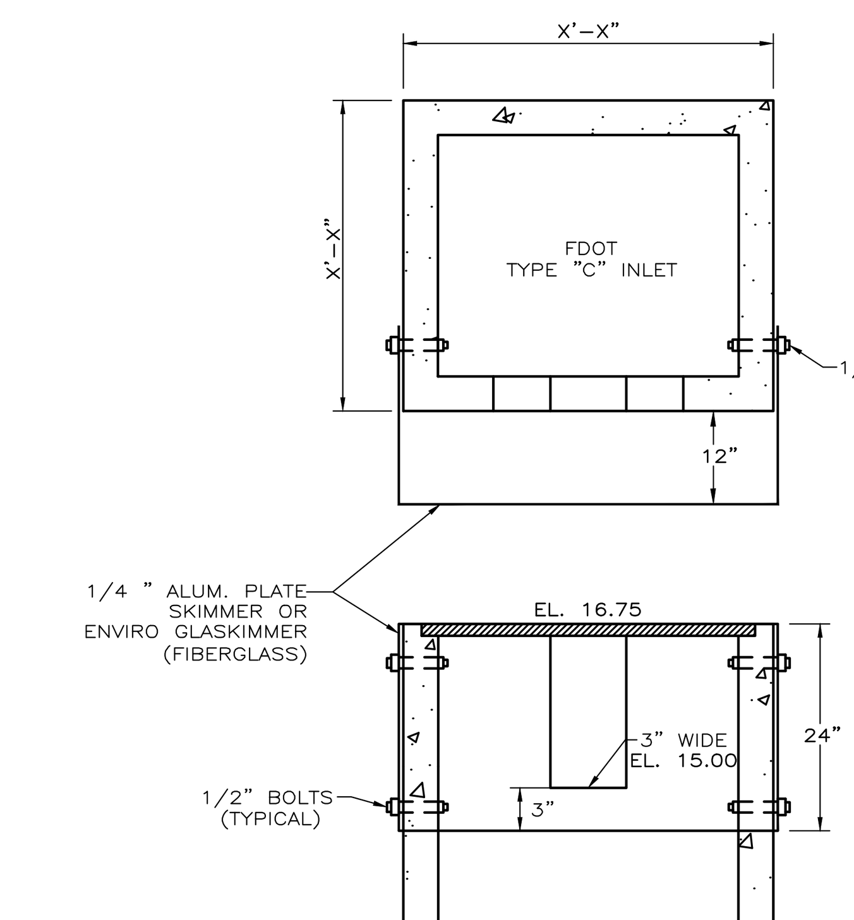
EXCAVATIONS FOR PIPE LAYING OPERATIONS SHALL BE CONSTRUCTED IN A MANNER TO CAUSE THE LEAST INTERRUPTION TO TRAFFIC. WHEN TRAFFIC MUST CROSS OPEN TRENCHES THE CONTRACTOR SHALL PROVIDE SUITABLE BRIDGES.

TYPE B BEDDING AND TRENCHING DETAIL
NOT TO SCALE



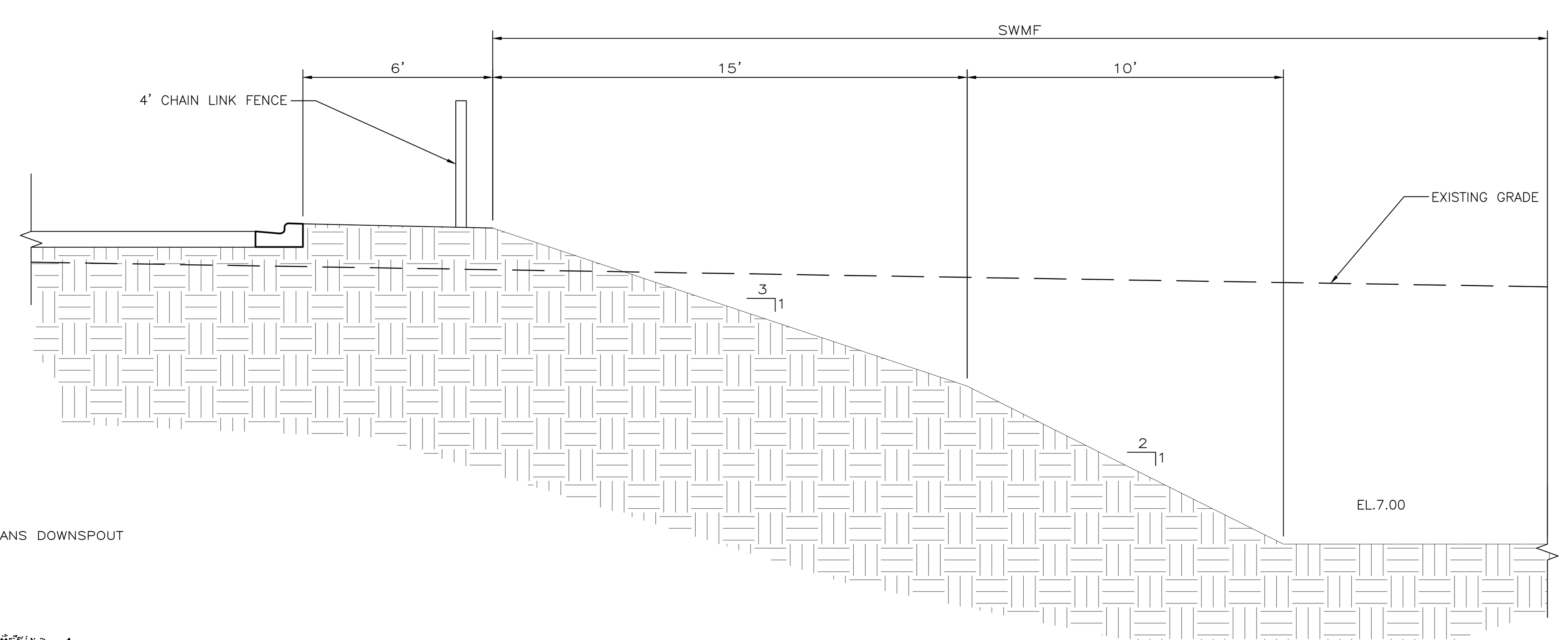
NOTE:
1. SEE DRAINAGE STRUCTURE SCHEDULE FOR STRUCTURE TYPE, INVERT AND PIPE SIZES.
2. SEE INLET DETAIL FOR OUTFALL INLET CONSTRUCTION.
3. SEE POND SECTION FOR REQUIRED WETLAND PLANTINGS ON LITTORAL SHELF.
4. SEE SKIMMER PLATE CALCULATIONS.
5. SEE STORMWATER CALCULATIONS.

OUTFALL STRUCTURE DETAIL
NOT TO SCALE

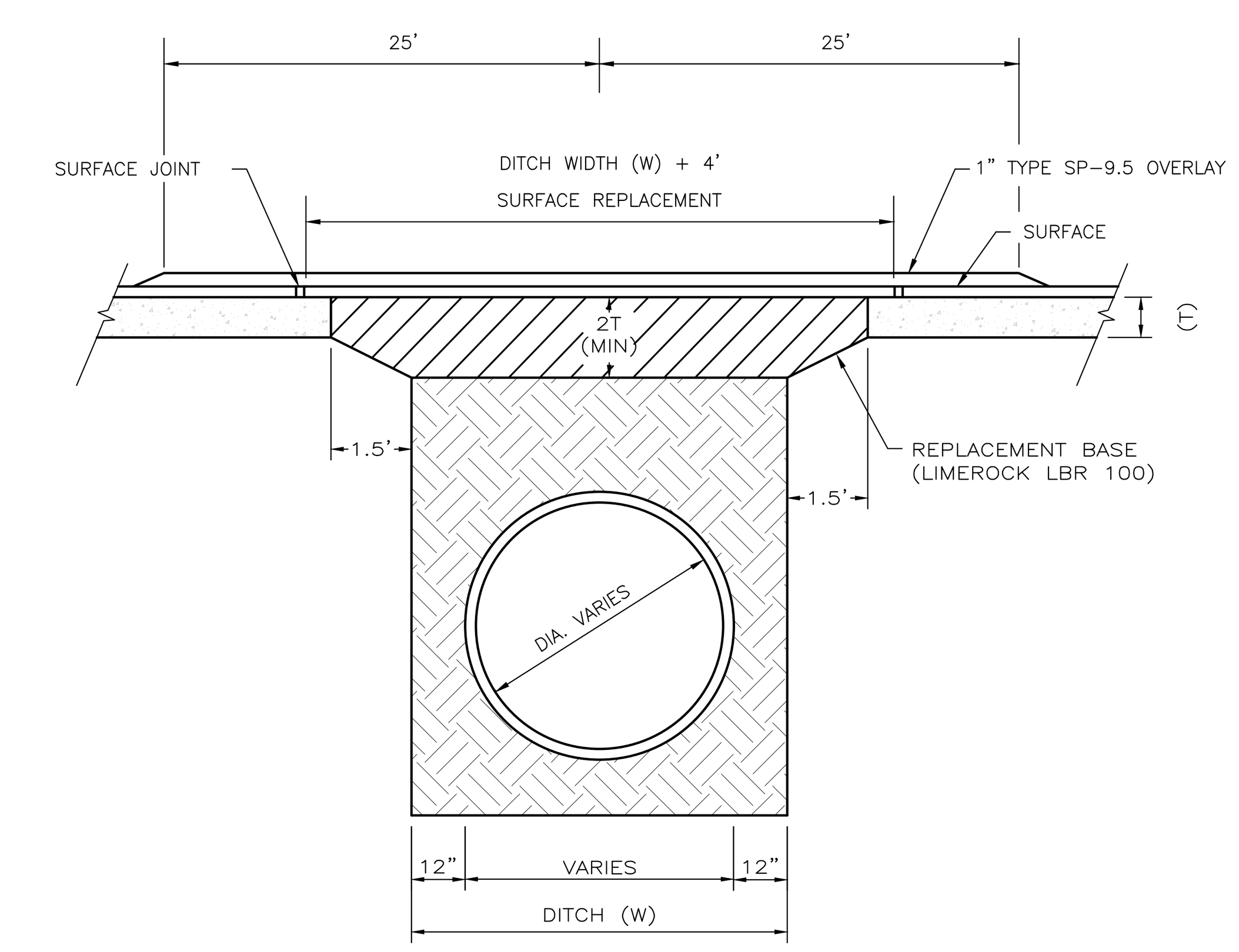


NOTE:
1. SEE INLET DETAIL FOR OUTFALL INLET CONSTRUCTION.
2. SEE SKIMMER PLATE CALCULATIONS.
3. SEE STORMWATER CALCULATIONS.

SKIMMER PLATE DETAIL
NOT TO SCALE



SECTION C
NOT TO SCALE



GENERAL NOTES:

1.) REPLACEMENT BASE OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, BUT NOT LESS THAN 8" THICK.

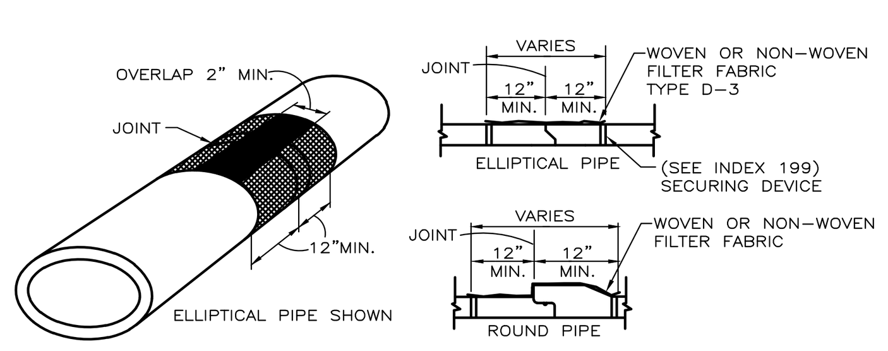
2.) BASE MATERIAL SHALL BE COMPACTED TO A DENSITY NOT LESS THAN 98% OF THE MAXIMUM DENSITY ASDETERMINED BY AASHTO T–180.

3.) ASPHALT CONC. PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED

4.) SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.

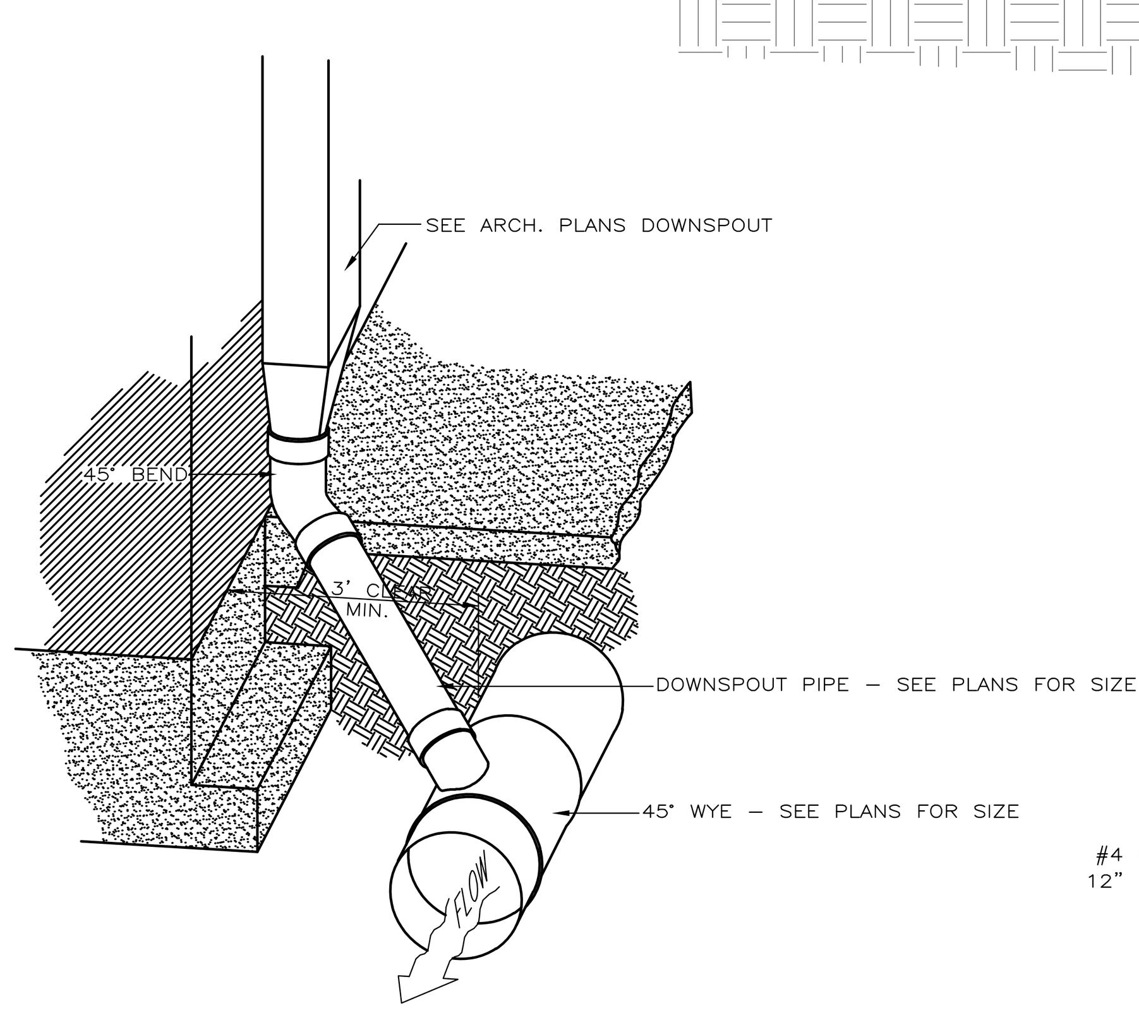
5.) SURFACE PATCH MATERIAL SHALL BE FDOT SP–12.5 AND MATCH EXISTING ASPHALT THICKNESS, BUT NOT LESS THAN 1–1/2" THICK. FOR SMALL PATCHES SP–9.5 MAY BE USED WITH PRIOR WRITTEN APPROVAL BY THE CITY.

ASPHALT PAVEMENT PATCH DETAIL
NOT TO SCALE



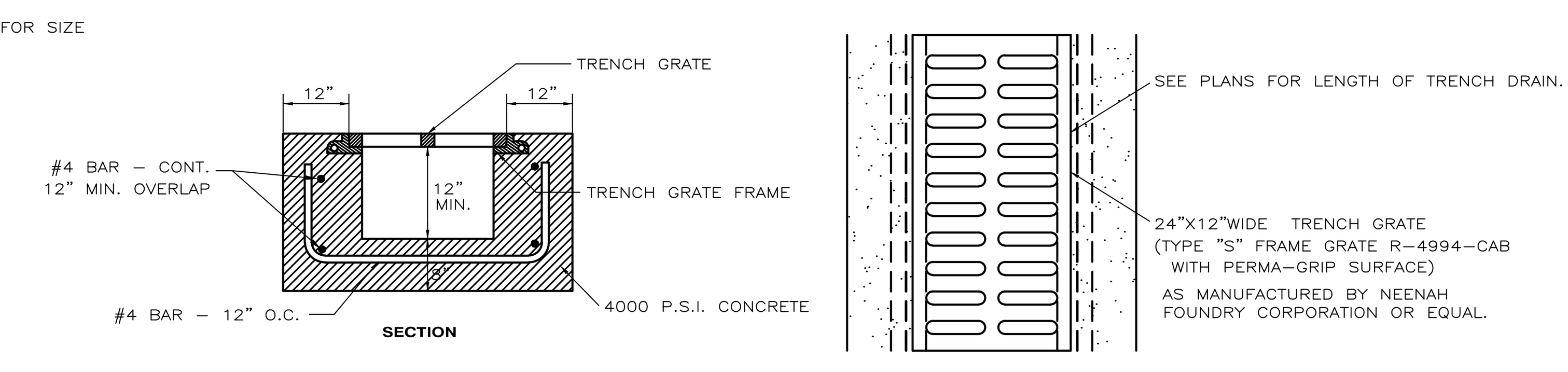
COST OF FILTER FABRIC JACKET TO BE INCLUDED IN COST OF PIPE CULVERTS. FOR ALL PIPE TYPES – CONCRETE PIPE SHOWN

FILTER FABRIC JACKET DETAIL
NOT TO SCALE



NOTE: ALL PIPE ADS N–12 OR EQUAL

DOWNSPOUT DETAIL
NOT TO SCALE



TRENCH DRAIN DETAIL
NOT TO SCALE

REVISIONS:

NO.	DESCRIPTION	DRAWN	CHECKED	DATE
1				

PHASE:	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			05/10/23

JRA ARCHITECTS
2211 THOMAS DRIVE, SUITE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
COMMISSION NUMBER 21804

CONSULTANTS:

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7286

PROJECT:

PANAMA CITY BEACH
FIRE STATION # 32
HUTCHISON BLVD

PANAMA CITY BEACH, FLORIDA

SHEET TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

C2.2

SITE UTILITIES

MATERIALS: WHERE GROUND IS FOUND UNSUITABLE TO SUPPORT PIPE, PROVIDE CRADLES OF 2500 PSI. CONCRETE FULL WIDTH OF TRENCH WITH TWO NO. 4 REINFORCING BARS CONTINUOUSLY ALONG THE BOTTOM OF PIPE.

BACKFILL, UNLESS OTHERWISE NOTED, SHALL BE COARSE SAND, FINE GRAVEL OR EARTH HAVING A LOW PLASTICITY INDEX, FREE OF ROCKS, DEBRIS AND OTHER FOREIGN MATERIALS AND DEFINED AS ALL PASSING THROUGH A 3/8" SIEVE AND NOT MORE THAN TEN PERCENT (10%) BY VOLUME PASSING THROUGH A 200 MESH SIEVE.

UTILITY PIPING AND FITTINGS SHALL BE SIZE AND TYPE INDICATED ON THE DRAWINGS AND SHALL CONFORM TO THE FOLLOWING: MANHOLES STRUCTURES SHALL BE SIZE AND TYPE INDICATED ON THE DRAWINGS AND SHALL BE CONSTRUCTED OF THE FOLLOWING:

REINFORCED PRECAST CONCRETE MANHOLE SECTIONS INCLUDING CONCENTRIC OR ECCENTRIC CONES AND GRADE RINGS SHALL BE 4000 PSI. CONCRETE AND CONFORM TO ASTM C–478 OR AASHTO M–199. SECTIONS SHALL BE COMPLETE WITH 3/4" ROUND CAST IN PLACE WROUGHT IRON STEPS.

BRICK SHALL BE SOUND, HARD BURNED THROUGHOUT AND OF UNIFORM SIZE AND QUALITY AND SHALL BE IN ACCORDANCE WITH ASTM C–32, GRADE MS OR MM.

CONCRETE MASONRY SHALL BE SOLID PRECAST SEGMENTAL CONCRETE MASONRY UNITS CONFORMING TO ASTM C–139.

IRON CASTING SHALL CONFORM TO ASTM A–48, CLASS 30. BEARING SURFACES BETWEEN CAST IRON FRAMES, COVERS, GRATES SHALL BE MACHINED, FITTED TOGETHER AND MATCH MARKED TO PREVENT ROCKING. SYSTEM IDENTIFYING LETTER 2" HIGH SHALL BE STAMPED OR CAST INTO ALL COVERS SO THAT THEY MAY BE PLAINLY VISIBLE. CASTING SHALL BE MANUFACTURED BY EAST JORDAN IRON WORKS, INC., NEENAH FOUNDRY COMPANY OR EQUAL.

CONCRETE AND MASONRY MATERIALS FOR CONSTRUCTION OF SITE UTILITY STRUCTURES AND PADS SHALL CONSIST OF THE FOLLOWING:

PORTLAND CEMENT SHALL BE STANDARD BRAND OF PORTLAND CEMENT CONFORMING TO ASTM C–150, TYPE I OR II.
FINE OR COARSE AGGREGATES FOR CONCRETE SHALL BE PER ASTM C–33. AGGREGATES SHALL BE WELL GRADED FROM FINE TO COARSE WITHIN LIMITS SPECIFIED IN ASTM C–33. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4".
AGGREGATE FOR CEMENT MORTAR SHALL BE CLEAN, SHARP SAND CONFORMING TO ASTM C–144. GRADE SAND FROM COARSE TO FINE WITH 100% PASSING NO. 8 SIEVE, AND NOT OVER 10% TO 30% PASSING NO. 50 SIEVE.
HYDRATED LIME SHALL COMPLY WITH ASTM C–207, TYPE S.
WATER SHALL BE CLEAN AND FREE FROM DELETERIOUS MATERIALS.

REINFORCING STEEL FOR CONCRETE SHALL BE INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A–615, GRADE 40.

FORMS FOR CONCRETE WORK SHALL BE WOOD. FORMS SHALL BE SUFFICIENT STRENGTH TO PREVENT DEFORMATIONS UNDER LOAD AND TIGHT ENOUGH TO PREVENT LEAKAGE. FOUNDATIONS MAY BE POURED AGAINST EARTH WHERE CONDITIONS PERMIT.

CONCRETE, UNLESS OTHERWISE NOTED, SHALL HAVE COMPRESSIVE STRENGTH AFTER 28 DAYS OF 3000 PSI MINIMUM. MIX SHALL BE SO PROPORTIONED TO PROVIDE A MINIMUM OF 517 POUNDS OF CEMENT PER CUBIC YARD. CONCRETE FILL BELOW GRADE FOR THRUST BLOCKS, PIPE CRADLES ETC. MAY BE 2500 PSI. AT 28 DAYS.

CONCRETE, WHERE EXPOSED TO THE WEATHER, SHALL BE AIR ENTRAINED. AIR ENTRAINMENT SHALL BE ACCOMPLISHED BY THE USE OF ADDITIVES CONFORMING TO ASTM C–260. AIR CONTENT SHALL BE 6% + 1%. ADDITIVE SHALL BE USED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED DIRECTIONS.

READY–MIX CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C–94.

TYPE M, AVERAGE COMPRESSIVE STRENGTH 2500 PSI. AT 28 DAYS. MORTAR MIX SHALL BE PROPORTIONED BY VOLUME.

MORTAR FOR PARGING SHALL CONSIST OF ONE PART PORTLAND CEMENT AND TWO PARTS SAND.

BACKFILL SHALL BE SAME MATERIAL SPECIFIED FOR PIPE BEDDING. WHERE SERVICE OR UTILITY LINES CROSS A STREET, BEDDING SHALL BE CARRIED TO FIVE FEET (5') BEHIND THE CURB, OR WHERE SIDEWALKS EXIST, TO THE SIDE OF THE SIDEWALK FARTHEST AWAY FROM THE STREET.

FLUSHING REQUIREMENTS FOR WATER AND SEWER FORCE MAINS

FLUSHING TIME SHALL BE AT LEAST THAT AMOUNT OF TIME NEEDED TO FLUSH 6 TIMES THE PIPE VOLUME AFTER 3 FPS VELOCITY IS REACHED OR UNTIL CLEAR, WHICHEVER IS LONGER. MAXIMUM LENGTH OF PIPE BETWEEN FLUSHING ASSEMBLIES SHALL BE 5,000 FEET.

SEWER COLLECTION SYSTEM

POLY (VINYL CHLORIDE) PIPE (PVC): PLASTIC GRAVITY SEWER PIPE AND FITTINGS SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE (PVC) MEETING AND/OR EXCEEDING ASTM SPECIFICATIONS D–3034 (LATEST EDITION).

PIPE LENGTHS SHALL NOT EXCEED 20 FEET AND PROVISIONS SHALL BE MADE AT EACH JOINT TO ACCOMMODATE EXPANSION AND CONTRACTIONS.

COMPLY WITH REQUIREMENTS OF FS RR–F–621, FOR TYPE AND STYLE REQUIRED.

MATERIALS FOR SEWER FORCE MAINS: PVC PIPE FOR FORCE MAINS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SDR–21 FOR PRESSURE RATING OF 200 PSI 230 C (73 DEGREES F). HDPE FORCE MAIN SHALL BE SDR–11. PIPE JOINTS SHALL BE INTEGRAL BELL AND SPIGOT TYPE WITH RUBBER RING SEALING GASKET. THE PIPE BELL SHALL BE DESIGNED TO BE AT LEAST AS STRONG AS THE PIPE WALL. STANDARD LENGTHS SHALL BE 20 FEET, EXCEPT THAT 15% OF TOTAL FOOTAGE FOR A PARTICULAR PROJECT MAY BE RANDOM LENGTHS OF NOT LESS THAN 10 FEET EACH. EACH PIECE OF PIPE SHALL BE TESTED BY THE MANUFACTURER OF 6000 PSI FOR A MINIMUM OF 5 SECONDS. THE BELL SHALL BE TESTED WITH THE PIPE. ALL PIPE SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC., AND BY FACTORY MUTUAL AS APPROVED FOR USE IN UNDERGROUND MUNICIPAL WATER DISTRIBUTION SYSTEMS AND PRIVATE FIRE PROTECTION SYSTEM. CAST IRON OR DUCTILE IRON FITTINGS SHALL BE USED WITH PVC PIPE.

CAST IRON FITTINGS SHALL BE MECHANICAL JOINT AND SHALL CONFORM TO ANSI SPECIFICATION A21.10 FOR SIZES 3 INCHES THROUGH 12 INCHES AND SHALL BE CLASS 250. FITTINGS 14 INCHES AND LARGER SHALL BE CLASS 150 AND SHALL BE OF THE DIMENSIONS AND METAL THICKNESSES AS SHOWN IN THE HANDBOOK OF CAST IRON PIPE AS PUBLISHED BY THE CAST IRON PIPE RESEARCH ASSOCIATION. CAST IRON FITTINGS MAY BE USED IN DUCTILE IRON OR CAST IRON LINES, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

DUCTILE IRON FITTINGS SHALL BE DESIGNED FOR PRESSURE RATING OF 250 PSI AND SHALL BE IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.10. FITTING SHALL BE MECHANICAL JOINT. DUCTILE IRON FITTINGS MAY BE USED IN DUCTILE IRON OR CAST IRON LINES, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

THE EXTERIOR OF ALL CAST IRON AND DUCTILE IRON FITTINGS SHALL BE COATED WITH AN APPROVED BITUMINOUS COATING. THE INTERIOR OF THE PIPE SHALL BE EPOXY LINED (PROTECTO 401) IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION (40 MILS NOMINAL DRY FILM THICKNESS).

MATERIALS FOR CONCRETE MANHOLES: PRECAST OF CAST–IN–PLACE, AT CONTRACTOR'S OPTION. USE CONCRETE WHICH WILL ATTAIN A 28–DAY COMPRESSIVE STRENGTH OF 3000 PSI.

INSPECTIONS AND TESTS: IT IS IMPERATIVE THAT ALL SEWERS AND MANHOLES BE BUILT PRACTICALLY WATERTIGHT AND THAT THE CONTRACTOR MUST ADHERE RIGIDLY TO THE SPECIFICATIONS FOR MATERIAL AND WORKMANSHIP.

THE ALLOWABLE LIMIT OF GROUNDWATER INFILTRATION FOR THE GRAVITY SYSTEM OF NEW SEWERS OR ANY ONE TRUNK, OR INTERCEPTOR, SHALL BE IN COMPLETE ACCORDANCE WITH ASTM 425–71T AND SHALL NOT EXCEED A LIMIT OF INFILTRATION EQUAL TO 0.2 GAL/INCH DIAMETER/HOUR/100 LINEAR FEET OF PIPE.

THE TEST WILL BE MADE BY MEASURING THE INFILTRATED FLOW OF WATER OVER A MEASURING WEIR SET UP IN THE INVERT OF THE SEWER, OR BY ALTERNATE METHOD APPROVED BY THE ENGINEER, A KNOWN DISTANCE FROM A TEMPORARY BULKHEAD OR OTHER LIMITING POINT OF INFILTRATION. AFTER THE SEWER OF SEWERS HAVE BEEN PUMPED OUT, AND NORMAL INFILTRATION CONDITIONS PREVAIL, TESTS SHALL BE STARTED.

TESTS SHALL BE RUN CONTINUOUSLY FOR A PERIOD OF NOT LESS THAN THREE HOURS, WITH WEIR READINGS TAKEN AT 20 MINUTE INTERVALS.

PRESSURE AND LEAKAGE TESTS OF SEWAGE FORCE MAIN PIPING

CONTRACTOR SHALL FURNISH ALL GAUGES, METERS, PRESSURE PUMPS, EQUIPMENT, FITTINGS, AND LABOR NEEDED TO TEST THE LINE. THE COST OF THESE ITEMS SHALL BE INCLUDED IN THE PRICE OF THE PIPE. CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS PRIOR TO START OF TEST. ALL PIPE INSTALLED SHALL BE TESTED AND WRITTEN ACCEPTANCE ISSUED BY THE ENGINEER PRIOR TO CONNECTION OF NEW LINE TO EXISTING LINES.

THE CONTRACTOR MAY TEST THE SYSTEM WITH JOINTS EXPOSED OR BACKFILLING COMPLETE AT HIS OPTION. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL WATER USED. CARE SHALL BE USED TO PREVENT BACKFLOW OF TEST WATER INTO POTABLE WATER SOURCE. POTABLE WATER SOURCE SHALL BE DISCONNECTED PRIOR TO PRESSURIZING TEST LINE. WATER USED DURING TEST SHALL BE TAKEN FROM A CONTAINER, NOT DIRECTLY FROM THE EXISTING WATER SYSTEM.

AT LEAST 24 HOURS PRIOR TO THE START OF THE PRESSURE AND LEAKAGE TEST, PRESSURE SHALL BE RAISED TO 150 PSIG AND HELD TO ALLOW ANY "SOIL CREEP" OR OTHER STRESS RELAXATION TO OCCUR. IF ANY PRESSURE REDUCTION OCCURS DURING THE 24 HOUR "SHAKEDOWN" PERIOD, REESTABLISH THE REQUIRED HYDROSTATIC TEST PRESSURE, THEN PROCEED WITH THE LEAKAGE TEST.

THE PRESSURE REQUIRED FOR THE FIELD HYDROSTATIC PRESSURE TEST SHALL BE 150 PSI. THE CONTRACTOR SHALL PROVIDE TEMPORARY PLUGS AND BLOCKING NECESSARY TO MAINTAIN THE REQUIRED TEST PRESSURE. CORPORATION COCKS AT LEAST ¾ INCHES IN DIAMETER, PIPE RISERS AND ANGLE GLOBE VALVES SHALL BE PROVIDED AT EACH PIPE DEAD–END AND HIGH POINTS IN ORDER TO BLEED AIR FROM THE LINE. DURATION OF PRESSURE TEST SHALL BE AT LEAST TWO HOURS. ALL LEAKS EVIDENT AT THE SURFACE SHALL BE REPAIRED AND LEAKAGE ELIMINATED REGARDLESS OF TOTAL LEAKAGE AS SHOWN BY TEST. LINES WHICH FAIL TO MEET TESTS SHALL REPAIRED AND RETESTED AS NECESSARY UNTIL TEST REQUIREMENTS ARE COMPLIED WITH. DEFECTIVE MATERIALS, PIPES, VALVES AND ACCESSORIES SHALL BE REMOVED AND REPLACED. THE PIPE LINES SHALL BE TESTED IN SUCH SECTION AS MAY BE DIRECTED BY THE ENGINEER BY SHUTTING VALVES OR INSTALLING TEMPORARY PLUGS AS REQUIRED. THE LINE SHALL BE FILLED WITH WATER, ALL AIR REMOVED, AND TEST PRESSURE SHALL BE MAINTAINED IN THE PIPE FOR THE ENTIRE TEST PERIOD BY MEANS OF A GASOLINE OR ELECTRIC DRIVEN TEST PUMP TO BE FURNISHED BY THE CONTRACTOR. ACCURATE MEANS SHALL BE PROVIDED FOR MEASURING THE WATER REQUIRED TO MAINTAIN THIS PRESSURE. THE AMOUNT OF WATER REQUIRED IS A MEASURE OF THE LEAKAGE.

NO PIPE INSTALLATION WILL BE ACCEPTED UNTIL THE LEAKAGE (EVALUATED ON A PRESSURE BASIS OF 150 PSI) IS LESS THAN 2.2 GALLONS PER 24 HOURS PER THOUSAND FEET PER INCH NOMINAL DIAMETER. THE FOLLOWING TABULATES THE ALLOWABLE LEAKAGE:

ALLOWABLE LEAKAGE PER 1000 FT OF PIPELINE (IN GALLONS)

DURATION OF TEST	2	3	4	6	8	10	12	14
1 HOUR	0.18	0.28	0.37	0.55	0.74	0.92	1.10	1.29
2 HOURS	0.37	0.55	0.74	1.10	1.47	1.84	2.20	2.57

WHERE ANY SECTION OF A MAIN IS PROVIDED WITH CONCRETE REACTION BACKING THE HYDROSTATIC PRESSURE TEST SHALL NOT BE MADE UNTIL AT LEAST FIVE (5) DAYS HAVE ELAPSED AFTER THE CONCRETE REACTION BACKING WAS INSTALLED. IF HIGH EARLY–STRENGTH CEMENT IS USED IN THE CONCRETE REACTION BACKING, THE HYDROSTATIC PRESSURE TEST SHALL NOT BE MADE UNTIL AT LEAST THREE (3) DAYS HAVE ELAPSED.

LEAKAGE TESTS FOR GRAVITY SEWER

LINES SHALL BE TESTED FOR LEAKAGE BY LOW PRESSURE AIR TESTING. LOW PRESSURE AIR TESTING FOR CONCRETE PIPES SHALL BE AS PRESCRIBED IN ASTM C 828. LOW PRESSURE AIR TESTING FOR PVC PIPE SHALL BE AS PRESCRIBED IN ASTM F1417, AND PRESSURE DROP LIMITS SHALL BE DETERMINED BY USING ASTM F1417 TABLE 1, SHOWN BELOW. LOW PRESSURE AIR TESTING PROCEDURES FOR OTHER PIPE MATERIALS SHALL USE THE PRESSURES AND TESTING TIMES PRESCRIBED IN ASTM C 828 AND ASTM C 924, AFTER CONSULTATION WITH THE PIPE MANUFACTURER. VISIBLE LEAKS ENCOUNTERED SHALL BE CORRECTED REGARDLESS OF LEAKAGE TEST RESULTS. WHEN LEAKAGE EXCEEDS THE MAXIMUM AMOUNT SPECIFIED, SATISFACTORY CORRECTION SHALL BE MADE AND RETESTING ACCOMPLISHED. TESTING, CORRECTION, AND RETESTING SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

ASTM F1417 TABLE 1
MINIMUM SPECIFIED TIME REQUIRED FOR 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q=0.0015
1. SEE PRACTICE UNI–B–6–90.
2. CONSULT WITH PIPE AND APPURTENANCE MANUFACTURER FOR MAXIMUM TEST PRESSURE FOR PIPE SIZE GREATER THAN 30IN DIA.

PIPE DIAMETER IN.	MINIMUM TIME MIN:S	LENGTH FOR MINIMUM TIME,FT	TIME FOR LONGER LENGTH,S	SPECIFICATION TIME FOR LENGTH (L) SHOWN, MIN:S							
				100FT	150FT	200FT	250FT	300FT	350FT	400FT	450FT
4	3:46	597	0.380L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342L	14.10	14.10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470L	19.50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46

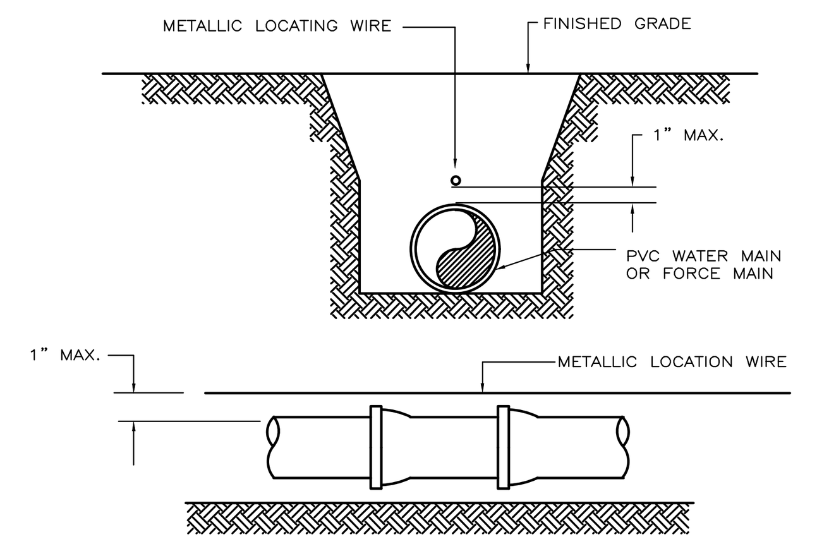
MINIMUM TECHNICAL STANDARDS CHECKLIST FOR UTILITY AS-BUILTS

CITY OF PANAMA CITY BEACH
DATED MAY, 2012

SURVEYORS AND MAPPERS MUST MEET THE FOLLOWING MINIMUM STANDARDS OF ACCURACY, COMPLETENESS, AND QUALITY FOR THE CITY OF PANAMA CITY BEACH TO ACCEPT AS-BUILTS:

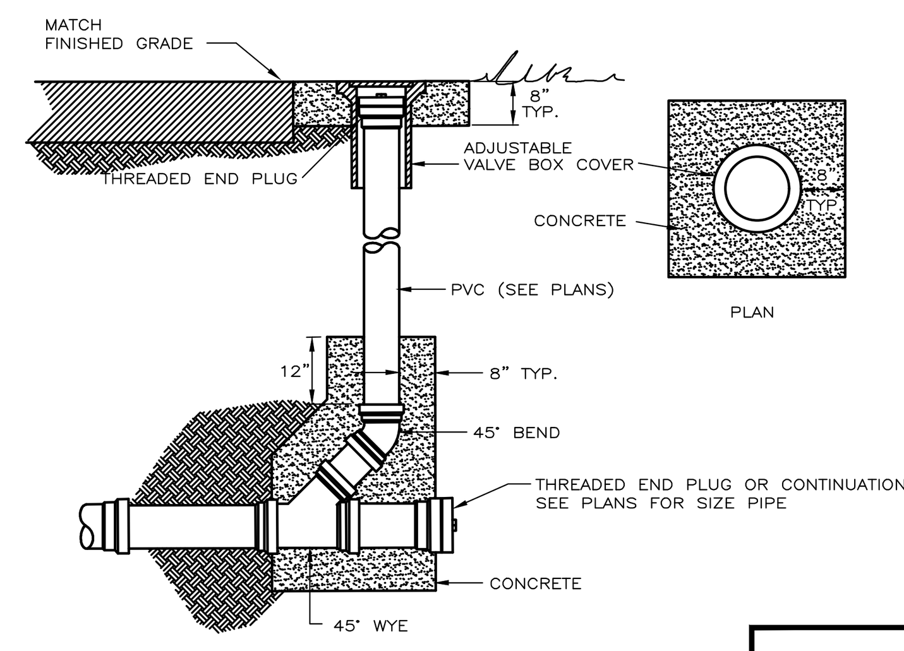
1. MUST IDENTIFY THE RESPONSIBLE SURVEYOR AND MAPPER.
2. SHALL STATE THE TYPE OF SURVEY IT DEPICTS AND THE PURPOSE OF THE SURVEY.
3. MUST BEAR THE NAME, CERTIFICATE OF AUTHORIZATION NUMBER, AND STREET AND MAILING ADDRESS OF THE BUSINESS ENTITY ISSUING THE AS–BUILT SURVEY, ALONG WITH THE NAME AND LICENSE NUMBER OF THE SURVEYOR IN RESPONSIBLE CHARGE.
4. MUST REFLECT A SURVEY DATE, WHICH IS THE DATE OF ACQUISITION. WHEN THE GRAPHICS OF THE AS–BUILT SURVEY ARE REVISED, BUT THE SURVEY DATE STAYS THE SAME, THE AS–BUILT SURVEY MUST LIST DATES FOR ALL REVISIONS.
5. MUST BE SIGNED AND SEALED BY THE SURVEYOR IN RESPONSIBLE CHARGE.
6. A DESIGNATED "NORTH ARROW" AND EITHER A STATED SCALE OR GRAPHIC SCALE SHALL BE SHOWN.
7. APPROPRIATE LINE TYPES, LINE WEIGHTS, AND LINE WIDTHS SHALL BE USED ON THE AS–BUILT DRAWING TO DIFFERENTIATE EXISTING FROM PROPOSED AND WATER FROM SEWER, RECLAIM, AND STORM. ALL PHYSICAL ITEMS (I.E. PIPES, VALVES, ETC.), SURVEYED BOUNDARIES, AND EASEMENTS SHOULD BE CLEARLY MARKED, AND DIMENSIONED, AND IDENTIFIED BY SIZE AND MATERIAL.
8. ALL UTILITIES IN THE PUBLIC RIGHT OF WAY AND WITHIN EASEMENTS OR TO THE END OF THE PUBLICLY OWNED PORTION OF THE UTILITY (I.E. METER AND BACKFLOW PREVENTER, CLEANOUT, ETC.) SHALL BE SHOWN WITH ASSOCIATED SIZES LABELED. THIS INCLUDES, BUT IS NOT LIMITED TO, STUB–OUTS/LATERALS, METERS, BFP'S, WATER MAINS, FORCE MAINS, GRAVITY SEWER MAINS, MANHOLES, STORM WATER PIPING AND ASSOCIATED STRUCTURES, VALVES, FIRE HYDRANTS, LIFT STATIONS, ETC. ALL PIPE LINE WORK MUST BE CONNECTED WITHIN THE SITE AS WELL AS THE CONNECTION TO EXISTING UTILITIES ADJACENT TO THE SITE (IT IS THE SURVEYOR'S RESPONSIBILITY TO COORDINATE WITH ALL CONTRACTORS FOR LOCATIONS AND SIZING). ALL UTILITY CONNECTIONS TO THE BUILDINGS MUST BE SHOWN.
9. ALL PROPOSED UTILITY/INGRESS/EGRESS EASEMENTS MUST BE SHOWN ON THE DRAWING AND MUST HAVE THE ASSOCIATED LEGAL DESCRIPTION WRITTEN.
10. EDGE OF PAVEMENT, ROADS (ASPHALT SHADED), CURBS, DRIVEWAY CONNECTIONS, BUILDINGS, PARKING LOTS, RIGHT–OF–WAY, AND STREET NAMES MUST BE SHOWN IN ALL APPLICATIONS. ALL ITEMS MENTIONED ABOVE MUST BE FIELD LOCATED.
11. IF A LIFT STATION IS TO BE DEDICATED TO THE CITY THE PLAN MUST SHOW A DETAIL SCALED AT 1"=10' SHOWING ALL IMPROVEMENTS INCLUDING: WATER AND SEWER SERVICES, MANHOLES, INVERTS, RIMS, BFP'S, YARD HYDRANTS, CONTROL PANELS, FENCING, PARCEL BOUNDARY, LEGAL DESCRIPTION OF PARCEL BOUNDARY, WET WELL, VALVE BOX, FORCE MAIN, FLOW METER (IF APPLICABLE), DRIVEWAY, GATE.
12. PROPERTY BOUNDARY MUST BE CLEARLY LABELED AND DIMENSIONED.
13. INVERTS, GRATES, TOPS, RIMS MUST BE SHOWN FOR ALL STORM WATER DRAINAGE STRUCTURES. INVERTS (PIPES AND CLEANOUTS) AND RIMS MUST BE SHOWN FOR ALL GRAVITY SEWER MANHOLES. SLOPES MUST BE SHOWN ON EACH RUN OF PIPE FOR REVIEW AND APPROVAL.
14. "AS–BUILT" PROFILE OF ALL DIRECTIONAL BORES AND JACK–AND–BORES INDICATING GRADE AND PIPE ELEVATIONS AT 10 FOOT INTERVALS SHALL BE PROVIDED ON AS–BUILT PLAN SHEETS BASED ON BORE LOGS DEVELOPED BY BORING CONTRACTOR DURING INSTALLATION. PROFILES SHALL USE HORIZONTAL STATIONING WHICH TIES TO STATIONING ON PLANS. PROFILES SHALL ALSO SHOW EXISTING SURFACE ELEVATIONS AS WELL AS ANY PROPOSED SURFACE ELEVATIONS ON THE PROFILE. SURFACE PROFILES MUST SHOW ANY PAVEMENT, SIDEWALKS, DITCHES, SWALES ETC. NOTE THAT PROFILES LOCATING PIPE SOLELY BY "DEPTH BELOW EXISTING GROUND" WILL NOT BE ACCEPTED.
15. COASTAL SETBACK LINE OR COASTAL CONSTRUCTION CONTROL LINE SHOULD BE DESIGNATED.
16. ELEVATIONS AND LOCATION OF ANY FLOOD ZONES ALONG THE FLOOD HAZARD BOUNDARIES SHALL BE DELINEATED.
17. NEARBY WETLANDS AND OTHER ENVIRONMENTALLY SIGNIFICANT RESOURCES CLEARLY LABELED.
18. STORM WATER MANAGEMENT SYSTEM FEATURES INCLUDING DIMENSIONS OF : WET AND DRY SWALES, WET AND DRY PONDS, CONVEYANCE SYSTEMS, EASEMENTS, ALONG WITH ALL ASSOCIATED M.E.S. STRUCTURES AND INVERTS, OUTFALL STRUCTURES AND INVERTS, SKIMMERS, DISCHARGE STRUCTURES AND INVERTS AND SLOT ELEVATIONS, TOP OF BANK, SLOPE OF BANK AND BOTTOM OF ALL PONDS, SWALES, CLOSED AND OPEN CONVEYANCES. FOR FEMA LOMR SUBMITTALS ALSO PROVIDE: FINISHED FLOOR ELEVATIONS, SPOT ELEVATIONS AND/OR CONTOURS SHOWING LOWEST LOT ELEVATIONS.
19. THE ENGINEER OF RECORD SHALL REVIEW AND APPROVE THE AS–BUILT PRIOR TO SUBMISSION TO THE CITY FOR FINAL APPROVAL. WRITTEN APPROVAL BY THE ENGINEER OF RECORD SHALL BE NOTED ON A TRANSMITTAL WITH A STATEMENT OF NO EXCEPTIONS TO MINIMUM STANDARDS PROVIDED HEREIN.

STORM WATER REQUIREMENTS FOR THE AS–BUILT SURVEYS ONLY APPLY TO PARCELS WITHIN CITY LIMITS. PLEASE SUBMIT THREE (3) HARD COPIES AND ONE (1) DIGITAL (AUTOCAD FORMAT & PDF) FOR REVIEW AND APPROVAL.



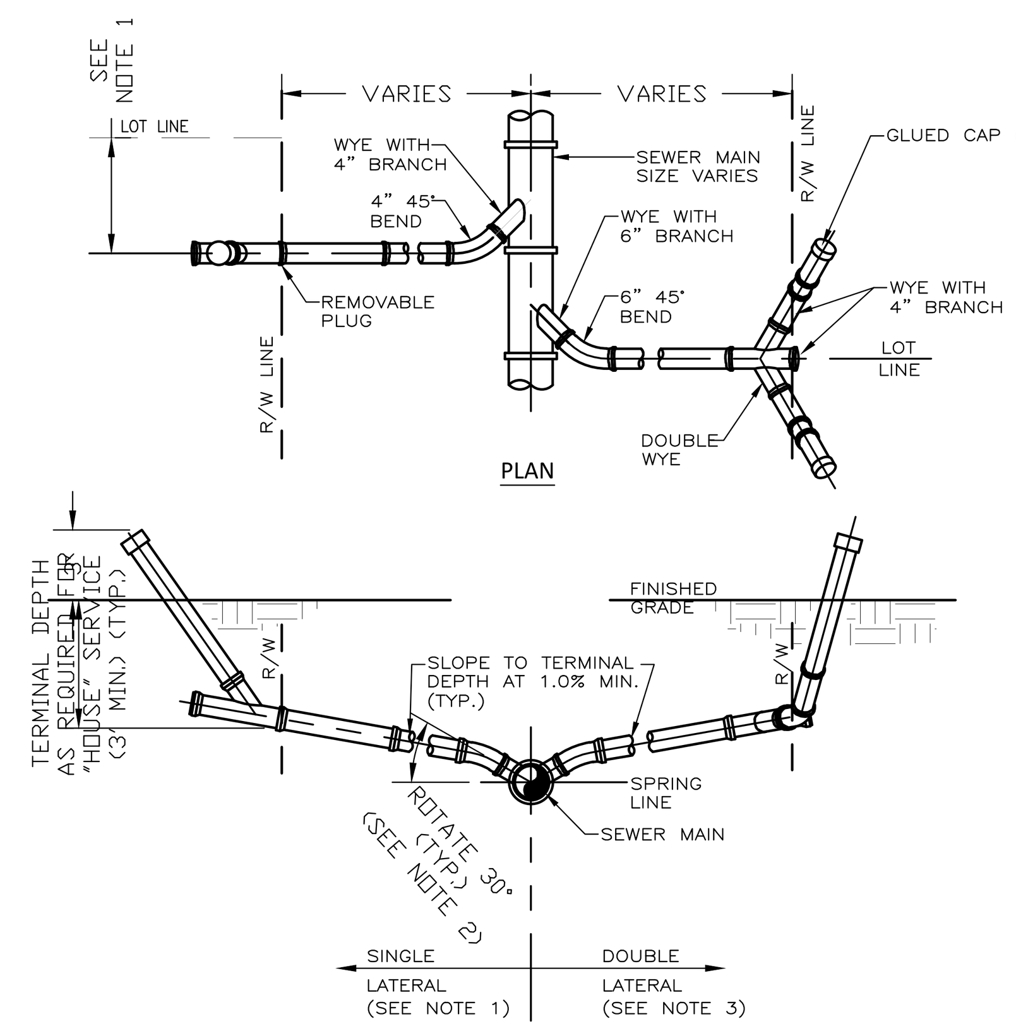
NOTES:
1. PVC PIE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (12 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
2. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
3. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY ON THE TOP OF THE PIPE.
4. ALL SPLICES SHALL BE MADE USING A WATER TIGHT SEALING METHOD APPROVED BY THE CITY.

PVC PIPE LOCATING WIRE DETAIL
NOT TO SCALE



NOTE: SEE SEWER SIZE IN PLANS

CLEANOUT DETAIL
NOT TO SCALE



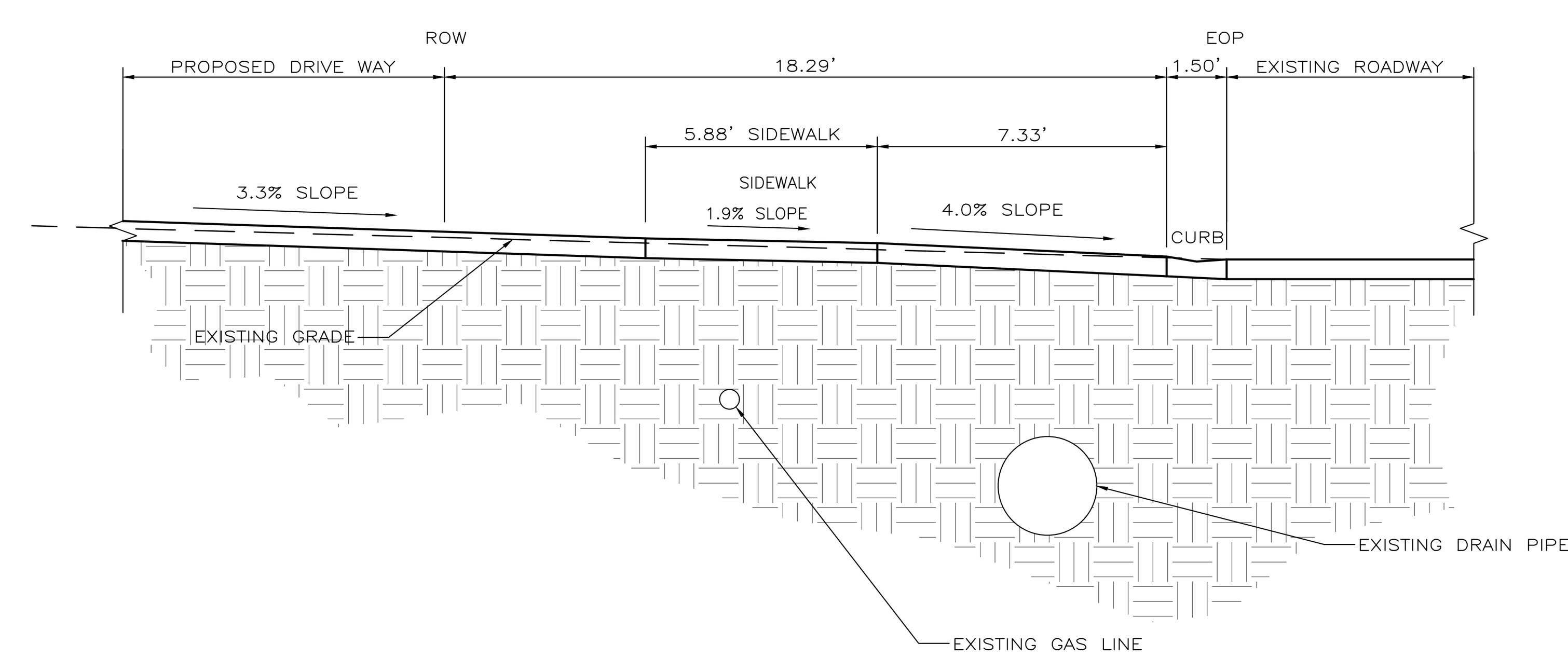
NOTES:
1.) LOCATE SINGLE LATERAL AS NEAR TO CENTER OF LOT AS POSSIBLE.
2.) INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
3.) DOUBLE SERVICE LATERALS ONLY PERMITTED ON TAPS TO EXISTING GRAVITY MAINS WERE EXISTING ROAD PAVEMENT MUST BE CUT.
4.) ALL PIPE FITTINGS SHALL BE PVC ASTM 3034 SDR35, GREEN IN COLOR.

SERVICE LATERAL DETAIL
NOT TO SCALE

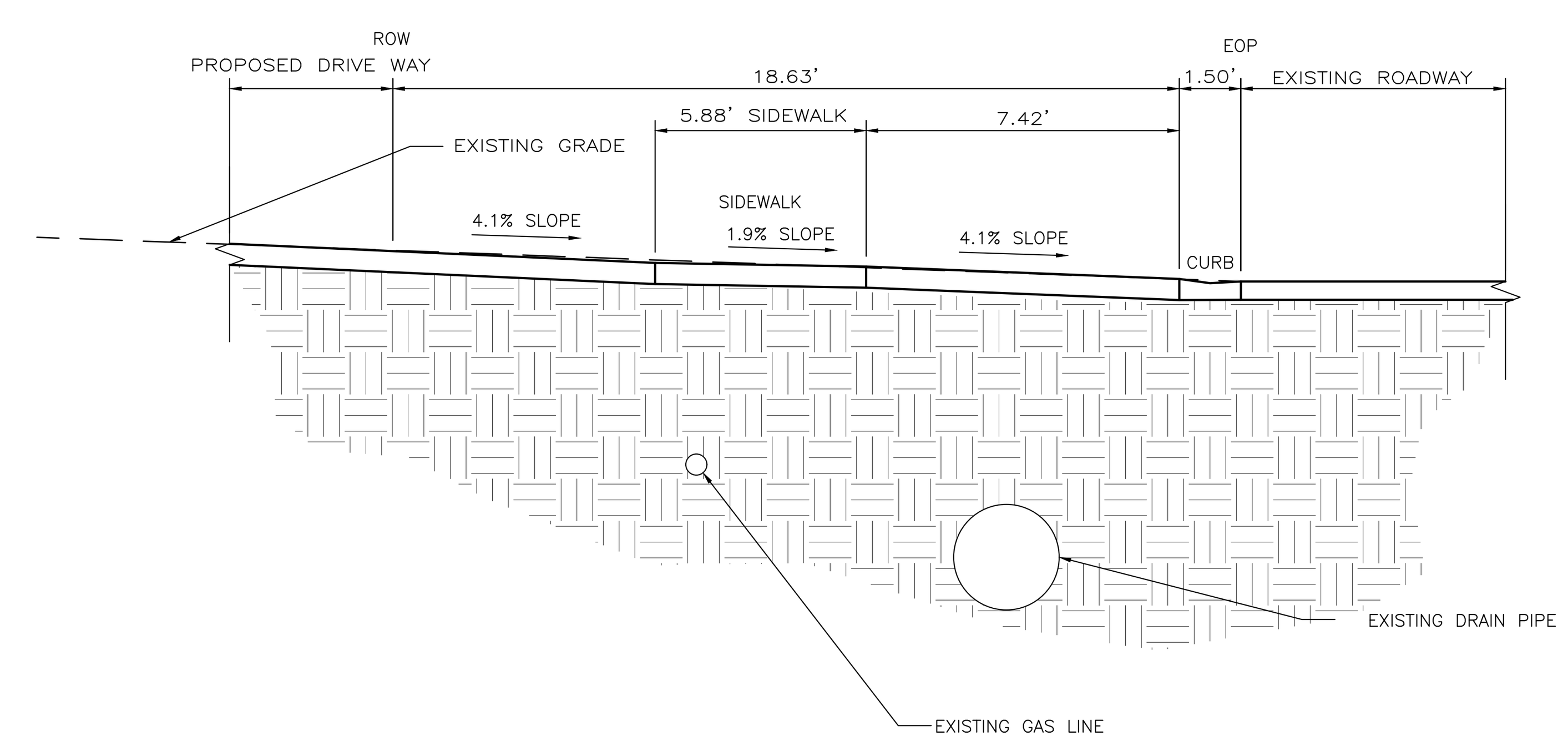
OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (SEE NTOE 1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER	WATER MAIN; 3' MIN.	WATER MAIN; 12" MIN. EXCEPT FOR STORM SEWER, THEN 6" IS THE MIN. AND 12" IS PREFERRED	ALTERNATE 3' MIN.; WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN; 10' PREFERRED 3' MIN.	WATER MAIN; 12" PREFERRED 6" MIN.	ALTERNATE 3' MIN.; WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN	WATER MAIN; 10' PREFERRED 6' MIN. (SEE NTOE 2)	WATER MAIN; 12" MIN. EXCEPT FOR GRAVITY SEWER, THEN 6" IS THE MIN. AND 12" IS PREFERRED	ALTERNATE 6' MIN.; WATER MAIN
ON - SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10' MIN.	-----	-----

(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MIN. SEPARATION IS 12".
(2) 3' FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6" ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(3) IF REQUIRED SEPARATION CANNOT BE PROVIDED SEE DETAIL M–35B FOR REQ'D ADDITIONAL PROTECTION.

STANDARD - MAIN CROSSING/SEPARATION DETAIL
NOT TO SCALE



SECTION A
NOT TO SCALE



SECTION B
NOT TO SCALE

REVISIONS:

NO.	DESCRIPTION	DRAWN	CHECKED	DATE
1				

PHASE:	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			05/10/23

JRA ARCHITECTS
2211 THOMAS DRIVE, SUITE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
COMMISSION NUMBER 21804

CONSULTANTS:
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Professional Engineering Consultants
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7286

PROJECT:
PANAMA CITY BEACH
FIRE STATION # 32
HUTCHISON BLVD

PANAMA CITY BEACH, FLORIDA

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
C2.3

WATER DISTRIBUTION SYSTEM

PRODUCTS: PROVIDE ELLS, TEES, REDUCING TEES, WYES, COUPLINGS, AND OTHER REQUIRED PIPING ACCESSORIES OF SAME TYPE AND CLASS OF MATERIALS AS CONDUIT, OR OF MATERIAL HAVING EQUAL OR SUPERIOR PHYSICAL AND CHEMICAL PROPERTIES AS ACCEPTABLE TO THE ENGINEER.

UNPLASTICIZED POLYVINYL CHLORIDE (PVC PIPE SHALL HAVE AN INTEGRATED BELL–TYPE JOINT DESIGNED FOR CONVEYING POTABLE WATER UNDER PRESSURE.

RING–TYPE NEOPRENE GASKETS SHALL BE PROVIDED IN RECESSED IN THE BELLS TO MAKE JOINTS WATER TIGHT. ALL PIPES SHALL BE SUITABLE FOR USE AT MAXIMUM HYDROSTATIC PRESSURES OF 165 PSI AT 75 DEGREES F AND MEETING AND/OR EXCEEDING THE MINIMUM REQUIREMENTS OF AWWA C–900–07 MADE TO SDR 25 DIMENSIONS. MAXIMUM LAYING LENGTHS SHALL BE 40 FEET WITH MANUFACTURER'S OPTION TO SUPPLY UP TO 15 PERCENT RANDOMS (MINIMUM LENGTH EQUALS 10 FT.). ALL FITTINGS SHALL BE CAST IRON WITH MECHANICAL.

PIPE FITTINGS SHALL BE ASSEMBLED WITH A NON–TOXIC LUBRICANT AS RECOMMENDED BY THE MANUFACTURER. PVC PIPE SHALL BE AS MANUFACTURED BY THE U.S. PIPE COMPANY, THE CERTAIN–TEED PRODUCTS CORPORATION, THE JOHNS–MANSVILLE COMPANY, THE ETHYL CORPORATION, OR APPROVED EQUAL.

PROVIDE VALVES AND FLOW CONTROL DEVICES AS INDICATED:

MINIMUM WORK PRESSURE, 160 PSI, UNLESS OTHERWISE INDICATED.

GATE VALVES: STANDARD SHUT–OFF VALVES WITH MAXIMUM WORK PRESSURE CAST INTO BODY, OUTSIDE–SCREW–AND–YOKE TYPE COMPLYING WITH AWWA C–500. ALL VALVES SHALL BE COUNTERCLOCKWISE.

FOUR–INCHES AND OVER: SHALL BE CAST–IRON BODY, FULLY BRONZE MOUNTED DOUBLE–DISC, PARALLEL SEAL VALVES WIDE FLANGE OR SPIGOT END DEPENDING ON INSTALLATION. FLANGED GATE VALVES SHALL BE PROVIDED WITH 125 POUND AMERICAN STANDARD FLANGES.

ALL VALVES TO BE INSTALLED ABOVE THE GROUND SHALL BE FITTED WITH WHEEL–TYPE HAND OPERATORS. ALL VALVES TO BE SET BELOW GRADE SHALL BE FITTED WITH HUB–TYPE OPERATORS AND SHALL HAVE A CAT–IRON VALVE BOX INSTALLED CONCENTRICALLY OVER THE VALVE.

UNDER FOUR–INCHES: GATE VALVES UNDER FOUR–INCHES SHALL BE IRON OR BRONZE BODY, SOLID WEDGE VALVES EQUIPPED WITH OPERATING HAND WHEELS.

ALL ECCENTRIC VALVES 10–INCHES OR LARGER SHALL BE GEAR OPERATED WITH HAND WHEELS FOR ABOVE GROUND VALVES AND HUB OPERATED FOR BELOW GROUND VALVES.

ALL ECCENTRIC VALVES 8–INCHES AND SMALLER SHALL BE LEVEL OPERATED FOR ABOVE GROUND VALVES AND HUB OPERATED FOR BELOW GROUND VALVES.

ALL HUB OPERATED UNITS SHALL BE PROVIDED A CAST–IRON VALVES BOX AND COVER.

CHECK VALVES: THE CHECK VALVES OVER THREE INCHES SHALL BE IRON BODY, BRONZE MOUNTED, HORIZONTAL SWING CHECK WITH FLANGED ENDS. ALL WORK PARTS SHALL BE SPRING LOCATED TO PREVENT SLAMMING. THE CHECK VALVES SHALL BE CLOW F–2955, OR APPROVED EQUAL.

CHECK VALVES UNDER THREE INCHES SHALL BE SCREWED END, BRONZE BODY, SILENT CHECK VALVES AS MANUFACTURED BY CRANE COMPANY, NO. 34 OR APPROVED EQUAL.

PROVIDE ANCHORAGES FOR TEE, PLUGS, CAPS, AND BENDS.

AFTER INSTALLATION, APPLY A FULL COAT OF ASPHALT OR OTHER ACCEPTABLE CORROSION–RETARDING MATERIAL TO SURFACES OF RODS AND CLAMPS.

CLAMPS, STRAPS AND WASHERS: STEEL ANSI/ASTM A–506

RODS: STEEL, ANSI/ASTM A–575

ROD COUPLINGS: MALLEABLE IRON, ANSI/ASTM A–197

BOLTS: STEEL, ANSI/ASTM A–307

CAST IRON WASHERS: ANSI/ASTM A–126, CLASS A

WATER SERVICE IDENTIFICATIONS: PLASTIC LINE MARKS, NOMENCLATURE "CAUTION, BURIED WATER LINE BELOW".

FLEXIBLE COUPLINGS: STEEL MIDDLE RING, TWO STEEL FOLLOWER RINGS, TWO RESILIENT GASKETS AND STEEL BOLTS. DRESSER TYPE 38 OR APPROVED EQUAL.

INSPECTION AND HYDROSTATIC TESTING: AFTER THE PIPE HAS BEEN LAID AND BACKFILLED AS SPECIFIED EACH VALVED SECTION OF NEWLY LAID PIPE SHALL BE SUBJECTED TO HYDROSTATIC PRESSURE OF 150 PSI.

THE DURATION OF EACH PRESSURE TEST SHALL BE AT LEAST TWO HOURS OR UNTIL THE LINE HAS BEEN COMPLETELY INSPECTED FOR VISIBLE LEAKS.

PERMISSIBLE LEAKAGE: NO PIPE INSTALLATION WILL BE ACCEPTABLE UNTIL OR UNLESS THIS LEAKAGE (EVALUATED ON A PRESSURE BASIS OF 150 PSI) IS LESS THAN 4 U.S. GALLONS PER 24 HOURS PER THOUSAND FEET PER INCH NOMINAL DIAMETER IN ACCORDANCE WITH AWWA C600.

DISINFECTION SHALL BE AFTER THE DISTRIBUTION SYSTEM HAS BEEN TESTED TO THE SATISFACTION OF THE ENGINEER AND SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA SPECIFICATION C–651 WHICH PROVIDES FOR THE INJECTION OF A 50 PPM SOLUTION OF CHLORINE REMAINING FOR 24 HOURS.

IN THE PROCESS OF CHLORINATING WATER PIPE, ALL VALVES OR OTHER APPURTENANCES SHALL BE OPERATED WHILE THE PIPE LINE IS FILLED WITH CHLORINATING AGENT.

WATER VALVES 12" AND LESS SHALL BE EPOXY COATED RESILIENT SEAT GATE VALVE.

MAIN PIPE SIZE	HORIZ. BENDS			TEES (SIZE / LENGTH)					REDUCERS (SIZE / LENGTH)			PLUGS
	90°	45°	22.5°									
24	90	38	18	X24 / 177	X20 / 139	X16 / 94	X12 / 40	X10 / 6	X20 / 64	X16 / 117	X12 / 158	214
20	78	32	15	X20 / 148	X16 / 105	X12 / 56	X10 / 25	X8 / 0	X16 / 65	X12 / 115	X10 / 149	184
16	66	27	13	X16 / 116	X12 / 70	X10 / 42	X8 / 12		X12 / 64	X10 / 90	X8 / 111	151
12	51	22	10	X12 / 83	X10 / 59	X8 / 32	X6 / 0		X10 / 34	X8 / 62	X6 / 86	118
10	44	18	9	X10 / 66	X8 / 41	X6 / 8			X8 / 33	X6 / 61	X4 / 81	100
8	37	15	7	X8 / 50	X6 / 21	X4 / 0	X3 / 0		X6 / 35	X4 / 59		83
6	29	12	5	X6 / 30	X4 / 0				X4 / 32	X3 / 44		63
4	21	8	4	X4 / 14								45
3	17	7	4	X3 / 10								36

NOTES:

1.) RESTRAIN TO NEXT FULL JOINT BEYOND GIVEN LENGTH.

2.) RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.

3.) ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.

4.) ALL VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.

5.) PIPE SIZES ARE GIVEN IN INCHES.

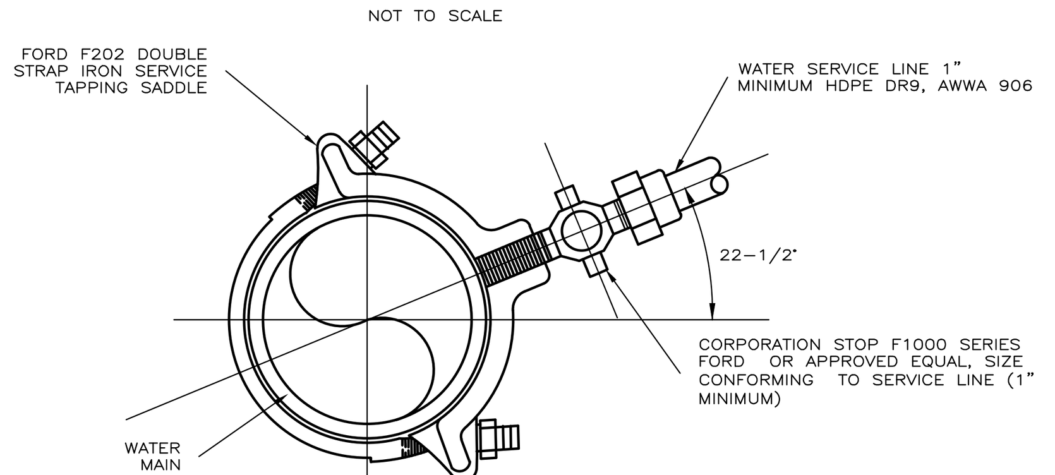
6.) PIPE LENGTHS ARE GIVEN IN FEET.

7.) LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.

8.) THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON THE USE OF LIGHTLY COMPACTED CLEAN SAND WITH AT LEAST A 95% COARSE PARTICLE CONTENT. ACTUAL SOIL CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.

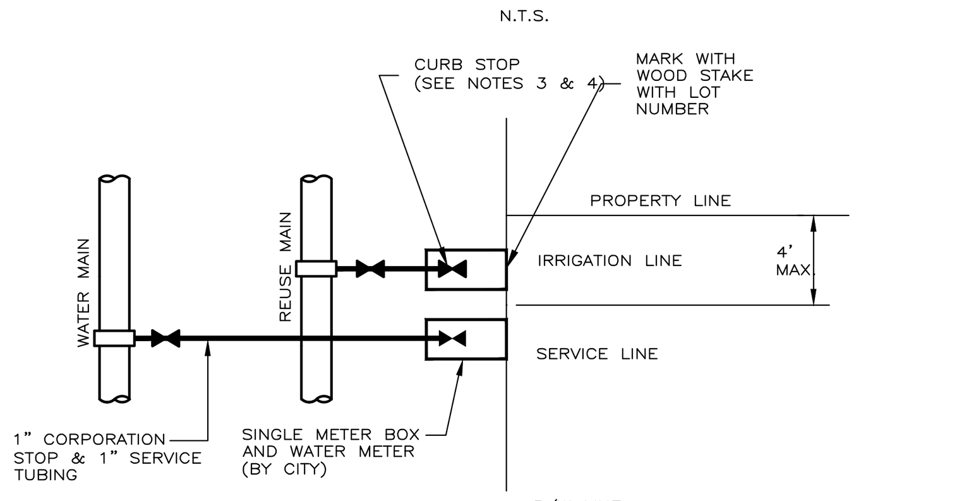
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DR-18 PVC PIPE

NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION

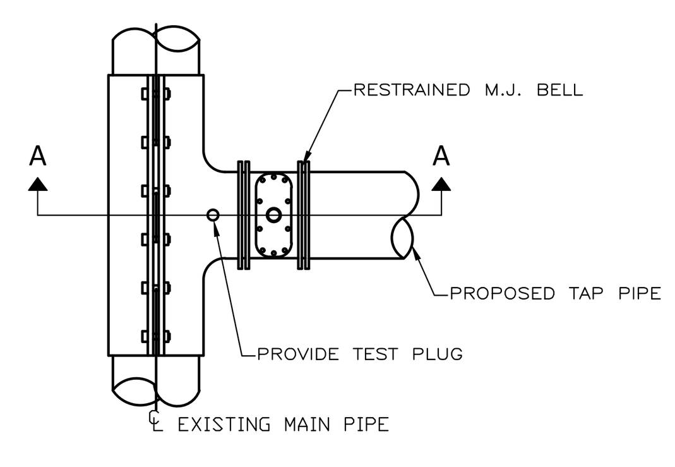
N.T.S.



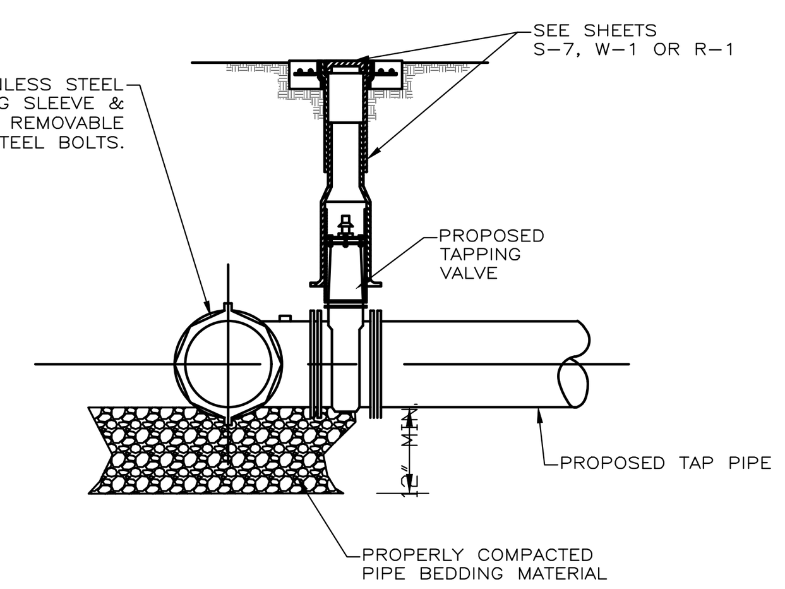
NOTES:
1. ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.
2. NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.
3. EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE FASTENED TO A 1" x 4" x 30" STAKE PAINTED WHITE AND MARKED WITH THE NUMBER OF THE LOT TO BE SERVED.
4. CURB STOP SHALL BE A FORD BALL METER VALVE B43–342W, B43–344W OR CITY APPROVED EQUAL.
5. ALL SERVICE TAPS TO BE LOCATED IN FIELD. TAPS SHALL BE NO CLOSER THAN AND WILL NOT BE SET IN DRAINAGE SWALES, EASEMENTS OR SIDEWALKS.
6. MAINTAIN A 3 FOOT MINIMUM SEPARATION BETWEEN POTABLE AND REUSE WATER SERVICES.

TYPICAL CITY SERVICE

NOT TO SCALE



PLAN



SECTION A–A

NOTES:

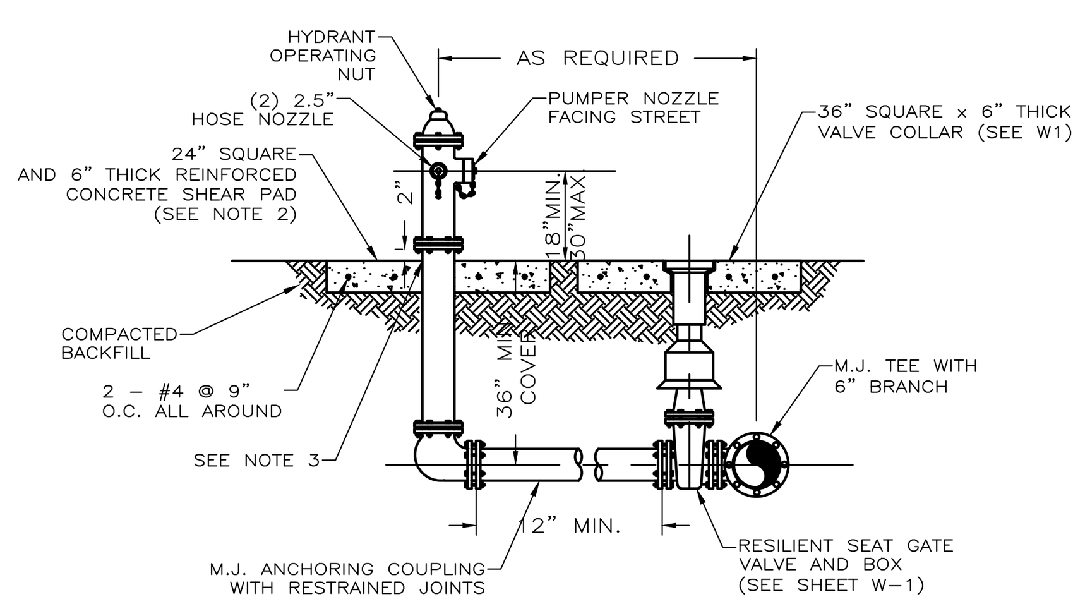
1.) NO TAPPING CUTS SHALL BE MADE BEFORE: A 60 MINUTE TEST AT 100 P.S.I. FOR FORCEMAINS, OR 150 P.S.I. FOR POTABLE WATERMAINS AND RECLAIM WATERMAINS IS PERFORMED.

2.) ALL TAPS MUST BE PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS LARGER) FROM A JOINT OR FITTING.

3.) CONTRACTOR TO SUPPLY A DRY HOLE, PROPERLY CONFIGURED, FOR TAPPING CREW TO WORK AND A BACK–HOE TO LOWER MACHINE INTO HOLE. TAPPING ASSEMBLY MUST BE BOLTED ON & PRESSURE TESTED BY THE CONTRACTOR & WITNESSED BY THE CITY PRIOR TO TAP.

TAPPING SLEEVE ASSEMBLY AND VALVE BLOCKING DETAIL

NOT TO SCALE



NOTES:

1.) FIRE HYDRANT SHALL BE SUPPLIED WITHOUT A WEEP HOLE OR WITH A PERMANENTLY PLUGGED WEEP HOLE.

2.) THE SHEAR PAD MAY BE RECESSED UP TO 6 INCHES BELOW FINISHED GRADE.

3.) CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE A 6" MINIMUM.

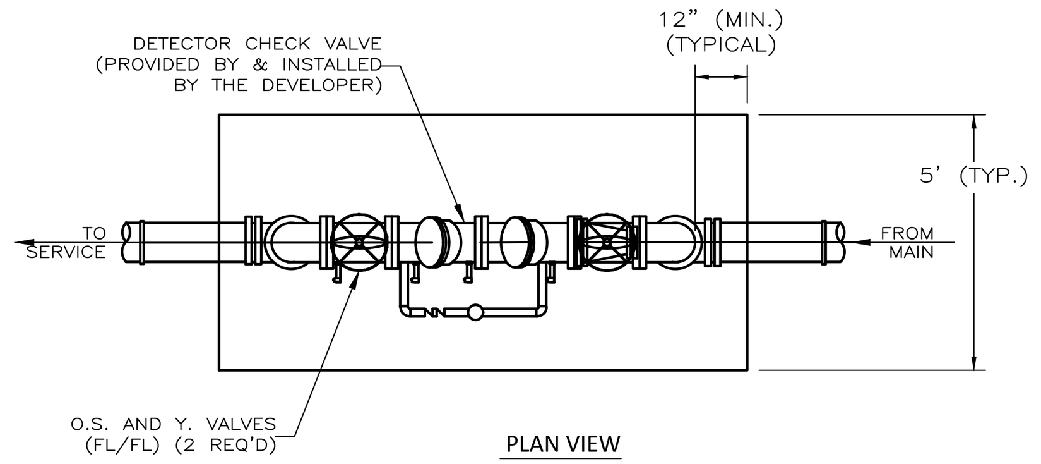
4.) HYDRANT SHALL BE AVK MODEL 2780 NOSTALGIC, AMERICAN DARLING B–84–B, OR US FIRE HYDRANT, MODEL SENTINEL 250 WITH SS VALVE ROD.

5.) A WEATHER SHIELD SHALL BE PROVIDED TO PROTECT OPERATING STEM OR NUT.

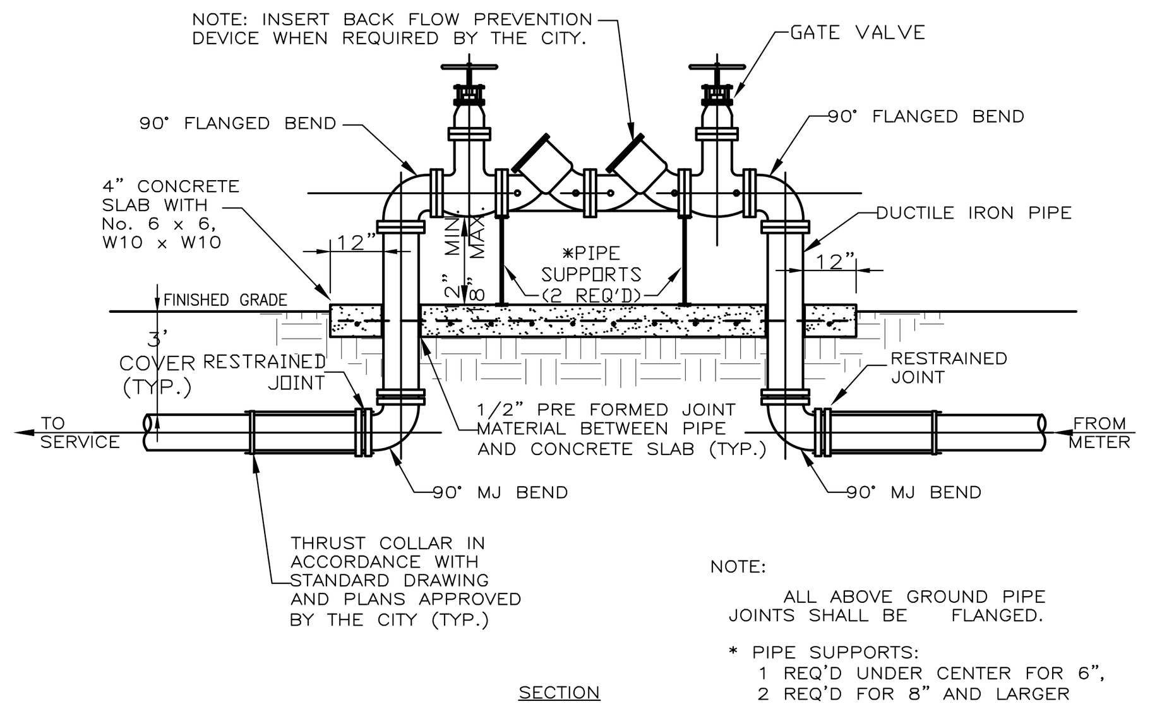
6.) THE HYDRANT'S UPPER AND LOWER STEM, BREAK COUPLING. INTERNAL PINS AND CLIPS. AND ALL EXTERNAL BOLTING SHALL BE MANUFACTURED OF STAINLESS STEEL.

5-1/4" FIRE HYDRANT ASSEMBLY DETAIL

NOT TO SCALE



PLAN VIEW



SECTION

DOUBLE DETECTOR CHECK VALVE ASSEMBLY DETAIL

NOT TO SCALE

NOTES:

1.) ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.

2.) NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.

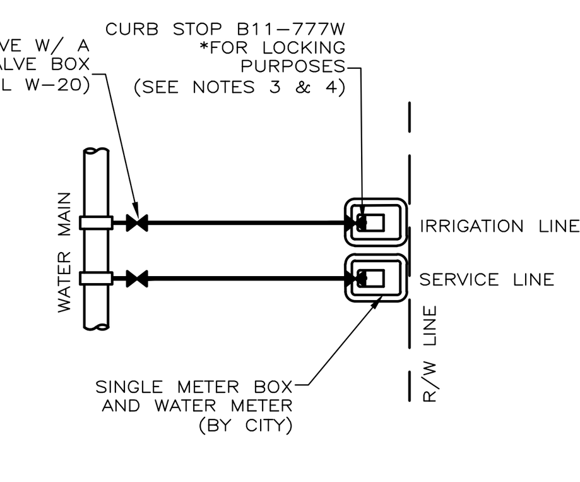
3.) EACH SERVICE SHALL TERMINATE AT A BALL VALVE WHICH SHALL BE FASTENED TO A 1" x 4" x 30" STAKE PAINTED WHITE.

4.) CURB STOP SHALL BE A 2" FORD BALL METER VALVE B11–777W OR CITY APPROVED EQUAL.

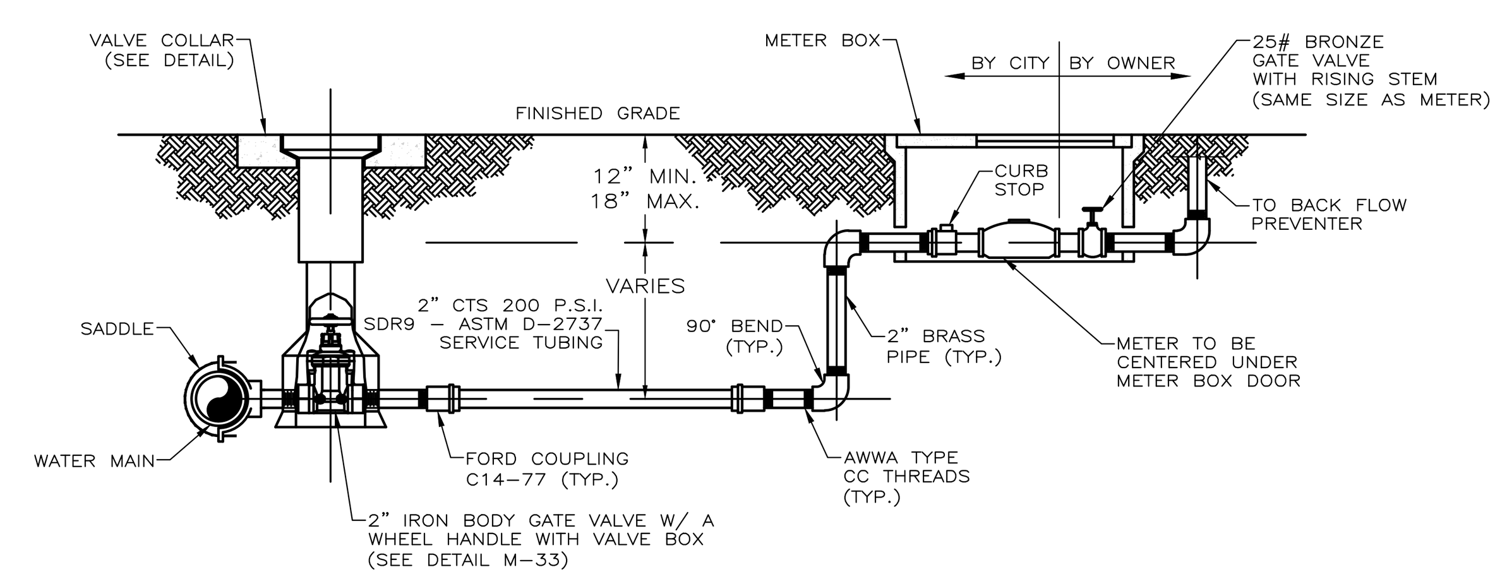
5.) ALL SERVICE TAPS TO BE LOCATED IN FIELD. TAPS SHALL BE NO CLOSER THAN 36" APART AND NOT WITHIN 24" FROM BACK OF PIPE BELL OR SPIGOT INSERTION LINE AND WILL NOT BE SET IN DRAINAGE SWALES, EASEMENTS OR SIDEWALKS.

6.) TAPPING SADDLE: MODEL FL202 FORD METER BOX CO.

7.) 1–1/2" METERS WILL REQUIRE A 2" TAP & GATE VALVE, THEN REDUCED.



TYPICAL CITY SERVICE



2" WATER METER ASSEMBLY DETAIL

NOT TO SCALE

NOTES:

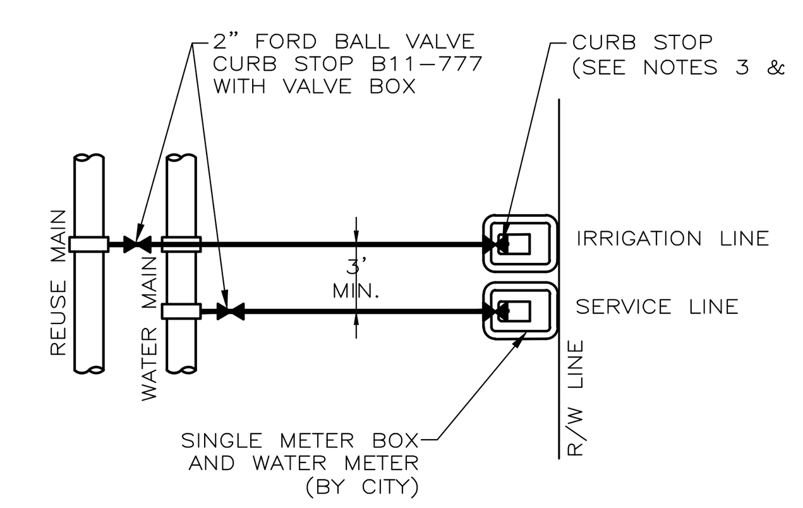
1.) ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.

2.) NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.

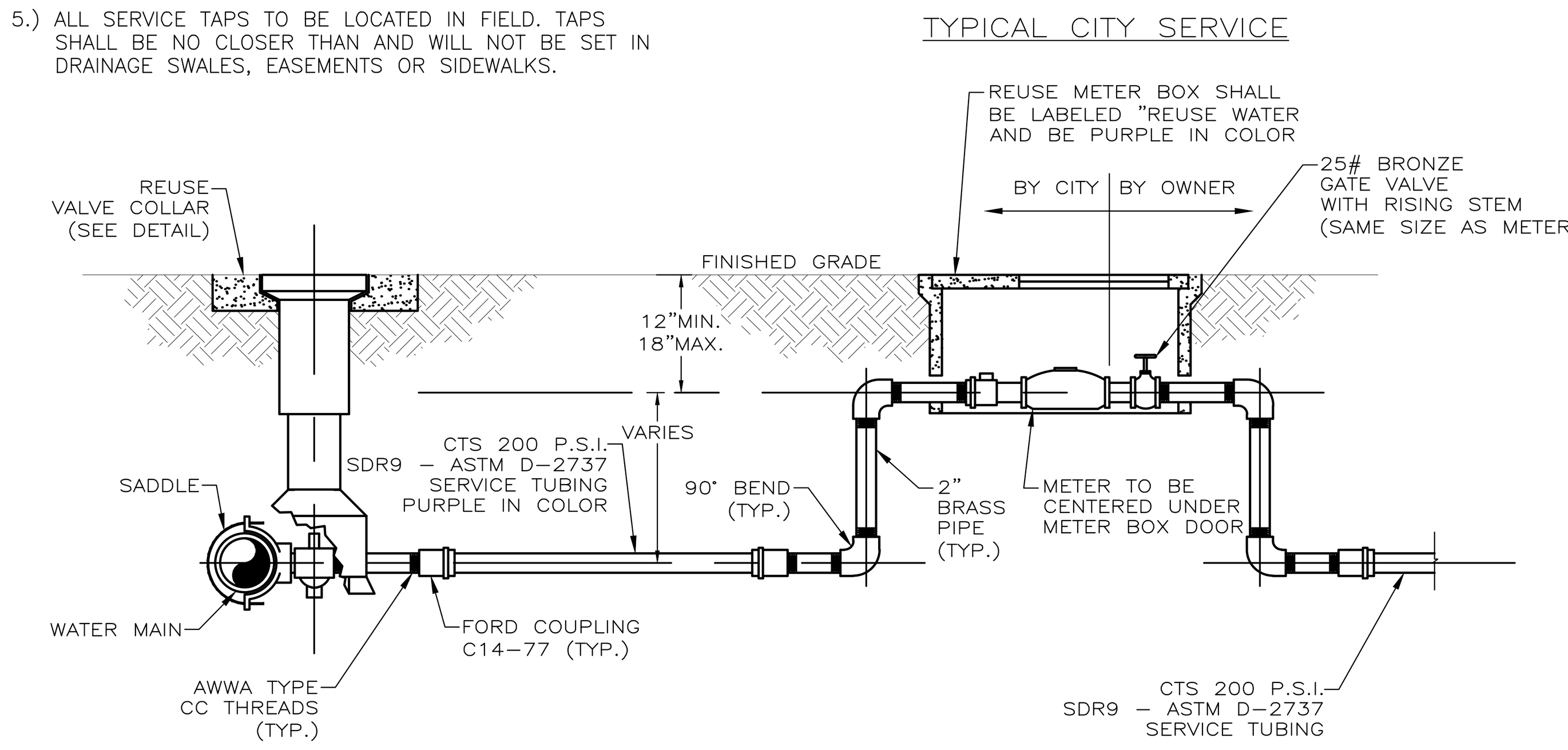
3.) EACH SERVICE SHALL TERMINATE AT A BALL VALVE WHICH SHALL BE FASTENED TO A 1" x 4" x 30" STAKE PAINTED WHITE.

4.) CURB STOP SHALL BE A 2" FORD BALL METER VALVE B14–777W OR CITY APPROVED EQUAL.

5.) ALL SERVICE TAPS TO BE LOCATED IN FIELD. TAPS SHALL BE NO CLOSER THAN AND WILL NOT BE SET IN DRAINAGE SWALES, EASEMENTS OR SIDEWALKS.

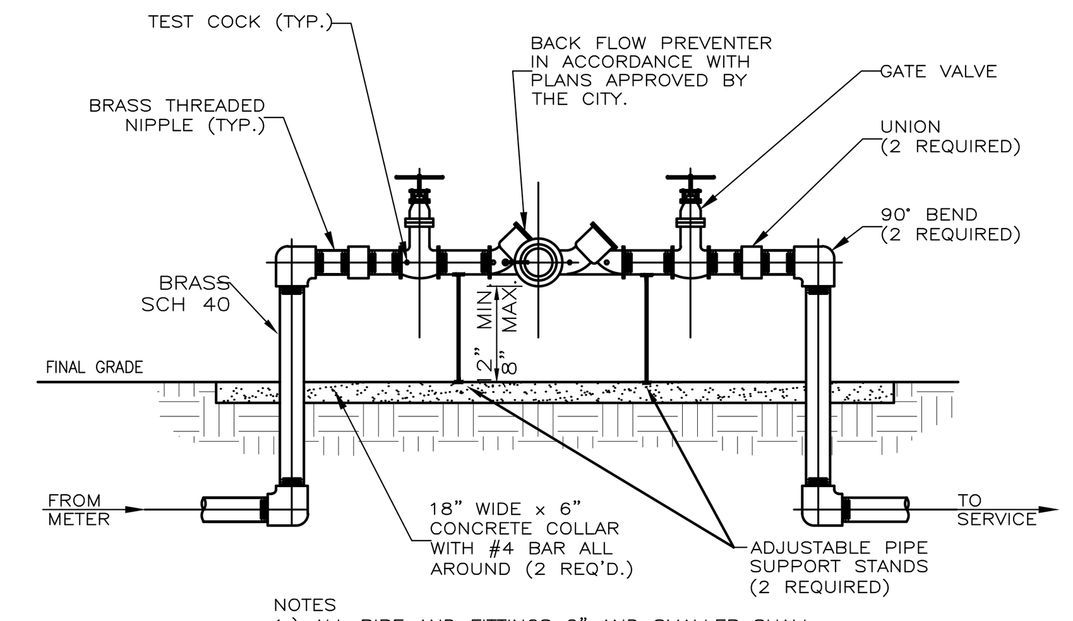


TYPICAL CITY SERVICE



1-1/2" & 2" RECLAIMED WATER METER DETAILS

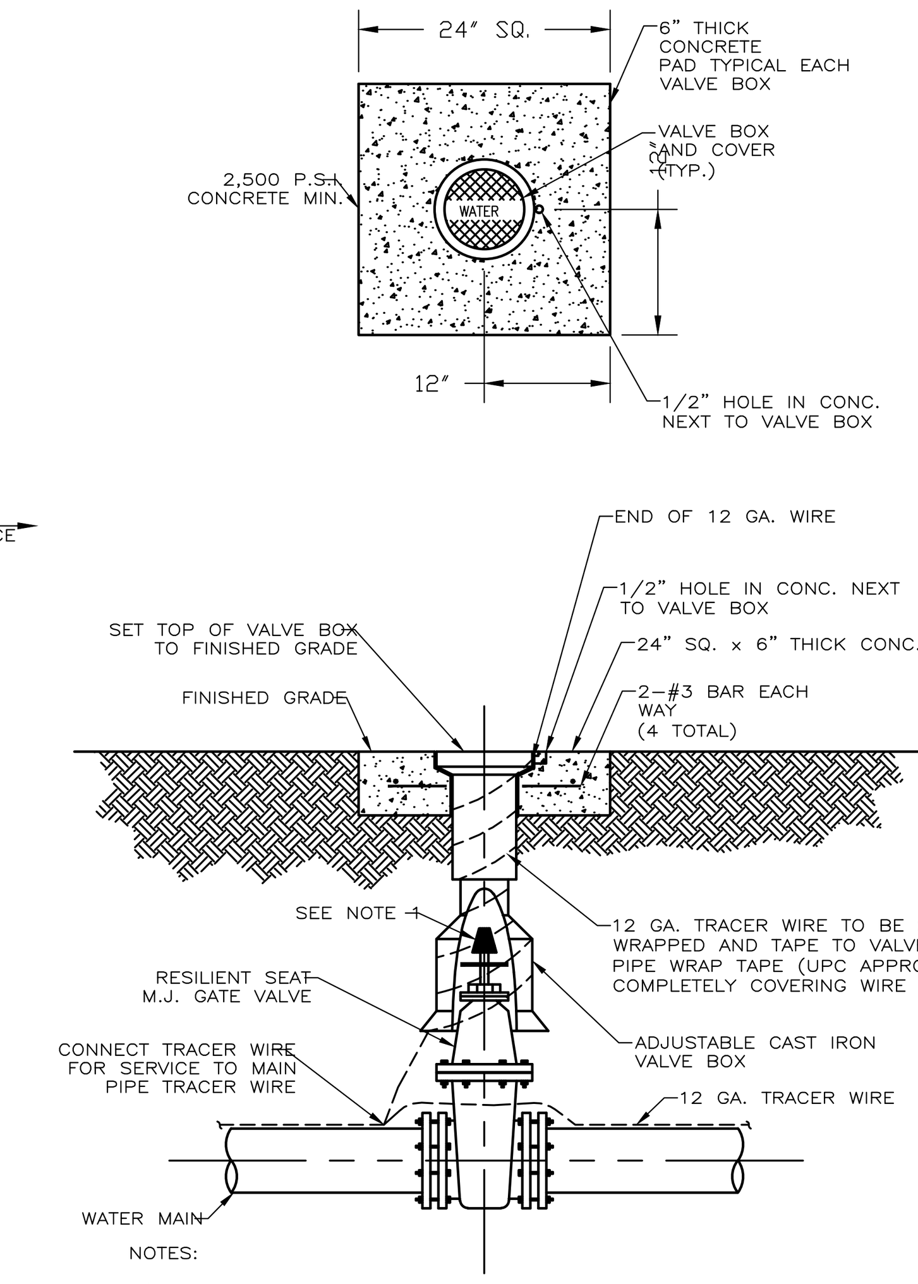
NOT TO SCALE



NOTES
1.) ALL PIPE AND FITTINGS 2" AND SMALLER SHALL BE THREADED SCHEDULE 40 GALVANIZED STEEL OR BRASS.
2.) PROVIDE PROTECTION AGAINST FREEZING, INSULATE OR "HOT BOX".
3.) TWO PIPE SUPPORTS REQUIRED.

BACK FLOW PREVENTER DEATIL

NOT TO SCALE

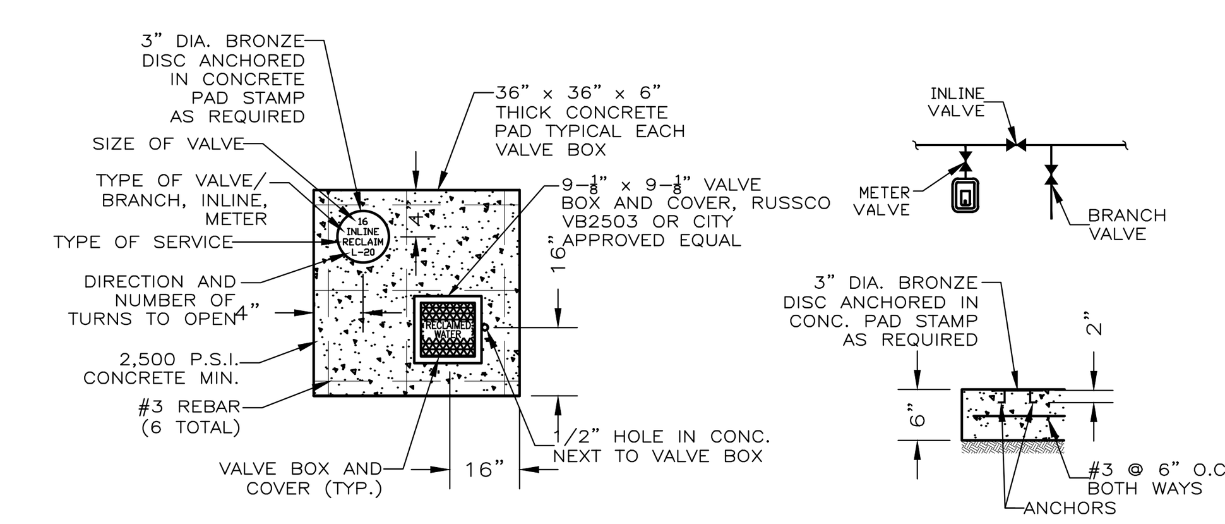


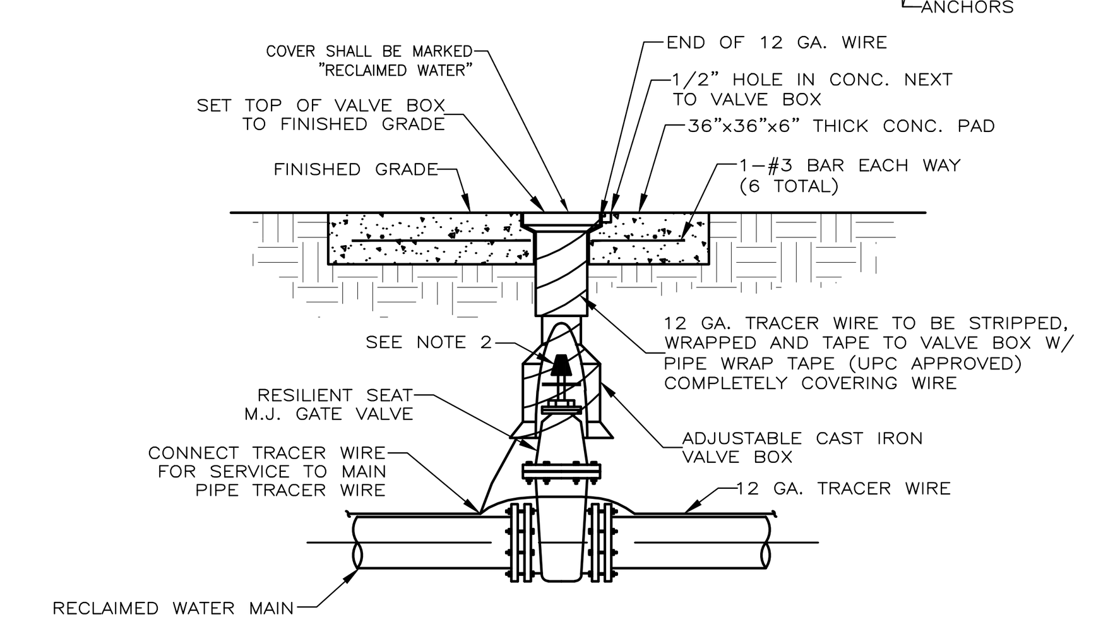
NOTES:

1.) THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.

WATER GATE VALVE & BOX DETAIL (4" TO 10")

NOT TO SCALE





NOTES:

1.) PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.

2.) THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.

3.) ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS ESTABLISHED IN THE FIELD.

4.) VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.

5.) ALL EXPOSED EDGES OF CONCRETE PAD SHALL BE CHAMFERED 1/2"

GATE VALVE 12" & SMALL

NOT TO SCALE

REVISIONS:

NO.	DESCRIPTION	DRAWN	CHECKED	DATE
1				

PHASE:	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			05/10/23

JRA ARCHITECTS
2211 THOMAS DRIVE, SUITE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
COMMISSION NUMBER 21804

CONSULTANTS:

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288

PROJECT:

PANAMA CITY BEACH
FIRE STATION # 32
HUTCHISON BLVD

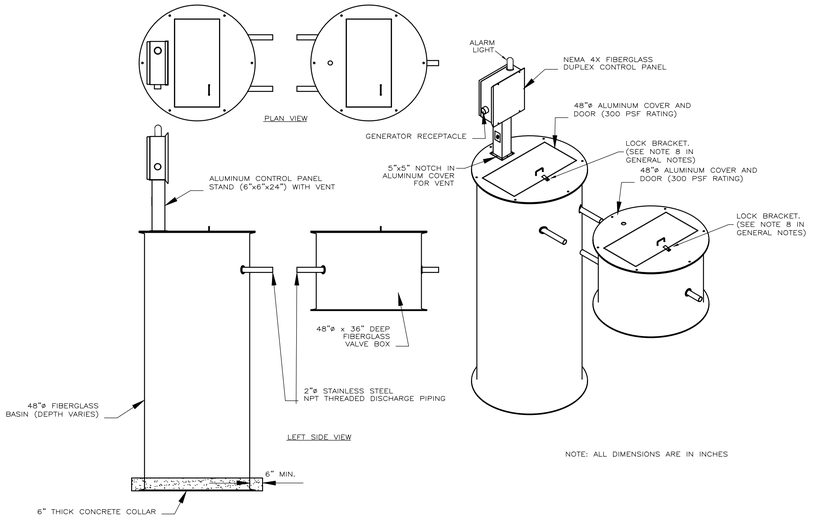
PANAMA CITY BEACH, FLORIDA

SHEET TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

C2.4



NOTE: ALL DIMENSIONS ARE IN INCHES

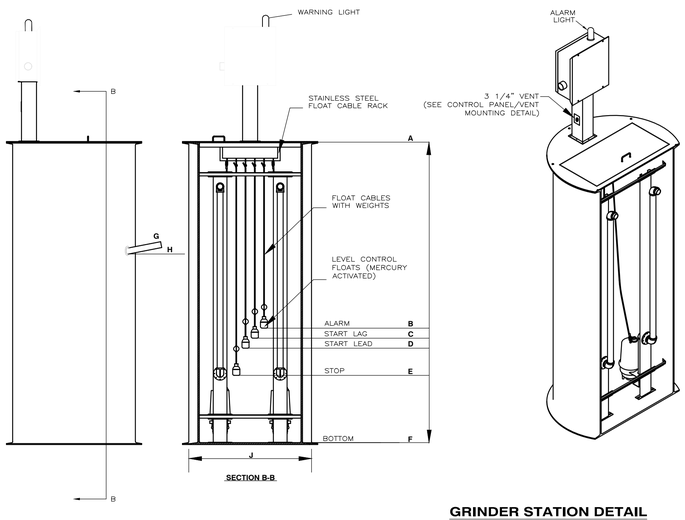
PUMP INFORMATION
MANUFACTURER: BARNES
TYPE: GRINDER
MODEL: SGV2022L
VOLTAGE: 240
PHASE: 1
HP / RPM: 2 / 3450
GPM: 25.00
TDH: 19.0
FORCE MAIN DIAMETER: 2"
✱IMPELLER DIAMETER: 3.25"

	WET WELL INFORMATION	
A	TOP ELEVATION :	18.00
B	HIGH LEVEL ALARM:	11.86
C	TURN ON LEVEL 2 PUMP:	11.36
D	TURN ON LEVEL 1 PUMP:	10.86
E	TURN OFF LEVEL:	10.19
F	INVERT ELEVATION:	8.19
G	INFLUENT DIAMETER:	4"
H	INFLUENT ELEVATION:	12.86
I	TOTAL DEPTH:	10.00'
J	WET WELL DIAMETER:	48"

NOTES: (1) ELECTRICAL SERVICE (VOLTAGE AND PHASE) MUST BE VERIFIED PRIOR TO ORDERING EQUIPMENT.
(2) WET WELL AND VALVE BOX MUST BE THE SAME DIAMETER.
✱12 VANE IMPELLER

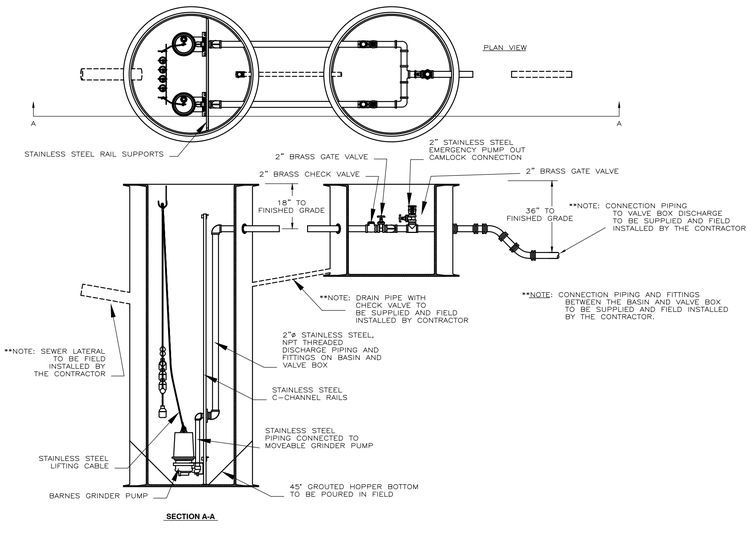
GENERAL NOTES:

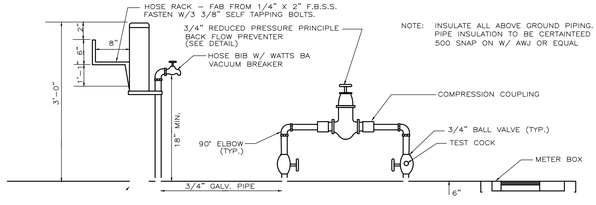
1. ALL EXPOSED METAL SHALL BE PAINTED WITH 2 COATS OF EXTERIOR ENAMEL PAINT.
2. WET WELL AND VALVE VAULT SHALL BE COATED WITH COAL TAR INSIDE AND OUT EXCEPT TOP SURFACE OF COVERS. (TWO COATS, 9 MILS EACH.)
3. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
4. VALVE VAULT SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES WITH MINIMUM CLEARANCES AS SHOWN FOR 6" DIAMETER PIPE AND SMALLER. CLEARANCES SHALL INCREASE AS REQUIRED FOR LARGER PIPE SIZES.
5. VALVE VAULT SHALL HAVE SEALED FLOOR AND DRAIN.
6. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON-SHRINK GROUT.
7. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN WET WELL.
8. WET WELL AND VALVE VAULT COVERS SHALL BE ALUMINUM WITH 316 S.S. HARDWARE AND LOCK BRACKET. SIZE AS REQUIRED BY PUMP MANUFACTURER AND APPROVED BY THE CITY.
9. FLEXIBLE COUPLING SHALL BE SLEEVE TYPE.
10. ALL HARDWARE IN WET WELL AND VALVE BOX TO BE STAINLESS STEEL.
11. CONTRACTOR WILL INSTALL A "P" TRAP BETWEEN EACH VAULT AND WET WELL.
12. THE CONTROL PANEL SHALL HAVE A PORTABLE POWER GENERATOR RECEPTACLE PER F.D.E.P. RULE 62-604.400.
13. THE CONTRACTOR SHALL PROVIDE CERTIFIED ENGINEERING CALCULATIONS TO VERIFY ADEQUATE BUOYANCY RESTRAINT OF WET WELL. DESIGN OF HIGH WATER TABLE SHOULD BE ASSUMED AT GRADE.
14. DUCTILE IRON PIPE AND FITTINGS SHALL HAVE A POLYETHYLENE LINING (40 MILS NOMINAL).



GRINDER STATION DETAIL

NOT TO SCALE





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HUTCHISON BLVD

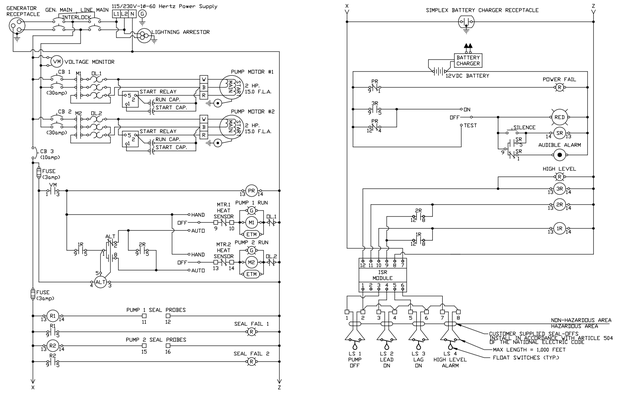
PANAMA CITY BEACH, FLORIDA

SHEET TITLE:

CONSTRUCTION DETAILS

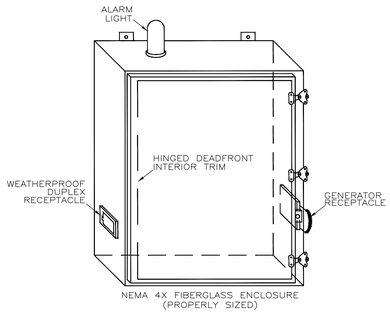
SHEET NUMBER:

C2.5

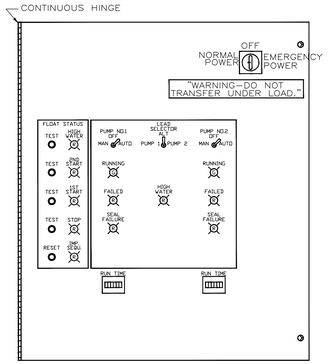


Notes:

1) LEVEL SWITCHES MUST BE RATED A MINIMUM OF 2 AMPS @ 120 VOLTS
2) TORQUE ALL WHITE FIELD WIRING TERMINALS TO 8 IN.LBS.
3) FIELD WIRING MUST BE 60°C COPPER WIRE MINIMUM.
4) ——— ITEMS NOT SUPPLIED IN PANEL
5) SURGE CAPACITOR TO BE INCLUDED.
6) MOTOR OVERLOAD PHASE PROTECTION TO BE INCLUDED.
7) LIGHTING ARRESTOR TO BE INCLUDED.



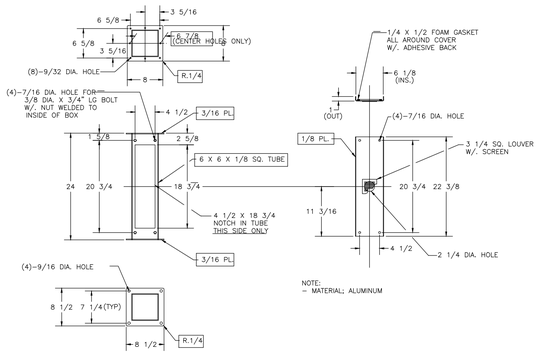
DUPLEX GRINDER LIFT STATION CONTROL PANEL
PHYSICAL LAYOUT



DUPLEX GRINDER LIFT STATION CONTROL PANEL
DEADFRONT DETAIL

GRINDER STATION CONTROL PANEL DETAIL

NOT TO SCALE



CONTROL PANEL/VENT MOUNTING DETAIL

NOT TO SCALE

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1				

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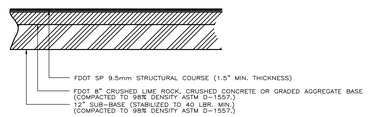
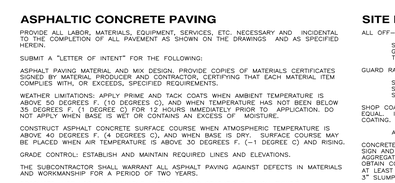
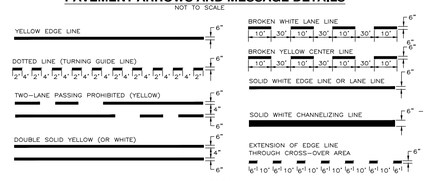
CONSTRUCTION DETAILS

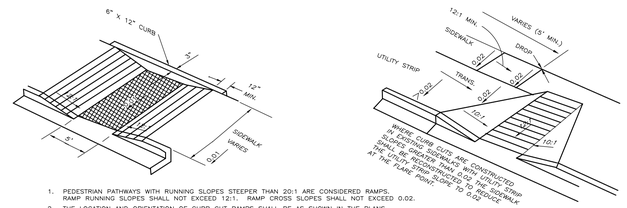
SHEET NUMBER:

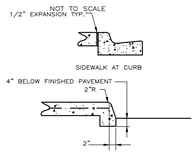
C2.6

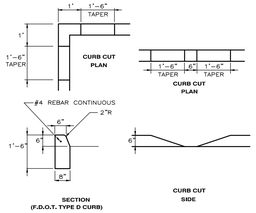


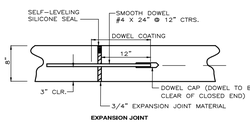


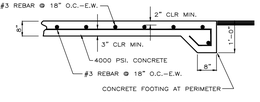


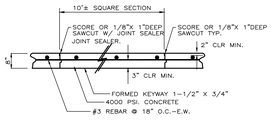


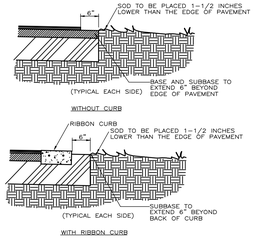


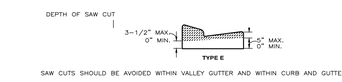


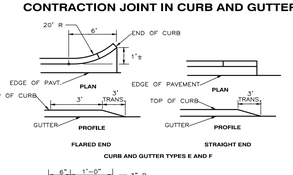


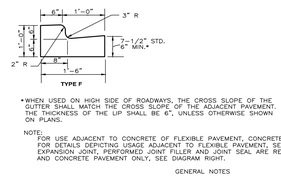


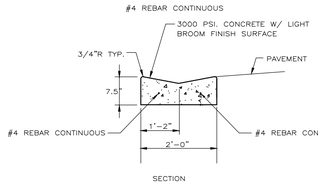


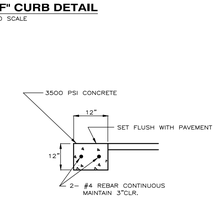


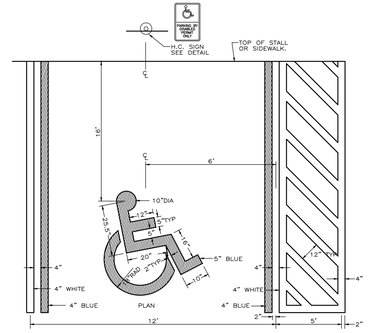


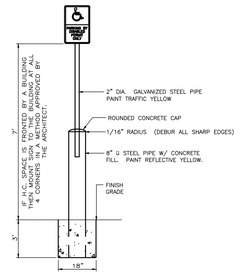


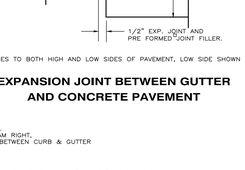


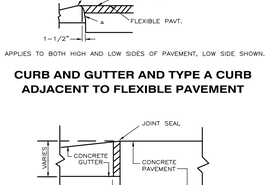












ASPHALTIC CONCRETE PAVING

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, ETC. NECESSARY AND INCIDENTAL TO THE COMPLETION OF ALL PAVEMENT AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

SUBMIT A "LETTER OF INTENT" FOR THE FOLLOWING:

ASPHALT PAVING MATERIAL AND MIX DESIGN. PROVIDE COPIES OF MATERIALS CERTIFICATES SIGNED BY MATERIAL PRODUCER AND CONTRACTOR, CERTIFYING THAT EACH MATERIAL ITEM COMPLIES WITH, OR EXCEEDS, SPECIFIED REQUIREMENTS.

WEATHER LIMITATIONS: APPLY PRIME AND TACK COATS WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEGREES F. (10 DEGREES C), AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEGREES F. (1 DEGREE C) FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION. DO NOT APPLY WHEN BASE IS WET OR CONTAINS AN EXCESS OF MOISTURE.

CONSTRUCT ASPHALT CONCRETE SURFACE COURSE WHEN ATMOSPHERIC TEMPERATURE IS ABOVE 40 DEGREES F. (4 DEGREES C), AND WHEN BASE IS DRY. SURFACE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30 DEGREES F. (–1 DEGREE C) AND RISING.

GRADE CONTROL: ESTABLISH AND MAINTAIN REQUIRED LINES AND ELEVATIONS.

THE SUBCONTRACTOR SHALL WARRANT ALL ASPHALT PAVING AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF TWO YEARS.

PRODUCTS: USE LOCALLY AVAILABLE MATERIALS AND GRADATIONS WHICH EXHIBIT A SATISFACTORY RECORD OF PREVIOUS INSTALLATIONS.

AGGREGATE: CRUSHED STONE, CRUSHED GRAVEL, AND SHARP–EDGED NATURAL SAND.

MAXIMUM AGGREGATE SIZE SHALL BE NO GREATER THAN ONE–HALF OF THE DESIGN THICKNESS OF THE WEARING OR BINDER COURSE.

SURFACE PREPARATION: PROOF ROLL PREPARED BASE SURFACE TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.

NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT BASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.

PRIME COAT: APPLY AT RATE OF 0.2 TO 0.5 GAL. PER SQ. YD., OVER COMPACTED BASE. APPLY MATERIAL TO PENETRATE AND SEAL, BUT NOT FLOOD SURFACE. CURE AND DRY AS LONG AS NECESSARY TO ATTAIN PENETRATION AND EVAPORATION OF VOLATILE.

TACK COAT: APPLY TO CONTACT SURFACE OF PREVIOUSLY CONSTRUCTED ASPHALT OR PORTLAND CEMENT CONCRETE AND SURFACES ABUTTING OR PROJECTING INTO ASPHALT CONCRETE PAVEMENT. DISTRIBUTE AT RATE OF 0.05 TO 0.51 GAL. PER SQ. YD. OF SURFACE.

ALLOW TO DRY UNTIL AT PROPER CONDITION TO RECEIVE PAVING.

ASPHALT CONCRETE MIX: THIS ITEM SHALL CONSIST OF A WEARING SURFACE CONSTRUCTED OF ASPHALTIC CONCRETE ON A PREPARED BASE.

THE MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THOSE SET FORTH FOR ASPHALTIC CONCRETE IN THE LATEST F.D.O.T. EDITION OF THE STANDARD SPECIFICATIONS.

THE ASPHALTIC CEMENT SHALL MEET THE REQUIREMENTS OF AASHTO SPECIFICATIONS M–20, VISCOSITY GRADE AC–20 (PENETRATION GRADE 60–70).

JOB MIX FORMULA: THE MARSHALL TESTING WILL BE USED IN ESTABLISHING THE JOB MIX FORMULA AND FOR CONTROL TESTING THROUGHOUT THE WORK.

THE DENSITY OF FIELD SAMPLES SHALL NOT BE LESS THAN 95% OF THE MARSHALL LABORATORY COMPACTED MIXTURE COMPOSED OF THE SAME MATERIALS IN LIKE PROPORTIONS.

THE THICKNESS OF THE SURFACE SHALL BE AS SPECIFIED IN THE SITE WORK PLANS. THIS REQUIREMENT SHALL BE CHECKED BY CORES AND WHERE A DEFICIENCY OF MORE THAN 1/4" EXISTS, THE CONTRACTOR SHALL BE REQUIRED TO CORRECT THE DEFICIENCY EITHER BY REPLACING THE FULL THICKNESS OR OVERLAYING THE AREAS TO THE SATISFACTION OF THE ENGINEER.

SAND ASPHALT BASE

PLACE ASPHALT CONCRETE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE–OFF. SPREAD MIXTURE AT MINIMUM TEMPERATURE OF 225 DEGREES F. (107 DEGREES C).

PLACE IN STRIPS NOT LESS THAN 10' WIDE, UNLESS OTHERWISE ACCEPTABLE TO THE ENGINEER. AFTER FIRST STRIP HAS BEEN PLACED AND ROLLED, PLACE SUCCEEDING STRIPS AND EXTENDED ROLLING TO OVERLAP PREVIOUS STRIPS. COMPLETE BASE COURSE FOR A SECTION BEFORE PLACING SURFACE COURSE.

MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS, OR BETWEEN SUCCESSIVE DAYS' WORK, TO ENSURE CONTINUOUS BOND BETWEEN ADJOINING WORK. CLEAN CONTACT SURFACES AND APPLY TACK COAT.

BEGIN ROLLING WHEN MIXTURE WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT.

ACCOMPLISH BREAKDOWN OR INITIAL ROLLING IMMEDIATELY FOLLOWING ROLLING OF JOINTS AND OUTSIDE EDGE. CHECK SURFACE AFTER BREAKDOWN ROLLING, AND REPAIR DISPLACED AREAS BY LOOSENING AND FILLING, IF REQUIRED, WITH HOT MATERIAL. CONTINUE SECOND ROLLING UNTIL MIXTURE HAS BEEN THOROUGHLY COMPACTED.

PERFORM FINISH ROLLING WHILE MIXTURE IS STILL WARM ENOUGH FOR REMOVAL OF ROLLER MARKS. CONTINUE ROLLING UNTIL ROLLER MARKS ARE ELIMINATED AND COURSE HAS ATTAINED MAXIMUM DENSITY. AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.

TEST IN–PLACE ASPHALT CONCRETE COURSES FOR PAVING AS DIRECTED BY ENGINEER FOR SMOOTHNESS.

THICKNESS: IN–PLACE COMPACTED THICKNESS WILL NOT BE ACCEPTABLE IF EXCEEDING FOLLOWING ALLOWABLE VARIATION FROM REQUIRED THICKNESS:

BASE COURSE: 1/2" PLUS OR MINUS
SURFACE COURSE: 1/4" PLUS OR MINUS

SURFACE SMOOTHNESS: TEST FINISHED SURFACE OF EACH ASPHALT CONCRETE COURSE FOR SMOOTHNESS, USING 10' STRAIGHT EDGE APPLIED PARALLEL WITH, AND AT RIGHT ANGLES TO CENTER OF PAVED AREAS. SURFACES WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS:

BASE COURSE SURFACE: 1/4"
WEARING COURSE SURFACE: 3/16"
CHECK SURFACED AREAS AT INTERVALS AS DIRECTED BY ENGINEER.

FIELD DENSITY AND SOIL BEARING CAPACITY TESTS SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER. PROVIDE INSPECTION, CERTIFICATION OF PAVEMENT CONSTRUCTION, FIELD TESTS AND CORE SAMPLES OF THE COMPLETE PAVEMENT CONSTRUCTION.

MISCELLANEOUS PAVEMENT

WORK INCLUDED CONSISTS OF BUT IS NOT LIMITED TO THE FOLLOWING:

CONCRETE SIDEWALKS, CURBS, CURB AND GUTTER, INCLUDING POROUS FILL.

CONCRETE LIGHT POLE BASES.

SUBMIT A "LETTER OF INTENT" FOR THE FOLLOWING:

CONCRETE MIX DESIGN.

THIS SUBCONTRACTOR SHALL WARRANT ALL ASPHALT PAVING AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF TWO (2) YEARS.

POROUS FILL SHALL BE CLEAN COARSE SAND, FREE DRAINING GRAVEL, OR CRUSHED ROCK ALL AS APPROVED BY THE GEOTECHNICAL ENGINEER.

POROUS FILL UNDER SIDEWALKS, ETC., SHALL BE GRADED BETWEEN 3/8" AND NO. 200 SIEVE.

POROUS FILL SHALL BE CAPABLE OF BEING COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM–1557.

STEEL REINFORCING BARS SHALL CONFORM TO "SPECIFICATIONS FOR DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT", ASTM A–615 GRADE NO. 60, HAVING A MINIMUM YIELD STRENGTH OF 60,000 PSI.

TIE WIRE SHALL BE BLACK ANNEALED WIRE, 16 GAUGE MINIMUM. BAR SUPPORTS SHALL CONFORM TO THE "BAR SUPPORT SPECIFICATIONS" CONTAINED IN "MANUAL OF STANDARD PRACTICE" AS PUBLISHED BY CRSI AND WCRSI. BAR SUPPORTS AND ACCESSORIES WITHIN 1/2" OF SURFACE OF CONCRETE EXPOSED TO WEATHER SHALL BE NON–CORROSIVE.

CEMENT SHALL BE GRAY PORTLAND CEMENT, TYPE I OR II, CONFORMING TO ASTM C–150 OR ASTM C–175 FOR AIR–ENTRAINING PORTLAND CEMENT.

CONCRETE AGGREGATES SHALL CONFORM TO ASTM C–33.

FINE AND COARSE AGGREGATES SHALL BE REGARDED AS SEPARATE INGREDIENTS AND EACH SHALL CONFORM TO THE APPROPRIATE GRADING REQUIREMENTS OF ASTM C–33.

AIR–ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C–260. EXPANSION JOINTS SHALL BE 1/2" THICK CANE FIBER EXPANSION JOINTS, CONFORMING TO ASTM D–1751.

EXPANSION JOINT SEALANT SHALL BE TRAFFIC GRADE, SELF LEVELING TREMCO THC–900" OR PERCORA CORPORATION "NF–200". COLOR SHALL BE BLACK. SHALL BE AS RECOMMENDED BY SEALANT MANUFACTURER. SELF–LEVELING SILICONE IS AN OPTION.

CURING COMPOUND SHALL BE CLEAR, CONFORMING TO ASTM C–309. CURING COMPOUND SHALL BE COMPATIBLE WITH PAINTS, ETC., SCHEDULED OR SPECIFIED FOR APPLICATION TO CONCRETE SURFACE.

ALL CONCRETE, UNLESS OTHERWISE NOTED, SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. MIX DESIGN SHALL BE SO PROPORTIONED TO PROVIDE A MINIMUM OF 517 POUNDS OF CEMENT PER CUBIC YARD.

ALL CONCRETE SHALL BE PROPORTIONED TO HAVE A SLUMP OF 4" MAXIMUM. TOLERANCE IN SLUMP SHALL NOT EXCEED ACI RECOMMENDATIONS.

READY–MIXED CONCRETE SHALL CONFORM TO ASTM C–94 AND THE NATIONAL READY MIX CONCRETE ASSOCIATION.

POROUS FILL SHALL BE LAID AND COMPACTED TO A MINIMUM DEPTH OF 3", UNLESS OTHERWISE INDICATED, UNDER ALL SIDEWALKS, ETC..

POROUS FILL SHALL BE COMPACTED TO NOT LESS THAN 95% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D–1557.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY ALL MATERIALS NECESSARY TO COMPLETE PAVING.

EDGE OF PAVEMENT DETAIL

NOT TO SCALE

SITE IMPROVEMENTS

ALL OFF–SITE WORK INCLUDED CONSISTS OF BUT IS NOT LIMITED TO THE FOLLOWING:

SITE RELATED FENCING.
GUARD POSTS, GUARD RAIL AND POSTS AND SIGN POSTS LOCATED ON THE SITE.
TRAFFIC CONTROL SIGNS. GUARD POSTS,

GUARD RAIL AND POSTS AND SIGN POSTS:

STEEL SHAPES SHALL CONFORM TO ASTM A–36.
STEEL PIPE SHALL CONFORM TO ASTM A–53, E OR S, TYPE B.
STEEL PIPE SHALL CONFORM TO ASTM A–501.

SHOP COAT SHALL BE RUST INHIBITING RED OXIDE, RED LEAD OR LEAD CHROMATE OR EQUAL. IT IS THE INTENT TO PERMIT THE USE OF THE FABRICATORS STANDARD PRIME COATING.

ASPHALT BASED COATING IS NOT PERMITTED.

CONCRETE FOR SETTING FENCE AND GUARD RAIL POSTS AND SETTING AND FILLING OF SIGN AND GUARD POSTS SHALL BE PORTLAND CEMENT COMPLYING WITH ASTM C–150, AGGREGATES COMPLYING WITH ASTM C–33, AND CLEAN WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI, USING AT LEAST 4 SACKS OF CEMENT PER CU. YD., 1" MAXIMUM SIZE AGGREGATES, MAXIMUM 3" SLUMP, AND 2% TO 4% ENTRAINED AIR. PREPARE TO CONFORM TO ASTM C–94

MISCELLANEOUS NOTES

THE CONTRACTOR IS CAUTIONED TO VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE PROJECT PRIOR TO BIDDING.

THE ENGINEER HAS ATTEMPTED TO LOCATE EXISTING STRUCTURES AND EXISTING UTILITIES IN THE PROJECT AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATIONS OF THESE STRUCTURES OR UTILITIES AND TO DETERMINE IF OTHER STRUCTURES OR UTILITIES WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION AND RELOCATION OF UTILITIES IN CONFLICT WITH NEW CONSTRUCTION BY APPROPRIATE UTILITY COMPANY.

THE CONTRACTOR SHALL PLACE AND MAINTAIN ADEQUATE BARRICADES, CONSTRUCTION SIGNS, FLASHING LIGHTS, TORCHES, RED LANTERNS AND GUARDS DURING PROGRESS OF CONSTRUCTION WORK IN ACCORDANCE WITH STATE STANDARDS AND UNTIL IT IS SAFE FOR BOTH PEDESTRIAN AND VEHICULAR TRAFFIC.

CONTRACTOR IS RESPONSIBLE FOR REPLACING EXISTING SURROUNDINGS (I.E., ASPHALT, SIDEWALKS, CURBS, ETC.) THAT ARE DAMAGED DURING CONSTRUCTION. REPLACEMENT SHALL MATCH EXISTING.

ALL SITE WORK MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

CONTRACTOR SHALL HAVE ALL PERMITS PRIOR TO CONSTRUCTION IN WETLANDS, COUNTY RIGHT OF WAY, ETC.

CONSTRUCTION PLANS ARE BASED ON FIELD SURVEY AND OTHER DATA AS SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL LOCATIONS OF NEW AND EXISTING CONNECTIONS NECESSARY TO COMPLETE THE INTENT OF THE PLANS. IN THE EVENT THERE IS A CONFLICT DUE TO UNFORESEEN OBSTRUCTIONS OR SHORT FALLS TO CONNECTIONS (WHICH DOES NOT MEET THE INTENT OF THE CONSTRUCTION PLANS). THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION. THE CONTRACTOR SHALL RELOCATE OR REMOVE OBSTACLES AS DIRECTED BY OWNER.

ASPHALTIC PAVEMENT DETAIL

NOT TO SCALE

CONSTRUCTION JOINTS MUST BE USED WHERE AN INCOMPLETE POUR IS MADE BETWEEN PLANNED EXPANSION JOINTS. THE MAXIMUM SQUARE MUST BE HALF THE DISTANCE BETWEEN EXPANSION JOINTS (SEE PLANS). WHERE A COMPLETE POUR IS MADE A SAW CUT OR SCORE SHALL BE PLACED IN LIEU OF CONSTRUCTION JOINTS.

CONCRETE BASE – FDOT 8" CRUSHED LIME ROCK, CRUSHED CONCRETE OR GRADED AGGREGATE BASE.
(COMPACTED TO 98% DENSITY ASTM D–1557.)

CONCRETE PAVEMENT SUBGRADE – CLEAN FINE SAND BEDDING COURSE WITH LESS THAN 12 PERCENT FINES (THROUGH A 200 SIEVE). A MINIMUM OF 18" OF FREE DRAINING SUBGRADE SOILS (COMPACTED TO 98% MODIFIED PROCTOR ASTM D–1557.

HEAVY DUTY CONCRETE PAVEMENT DETAIL

NOT TO SCALE

PAVEMENT ARROWS AND MESSAGE DETAILS

NOT TO SCALE

BASIC COLOR RULE

WHITE LINES SEPARATE FLOWS IN SAME DIRECTION
YELLOW LINES SEPARATE FLOWS IN OTHER OPPOSITE DIRECTION
YELLOW DOTTED LINES MAY BE USED IN SPECIAL CASES

TYPES OF PERMANENT LONGITUDINAL LINES

NOT TO SCALE

1. PEDESTRIAN PATHWAYS WITH RUNNING SLOPES STEEPER THAN 20:1 ARE CONSIDERED RAMPS. RAMP RUNNING SLOPES SHALL NOT EXCEED 12:1. RAMP CROSS SLOPES SHALL NOT EXCEED 0.02.
2. THE LOCATION AND ORIENTATION OF CURB CUT RAMPS SHALL BE AS SHOWN IN THE PLANS.
3. RAMPS RUNS SHALL HAVE A TACTILE SURFACE. RAMP LANDINGS ADJOINING VEHICULAR WAYS SHALL HAVE A TACTILE SURFACE 36" WIDE BORDERING THE VEHICULAR WAY. TACTILE SURFACES SHALL BE CONSTRUCTED BY TEXTURING TO A DEPTH NOT EXCEEDING 1/8" BY USE OF A TAMP OR ROLLER FABRICATED WITH AN IMPRINTING SURFACE OF EITHER 1" MESH 0.250 WIRE CLOTH (PLAIN WEAVE, CONVENTIONAL CRIMP), #6 EXPANDED METAL (STANDARD) OR 3 LB. EXPANDED METAL GRATING. TRANSITION SLOPES ARE NOT TO HAVE TACTILE SURFACES.
4. WHERE A CURB CUT RAMP IS CONSTRUCTED WITHIN EXISTING CURB, CURB AND GUTTER AND/OR SIDEWALK, THE EXISTING CURB OF CURB AND GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE DROP CURB OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB AND GUTTER IS LESS THAN 5' LONG. THE EXISTING SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE OR WALK AROUND OR TO THE EXTENT THAT NO REMAINING SECTION OF SIDEWALK IS LESS THAN 5' LONG.

HANDICAP RAMP DETAIL

NOT TO SCALE

CONCRETE SIDEWALK DETAIL

NOT TO SCALE

1/2" EXPANSION JOINT TO BE PLACED BETTWEEN ALL CONCRETE PAVEMENT AND CURBING AND SEALED WITH JOINT SEAL. CURB SHALL BE FORMED IN 20FT. SECTIONS OR LESS.

TYPE D CURB DETAIL

NOT TO SCALE

ITEM	TEST	TEST IDENTIFICATION	TEST REQUIREMENTS	TEST FREQUENCY
UTILITY TRENCH FILL & BACKFILL	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T–180 ASTM D–1557	N/A	PER SOIL TYPE
	FIELD DENSITY	AASHTO T–191, T–204 ASTM D–1556, D–2937	95% OF MAXIMUM DENSITY	ONE PER 500 LF HORIZONTAL OR ONE PER 750SY WITH A MINIMUM OF 3 TESTS, ALTERNATING LIFTS (12")
	GRADATION	AASHTO M–92	(15% PASSING NO. 200)	ONE PER SOIL TYPE
FILL & BACKFILL UNDER ROADWAYS AND STRUCTURES	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T–180 ASTM D–1557	N/A	PER SOIL TYPE
	FIELD DENSITY	AASHTO T–191, T–204, T–238 ASTM D–1556, D–2937, D–2922	98% OF MAXIMUM DENSITY	ONE PER 500 LF OR ONE PER 750SY WITH A MINIMUM OF 3 TESTS, ALTERNATING LIFTS (12")
	GRADATION	AASHTO M–92	(15% PASSING NO. 200)	ONE PER SOIL TYPE
SUBGRADE	BEARING VALUES	LBR–FDOT	40 (MIN.)	ONE PER SITE OR AT MATERIAL CHANGES
	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T–180 ASTM D–1557	N/A	PER SOIL TYPE
	FIELD DENSITY & THICKNESS	AASHTO T–191, T–204 ASTM D–1556, D–2937	98% OF MAXIMUM DENSITY	ONE PER 500 LF HORIZONTAL OR ONE PER 750SY WITH A MINIMUM OF 3 TESTS
BASE	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T–180 ASTM D–1557	N/A	ONE PER SOURCE OR AT MATERIAL CHANGES
	FIELD DENSITY & THICKNESS	AASHTO T–191, T–204 ASTM D–1556, D–2937	98% OF MAXIMUM DENSITY	ONE PER 500 LF HORIZONTAL OR ONE PER 750SY WITH A MINIMUM OF 3 TESTS
ASPHALT	MATERIALS QUALITY BITUMEN CONTENT & GRADATION	AASHTO T–164, T–30 ASTM D–2172	FDOT SPEC. 320, 330, 334 FDOT SPEC. 916	MIN. ONE PER DAY FOR GRADATION OR AS REQUIRED BY INSPECTOR
	FIELD DENSITY & THICKNESS	ASTM D–2950	95% OF LAB DENSITY	ONE PER 500 LF HORIZONTAL OR ONE PER 750SY WITH A MINIMUM OF 3 TESTS
CONCRETE (MISC. SITE WORK)	SLUMP TEST	AASHTO T–119 ASTM C–143	2" TO 3"	AS REQUIRED BY INSPECTOR OR ONE PER SET OF CYLINDERS
	COMPRESSIVE STRENGTH	AASHTO T–23 ASTM C–31	4000 PSI	ONE SET OF 3 CYLINDERS PER 50CY PER DAY
	AIR CONTENT	AASHTO T–199	3% TO 6%	ONE PER SET OF CYLINDERS

TESTING SCHEDULE

NOTE:
1. CONCRETE FOR SITE WORK INCLUDES BUT IS NOT LIMITED TO CURB, CURB & GUTTER, SIDEWALKS, CONCRETE PAVING, ETC.
2. THIS TEST SCHEDULE APPLIES TO SITE WORK ONLY. SEE ARCHITECT'S SPECIFICATIONS FOR FOUNDATION/BUILDING TESTING.

SAW CUTS SHOULD BE AVOIDED WITHIN VALLEY GUTTER AND WITHIN CURB AND GUTTER ENDINGS.

CONTRACTION JOINT IN CURB AND GUTTER

△ APPLIES TO BOTH HIGH AND LOW SIDES OF PAVEMENT, LOW SIDE SHOWN.

CURB AND GUTTER AND TYPE A CURB ADJACENT TO FLEXIBLE PAVEMENT

□ APPLIES TO BOTH HIGH AND LOW SIDES OF PAVEMENT, LOW SIDE SHOWN

EXPANSION JOINT BETWEEN GUTTER AND CONCRETE PAVEMENT

* WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.

NOTE:
FOR USE ADJACENT TO CONCRETE OF FLEXIBLE PAVEMENT, CONCRETE SHOWN.
FOR DETAILS DEPICTING USAGE ADJACENT TO FLEXIBLE PAVEMENT, SEE DIAGRAM RIGHT,
EXPANSION JOINT, PERFORMED JOINT FILLER AND JOINT SEAL ARE REQUIRED BETWEEN CURB & GUTTER AND CONCRETE PAVEMENT ONLY, SEE DIAGRAM RIGHT.

GENERAL NOTES

1. FOR CURB, GUTTER AND CURB AND GUTTER PROVIDE 1/8" – 1/4" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB AND GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
2. ENDS OF CURBS TYPES B AND D SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3 FEET.

MODIFIED TYPE "F" CURB DETAIL

NOT TO SCALE

1/2" EXPANSION JOINT TO BE PLACED BETWEEN ALL CONCRETE PAVEMENT AND TYPE V CURB AND SEALED WITH JOINT SEAL. CURB SHALL BE FORMED IN 20FT. SECTIONS OR LESS.

DROP CURB DETAIL

NOT TO SCALE

1/2" EXPANSION JOINT TO BE PLACED BETWEEN ALL CONCRETE PAVEMENT AND RIBBON CURBING AND SEALED WITH JOINT SEAL. CURB SHALL BE FORMED IN 20FT. SECTIONS OR LESS.

RIBBON CURB DETAIL

NOT TO SCALE

HANDICAP STRIPING DETAIL

NOT TO SCALE

H.C. SIGN POST DETAIL

NOT TO SCALE

REVISIONS:

NO.	DESCRIPTION	DRAWN	CHECKED	DATE
1				

PHASE:	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			05/10/23

JRA ARCHITECTS
2211 THOMAS DRIVE, SUITE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
COMMISSION NUMBER 21804

CONSULTANTS:

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731

PROJECT:

PANAMA CITY BEACH
FIRE STATION # 32
HUTCHISON BLVD

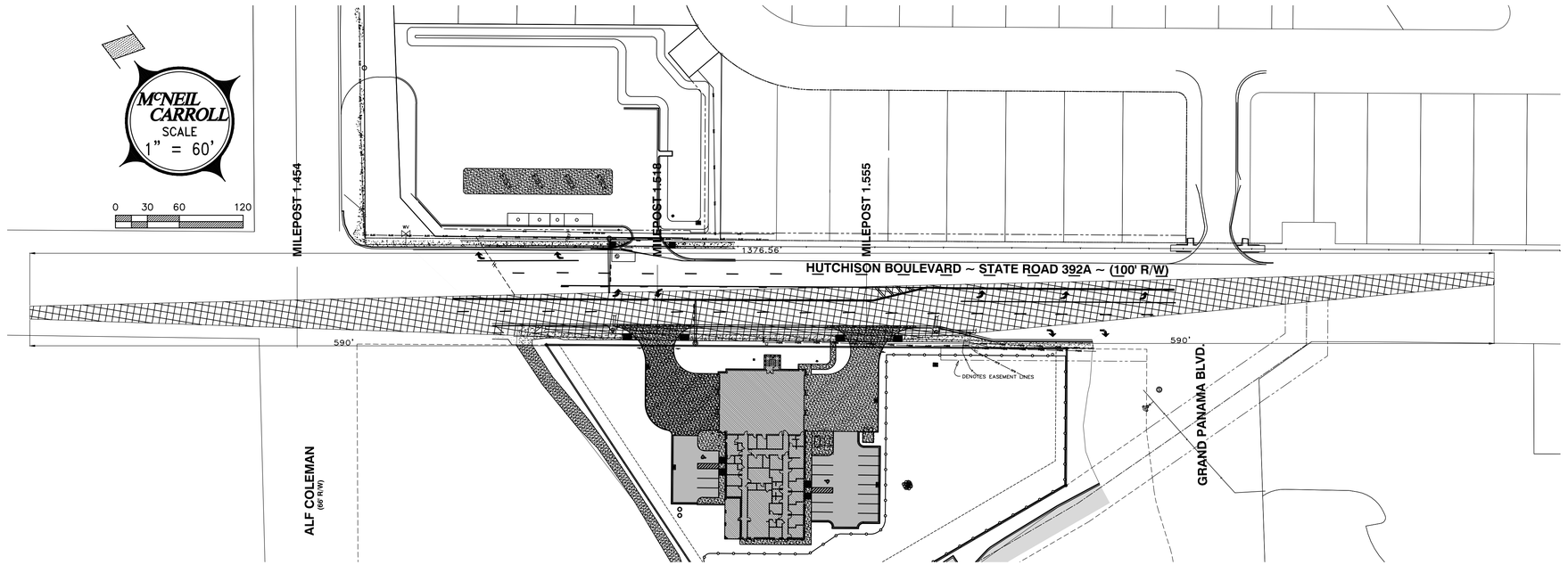
PANAMA CITY BEACH, FLORIDA

SHEET TITLE:

CONSTRUCTION DETAILS

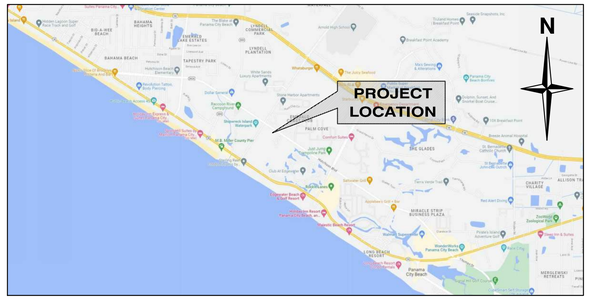
SHEET NUMBER:

C2.7



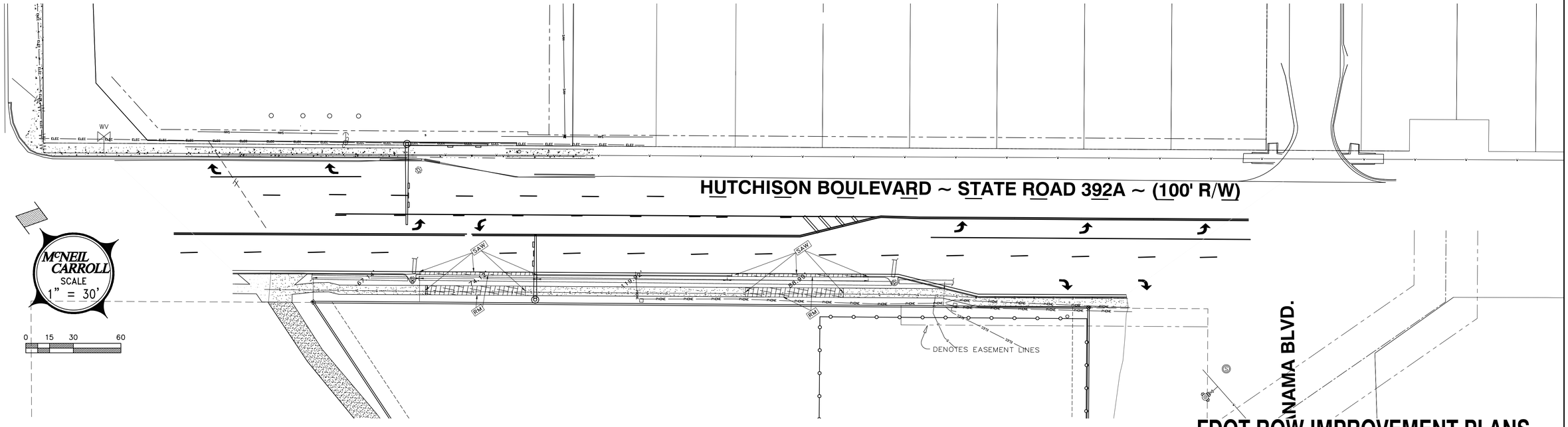
FDOT SIGHT DISTANCE TRIANGLE, AND MILEPOST PLAN

NOT TO SCALE



VICINITY MAP

NOT TO SCALE



FDOT SITE DEMOLITION PLAN

NOT TO SCALE

FDOT ROW IMPROVEMENT PLANS
BIDDING PURPOSES ONLY

NO.	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:
DESIGNED BY: RLC
DRAWN BY: BLR
REVIEWED BY: RLC
ISSUE DATE: 7/31/2023
CF/D: 245.44E01

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288

17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
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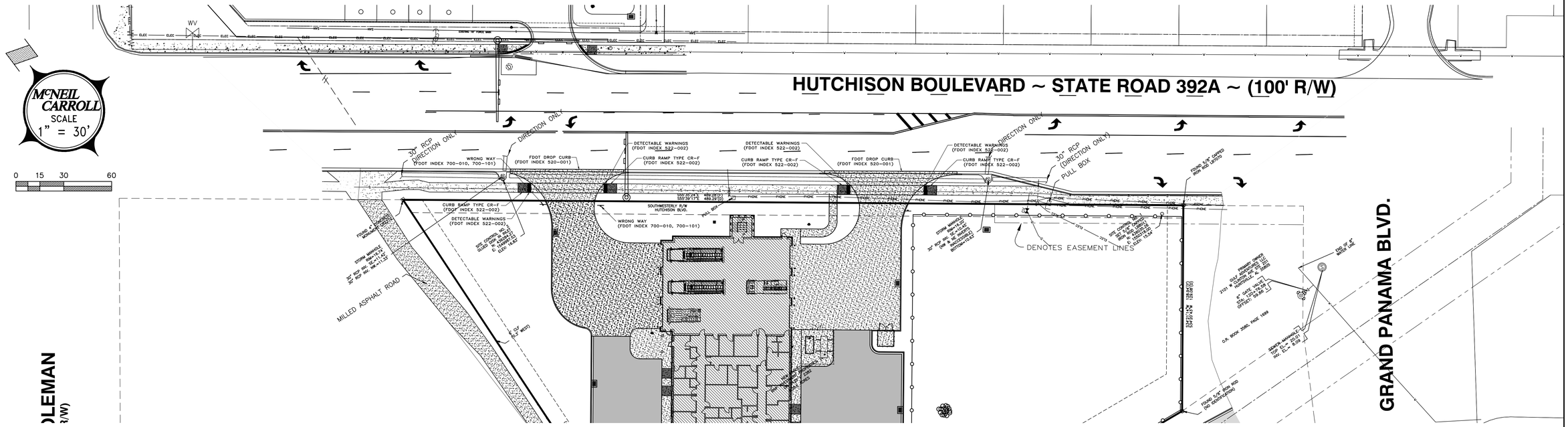
DESIGN CONNECTION PLAN
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

Sean D. McNeil, P.E.
PROFESSIONAL ENGINEER
FL LIC # 49303

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LIC # 57988

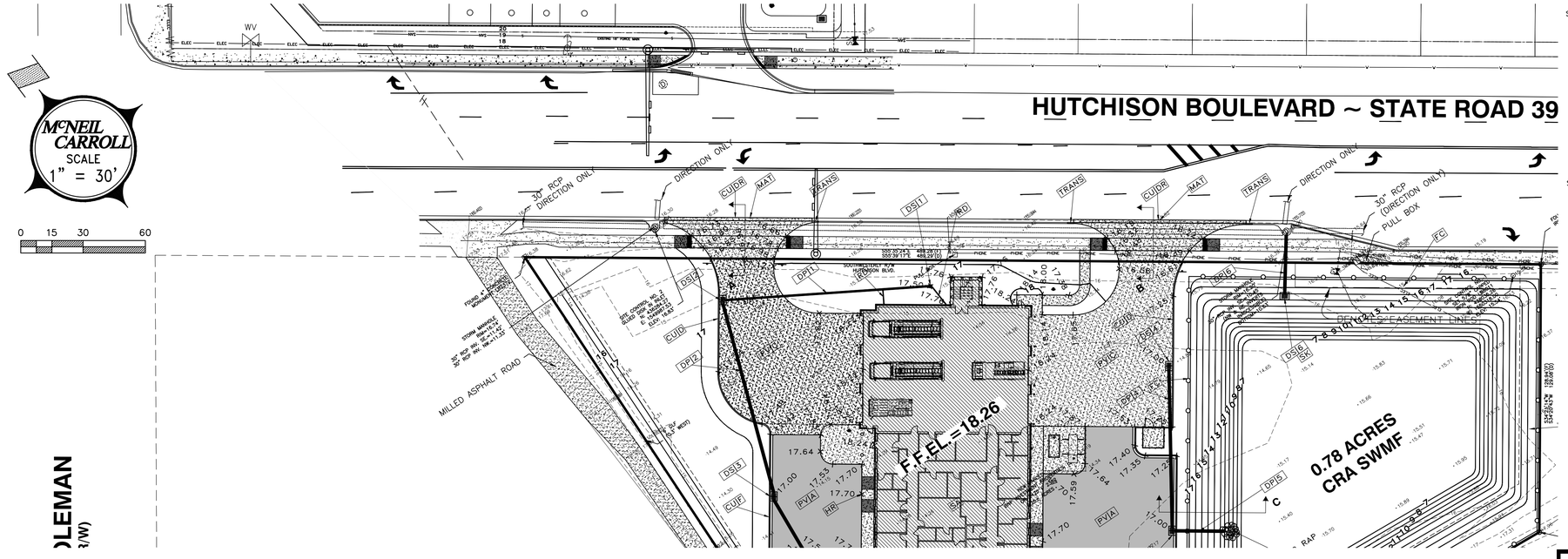
SHEET NUMBER
1 OF 8

245.44B - FIRE STATION



FDOT INDEX / SITE DIMENSIONAL PLAN

NOT TO SCALE



FDOT GRADING AND DRAINAGE PLAN

NOT TO SCALE

SITE GRADING AND DRAINAGE DRAWING NOTES:

1. SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
2. ALL DEMOLISHED MATERIALS (ie., SIGNS, CONCRETE, ASPHALT, ETC..) TO BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. ALL EXISTING MONITORING WELLS ARE NOT TO BE REMOVED. WELLS IN PAVEMENT SHALL HAVE A MANHOLE LID INSTALLED.
3. SEE SECTIONS IN CONSTRUCTION DETAILS.
4. ALL DRAINAGE PIPES TO BE DEDICATED TO THE CITY OF PANAMA CITY BEACH SHALL BE VIDEO RECORDED AND PLACED ON A DIGITAL MEDIA (NO TAPES). VIDEO MUST BE REVIEWED AND APPROVED BY THE CITY.
5. PROPOSED FINISHED FLOORS SHALL BE 1 FOOT (MIN.) ABOVE ROADWAY CENTERLINE.
6. CONTRACTOR SHALL PROVIDE McNEIL CARROLL ENGINEERING, INC. FIVE (5) SETS AND ONE (1) DIGITAL COPY (AUTOCAD FORMAT) OF AS-BUILT DRAWINGS OF THE COMPLETED PROJECT. DRAWINGS SHALL BE PREPARED AND SIGNED & SEALED BY A FLORIDA REGISTERED SURVEYOR.
7. IT IS THE CONTRACTORS RESPONSIBILITY TO CALL SUNSHINE ONE AT 811 FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.
8. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION AND SODDED PER FDOT INDEX 105.

SYMBOL LEGEND

34.60	(EXISTING SPOT ELEVATION)
36	(EXISTING CONTOUR)
+12.50	(PROPOSED FINISHED GRADE)
⟹	(STORMWATER SURFACE FLOW)
CSW	(CONCRETE SIDEWALK– SEE CONSTRUCTION DETAILS)
CUID	(F.D.O.T. CURB ie., TYPE F – SEE CONSTRUCTION DETAILS)
CUIF	(F.D.O.T. CURB ie., TYPE F – SEE CONSTRUCTION DETAILS)
CUDR	(F.D.O.T. CURB ie., TYPE F – SEE CONSTRUCTION DETAILS)
DP16	(SEE DRAINAGE PIPE SCHEDULE THIS SHEET ie.,#16)
DS12	(SEE DRAINAGE STRUCTURE SCHEDULE THIS SHEET ie.,#12)
FC	(CHAINLINK FENCE – SEE CONSTRUCTION DETAILS)
HR	(5' WIDE HANDICAP RAMP ie.,12:1 SLOPE)
PVIA	(ASPHALT PAVEMENT – SEE CONSTRUCTION DETAILS)
PVIC	(CONCRETE PAVEMENT – SEE CONSTRUCTION DETAILS)
MAT	(MATCH PROPOSED FLUSH WITH EXISTING SURFACE)
N11	(SEE NOTE ie.,#1 – SEE NOTES THIS SHEET)
RD	(ROOF DRAIN CONNECTION – SEE CONSTRUCTION DETAILS)
SA	(SEE ARCHITECTURAL PLANS)
SWMF11	(SEE STORM WATER MANAGEMENT FACILITY SCHEDULE THIS SHEET)
SK	(SKIMMER – SEE CONSTRUCTION DETAILS)
TRANS	(TRANSITION CURB 3')

FDOT ROW IMPROVEMENT PLANS
BIDDING PURPOSES ONLY

NO.	DATE	BY	REVISIONS

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DRAWN BY: BLR
REVIEWED BY: RLC
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Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288

17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
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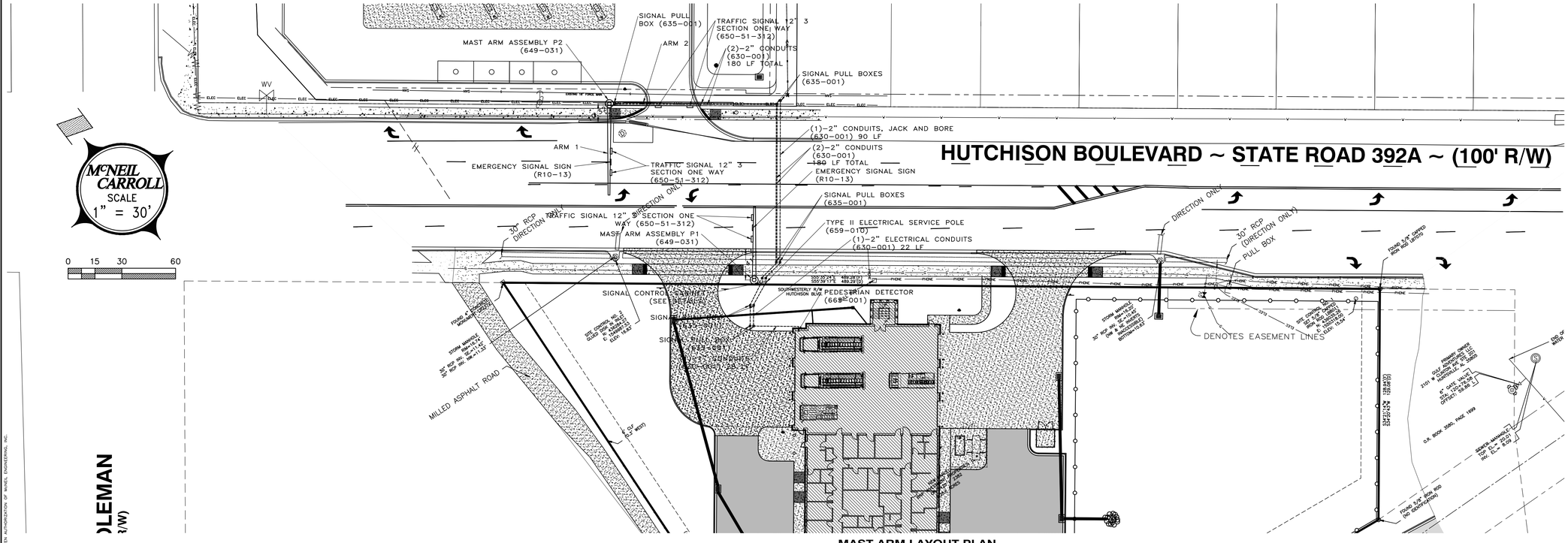
DESIGN CONNECTION PLAN
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

Sean D. McNeil, P.E.
PROFESSIONAL ENGINEER
FL LIC # 49303

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LIC # 57988

SHEET NUMBER
2 OF 8

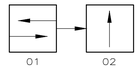
245.44B - FIRE STATION



MAST ARM LAYOUT PLAN
NOT TO SCALE

McNEIL CARROLL
SCALE
1" = 30'

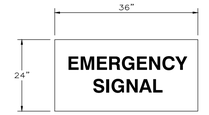
0 15 30 60



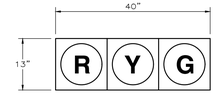
SIGNAL OPERATION PLAN 17 MODIFIED

NOTES

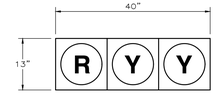
1. STATE ROAD 392A IS THE MAJOR STREET AND THE PCB FIRE DEPARTMENT DRIVEWAY IS THE MINOR STREET.
2. THE STANDARD SIGNAL OPERATION IS 17 MODIFIED.



EMERGENCY VEHICLE SIGNAGE (R10-13)
SCALE: NTS



SIGNAL HEAD DETAILS (650-51-312)
(FIRE STATION - NORTH BOUND)
SCALE: NTS



SIGNAL HEAD DETAILS (650-51-312)
(SR392A EAST & WESTBOUND)
SCALE: NTS

FDOT ROW IMPROVEMENT PLANS
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MAST ARM LAYOUT PLAN
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

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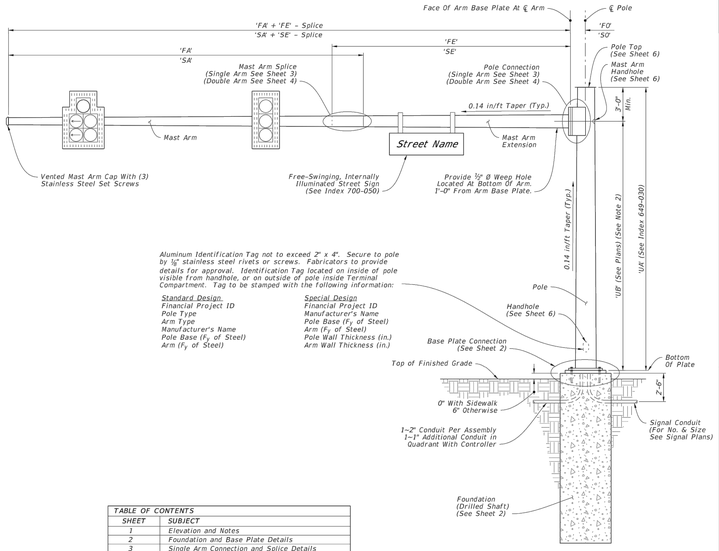
FL LIC # 57988

SHEET NUMBER
3 OF 8

245.44B - FIRE STATION

GENERAL NOTES:

1. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not detailed in the Plans.
2. Prior to Fabrication: Verify the installed foundation elevation will result in the required signal elevation and adjust the Pole height as needed.
3. Details for Signal and Sign locations, Signal Head attachment, Sign attachment, Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
4. Materials:
   A. Poles, Mast Arms and Backing Rings:
      a. Less than 3/16": ASTM A1011 Grade 50, 55, 60 or 65
      b. Greater than or equal to 3/16": ASTM A572 Grade 50, 55, 60 or 65
      c. ASTM A595 Grade A (55 ksi yield) or Grade B (60 ksi yield)
   B. Steel Plates: ASTM A36
   C. Weld Metal: E70XX
   D. Bolts, Nuts and Washers:
      a. High Strength Hex Head Bolts: ASTM F3125, Grade A325, Type 1
      b. Nuts: ASTM A563 DH Heavy-Hex
      c. Washers: ASTM F436 Type 1, one under turned element
   E. Anchor Bolts, Nuts and Washers:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A563 Grade A Heavy-Hex (5 per anchor bolt)
      c. Plate Washers: ASTM A36 (2 per bolt)
   F. Threaded Bars/Studs: ASTM A36 or ASTM A307
   G. Handhole Frame: ASTM A709 or ASTM A36, Grade 36
   H. Handhole Cover: ASTM A1011 Grade 50, 55, 60 or 65
   I. Pole Caps and Nut Covers: Fabricate from cast aluminum or galvanized carbon steel.
   J. Stainless Steel Screws: AISI Type 316
   K. Concrete: Class IV (Drilled Shaft) for all environmental classifications.
   L. Reinforcing Steel: Specification 415
5. Fabrication:
   A. Welding:
      a. Specification 460-6.4 and
      b. AASHTO LRFD Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals Section 14.4.4
   B. Poles and Mast Arms:
      a. Round or 12-sided (Min.)
      b. Taper pole diameter at 0.14 inches per foot
      c. Upright poles must be a single section. For arms and upright poles, circumferential welds and laminated sections are not permitted.
      d. Arms may be either one or two sections. See Sheet 4 for telescopic splice detail
      e. Fabricate longitudinal seam welds with 60 percent minimum penetration or fusion welds except:
         1. Use a full-penetration groove weld within 6 inches of the circumferential tube-to-plate connection.
         2. Use full-penetration groove welds on the female end section of telescopic (i.e., slip type) field splices for a minimum length of one and one-half times the inside diameter of the female section plus 6 inches.
      f. Locate longitudinal seams weld along the:
         1. Lower quadrant of the arms.
         2. Same side of the pole as the arm connections
      g. Face handhole perpendicular from arm on single arm poles, perpendicular from the first arm of double arms poles facing away from traffic or see special instructions on the Mast Arm Tabulation Sheet.
      h. Provide a 'J' or 'C' hook at the top of the pole for signal wiring support (See Sheet 6)
      i. First and Second arm camber angle = 2"
      j. Bolt holes diameters as follows:
         1. Bolts (except Anchor bolts): Bolt diameter plus 1/16" prior to galvanizing.
         2. Anchor Bolts: Bolt diameter plus 1/2" (Max.).
6. Coatings:
   A. All Nuts, Bolts, Washers and Threaded Bars/Studs: ASTM F2329
   B. All other steel items including plate washers ASTM A123
7. Construction:
   A. Foundation: Specification 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   B. Install Pole vertically.
   C. Place structural grout pad with drain between top of foundation and bottom of baseplate in accordance with Specification 649-7.
   D. Attach Sign Panels and Signals centered on the elevation of the Mast Arm.
   E. Wire Access holes are 1 1/2" or less in diameter.



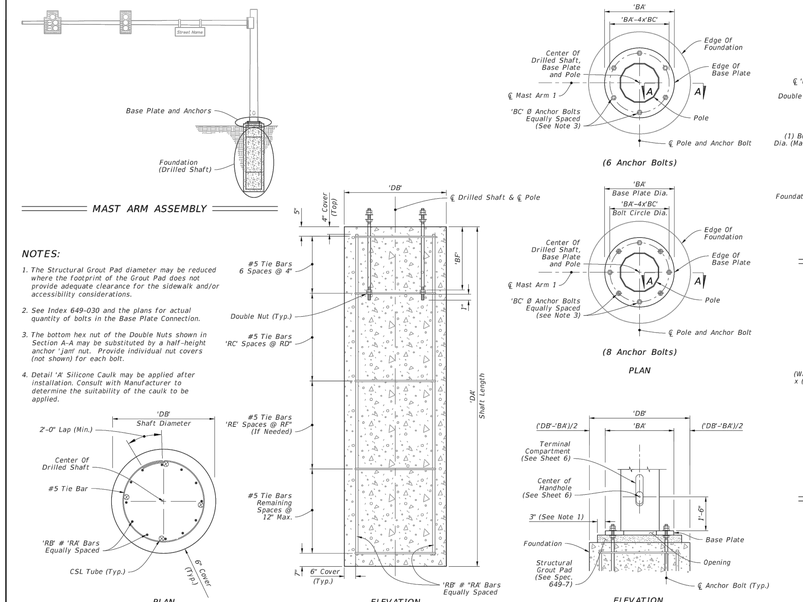
Single Arm Shown, Double Arm Similar (Luminaire Arm Not Shown)

MAST ARM ASSEMBLY

TABLE OF CONTENTS	
SHEET	SUBJECT
1	Elevation and Notes
2	Foundation and Base Plate Details
3	Single Arm Connection and Splice Details
4	Double Arm Connection and Splice Details
5	Luminaire Arm and Connection Details
6	Handhole and Pole Top Details

ELEVATION AND NOTES

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2023-24 STANDARD PLANS	MAST ARM ASSEMBLIES	INDEX	SHEET
11/01/21					649-031	1 of 6



NOTES:

1. The Structural Grout Pad diameter may be reduced where the footprint of the Grout Pad does not provide adequate clearance for the sidewalk and/or accessibility considerations.
2. See Index 649-030 and the plans for actual quantity of bolts in the Base Plate Connection.
3. The bottom hex nut of the Double Nuts shown in Section A-A may be substituted by a half-height anchor 'jam' nut. Provide individual nut covers (not shown) for each bolt.
4. Detail 'A' Silicone Caulk may be applied after installation. Consult with Manufacturer to determine the suitability of the caulk to be applied.

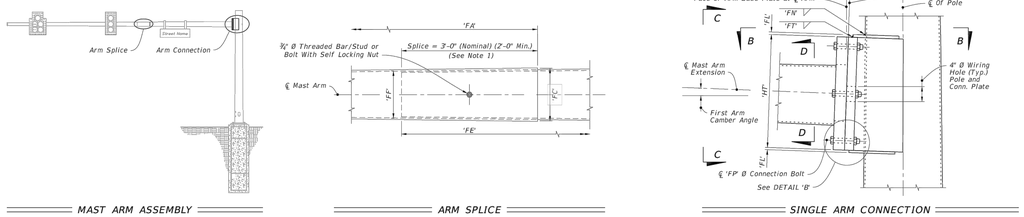
MAST ARM ASSEMBLY

FOUNDATION

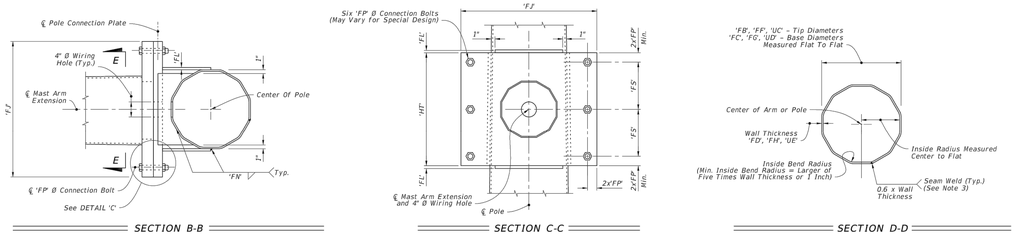
BASE PLATE CONNECTION

FOUNDATION AND BASE PLATE DETAILS

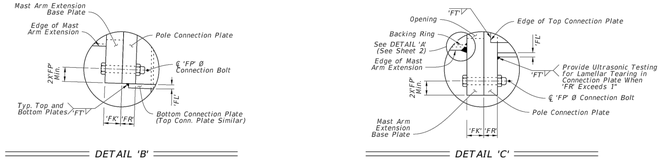
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	MAST ARM ASSEMBLIES	INDEX	SHEET
11/01/21					649-031	2 of 6



MAST ARM ASSEMBLY — ARM SPLICE — SINGLE ARM CONNECTION



SECTION B-B — SECTION C-C — SECTION D-D



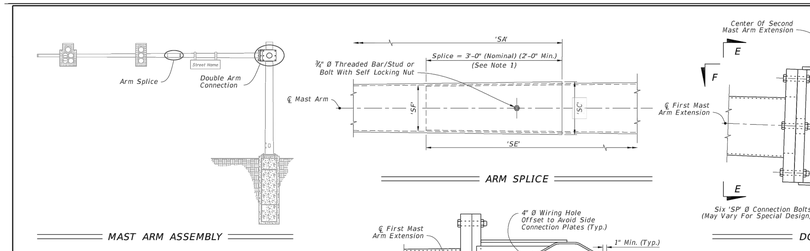
DETAIL 'B' — DETAIL 'C'

NOTE:

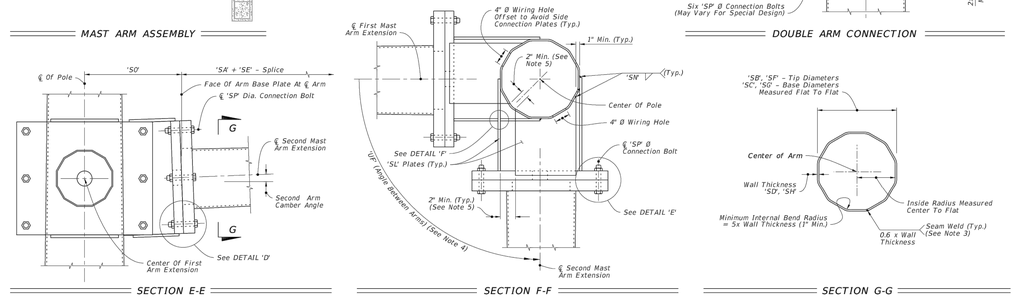
1. Install the 'Slip Joint' splice with a tight fit and no change in the Mast Arm taper due to the splice.
2. Details shown on this sheet are for 12 sided pole sections. However, sections with more than 12 sides and round sections are permitted provided outside diameter and wall thickness are not reduced.
3. Match mark the Arm and Connection Plates to ensure proper assembly and the seam weld is in the proper location (seam located at the bottom side of the Arm).

SINGLE ARM CONNECTIONS & SPLICE DETAILS

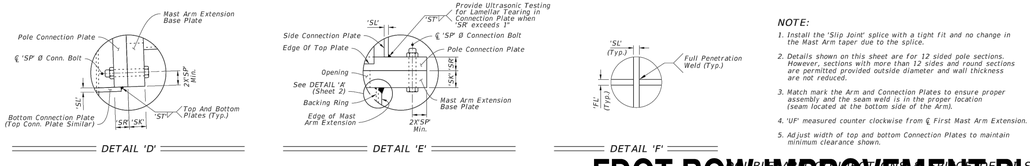
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	MAST ARM ASSEMBLIES	INDEX	SHEET
11/01/21					649-031	3 of 6



MAST ARM ASSEMBLY — ARM SPLICE — DOUBLE ARM CONNECTION



SECTION E-E — SECTION F-F — SECTION G-G



DETAIL 'D' — DETAIL 'E' — DETAIL 'F'

NOTE:

1. Install the 'Slip Joint' splice with a tight fit and no change in the Mast Arm taper due to the splice.
2. Details shown on this sheet are for 12 sided pole sections. However, sections with more than 12 sides and round sections are permitted provided outside diameter and wall thickness are not reduced.
3. Match mark the Arm and Connection Plates to ensure proper assembly and the seam weld is in the proper location (seam located at the bottom side of the Arm).
4. 'UF' measured counter clockwise from ℄ First Mast Arm Extension.
5. Adjust width of top and bottom Connection Plates to maintain minimum clearance shown.

DOUBLE ARM CONNECTION AND SPLICE DETAILS

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	MAST ARM ASSEMBLIES	INDEX	SHEET
11/01/21					649-031	4 of 6

NO.	DATE	BY	REVISIONS	SCALE:
				DESIGNED BY: RLC
				DRAWN BY: BLR
				REVIEWED BY: RLC
				ISSUE DATE: 7/31/2023
				CFD#: 245.44E01

NOT RELEASED FOR CONSTRUCTION BY: DATE:

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731

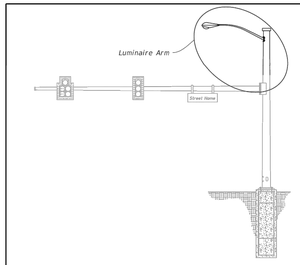
MAST ARM DETAILS
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

Sean D. McNeil, P.E.
PROFESSIONAL ENGINEER
FL LIC # 49303

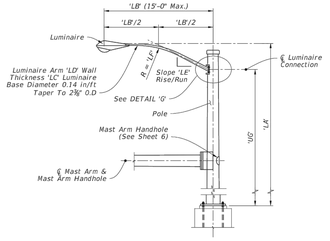
Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LIC # 57988

SHEET NUMBER 4 OF 8

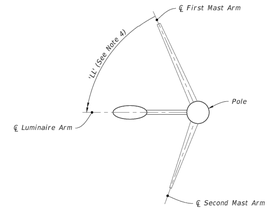
245.44B - FIRE STATION



MAST ARM ASSEMBLY



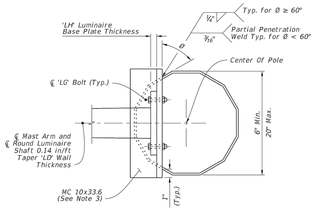
LUMINAIRE ELEVATION



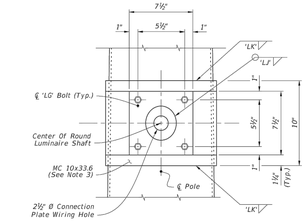
LUMINAIRE ORIENTATION

NOTES:

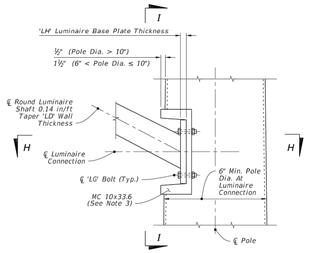
1. Galvanized steel luminaire type and luminaire length may be found in the Lighting Plans.
2. Align Luminaire Arm with Single Mast Arm or First Arm of Double Mast Arm unless indicated otherwise in the plans.
3. The fabricator may substitute a ½" thick bent plate with the same flange width, height, and length as the MC 10x33.6 Channel section.
4. 'LL' measure counter clockwise from First Mast Arm.



SECTION H-H



SECTION I-I

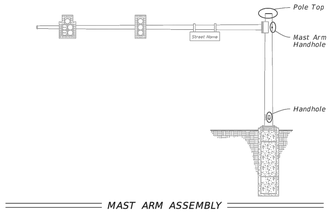


LUMINAIRE CONNECTION ELEVATION

DETAIL 'G'

LUMINAIRE ARM AND CONNECTION DETAILS

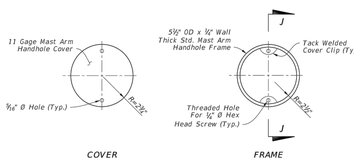
LAST REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	MAST ARM ASSEMBLIES	INDEX	SHEET
11/01/19	REVISION				649-031	5 of 6



MAST ARM ASSEMBLY

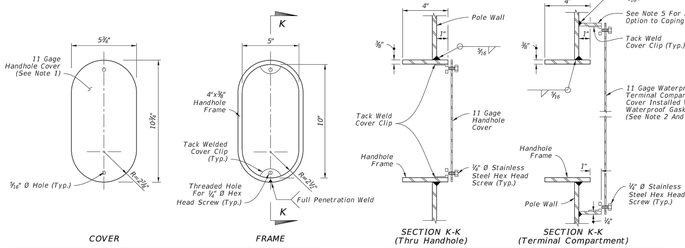
NOTES:

1. Handhole covers may be omitted when Terminal Compartment is provided.
2. See Mast Arm Tabulation sheet to see if Terminal Compartment is required and for locations.
3. Terminal Compartment Frame Height 2'-0" minimum to 2'-6" maximum. Align bottom of Terminal Compartment a minimum of 1" below the bottom of the Handhole Frame.
4. Any combination of Option 'a' or 'b' may be used, provided both lifting and wiring is accommodated. Cap may be flat plate or domed cap with set screws.
5. An alternate terminal compartment frame detail is allowed where the compartment frame is of constant depth and cuts into the pole at the frame top and bottom but lays flush with the pole on the frame sides. The frame is then welded to the pole using fillet welds all around the outside.



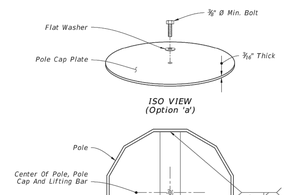
COVER FRAME SECTION J-J

MAST ARM HANDHOLE

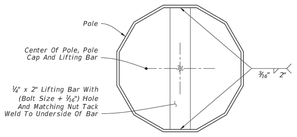


COVER FRAME SECTION K-K (Thru Handhole) SECTION K-K (Terminal Compartment)

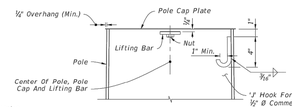
HANDHOLE



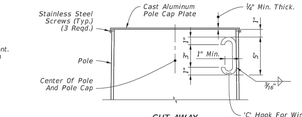
ISO VIEW (Option 'a')



TOP VIEW (Option 'a')



CUT-AWAY (Option 'a')

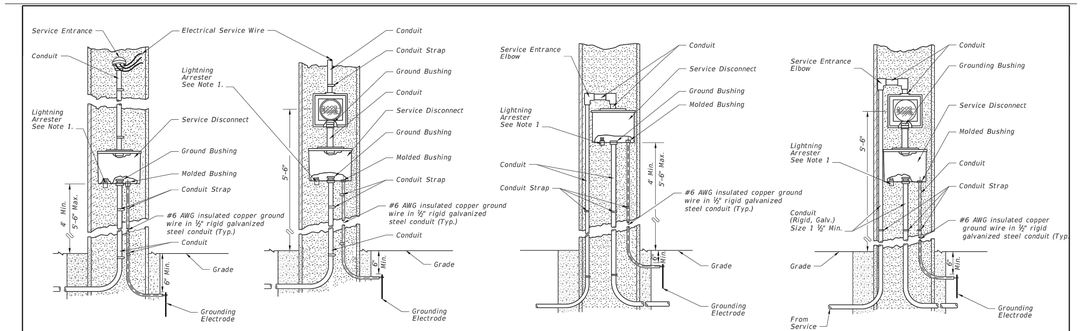


CUT-AWAY (Option 'b')

POLE TOP

HANDHOLE AND POLE TOP DETAILS

LAST REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	MAST ARM ASSEMBLIES	INDEX	SHEET
11/01/21	REVISION				649-031	6 of 6

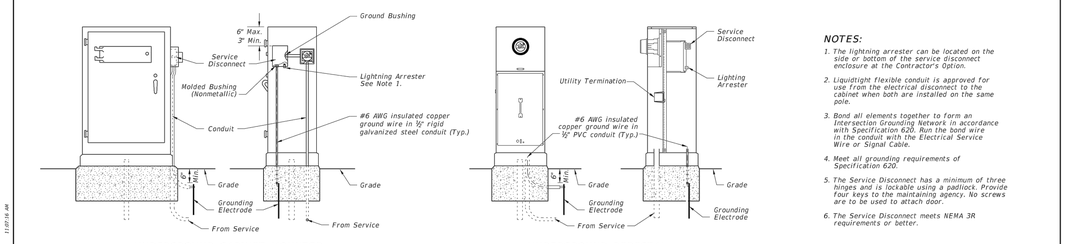


AERIAL FEED (NO METER USED) FIGURE A

AERIAL FEED (METER USED) FIGURE B

UNDERGROUND FEED (NO METER USED) FIGURE C

TYPE "B" UNDERGROUND FEED (METER USED) FIGURE D



UNDERGROUND CABINET MOUNTED (METER USED) FIGURE E

UNDERGROUND PEDESTAL MOUNTED METER FIGURE F

NOTES:

1. The lightning arrester can be located on the side or bottom of the service disconnect enclosure at the Contractor's Option.
2. Liquidtight flexible conduit is approved for use from the electrical disconnect to the cabinet when both are installed on the same pole.
3. Bond all elements together to form an Intersection Grounding Network in accordance with Specification 620. Run the bond wire in the conduit with the Electrical Service Wire or Signal Cable.
4. Meet all grounding requirements of Specification 620.
5. The Service Disconnect has a minimum of three hinges and is lockable using a padlock. Provide four keys to the maintaining agency. No screws are to be used to attach door.
6. The Service Disconnect meets NEMA 3R requirements or better.

LAST REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	ELECTRIC POWER SERVICE	INDEX	SHEET
11/01/20	REVISION				639-002	1 of 1

ARM AND BASE PLATE

Arm ID A=s-ArmLength S=SingleArm D=DoubleArm H=HeavyDuty	Total Arm Length (ft)	Arm FA/SA (ft)	Arm FC/SC (in)	Arm FD/SD (in)	Arm Extension FE/SE (ft)	Arm Extension FG/SG (in)	Arm Extension FH/SH (in)	Base Plate HT (in)	Base Plate FJ/SJ (in)	Base Plate FK/SK (in)
A30/S	30	30	11	0.250				22	25	3
A30/S/H		30	12	0.250						
A30/D		30	11	0.250				30	36	
A30/D/H		30	12	0.250						
A40/S	40	40	13	0.250				22	27	3
A40/S/H		40	14	0.250						
A40/D		40	13	0.250				30	36	
A40/D/H		40	14	0.250						
A50/S	50	32.5	12	0.250	20.5	14	0.313	22	29	3
A50/S/H		32.5	13	0.250	20.5	15				
A50/D		32.5	12	0.250	20.5	14		30	36	
A50/D/H		32.5	13	0.250	20.5	15				
A60/S	60	35.5	12	0.250	27.5	15	0.375	30	36	3
A60/S/H		35.5	13	0.250	27.5	16				
A60/D		35.5	12	0.250	27.5	15				
A60/D/H		35.5	13	0.250	27.5	16				
A70/S	70	38	13	0.250	35	17	0.375	30	36	3
A70/S/H		38	14	0.250	35	18				
A70/D		38	13	0.250	35	17				
A70/D/H		38	14	0.250	35	18				
A78/S	78	39	13	0.250	42	18	0.375	30	36	3
A78/S/H		39	15	0.250	42	20				
A78/D		39	13	0.250	42	18				
A78/D/H		39	15	0.250	42	20				

POLE, BASE PLATE AND ARM CONNECTION

Pole ID P=-PoleNo S=SingleArm D=DoubleArm L=Luminaire	Upright UA (ft)	Upright UD (in)	Upright UE (in)	Upright UG (ft)	Base Plate No. Bolts	Base Plate BA (in)	Base Plate BB (in)	Base Plate BC (in)	Base Plate BF (in)	Arm-Upright Connection HT (in)	Arm-Upright Connection FJ/SJ (in)	Arm-Upright Connection FL/SL (in)	Arm-Upright Connection FN/SN (in)	Arm-Upright Connection FO/SO (in)	Arm-Upright Connection FP/SP (in)	Arm-Upright Connection FR/SR (in)	Arm-Upright Connection FS/SS (in)	Arm-Upright Connection FT/ST (in)
P1/S	25	16	0.375	37.5	6	32	2.5	2	40	22	25	0.75	0.438	14	1.25	2	8.5	0.438
P1/S/L	39									30	36			23		2.75	12.5	
P1/D	25																	
P1/D/L	39																	
P2/S	25	18	0.375	37.5	6	34	2.5	2	40	22	27	0.75	0.438	15	1.25	2	8.5	0.438
P2/S/L	39									30	36			23		2.75	12.5	
P2/D	25																	
P2/D/L	39																	
P3/S	25	20	0.375	37.5	6	36	2.5	2	40	22	29	0.75	0.438	16	1.25	2	8.5	0.438
P3/S/L	39									30	36			23		2.75	12.5	
P3/D	25																	
P3/D/L	39																	
P4/S	25	22	0.375	37.5	8	38	2.5	2	40	30	36	0.75	0.438	17	1.25	2.5	12.5	0.438
P4/S/L	39													23				
P4/D	25																	
P4/D/L	39																	
P5/S	25	24	0.375	37.5	8	40	2.5	2	40	30	36	0.75	0.5	18	1.25	2.5	12.5	0.5
P5/S/L	39													23				
P5/D	25																	
P5/D/L	39																	
P6/S	25	24	0.5	37.5	8	40	2.5	2	40	30	36	0.75	0.625	18	1.5	2.5	12	0.625
P6/S/L	39													23				
P6/D	25																	
P6/D/L	39																	
P7/S	25	26	0.5	37.5	8	42	2.5	2	40	30	36	0.75	0.625	19	1.5	2.5	12	0.625
P7/S/L	39													23				
P7/D	25																	
P7/D/L	39																	

NOTE:

1. Work this Index with Index 649-031.

DRILLED SHAFT

Drilled Shaft ID	DA (ft)	DB (ft)	RA	RB	RC	RD (in)	RE	RF (in)
DS/12/4.0	12	4.0	11	14	8	12		
DS/12/4.5	12	4.5	11	16	8	12		
DS/14/4.5	14	4.5	11	16	10	8		
DS/14/5.0	14	5.0	11	18	10	8		
DS/16/4.5	16	4.5	11	16	10	8		
DS/16/5.0	16	5.0	11	18	10	8		
DS/18/5.0	18	5.0	11	18	10	8		
DS/20/5.0	20	5.0	11	18	10	6	10	9
DS/25/5.0	25	5.0	11	18	10	6	10	9

LUMINAIRE AND CONNECTION

LA (ft)	LB (ft)	LC (in)	LD (in)	LE	LF (ft)	LG (in)	LH (in)	LJ (in)	LK (in)	LL (deg)	UG (ft)
40	10	3	0.125	0.5	8	0.5	0.75	0.25	0.25	0	37.5

LAST REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	STANDARD MAST ARM DETAILS	INDEX	SHEET
11/01/20	REVISION				649-030	1 of 1

NO.	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:
DESIGNED BY: RLC
DRAWN BY: BLR
REVIEWED BY: RLC
ISSUE DATE: 7/31/2023
CF/D: 245.44E01

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731

MAST ARM DETAILS
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

Sean D. McNeil, P.E.
PROFESSIONAL ENGINEER
FL LIC # 49303

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LIC # 57988

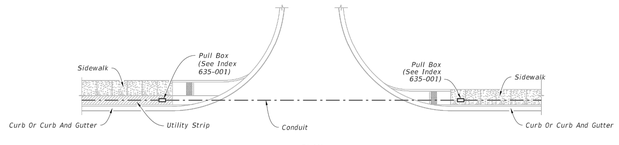
SHEET NUMBER 5 OF 8

245.44B - FIRE STATION

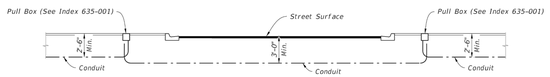
GENERAL NOTES:

1. Install conduit in accordance with Specification 630.
2. When sidewalk is damaged by conduit installation, replace entire sidewalk slab.
3. Trench not to be open more than 250' at a time when construction area is subject to vehicular or pedestrian traffic.
4. Sawcut asphalt at the edges of the trench to leave neat lines.
5. Provide route marker and route marker label in accordance with Specification 630.

ROUTE MARKER DETAIL

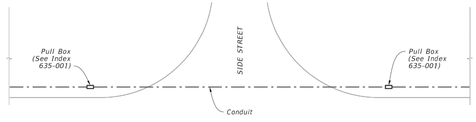


PLAN



ELEVATION

CURB AND GUTTER



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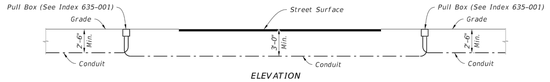
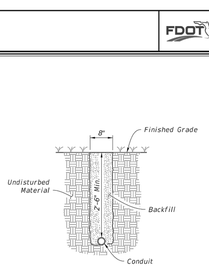
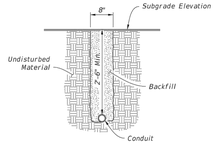


ELEVATION

FLUSH SHOULDER



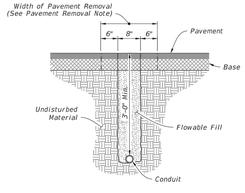
PLACEMENT NOT EXPOSED TO VEHICULAR TRAFFIC



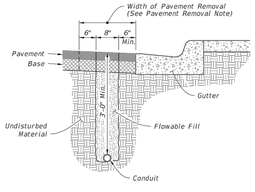
PLACEMENT UNDER NEW ROADWAY PRIOR TO INSTALLATION OF BASE AND PAVEMENT

NOTES:

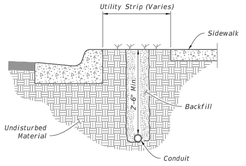
1. Pavement Removal: The removal and replacement of the additional pavement width (i.e., 6" Width either side of trench) will not be required when the trench can be constructed without disturbing the asphalt surface on either side.
2. Placement Under Existing Pavement: Place conduit prior to installation of base and pavement, unless otherwise shown in the Plans or approved by the Engineer.



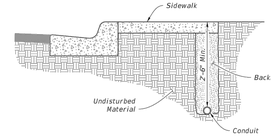
PLACEMENT UNDER EXISTING PAVEMENT NOT ADJACENT TO GUTTER



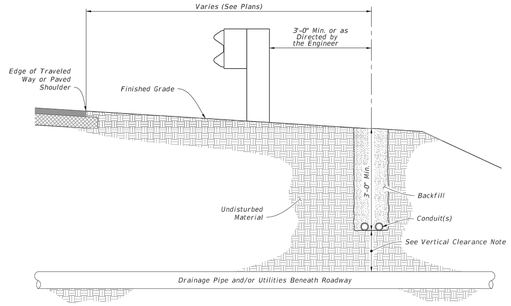
PLACEMENT UNDER EXISTING PAVEMENT ADJACENT TO GUTTER



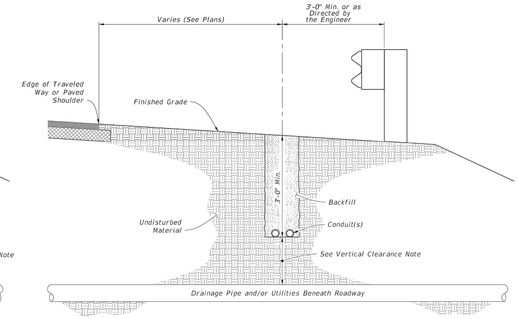
PLACEMENT WITHIN THE UTILITY STRIP



PLACEMENT UNDER SIDEWALK



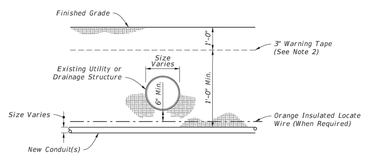
PLACEMENT BEHIND GUARDRAIL



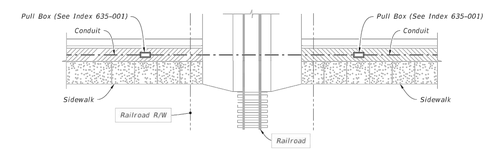
PLACEMENT IN FRONT OF GUARDRAIL

VERTICAL CLEARANCE NOTE:

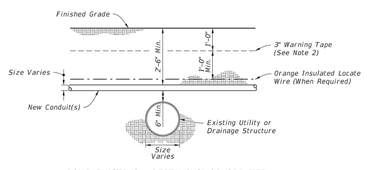
Maintain 1'-0" minimum vertical clearance when crossing over pipe and or utilities. If minimum vertical clearance cannot be maintained, conduit is to be routed under pipe maintaining 1'-0" minimum vertical clearance.



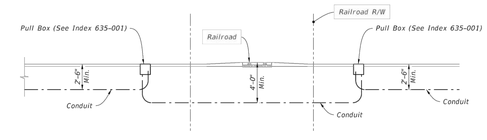
BELOW EXISTING



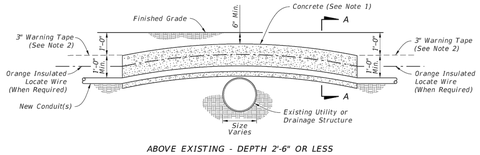
PLAN



ABOVE EXISTING - DEPTH 2'-6" OR GREATER



PLACEMENT UNDER RAILROAD

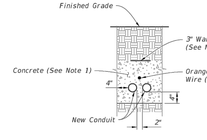


ABOVE EXISTING - DEPTH 2'-6" OR LESS

PLACEMENT ACROSS EXISTING DRAINAGE PIPES OR UTILITIES

NOTES:

1. Where conduits are to be installed over existing underground structures (e.g., drainage pipes or utility lines) which are less than 2'-6" deep, encase the conduit in Class NS concrete for the entire length of conduit that is installed at a depth of less than 2'-6".
2. Place 3" Warning Tape when new conduit is installed at a depth of 1'-6" or greater, and the new conduit is not encased in concrete.



SECTION A-A

NO.	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:
DESIGNED BY: RLC
DRAWN BY: BLR
REVIEWED BY: RLC
ISSUE DATE: 7/31/2023
CF/D: 245.44E01

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288

17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731

CONDUIT INSTALLATION DETAILS
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

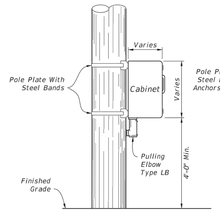
Sean D. McNeil, P.E.
PROFESSIONAL ENGINEER
FL LIC # 49303

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LIC # 57988

SHEET NUMBER 6 OF 8

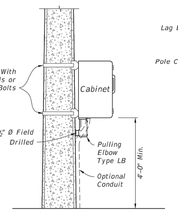
245.44B - FIRE STATION

FDOT ROW IMPROVEMENT PLANS
BIDDING PURPOSES ONLY



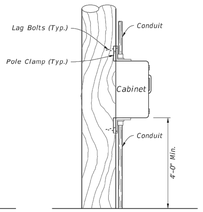
SIDE ELEVATION

METAL POLE



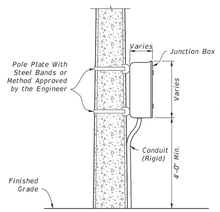
SIDE ELEVATION

CONCRETE POLE



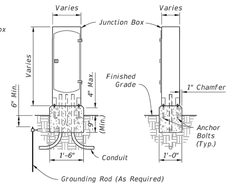
SIDE ELEVATION

WOOD POLE



SIDE ELEVATION

POLE MOUNTED



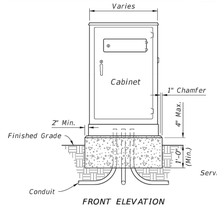
FRONT ELEVATION SIDE ELEVATION

GROUND MOUNTED

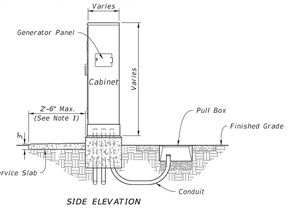
NOTES:

1. If cabinet mounting requires relocation of hole in concrete pole, fill existing hole with concrete or cover with a noncorrosive cover plate.
2. Liquidtight flexible conduit is approved for use from the electrical disconnect to the cabinet when both are installed on the same pole.

POLE MOUNTED CONTROLLER CABINET



FRONT ELEVATION



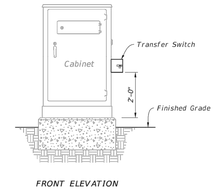
SIDE ELEVATION

NOTES:

1. Service Slab: slope ¼" to 1" for drainage. Not required in sidewalk, pavement areas, or where R/W is restricted.
2. The number, size and orientation of conduit sweep will vary according to site condition or locations. Provided two spare 2" PVC conduits in all bases. Place the exits of the spare conduits in the direction of the center rear of the cabinet base and into a pullbox. If obstructions prevent the spare conduit from exiting to the rear, or the rear of the cabinet is located on the R/W line, locate as directed by the Engineer. Cap all spare conduit sweeps with a weatherproof fitting.

NEW CONTROLLER CABINET

INTERCONNECT JUNCTION BOX

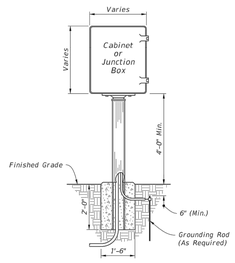


FRONT ELEVATION

NOTES:

1. Retrofit existing controller cabinets in accordance with Specification 678.
2. Retrofit installation procedure for signalized intersection controller cabinet are located at: http://www.fdot.gov/Traffic/Doc_Library/Doc_Library.shtm Generator Power for Signalized Intersection

EXISTING CONTROLLER CABINET



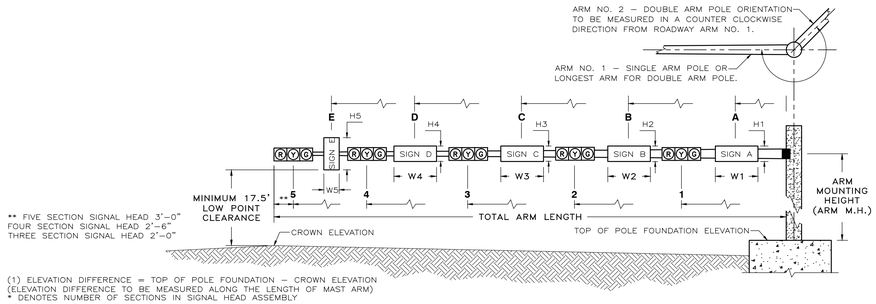
FRONT ELEVATION

GROUND MOUNTED CONTROLLER CABINET

PEDESTAL MOUNTED CABINET

LAST REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	CABINET INSTALLATION DETAILS	INDEX	SHEET
11/01/18	REVISION				676-010	1 of 1

9/22/2021 12:38:30 PM



ID NO.	LOCATION BY M.P.	RDWY ARM NO.	(1) ELEVATION DIFFERENCE	SIGNAL DATA: SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	DISTANCE FROM POLE: 1	*	2	*	3	*	4	*	5	*	TOTAL ARM LENGTH	ARM M.H.	∠ BETWEEN DUAL ARMS 90/270	SIGN DATA: DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN: A	H1	W1	B	H2	W2	C	H3	W3	D	H4	W4	E	H5	W5	TOP OF POLE FOUNDATION
P1	1.525	1	0.50	H	Y	N	21'-6"	3	33'-6"	–	––	–	––	–	––	–	40'	22.0	––	––	––	––	27.5'	24"	36"	––	––	––	––	––	––	––	––	––	––	17.00
	––	––	––	––	––	––	––	*	––	*	––	*	––	*	––	*	––	––		––	––	––	––	––	––	––	––	––	––	––	––	––	––	––	––	
P2	1.509	1	0.00	H	Y	N	25'-6"	3	37'-6"	–	––	–	––	–	––	–	50'	22.0	90°	––	––	––	31.5'	24"	36"	––	––	––	––	––	––	––	––	––	––	17.50
		2	0.00	H	Y	N	26'-6"	3	43'-6"	–	––	–	––	–	––	–	50'	22.0		––	––	––	––	––	––	––	––	––	––	––	––	––	––	––	––	––	

MAST ARM TABULATION

FDOT ROW IMPROVEMENT PLANS
BIDDING PURPOSES ONLY

NO.	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:
DESIGNED BY: RLC
DRAWN BY: BLR
REVIEWED BY: RLC
ISSUE DATE: 7/31/2023
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McNEIL CARROLL ENGINEERING, INC.
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STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
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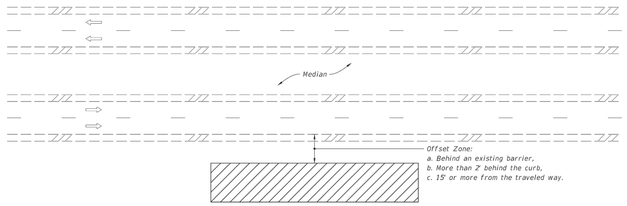
CONDUIT INSTALLATION DETAILS
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

Sean D. McNeil, P.E.
PROFESSIONAL ENGINEER
FL LIC # 49303

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LIC # 57988

SHEET NUMBER 7 OF 8

245.44B - FIRE STATION



MULTILANE ROADWAY SHOWN, TWO-LANE ROADWAY SIMILAR

NOTES:

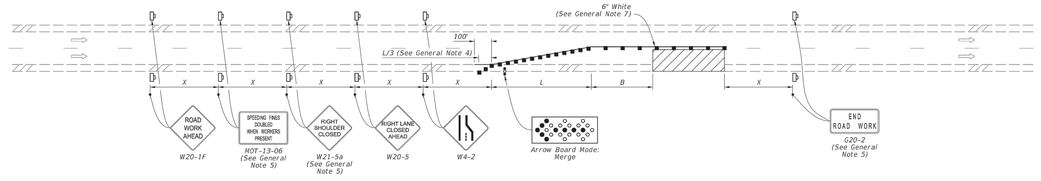
1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work beyond the shoulder.
2. Use Index 102-602 when the work operation (excluding establishing and terminating the work area) requires that two or more work vehicles cross the Offset Zone in any one hour period.
3. Use Index 102-660 when Work Area encroaches a Sidewalk.

SYMBOLS:

- Work Area
- Lane Identification and Direction of Traffic

10:13:58 AM
6/29/2021

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	TWO-LANE AND MULTILANE ROADWAY, WORK BEYOND THE SHOULDER	INDEX	SHEET
11/01/20						102-601	1 of 1



SINGLE LANE CLOSURE

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Arrow Board
- Lane Identification and Direction of Traffic

GENERAL NOTE:

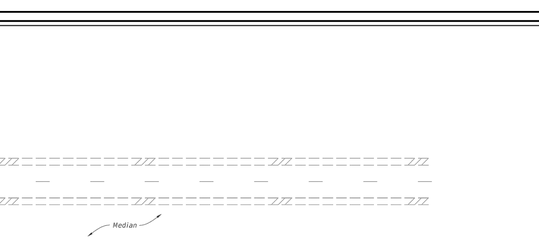
1. L = Taper Length
   B = Buffer Length
   X = Work Zone Sign Distance
   See Index 102-600 for "L", "B", "X", and channelizing device spacing values.
2. On undivided highways the median signs as shown are to be omitted.
3. On limited access facilities, omit "Right Shoulder Closed" signs (W21-5a) and associated work zone sign spacing distances.
4. If the paved shoulder is less than 4' in width, omit the taper and channelizing devices from the paved shoulder.
5. The "Speeding Fines Doubled When Workers Present" signs (M0T-13-06) and "End Road Work" signs (G20-2) and "Right Shoulder Closed" (W21-5a), along with associated work zone sign distances, may be omitted when the work operation will be in place for 24 hours or less. For Single Lane Closures, arrow boards and buffer (B) may also be omitted when the work operation will be in place for 60 minutes or less and the speed limit is 45 mph or less.
6. Use inverted plan of the illustrations for work on left side of roadways.
7. Temporary pavement markings may be omitted when the work operation is in place for 3 days or less.

7:13:11 AM
12/16/2021

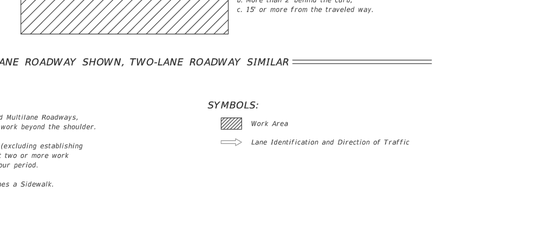
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	MULTILANE ROADWAY, LANE CLOSURES	INDEX	SHEET
11/01/21						102-613	1 of 5

NOTE:

1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work on the shoulder.
2. L = Taper Length
   X = Work Zone Sign Spacing
   B = Buffer Length
   See Index 102-600 for "L", "X", "B", and channelizing device spacing values.
3. Where work activities are between 2' and 15' from the edge of traveled way, the Engineer may omit signs and channelizing devices for work operations 60 minutes or less.
4. When four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), use a flagger or lane closure to accommodate work vehicle ingress and egress.
5. For work less than 2' from the traveled way and work zone speed is greater than 45 MPH, use a lane closure.
6. The "Speeding Fines Doubled When Workers Present" signs (M0T-13-06) and "End Road Work" Signs (G20-2) along with the associated work zone sign spacing distances may be omitted when the work operation is in place for 24 hours or less.
7. Temporary pavement markings may be omitted when the work operation is in place for 3 days or less.
8. Omit "Shoulder Closed" signs (W21-5a) along with associated work zone sign spacing distances for work on the median.
9. When there is no paved shoulder, the "Worker" sign (W21-1) may be used instead of the "Shoulder Closed" sign (W21-5a).



TWO-LANE ROADWAY
SHOULDER WORK LESS THAN 2' FROM THE TRAVELED WAY WITH WORK ZONE SPEED OF 45 MPH OR LESS



TWO-LANE ROADWAY
SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic

10:13:58 AM
6/29/2021

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	TWO-LANE AND MULTILANE, WORK ON SHOULDER	INDEX	SHEET
11/01/21						102-602	1 of 2

FDOT NOTES:

GOVERNING DOCUMENTS NOTE:
"ALL WORK IN THE RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE FY 2022/2023 JULY EDITION OF THE FDOT STANDARD PLANS FOR ROADWAY CONSTRUCTION, THE JULY 2022 FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, 2023 FLORIDA DESIGN MANUAL, 2018 FLORIDA GREENBOOK, AND THE 2016 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)."

HURRICANE NOTE:
"ALL LANES MUST BE OPENED TO TRAFFIC WITHIN 12 HOURS AFTER RECEIVING NOTIFICATION OF A HURRICANE EVACUATION OR ANY OTHER CATASTROPHIC EVENT AND SHALL REMAIN OPEN FOR THE DURATION OF THE EVACUATION OR EVENT AS DIRECTED BY THE PERMITS MANAGER."

PRE-WORK MEETING NOTE:
"ENGINEER SHALL SCHEDULE AND HAVE AN ON-SITE PRE-WORK MEETING WITH REPRESENTATIVES FROM THE ENGINEERING FIRM, FDOT, QUALITY CONTROL TESTING LABORATORY, PRIME CONTRACTOR, AND ANY OTHER INTERESTED PARTY PRESENT."

PRE-PAVING MEETING NOTE:
"PAVING CONTRACTOR SHALL SCHEDULE A PRE-PAVING MEETING WITH FDOT. PROPOSED ASPHALT MIX DESIGNS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO OR AT THE PRE-PAVING MEETING."

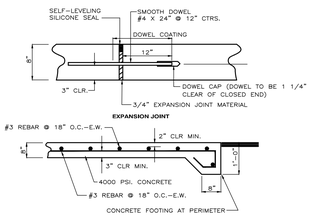
QC PLAN NOTE:
"CONTRACTOR MUST SUBMIT A QUALITY CONTROL PLAN FOR FDOT REVIEW AND APPROVAL BEFORE OR AT THE REQUIRED PRE-WORK MEETING. QUALITY CONTROL TESTING SHALL BE PERFORMED BY FDOT CERTIFIED TECHNICIANS AND TESTING LABORATORY. ALL TEST RESULTS SHALL BE PROVIDED TO FDOT AS SOON AS PRACTICAL.

SOD NOTE:
"SOD AREAS WITHIN 32" OF EDGE OF PAVEMENT & SLOPES GREATER THAN 1:3. OTHER DISTURBED AREAS MAY BE REPAIRED BY SEEDING OR HYDRO-SEEDING. SEE FDOT STANDARD PLANS INDEX 570-010 AND SECTION 570 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.

STRIPING NOTE:
"ALL STRIPING WITHIN FDOT RIGHT OF WAY SHALL BE THERMOPLASTIC AND ADHERE TO FDOT STANDARD PLANS INDEX 711-001 AND SECTION 711 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION", STANDARD SPEC 711-4.1 STATES; "WAIT AT LEAST 14 DAYS AFTER CONSTRUCTING THE FINAL ASPHALT SURFACE COURSE TO PLACE THERMOPLASTIC PAVEMENT MARKINGS. INSTALLATION OF THERMOPLASTIC ON CONCRETE REQUIRES A CLEAN, DRY SURFACE. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR SURFACE PREPARATION FOR THERMOPLASTIC ON CONCRETE. PROVIDE TEMPORARY PAVEMENT MARKINGS DURING THE INTERIM PERIOD PRIOR TO OPENING THE ROAD TO APPLY OR RECAP STANDARD THERMOPLASTIC PAVEMENT MARKINGS FOR LONGITUDINAL LINES TO ATTAIN A MINIMUM THICKNESS OF 0.10 INCH OR 100 MILS AND A MAXIMUM THICKNESS 0.15 INCH OR 150 MILS WHEN MEASURED ABOVE THE PAVEMENT SURFACE. MARKINGS OTHER THAN LONGITUDINAL LINES, WHEREVER LOCATED, WILL HAVE A THICKNESS OF 0.09 INCH OR 90 MILS TO 0.12 INCH OR 120 MILS WHEN MEASURED ABOVE THE PAVEMENT SURFACE.

LANE AND SHOULDER CLOSURES:
"ALL LANE AND SHOULDER CLOSURES MUST BE REQUESTED IN WRITING AND APPROVED A MINIMUM OF 48 HOURS PRIOR TO WORK STARTING. ALLOW UP TO 2 WEEKS FOR LANE CLOSURE APPROVAL PROCESS." CONTACT LOCAL PERMIT'S OFFICE FOR MORE DETAILS AT 850- 836-5790 OR 850-836-5742.

DITCH FLOWLINE:
"IT IS THE CONTRACTOR'S RESPONSIBILITY TO PLACE SIDE DRAIN PIPES AT PROPER ELEVATIONS TO MATCH THE FLOWLINE OF THE DRAINAGE DITCH (NOT SEDIMENT BUILD-UP) TO ENSURE POSITIVE STORMWATER FLOW."



CONSTRUCTION JOINTS MUST BE USED WHERE AN INCOMPLETE POUR IS MADE BETWEEN PLANNED EXPANSION JOINTS. THE MAXIMUM SQUARE MUST BE HALF THE DISTANCE BETWEEN EXPANSION JOINTS (SEE PLANS). WHERE A COMPLETE POUR IS MADE A SAW CUT OR SCORE SHALL BE PLACED IN LIEU OF CONSTRUCTION JOINTS.

CONCRETE BASE – FDOT #57 CRUSHED LIME ROCK, CRUSHED CONCRETE OR GRADED AGGREGATE BASE (COMPACTED TO 98% DENSITY ASTM D-1557.)

CONCRETE PAVEMENT SUBGRADE – CLEAN FINE SAND BEDDING COURSE WITH LESS THAN 12 PERCENT FINES (THROUGH A 200 SIEVE). A MINIMUM OF 18" OF FREE DRAINING SUBGRADE SOILS (COMPACTED TO 98% MODIFIED PROCTOR ASTM D-1557.

HEAVY DUTY CONCRETE PAVEMENT DETAIL
NOT TO SCALE

NO.	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:
DESIGNED BY: RLC
DRAWN BY: BLR
REVIEWED BY: RLC
ISSUE DATE: 7/31/2023
CF/D: 245.44E01

McNEIL CARROLL ENGINEERING, INC.
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STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288
17800 Panama City Beach Parkway
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Fax: 850-234-1731

DESIGN CONNECTION PLAN
FIRE STATION
HUTCHISON BLVD
PANAMA CITY BEACH, FLORIDA

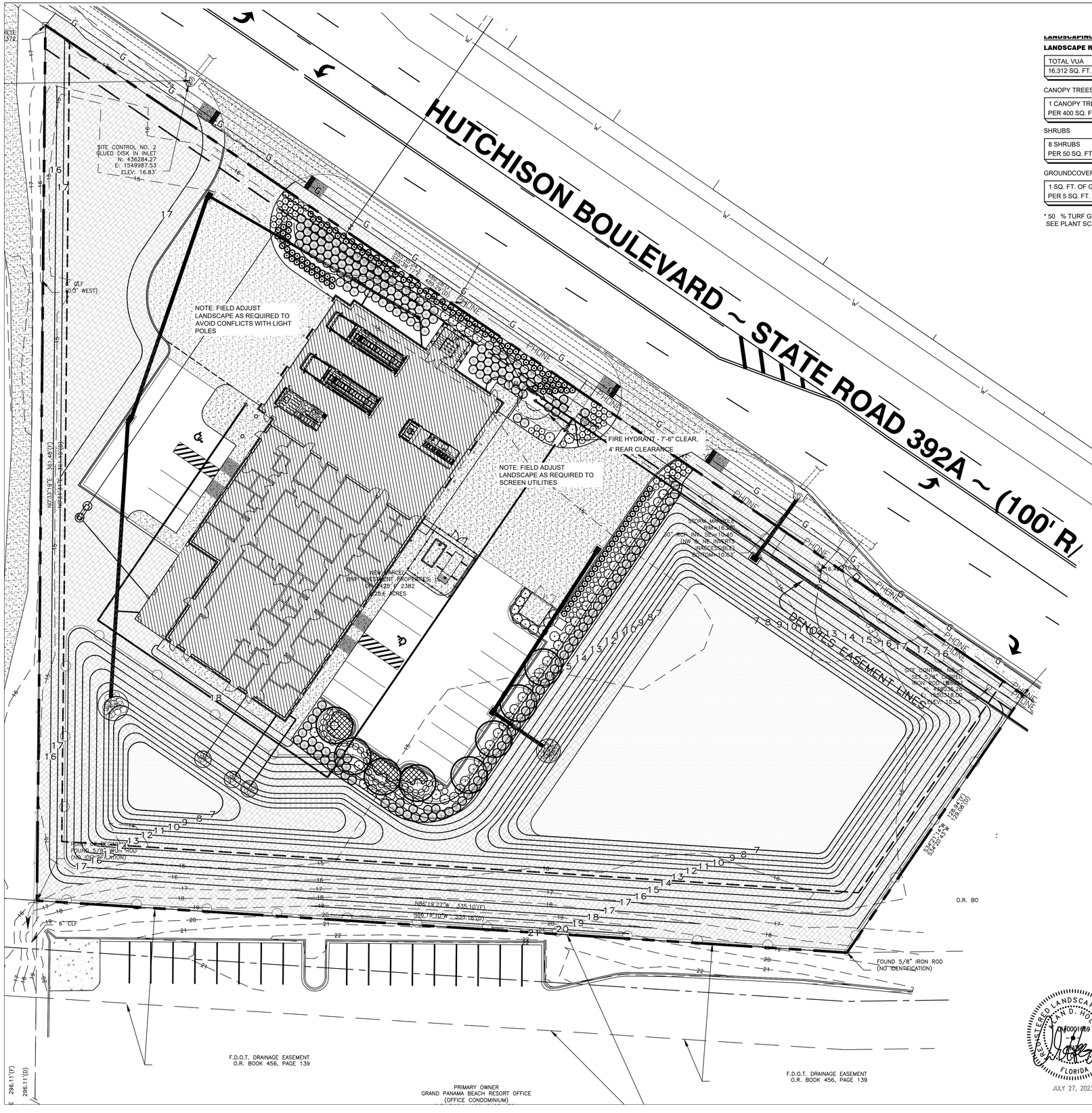
Sean D. McNeil, P.E.
PROFESSIONAL ENGINEER
FL LC # 49303

Robert L. Carroll, P.E.
PROFESSIONAL ENGINEER
FL LC # 57988

FDOT ROW IMPROVEMENT PLANS BIDDING PURPOSES ONLY

SHEET NUMBER
8 OF 8

245.44B - FIRE STATION



LANDSCAPING REQUIREMENTS

LANDSCAPE REQUIRED/PROVIDED - PER TYPICAL VUA STANDARDS

TOTAL VUA	PERCENTAGE REQUIREMENT	REQUIRED LANDSCAPE AREA
16,312 SQ. FT.	20%	3,262 SQ. FT.

CANOPY TREES

1 CANOPY TREE	REQUIRED	PROVIDED
PER 400 SQ. FT.	8	8

SHRUBS

8 SHRUBS	REQUIRED	PROVIDED
PER 50 SQ. FT.	522	522

GROUNDCOVERS

1 SQ. FT. OF GROUNDCOVER	REQUIRED	PROVIDED
PER 5 SQ. FT.	712	712

* 50 % TURF GRASS SUBSTITUTION CLAIMED.
SEE PLANT SCHEDULE FOR TOTAL SOD QUANTITY.

LANDSCAPE LEGEND

GROUNDCOVER

49,000± S.F. INCLUDING 10% FOR WASTE
'EMERALD' ZOYSIA
ZOYSIA JAPONICA 'EMERALD'

12,000± S.F. INCLUDING 10% FOR WASTE
SEEDED AREA

28 VARIEGATED FLAX LILY
DIANELLA TASMANICA 'VARIEGATA'
1 GAL. 3' O.C.

63 'CORAL DRIFT' ROSE
ROSA 'MEIDRIFORA'
3 GAL. 30" O.C.

130 'PARSON'S' JUNIPER
JUNIPERUS CHINENSIS 'PARSONII'
1 GAL. 30" O.C.

136 PURPLE MUHLY GRASS
MUHLENBERGIA CAPILLARIS
1 GAL. 42" O.C.

70 FAKAHATCHEE GRASS
TRIPSACUM DACTYLOIDES
1 GAL. 42" O.C.

55 DWARF YAUPON HOLLY
ILEX VOMITORIA 'NANA'
3 GAL. 30" O.C.

68 PINEAPPLE GUAVA
ACCA SELLOWIANA
3 GAL. 4' O.C.

5 'MUSKOGEE' CRAPE MYRTLE
LAGERSTROEMIA INDICA 'MUSKOGEE'
30 GAL. MIN. 3 STEMS @ 1" CAL.

GRAPHIC SCALE
0 10 20 40 60 80
SCALE IN FEET

LANDSCAPE NOTES:
1. ALL PLANT MATERIAL FLORIDA #1 OR BETTER.
2. FERTILIZE ALL PLANTINGS WITH OSMOCOTE OR OTHER APPROVED SLOW RELEASE FERTILIZER AT MANUFACTURER'S RECOMMENDED RATE BEFORE MULCHING.
3. DECREASE PLANT SPACING AS REQUIRED TO ALLOW PLACEMENT OF THE DESIGNATED NUMBER OF PLANTS PER GROUPING.
4. APPLY CASARON OR OTHER APPROVED PRE-EMERGENT HERBICIDE TO ALL PLANTING AREAS BEFORE MULCHING.
5. MULCH ALL AREAS OF TREE, SHRUB AND GROUNDCOVER MASS PLANTINGS WITH 3" PINESTRAW MULCH.
6. SOD ALL DISTURBED AREAS.
7. AUTOMATIC IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS.
8. PROVIDE BACKFLOW PREVENTION PER CITY REQUIREMENTS.
9. PROVIDE RAIN SHUT OFF DEVICE PER FL. STATE LAW.

REGISTERED LANDSCAPE ARCHITECT
ALAN D. HOLT
LA0001569
STATE OF FLORIDA
JULY 27, 2023

Alan D. Holt, A.S.L.A.
LANDSCAPE ARCHITECT, PA
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Job Number: 23064

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
95% DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

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Commission Number: 21804

McNEIL-CARROLL ENGINEERING, INC.
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17800 Panama City Beach Parkway
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Phone 850-234-1730
Fax 850-234-1731
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

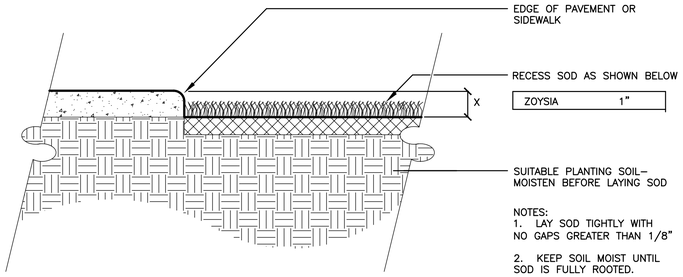
BAY COUNTY, FLORIDA

SHEET TITLE:

LANDSCAPE PLAN

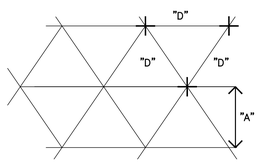
SHEET NUMBER:

LP1



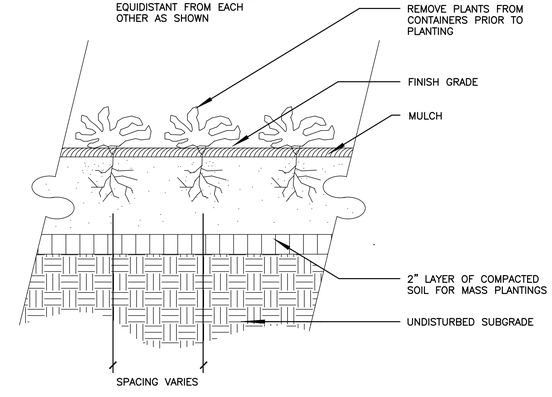
NOTES:
1. LAY SOD TIGHTLY WITH NO GAPS GREATER THAN 1/8"
2. KEEP SOIL MOIST UNTIL SOD IS FULLY ROOTED.
3. DO NOT INSTALL SOD UNTIL IRRIGATION SYSTEM IS FUNCTIONAL.

5 LP2 SOD DETAIL AT PAVING
SCALE: NOT TO SCALE

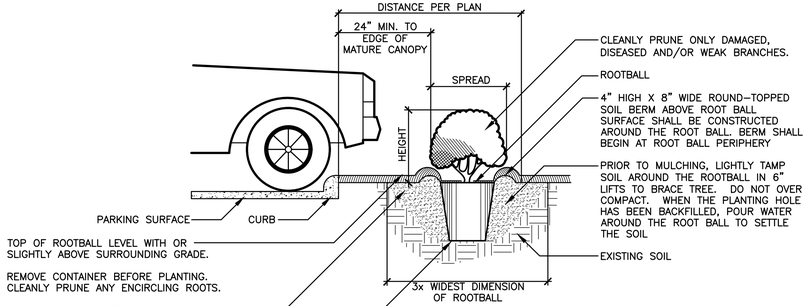


SPACING "D"	ROW "A"	NUMBER OF PLANTS
6" O.C.	5.2"	4.61
8" O.C.	6.93"	2.6
10" O.C.	8.66"	1.66
12" O.C.	10.4"	1.15
15" O.C.	13.0"	.733
18" O.C.	15.6"	.512
24" O.C.	20.8"	.33
30" O.C.	26.0"	.185
36" O.C.	30.0"	.128
48" O.C.	41.6"	.072

NOTE: FOR USE ONLY WHEN PLANTS ARE SPACED EQUIDISTANT FROM EACH OTHER AS SHOWN



4 LP2 GROUNDCOVER PLANTING
SCALE: NOT TO SCALE



NOTE: MEASURE HEIGHT FROM TOP OF ROOT BALL SEE PLANT SCHEDULE FOR REQUIRED HEIGHT AND SPREAD FOR EACH SPECIES

3 LP2 HEDGE PLANTING AT PARKING AREA
SCALE: NOT TO SCALE

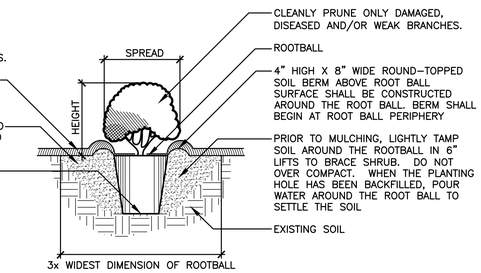
TOP OF ROOTBALL LEVEL WITH OR SLIGHTLY ABOVE SURROUNDING GRADE.

REMOVE CONTAINER BEFORE PLANTING. CLEANLY PRUNE ANY ENCIRCLING ROOTS.

MULCH – SEE LANDSCAPE NOTES. NO MORE THAN 1" OF MULCH ON TOP OF ROOT BALL

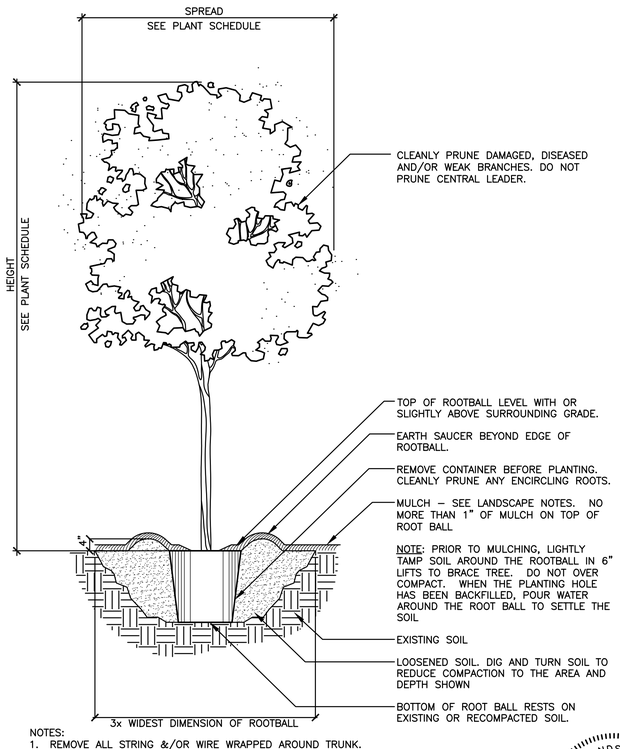
LOOSENED SOIL. DIG AND TURN SOIL TO REDUCE COMPACTION TO THE AREA AND DEPTH SHOWN

BOTTOM OF ROOT BALL RESTS ON EXISTING OR RECOMPACTED SOIL.



NOTE: MEASURE HEIGHT FROM TOP OF ROOT BALL SEE PLANT SCHEDULE FOR REQUIRED HEIGHT AND SPREAD FOR EACH SPECIES

2 LP2 PLANTING DETAIL FOR SHRUBS
SCALE: NOT TO SCALE



NOTES:
1. REMOVE ALL STRING &/OR WIRE WRAPPED AROUND TRUNK.
2. REMOVE ALL STRAPS, ROPES, WIRE &/OR STRINGS USED TO LIFT THE ROOTBALL.
3. REMOVE ALL BURLAP &/OR WIRE FROM THE TOP OF THE ROOT BALL.
4. TOP OF FIRST FEEDER ROOT TO BE SET SLIGHTLY ABOVE SURROUNDING FINISH GRADE.

1 LP2 TREE PLANTING
SCALE: NOT TO SCALE

REGISTERED LANDSCAPE ARCHITECT ALAN D. HOLT FLORIDA LA0001059

JULY 27, 2023

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Job Number: 23064

REVISIONS

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PHASE	DRAWN	CHECKED	DATE
95% DOCUMENTS			05/10/23
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JRA ARCHITECTS
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Commission Number: 21804

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STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288
17800 Panama City Beach Parkway
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Phone: 850-234-1730
Fax: 850-234-1731

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

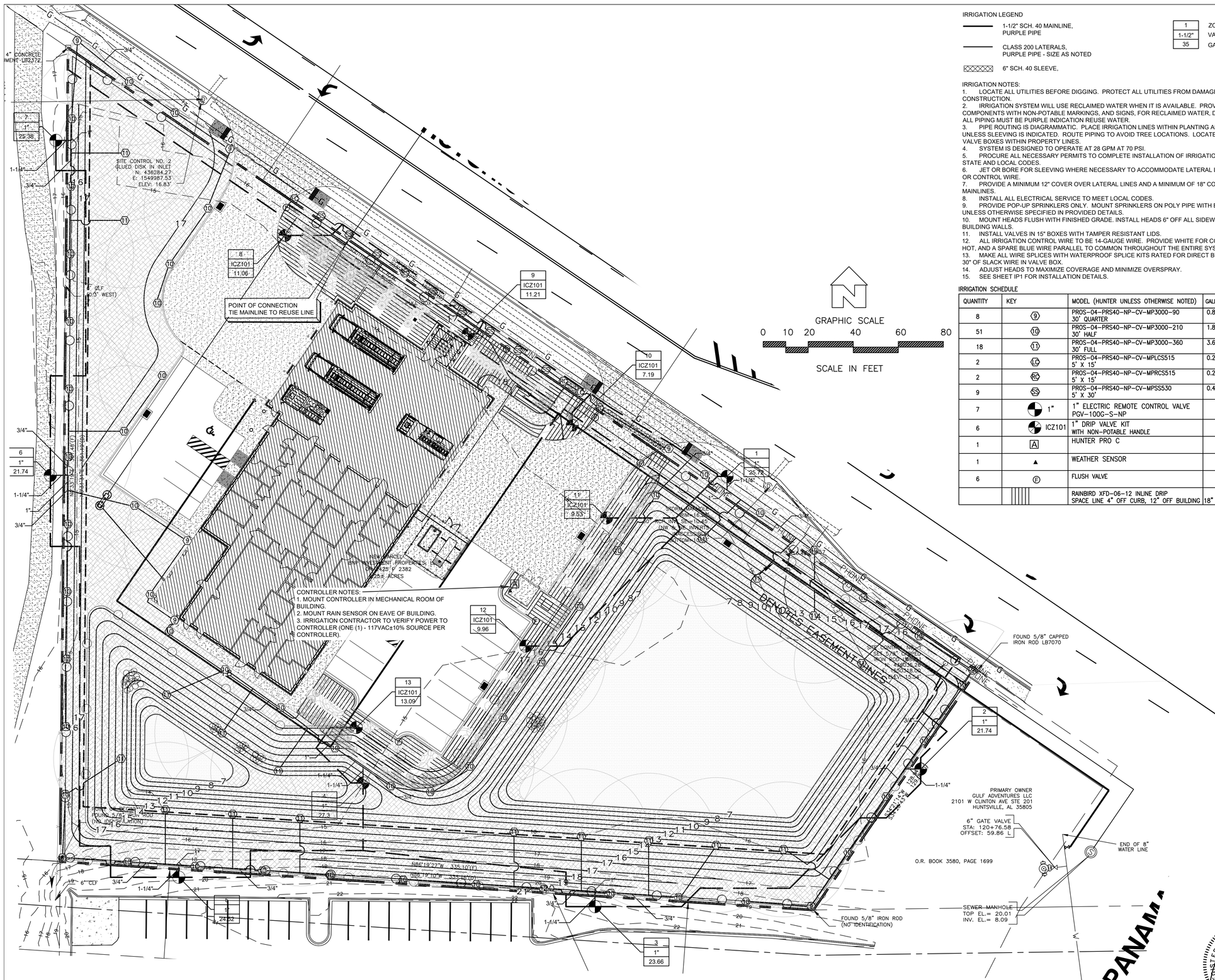
BAY COUNTY, FLORIDA

SHEET TITLE:

LANDSCAPE DETAILS

SHEET NUMBER:

LP2



IRRIGATION LEGEND

1	ZONE NUMBER
1-1/2"	VALVE SIZE
35	GALLONS PER MINUTE

1-1/2" SCH. 40 MAINLINE, PURPLE PIPE

CLASS 200 LATERALS, PURPLE PIPE - SIZE AS NOTED

6" SCH. 40 SLEEVE,

IRRIGATION NOTES:

1. LOCATE ALL UTILITIES BEFORE DIGGING. PROTECT ALL UTILITIES FROM DAMAGE DURING CONSTRUCTION.
2. IRRIGATION SYSTEM WILL USE RECLAIMED WATER WHEN IT IS AVAILABLE. PROVIDE IRRIGATION COMPONENTS WITH NON-POTABLE MARKINGS, AND SIGNS, FOR RECLAIMED WATER, DO NOT DRINK. NOTE: ALL PIPING MUST BE PURPLE INDICATION REUSE WATER.
3. PIPE ROUTING IS DIAGRAMMATIC. PLACE IRRIGATION LINES WITHIN PLANTING AND TURF AREAS UNLESS SLEEVING IS INDICATED. ROUTE PIPING TO AVOID TREE LOCATIONS. LOCATE MAINLINE AND VALVE BOXES WITHIN PROPERTY LINES.
4. SYSTEM IS DESIGNED TO OPERATE AT 28 GPM AT 70 PSI.
5. PROCURE ALL NECESSARY PERMITS TO COMPLETE INSTALLATION OF IRRIGATION SYSTEM PER STATE AND LOCAL CODES.
6. JET OR BORE FOR SLEEVING WHERE NECESSARY TO ACCOMMODATE LATERAL LINES, MAIN LINES, OR CONTROL WIRE.
7. PROVIDE A MINIMUM 12" COVER OVER LATERAL LINES AND A MINIMUM OF 18" COVER OVER MAINLINES.
8. INSTALL ALL ELECTRICAL SERVICE TO MEET LOCAL CODES.
9. PROVIDE POP-UP SPRINKLERS ONLY. MOUNT SPRINKLERS ON POLY PIPE WITH BARBED FASTENERS UNLESS OTHERWISE SPECIFIED IN PROVIDED DETAILS.
10. MOUNT HEADS FLUSH WITH FINISHED GRADE. INSTALL HEADS 6" OFF ALL SIDEWALKS AND 1' FROM BUILDING WALLS.
11. INSTALL VALVES IN 15" BOXES WITH TAMPER RESISTANT LIDS.
12. ALL IRRIGATION CONTROL WIRE TO BE 14-GAUGE WIRE. PROVIDE WHITE FOR COMMON, RED FOR HOT, AND A SPARE BLUE WIRE PARALLEL TO COMMON THROUGHOUT THE ENTIRE SYSTEM.
13. MAKE ALL WIRE SPLICES WITH WATERPROOF SPLICE KITS RATED FOR DIRECT BURIAL. NEATLY COIL 30" OF SLACK WIRE IN VALVE BOX.
14. ADJUST HEADS TO MAXIMIZE COVERAGE AND MINIMIZE OVERSPRAY.
15. SEE SHEET IP1 FOR INSTALLATION DETAILS.

IRRIGATION SCHEDULE

QUANTITY	KEY	MODEL (HUNTER UNLESS OTHERWISE NOTED)	GALLONS PER MINUTE
8	(9)	PROS-04-PRS40-NP-CV-MP3000-90 30' QUARTER	0.86 @ 40 PSI
51	(10)	PROS-04-PRS40-NP-CV-MP3000-210 30' HALF	1.82 @ 40 PSI
18	(11)	PROS-04-PRS40-NP-CV-MP3000-360 30' FULL	3.64 @ 40 PSI
2	LQ	PROS-04-PRS40-NP-CV-MPLCS515 5' X 15'	0.22 @ 40 PSI
2	RQ	PROS-04-PRS40-NP-CV-MPRCS515 5' X 15'	0.22 @ 40 PSI
9	SS	PROS-04-PRS40-NP-CV-MPSS530 5' X 30'	0.44 @ 40 PSI
7	1"	1" ELECTRIC REMOTE CONTROL VALVE PGV-100G-S-NP	
6	ICZ101	1" DRIP VALVE KIT WITH NON-POTABLE HANDLE	
1	A	HUNTER PRO C	
1	▲	WEATHER SENSOR	
6	(F)	FLUSH VALVE	
		RAINBIRD XFD-06-12 INLINE DRIP SPACE LINE 4" OFF CURB, 12" OFF BUILDING	18" O.C.

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

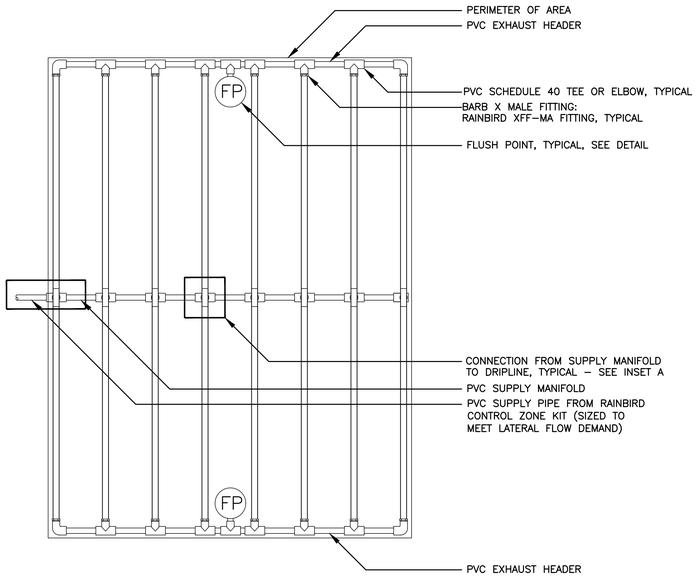
IRRIGATION PLAN

SHEET NUMBER:

IP1

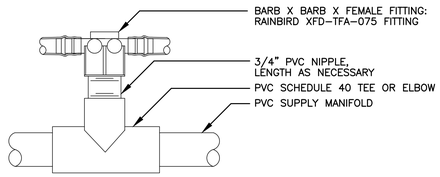
REGISTERED LANDSCAPE ARCHITECT ALAN D. HOLT FLORIDA LA0001769

JULY 27, 2023



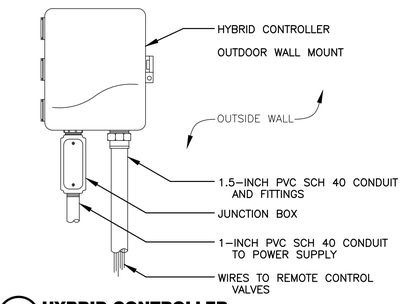
NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
3. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

7 IP2 **XFD ON-SURFACE DRIPLINE CENTER FEED LAYOUT**
SCALE: N.T.S.

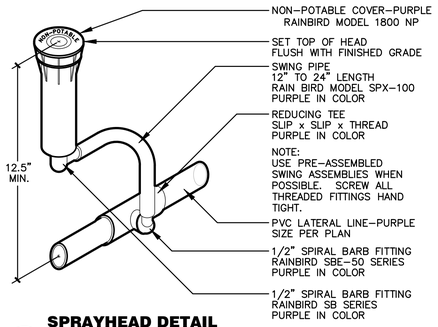


INSET A

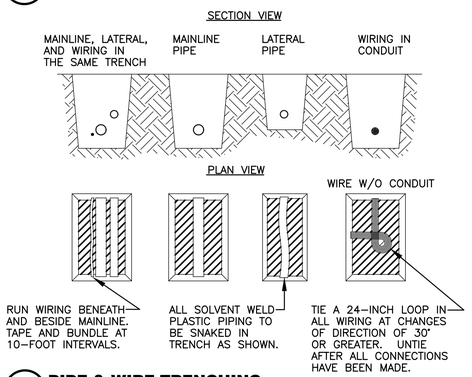
XFD Dripline Maximum Lateral Lengths (Feet)						
Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (gph)		Nominal Flow (gph)		Nominal Flow (gph)	
	0.6	**0.9**	**0.6**	**0.9**	**0.6**	**0.9**
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514



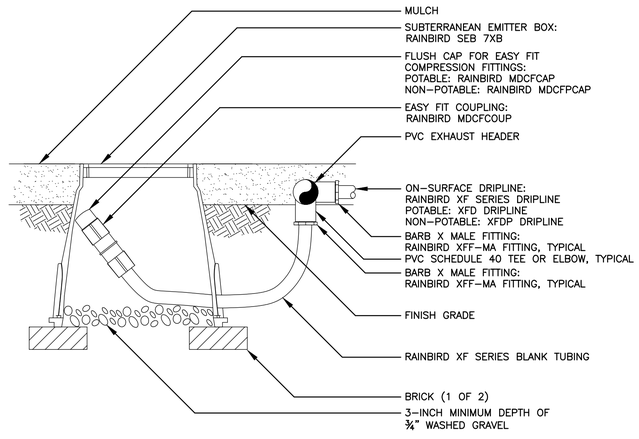
5 IP2 **HYBRID CONTROLLER**
SCALE: N.T.S.



SPRAYHEAD DETAIL
W/ NON-POTABLE COVER-PURPLE
3 IP2 SCALE: 1/4"=1"

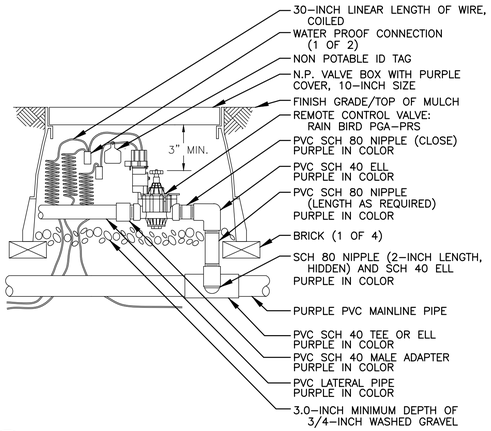


2 IP2 **PIPE & WIRE TRENCHING**
SCALE: N.T.S.

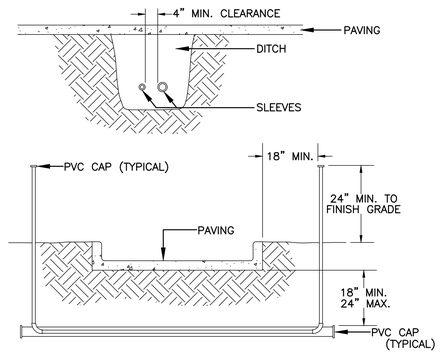


6 IP2 **FLUSH POINT DETAIL**
SCALE: N.T.S.

NOTE:
1. ALLOW A MINIMUM OF 6–INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.



4 IP2 **REMOTE CONTROL VALVE -NON POTABLE**
SCALE: N.T.S.



NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE SCHEDULE 40 PURPLE PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24–INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

1 IP2 **NON-POTABLE SLEEVING DETAIL**
SCALE: N.T.S.

REGISTERED LANDSCAPE ARCHITECT ALAN D. HOLT LA0001659 STATE OF FLORIDA

JULY 27, 2023

Alan D. Holt, A.S.L.A.
LANDSCAPE ARCHITECT, PA
FL LC#26000193
P.O. BOX 2549
PANAMA CITY, FL 32402
TELEPHONE: (850)914-9006
E-MAIL:alan@alandholtasla.com

Job Number: 23064

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
95% DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR. , STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
17800 Panama City Beach Parkway
Panama City Beach, Florida 32413
Phone: 850-234-1730
Fax: 850-234-1731
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7288

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

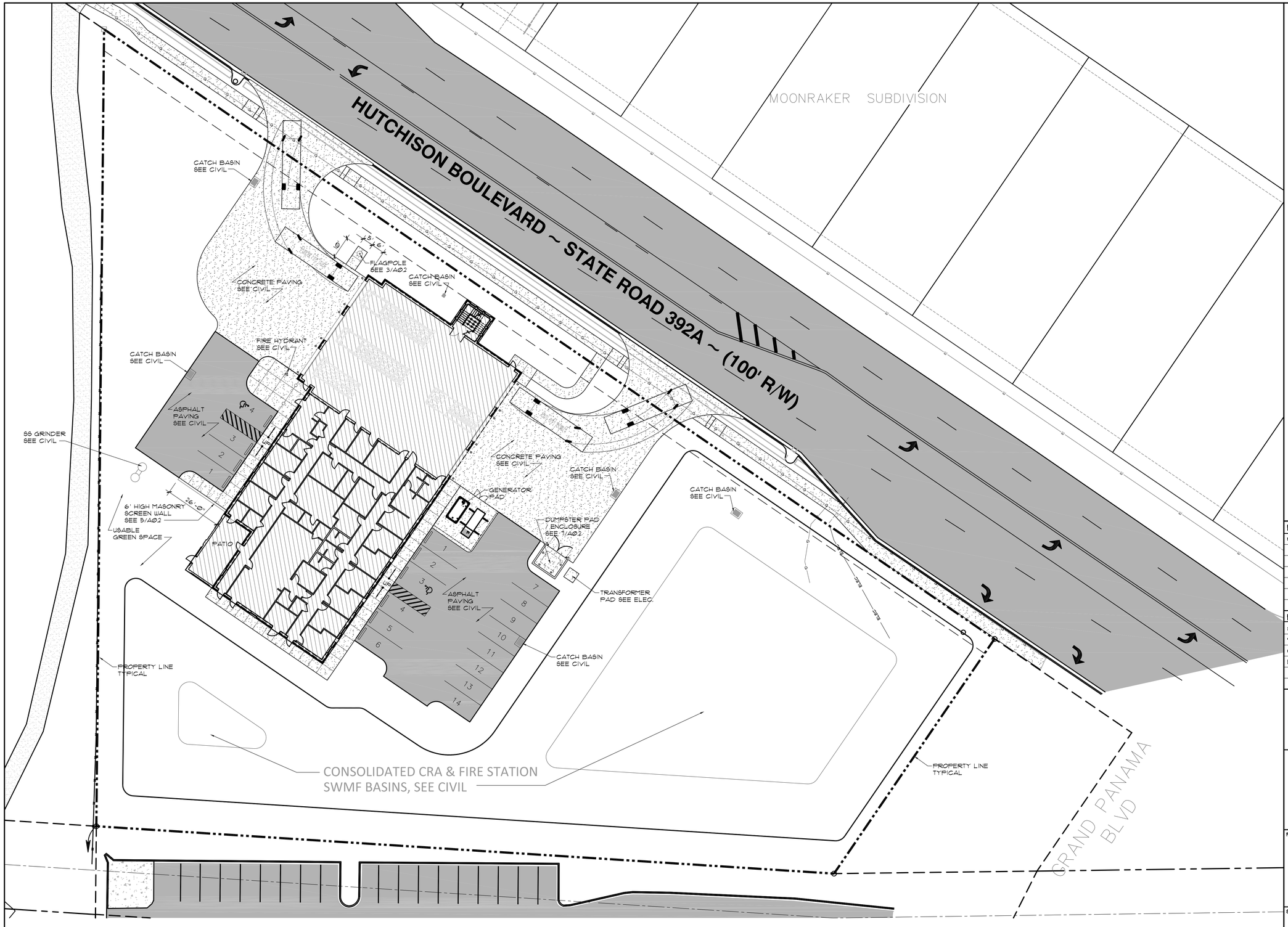
BAY COUNTY, FLORIDA

SHEET TITLE:

IRRIGATION DETAILS

SHEET NUMBER:

IP2



ARCHITECTURAL SITE PLAN

SCALE: 1" = 20'-0"

J:\22833-PCB Fire Station #32 Hutchison Blvd\A01.1.dwg, 7/31/2023 2:28:45 PM, Shane Boullie, Adobe PDF, 1:1

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

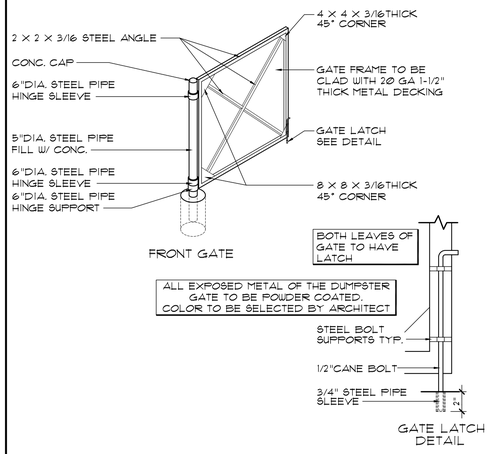
BAY COUNTY, FLORIDA

SHEET TITLE:

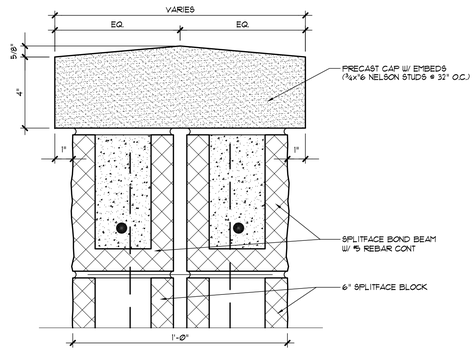
ARCHITECTURAL SITE PLAN

SHEET NUMBER:

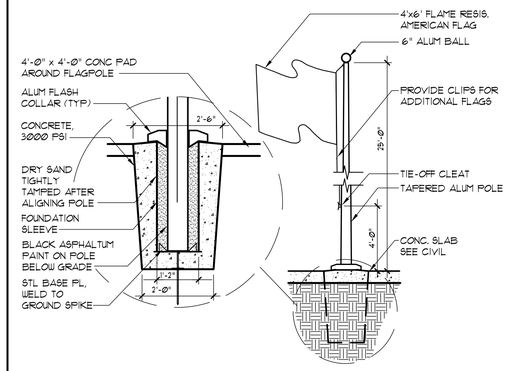
A0.1



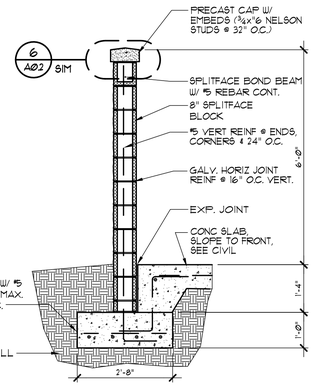
9 DUMPSTER GATE DETAILS
SCALE: NTS



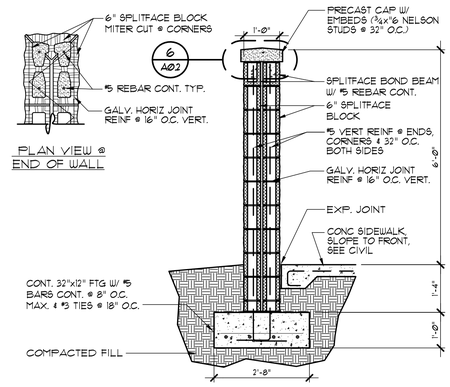
6 COPING CAP DETAIL
SCALE: 1-1/2" = 1'-0"



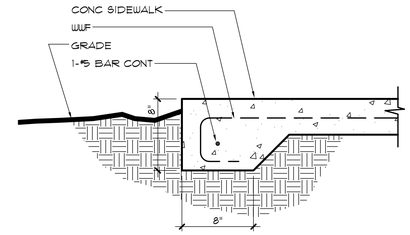
3 FLAGPOLE DETAIL
SCALE: 1/2" = 1'-0"



8 DUMPSTER SCREEN DETAIL
SCALE: 1/2" = 1'-0"

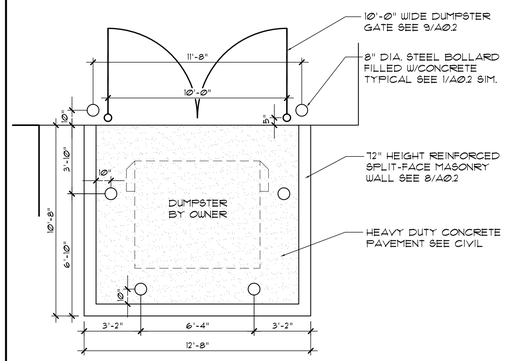


5 SCREEN WALL DETAIL
SCALE: 1/2" = 1'-0"

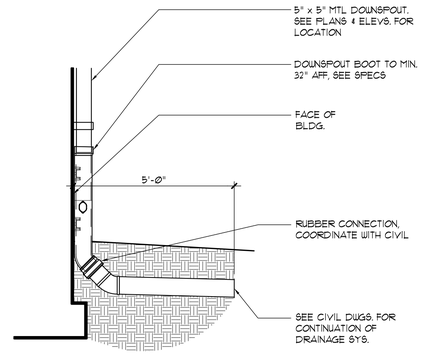


* PROVIDE THICKENED EDGES AT ALL SIDEWALKS

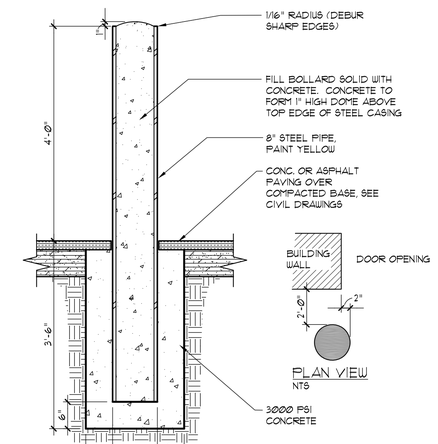
2 TYP SIDEWALK EDGE DETAIL
SCALE: 1 1/2" = 1'-0"



7 DUMPSTER PAD PLAN
SCALE: 1/4" = 1'-0"



4 TYPICAL D.S. CONNECTION
SCALE: 1/2" = 1'-0"



1 BOLLARD DETAIL
SCALE: 3/4" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8-1-23 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

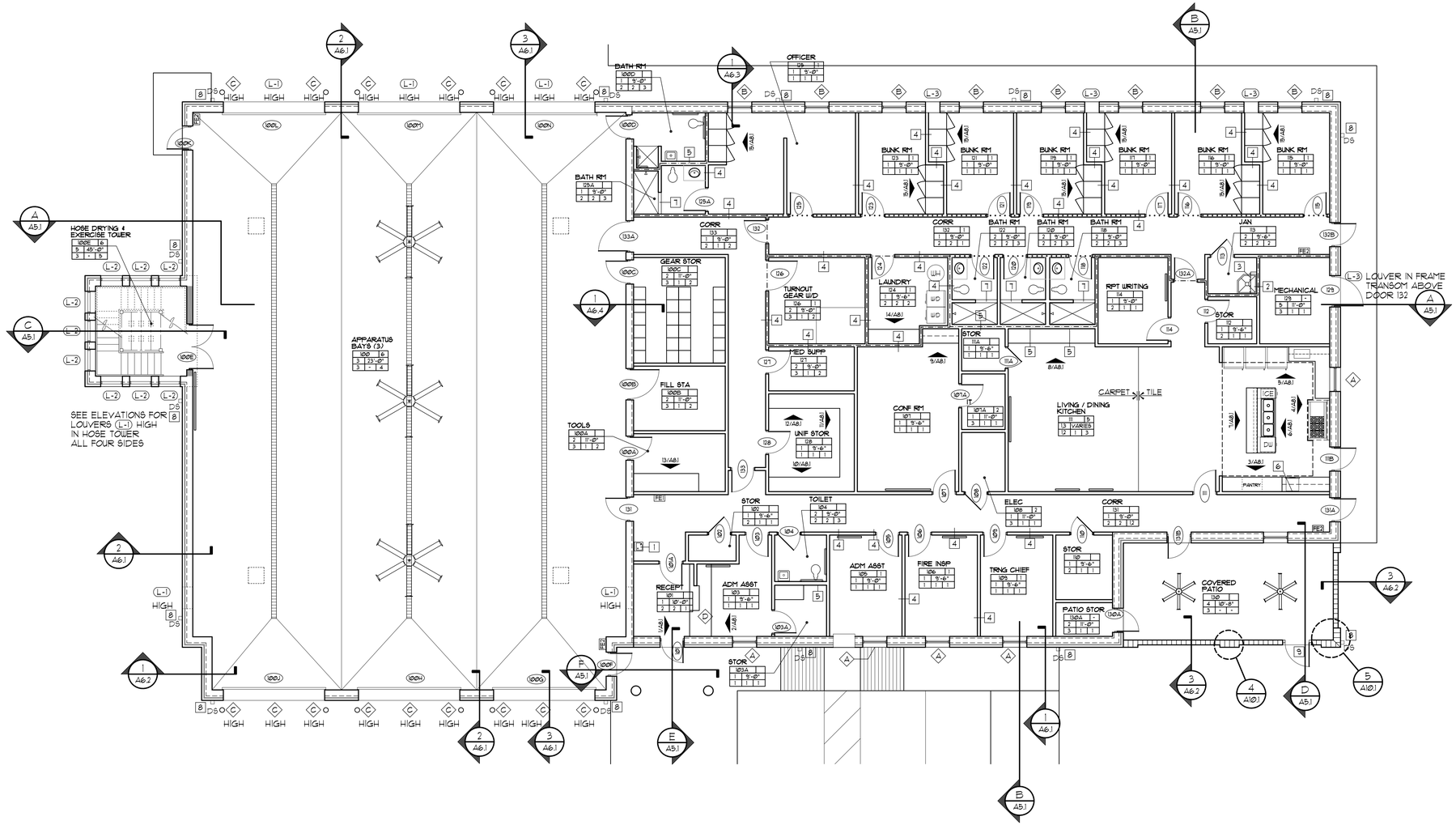
BAY COUNTY, FLORIDA

SHEET TITLE:

SITE DETAILS

SHEET NUMBER:

A0.2



ARCHITECTURAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

FINISH SCHEDULE

CEILING

1. SUSPENDED ACOUSTIC PANEL CEILING (ACT)
2. EPOXY PAINTED GYPSUM WALL BOARD
3. EGGSHELL ENAMEL PAINTED GYPSUM WALL BOARD.
4. METAL SOFFIT PANELS
5. PAINTED EXPOSED STRUCTURE

FLOORS

1. CARPET
2. CERAMIC TILE
3. SEALED CONCRETE

BASE

1. VINYL
2. CERAMIC TILE

KEY:

SPACE NAME

SPACE No		REMARKS
CLG	CLG HT	
FLR	BASE	WALL

WALLS

1. EGGSHELL ENAMEL PAINTED GYPSUM WALL BOARD.
2. EPOXY PAINTED GYPSUM WALL BOARD.
3. EPOXY PAINTED GYPSUM WALL BOARD & CERAMIC TILE.
4. EPOXY PAINTED CONCRETE
5. EXPOSED CONCRETE

REMARKS

1. PROVIDE CONT 3.5" SOUND BATTS ABOVE FINISH CEILING.
2. PROVIDE 5/8" PAINTED PLYWOOD BACKBOARD - COORDINATE WITH ELECTRICAL.
3. SLOPE TO FLOOR DRAINS, SEE STRUCT. COORD WITH FINISH FLOOR INSTALLER.
4. DEPRESS SLAB 2" AT SHOWER.
5. INSTALL CERAMIC TILE AT BACKSPLASH, SEE ELEVATIONS.
6. PROVIDE MR GYP. BD. ON THE CEILING IN THIS SPACE

CONSTRUCTION KEYNOTES

1. HI-LO ELECTRIC WATER COOLER WITH BOTTLE FILLER, SEE PLUM.
2. FLOOR SINK, SEE PLUMBING
3. SS UTILITY SHELF WITH HOOKS & MOP HOLDERS.
4. PROVIDE 1/2" RESILIENT SOUND ISOLATION CLIPS THIS SIDE OF STUD WALL, AND FILL SPACE BETWEEN STUDS WITH 3.5" SOUND INSULATION BATTS.
5. PROVIDE 6" STUDS THIS WALL
6. WATER SUPPLY W/ SHUT-OFF VALVE FOR OWNER PROVIDED COFFEE MAKER
7. PREFABRICATED SHOWER CURB, SEE SPECIFICATIONS.
8. DOWNSPOUT CONNECT TO UNDERGROUND STORM WATER SYSTEM SEE 4/A0.2 AND SEE CIVIL
9. GATE AND HARDWARE, SEE SPECIFICATIONS.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

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CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · REGISTERED ARCHITECT · 8.1.23

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

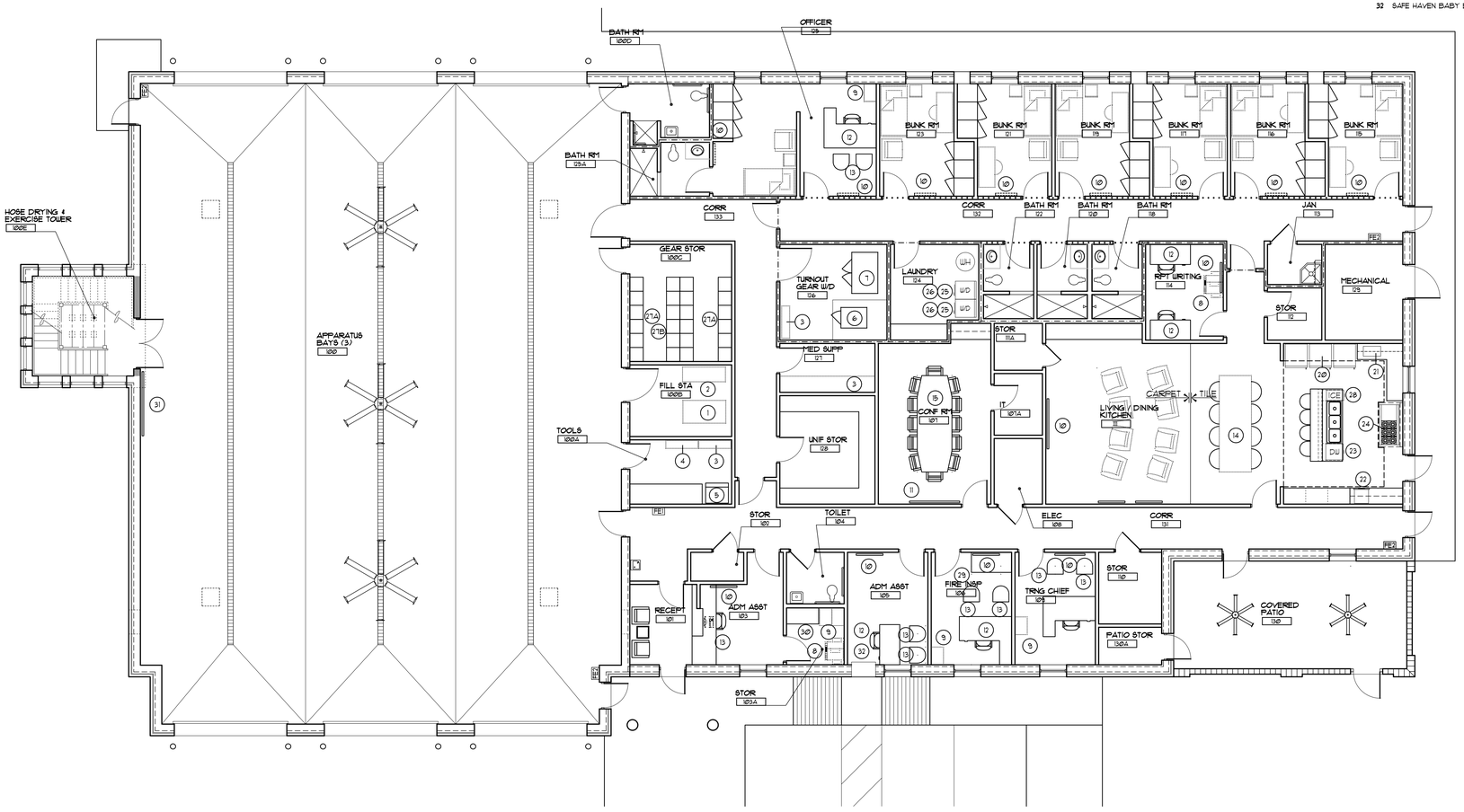
ARCHITECTURAL FLOOR PLAN

SHEET NUMBER:

A1.1A

EQUIPMENT SCHEDULE

1. RAPID FILL COMPRESSOR - OWNER PROVIDED CONTRACTOR INSTALLED
2. SCBA STORAGE CART - NIC
3. SHELVING BY OWNER - NIC
4. TOOL RACK BY OWNER - NIC
5. ICE MACHINE - OWNER PROVIDED CONTRACTOR INSTALLED
6. EXTRACTOR - OWNER PROVIDED CONTRACTOR INSTALLED
7. DRYER CABINET - OWNER PROVIDED CONTRACTOR INSTALLED
8. COPY MACHINE - NIC
9. FILING CABINET - NIC
10. WALL MTD TV - NIC (CONTR. TO PROVIDE BLOCKING) COORD W/ ARCH.
11. WALL MTD TV BY CONTR. - RE: SPECS
12. DESK AND CHAIR - INCLUDE IN FURNITURE ALLOWANCE
13. CHAIR - INCLUDE IN FURNITURE ALLOWANCE
14. DINING TABLE AND CHAIRS - TABLE BY OWNER CHAIRS INCL. IN FURN ALLOWANCE
15. CONFERENCE TABLE AND CHAIRS - INCLUDE IN FURNITURE ALLOWANCE
16. CREDENZA - INCLUDE IN FURNITURE ALLOWANCE
17. END TABLE - INCLUDE IN FURNITURE ALLOWANCE
18. NIGHT STAND - INCLUDE IN FURNITURE ALLOWANCE
19. BED - NIC
20. REFRIGERATOR W/ FREEZER
21. MICROWAVE - NIC
22. COMMERCIAL COFFEE MAKER - NIC - PROVIDE WATER LINE
23. DISHWASHER
24. COMMERCIAL GAS STOVE W/ ANSUL SYSTEM
25. HEAVY DUTY LARGE CAPACITY WASHER
26. HEAVY DUTY LARGE CAPACITY DRYER
27A FLOOR MOUNTED GEAR STORAGE RACKS SINGLE SIDED - (12 SPACES TOTAL) SEE 5/A82
27B FLOOR MOUNTED GEAR STORAGE RACKS DOUBLE SIDED - (12 SPACES TOTAL) SEE 5/A82
28 UNDERCOUNTER ICE MAKER
29 DRAFTING TABLE - INCLUDE IN FURNITURE ALLOWANCE
30 SHELVING INCLUDE IN FURNITURE ALLOWANCE
31 96" ROUND PVC SIGN COORDINATE LOCATION WITH ARCHITECT SEE SPECS
32 SAFE HAVEN BABY BOX - COORDINATE SIZE AND INSTALLATION WITH MANUFACTURER



NORTH

FURNITURE AND EQUIPMENT FLOOR PLAN

SCALE: 1/8" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS			03/31/23
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BID DOCUMENTS			08/01/23

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PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8.1.23 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

FURNITURE AND EQUIPMENT FLOOR PLAN

SHEET NUMBER:

A1.1B

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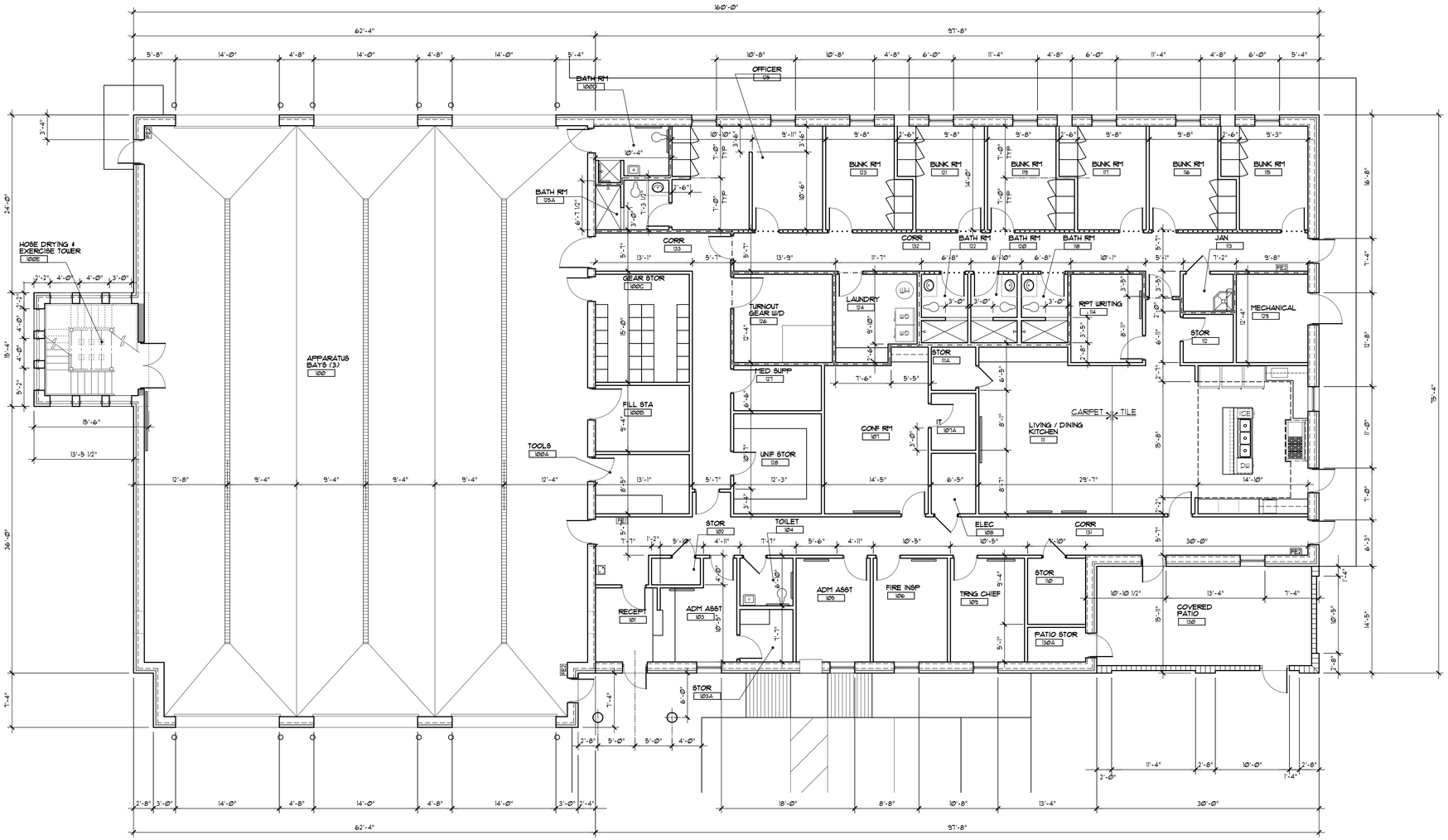

NORTH

DIMENSIONED FLOOR PLAN

SCALE: 1/8" = 1'-0"

NOTES

1. UNLESS NOTED OTHERWISE INTERIOR PLAN DIMENSIONS ARE TO INTERIOR FACE OF ICF FORM (FOAM)
2. UNLESS NOTED OTHERWISE EXTERIOR PLAN DIMENSIONS ARE TO EXTERIOR FACE OF SPLITFACE VENEER

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR , STE 100
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PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8.1.23 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

DIMENSIONED FLOOR PLAN

SHEET NUMBER:

A1.1C

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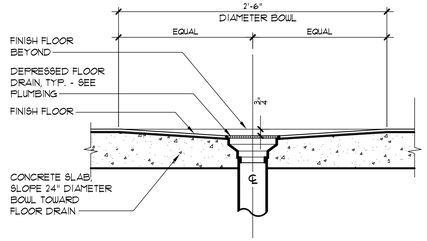


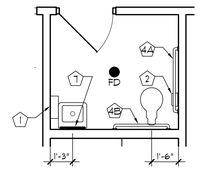
8 FLOOR DRAIN DETAIL, TYP.
SCALE: 1 1/2" = 1'-0"

TOILET ACCESSORY SCHEDULE

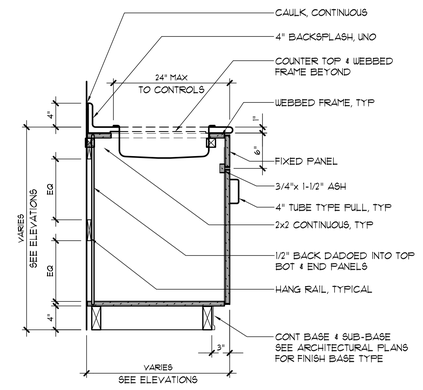
MARK (#)	ITEM DESCRIPTION	MOUNTING HEIGHTS (ABOVE FIN FLR)
1	SURFACE MTD. RESIDENTIAL PAPER TOWEL HOLDER	48" BTM. OF UNIT
2	SURFACE MTD. RESIDENTIAL TOILET TISSUE HOLDER	24" TO CENTER
3	GRAB BARS (FUTURE) PROVIDE BLOCKING IN WALL	-
4A	GRAB BAR - 3'-6"L x 1-1/2" DIA	33" A.F.F. (TOP)
4B	GRAB BAR - 3'-0"L x 1-1/2" DIA	33" A.F.F. (TOP)
5	NOT USED	-
6	NOT USED	-
7	FIXED MIRROR 18"W x 36"H	39" BTM. OF UNIT
8	SHOWER CURTAIN ROD	74" TO CENTER
9	SHOWER CURTAIN W/ HOOKS	* SEE NOTE
10	SINGLE ROBE HOOK, MOUNT ON INSIDE OF DOOR	54" (HC 48") TO CEN.
11	24" TOWEL BAR	33" A.F.F. (TOP)
12	20"H x 12"W RECESSED TILE SHELF	40" TOP OF UNIT
13	UTILITY SHELF W/ MOP RAIL (JANITOR CLOSET 116)	60" TOP OF SHELF

* MOUNTED ON HEAVY DUTY SHOWER CURTAIN ROD (ACCESSORY # 8)

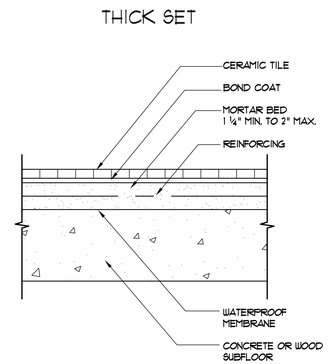
ALL ACCESSORIES SHALL BE PROVIDED AND INSTALLED IN COMPLIANCES WITH THE CURRENT EDITION OF THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION



3 ENLARGED PLAN RM 104
SCALE: 1/4" = 1'-0"

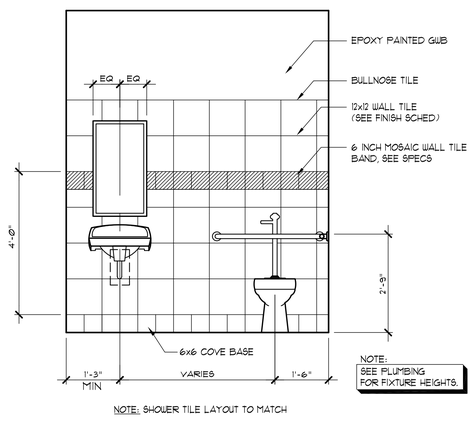


10 SINK BASE CABINET W/DOOR
SCALE: 1" - 1'-0"



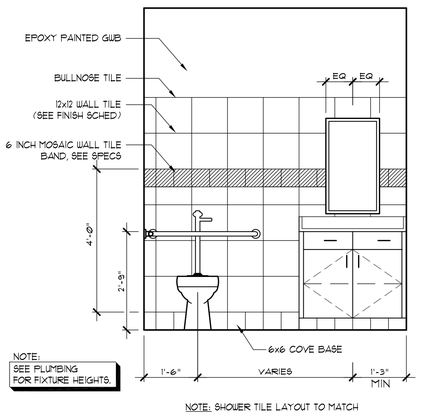
7 FLOOR TILE DETAIL, TYP.
SCALE: 3" = 1'-0"

3@DTB1



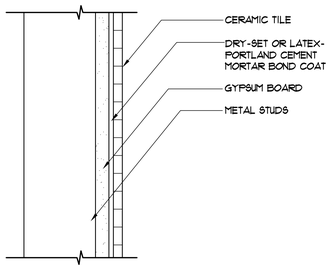
NOTE: SHOWER TILE LAYOUT TO MATCH

5 TYP. TOILET ELEVATION
SCALE: 1/2" = 1'-0"



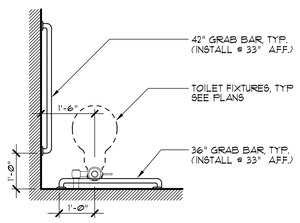
NOTE: SHOWER TILE LAYOUT TO MATCH

9 TYP. NON HC TOILET ELEVATION
SCALE: 1/2" = 1'-0"

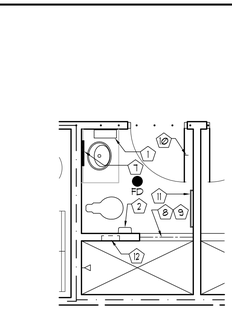


6 INTERIOR WALL TILE DETAIL, TYP.
SCALE: 3" = 1'-0"

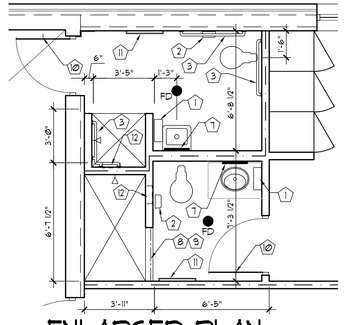
3@DTB1



4 TYP. GRAB BAR LAYOUT
SCALE: 1½" = 1'-0"



2 ENLG PLAN SPACE NO. 125 SPACE NO. 121 & 123 SIM.
SCALE: 1/4" = 1'-0"



1 ENLARGED PLAN SPACE NO. 100D & 128A
SCALE: 1/4" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA — DAVID VINCENT — AR0014954 — 8.1.23 — REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

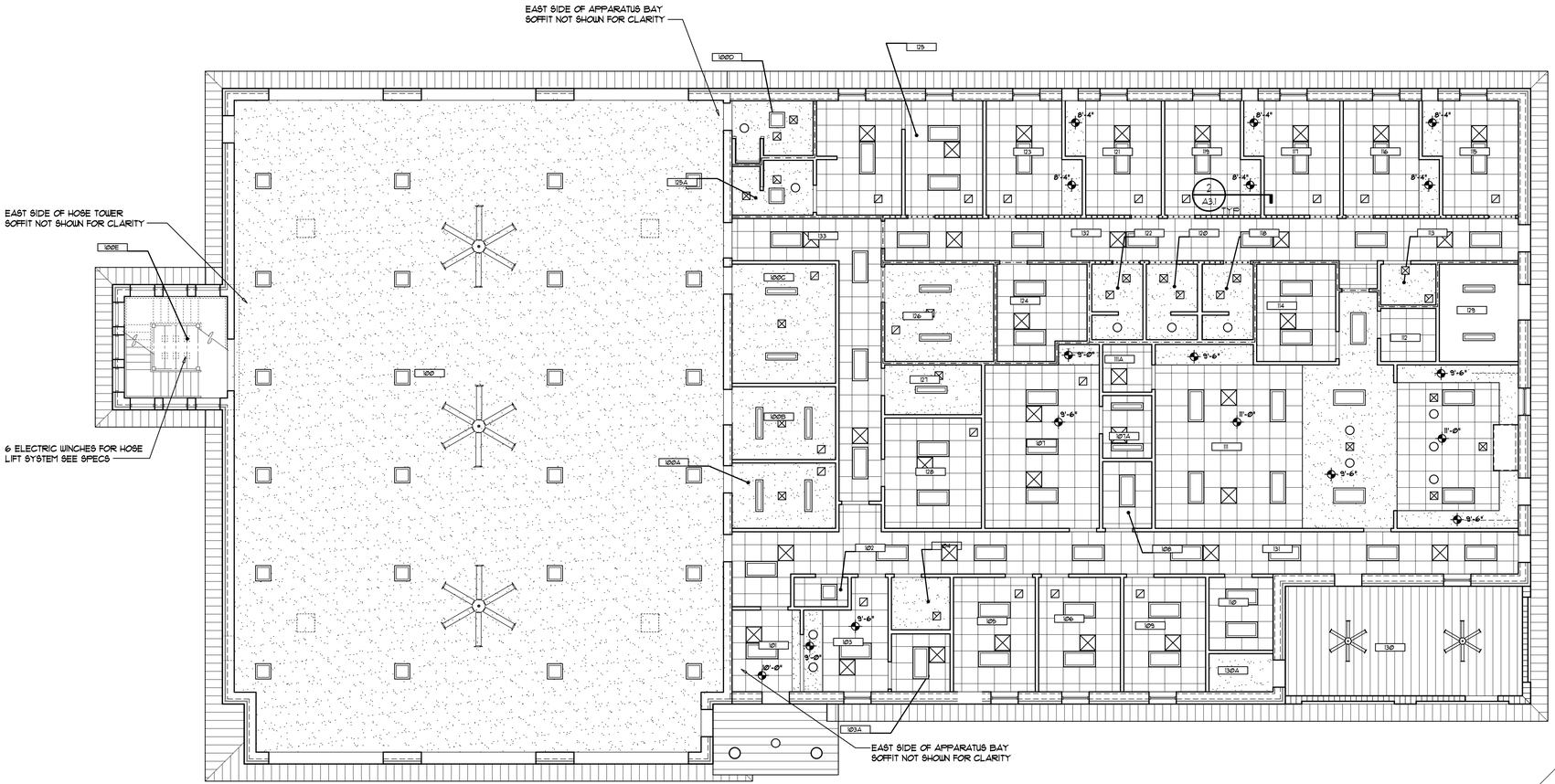
BAY COUNTY, FLORIDA

SHEET TITLE:

ENLARGED PLANS AND TOILET DETAILS

SHEET NUMBER:

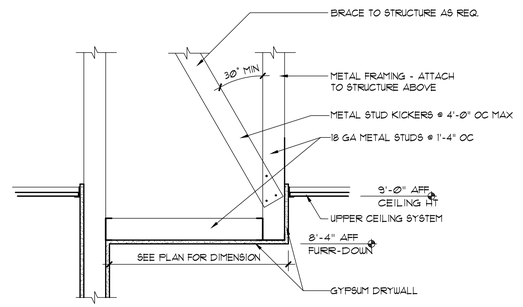
A2.1



NORTH

REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"



2 BULK-HEAD DTL

SCALE: 1" = 1'-0"

SYMBOL LEGEND

- 2'x4' FLUORESCENT FIXTURE
- 2'x4' EMERGENCY FLOURECENT FIXTURE
- 1'x4' FLUORESCENT FIXTURE
- 1'x4' EMERGENCY FLOURECENT FIXTURE
- 2'x2' FLUORESCENT FIXTURE
- 2'x2' EMERGENCY FLOURECENT FIXTURE
- RECESSED EMERGENCY LIGHT
- RECESSED LIGHT
- PENDANT LIGHT
- WALL MOUNTED EMERGENCY LIGHT
- EMERGENCY LIGHT
- TRACK LIGHTING
- EXIT LIGHT FIXTURE
- (S) SPEAKER
- (SD) SMOKE DETECTOR
- (HD) HEAT DETECTOR
- SUPPLY AIR DUCT (SIZE VARIES)
- RETURN OR OUTSIDE AIR DUCT (SIZE VARIES)
- EXHAUST AIR DUCT (SIZE VARIES)
- SUSPENDED 2'x2' ACOUSTIC CEILING TILE SYSTEM
- SUSPENDED GYPSUM BOARD CEILING. (SEE F/N SCHEDULE FOR GWB TYPE AND OTHER REQUIREMENTS).
- METAL SOFFIT
- EXPOSED STRUCTURE

NOTES

1. NOT ALL ITEMS MAY BE REQUIRED - SEE PLANS
2. SEE MECHANICAL, PLUMBING, ELECTRICAL AND FIRE-PROTECTION SHEETS FOR ADDITIONAL CEILING FIXTURES AND SYSTEMS INFORMATION.
3. COORDINATE WITH A/E WHERE FIXTURE OR DEVICE LOCATION SHOWN ON THIS PLAN IS IN CONFLICT WITH LOCATION SHOWN ON M, E, P, & FP PLANS.
4. PRIOR TO ROUGH-IN, COORDINATE WITH A/E WHERE FIXTURE OR DEVICE LOCATION IS IN CONFLICT WITH ARCHITECTURAL FEATURES ETC.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8-1-23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

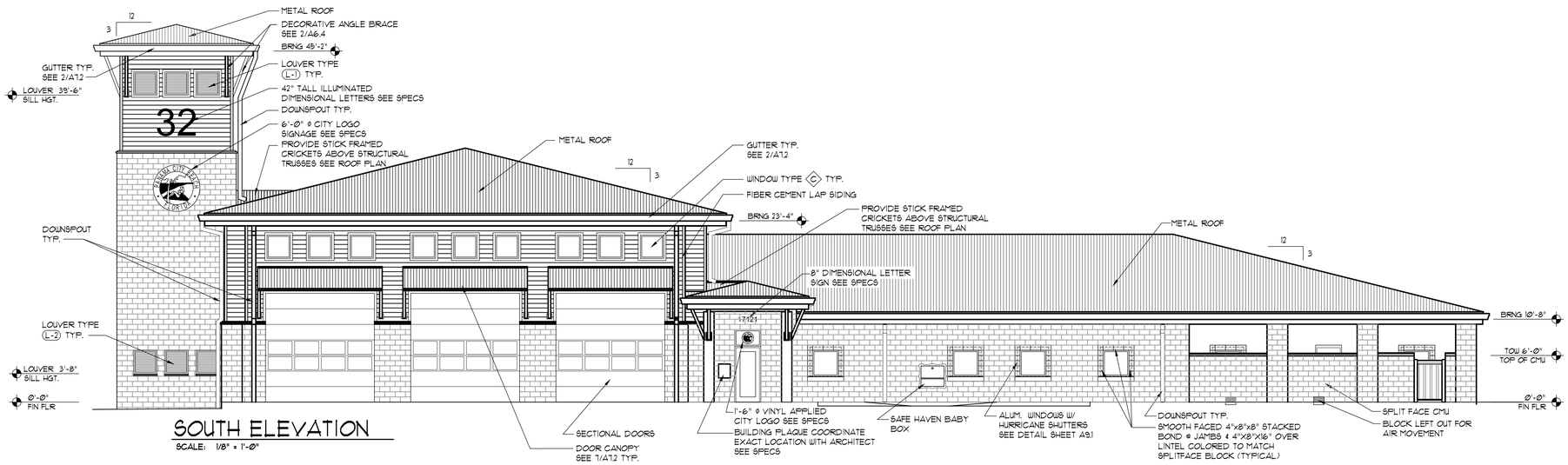
BAY COUNTY, FLORIDA

SHEET TITLE:

REFLECTED
CEILING PLAN

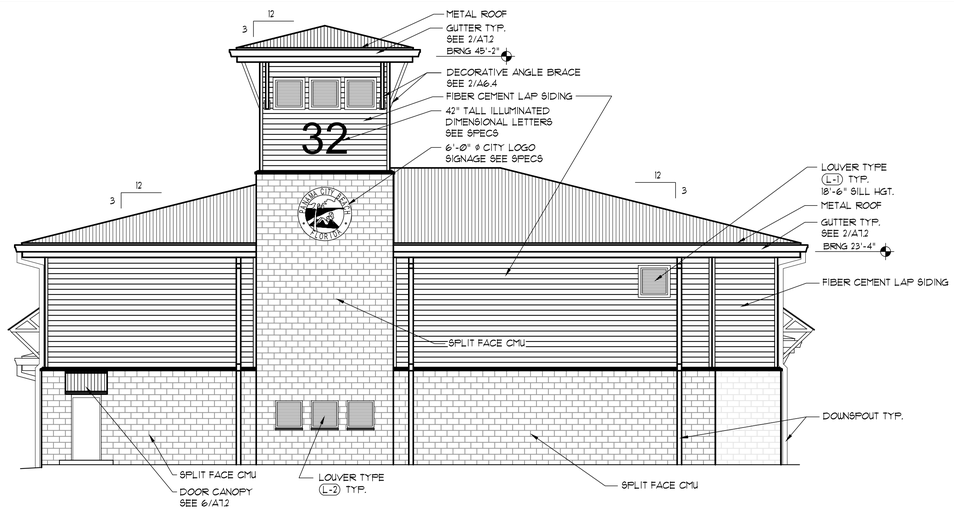
SHEET NUMBER:

A3.1



SOUTH ELEVATION

SCALE: 1/8" = 1'-Ø"



WEST ELEVATION

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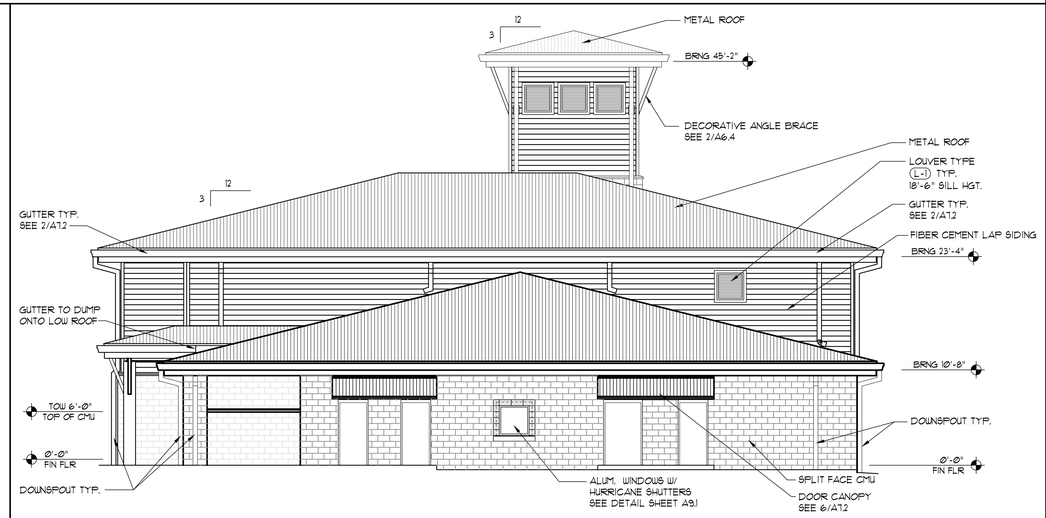

EAST ELEVATION

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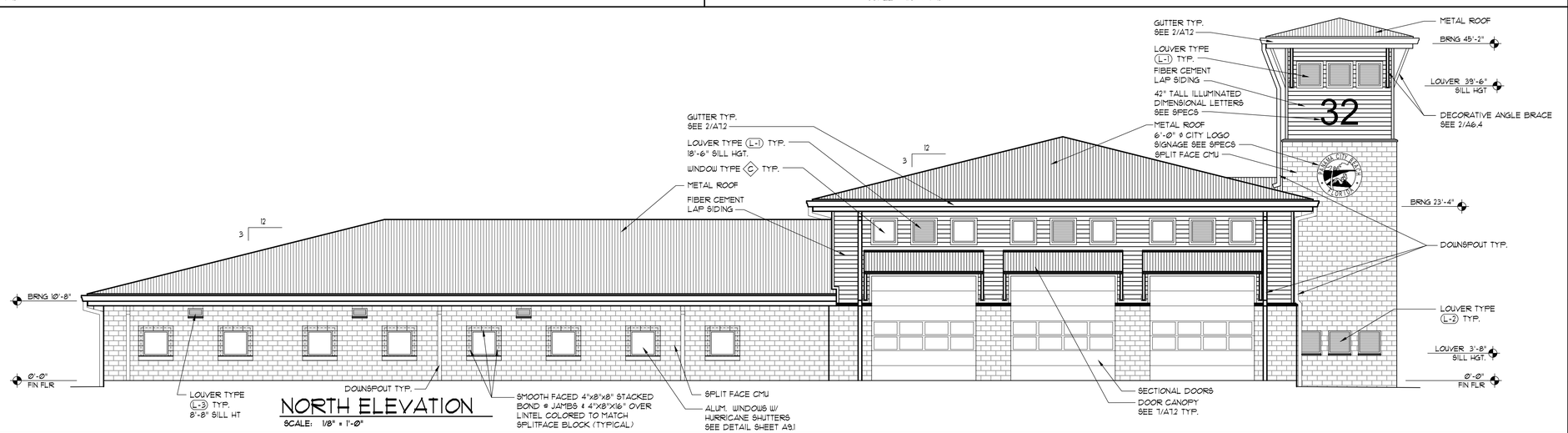


NORTH ELEVATION

SCALE: 1/8" = 1'-Ø"

GENERAL NOTES:

1.) SEE MEP & TELECOMMUNICATION PLANS FOR ADDITIONAL INFORMATION ON EXTERIOR WALL MOUNTED FIXTURES & DEVICES.

2) CONTRACTOR SHALL SUBMIT DRAWING SHOWING PROPOSED MASONRY EXPANSION JOINT LOCATIONS & SPACING (PER SPECIFICATION REQUIREMENTS), FOR APPROVAL BY ARCHITECT.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA — DAVID VINCENT — AR0014954 — 8.1.23 — REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH FIRE STATION #32 HUTCHISON BLVD

BAY COUNTY, FLORIDA

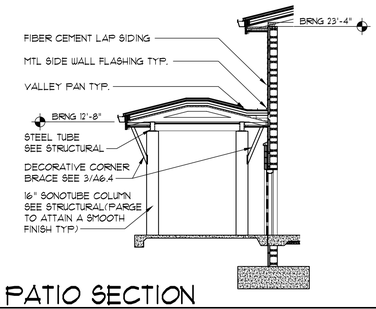
SHEET TITLE:

EXTERIOR ELEVATIONS

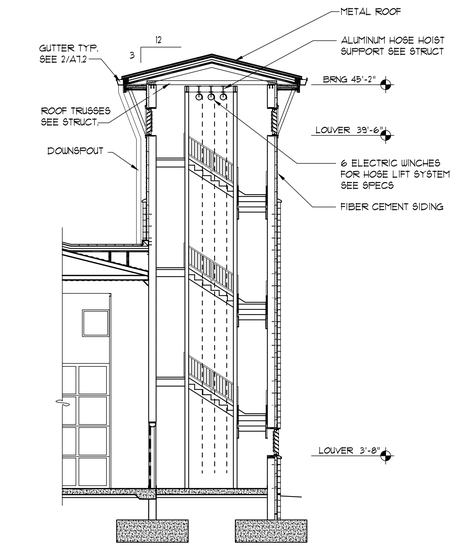
SHEET NUMBER:

A4.1

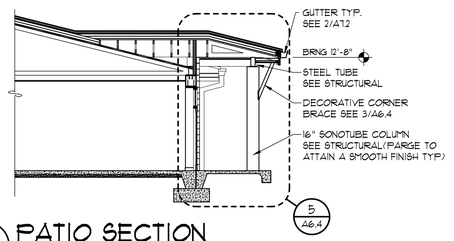
J:\22833-PCB Fire Station #32 Hutchison Blvd\A4-1.dwg, 7/31/2023 2:40:35 PM, Shane Boullie, Adobe PDF, 1:1



F PATIO SECTION
SCALE: 1/8" = 1'-0"



C BUILDING SECTION
SCALE: 1/8" = 1'-0"



E PATIO SECTION
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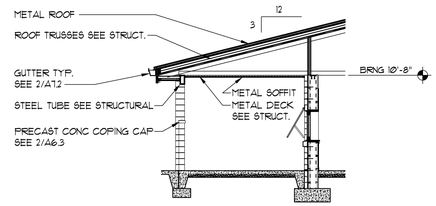

D PATIO SECTION
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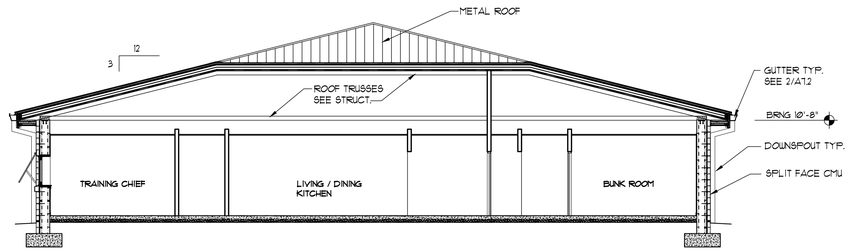

B BUILDING SECTION
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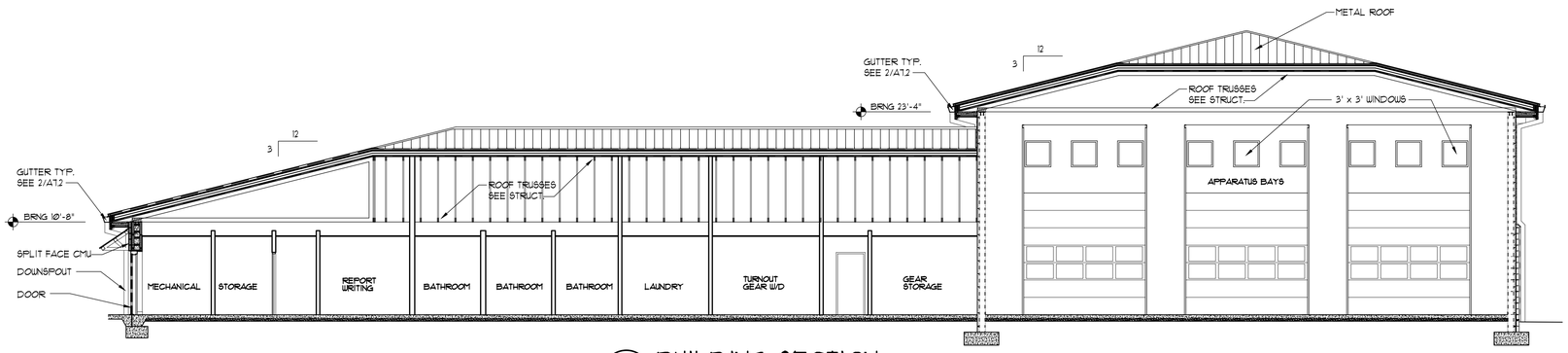

A BUILDING SECTION
SCALE: 1/8" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

BUILDING SECTIONS

SHEET NUMBER:

A5.1

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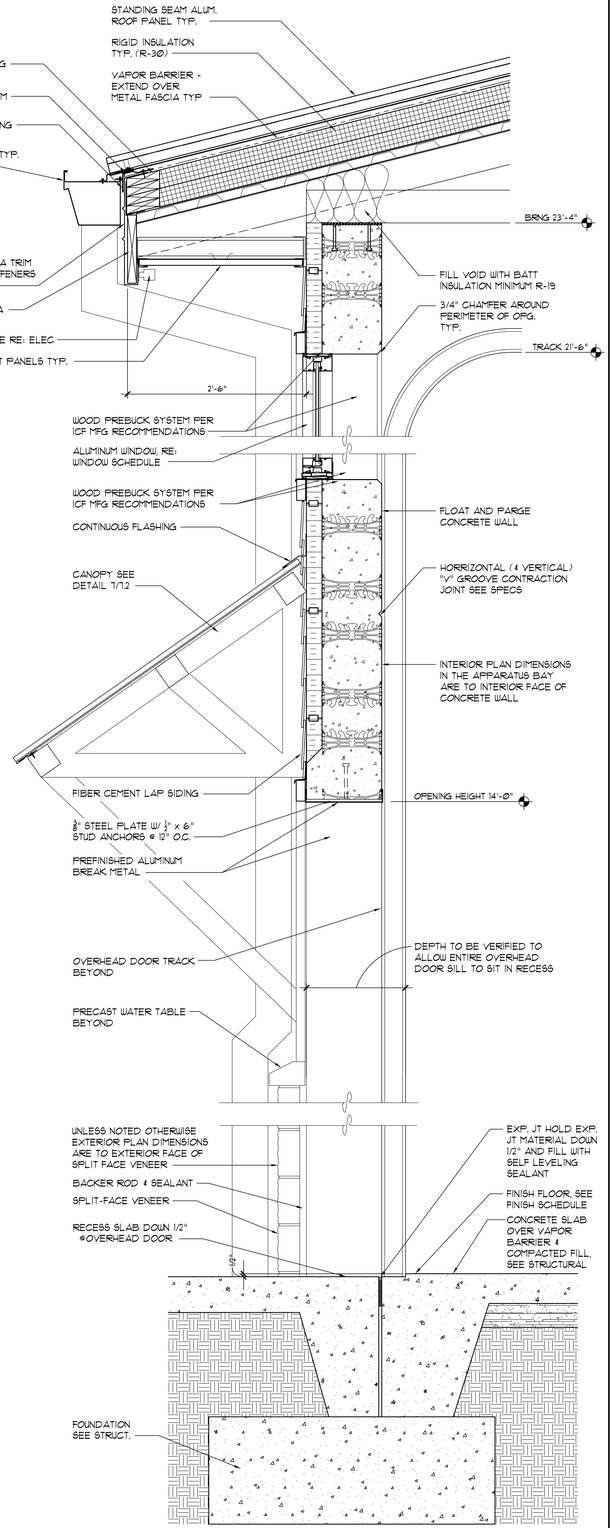
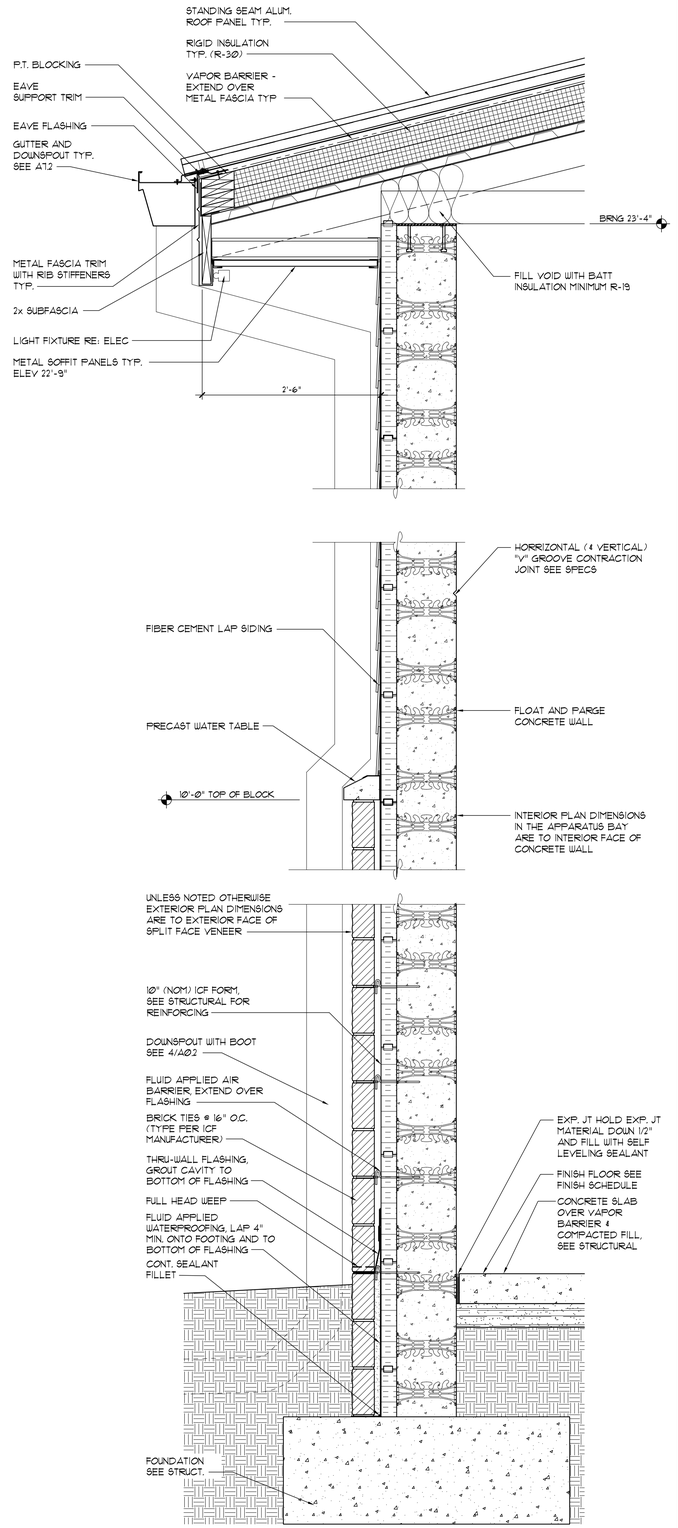


3 TYPICAL WALL SECTION
SCALE: 1" = 1'-0"



2 TYPICAL WALL SECTION
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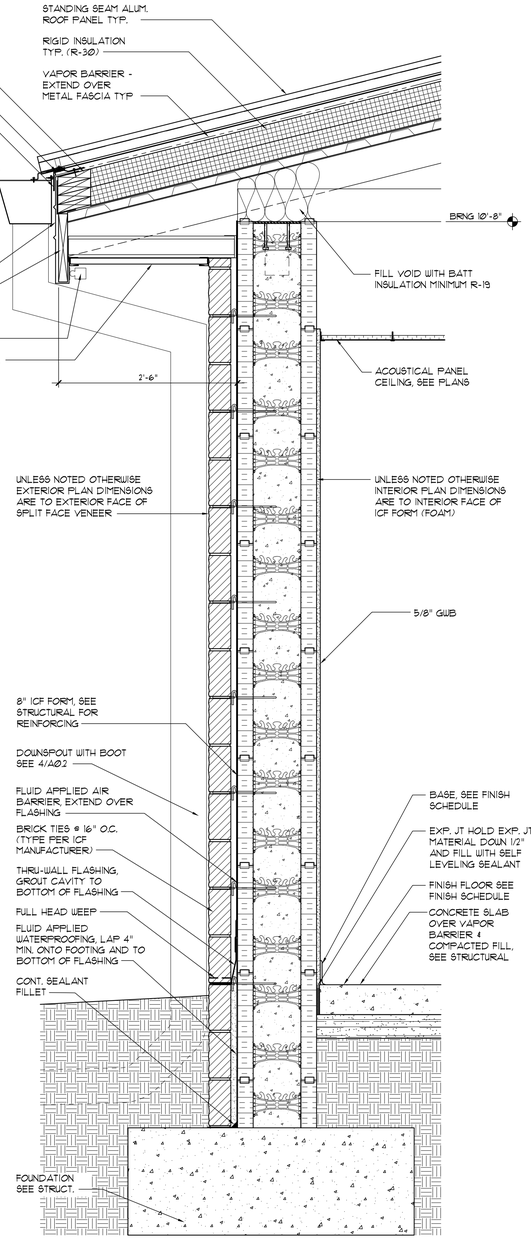
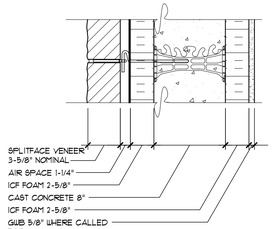
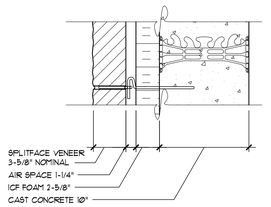


1 TYPICAL WALL SECTION
SCALE: 1" = 1'-0"

EXTERIOR WALL THICKNESS LEGEND



WALL TYPE A



WALL TYPE B

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8-1-23 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

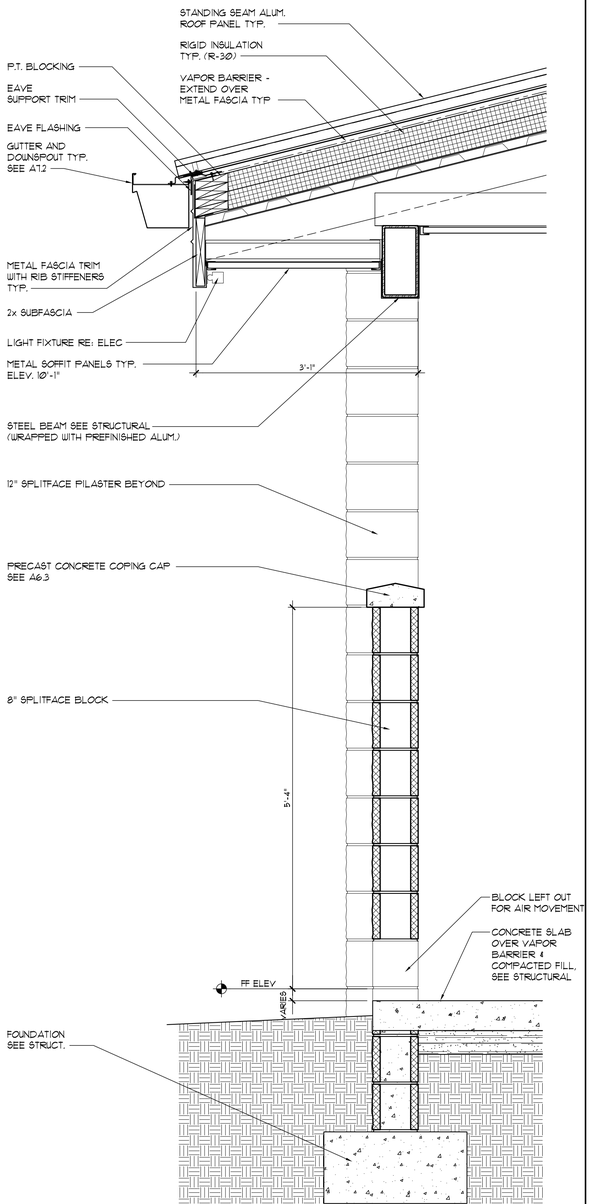
BAY COUNTY, FLORIDA

SHEET TITLE:

WALL SECTIONS

SHEET NUMBER:

A6.1



3 COVERED PATIO SECTION
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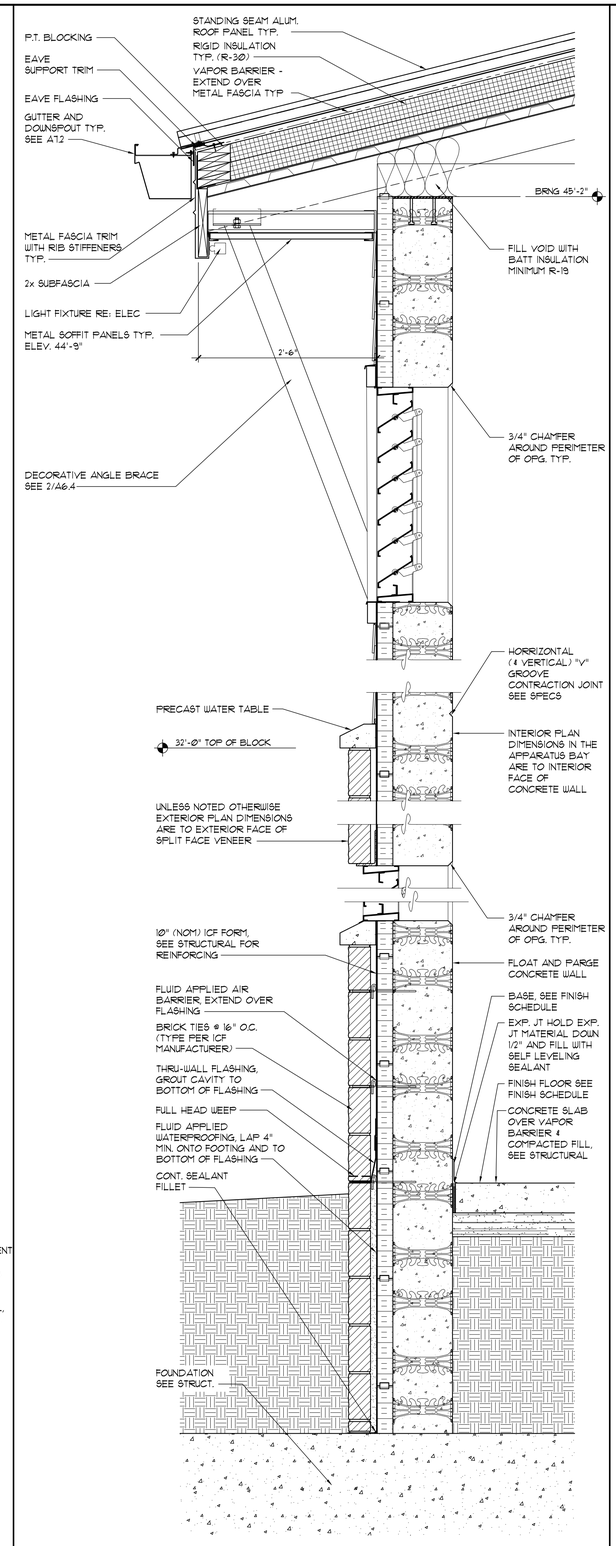
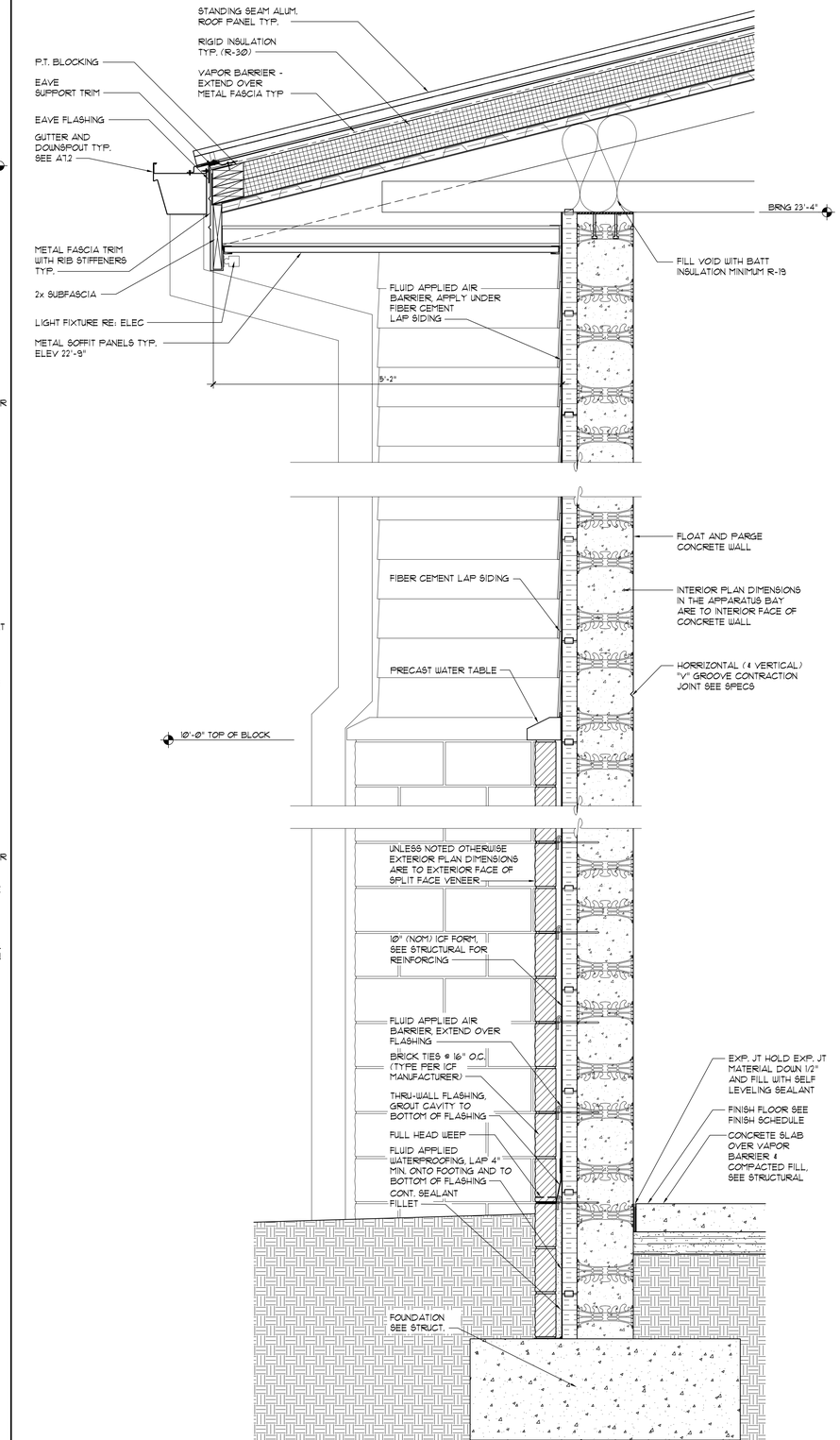


2 TYPICAL WALL SECTION
SCALE: 1" = 1'-0"



1 TYPICAL WALL SECTION
SCALE: 1" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

WALL SECTIONS

SHEET NUMBER:

A6.2

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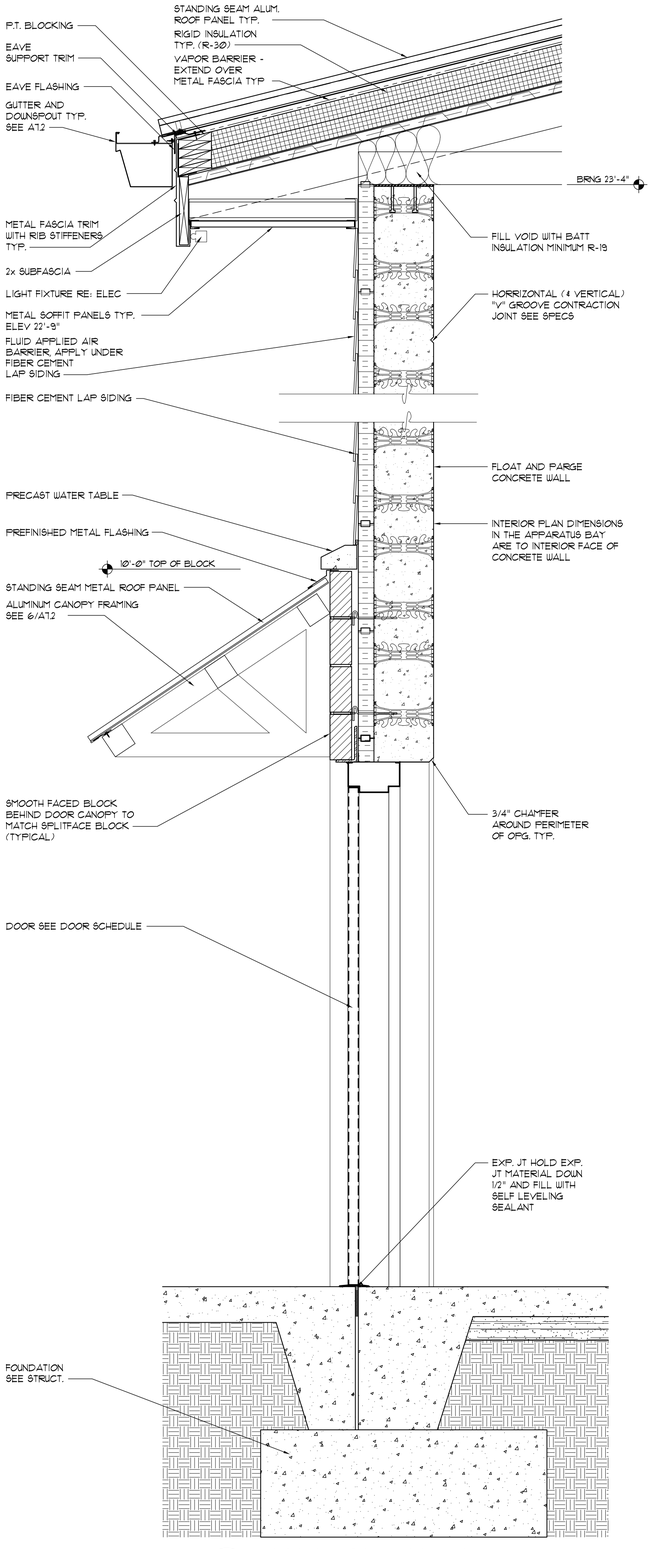
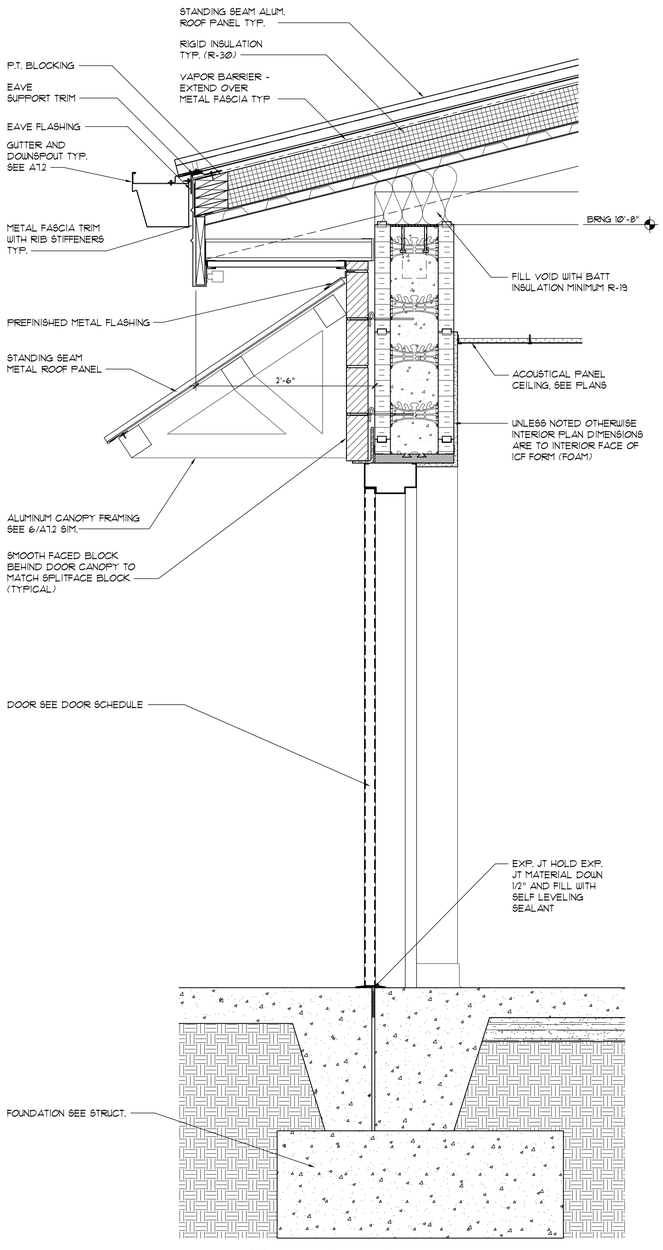
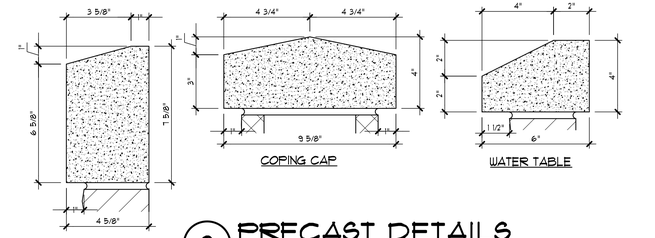


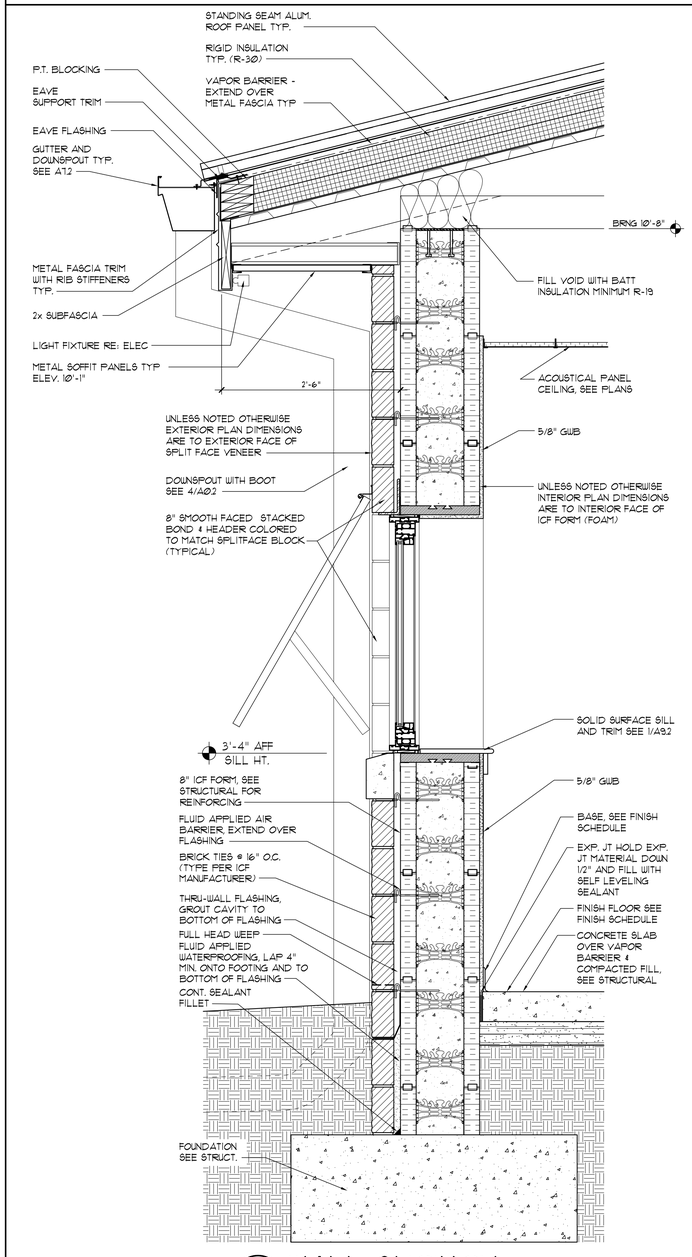
4 WALL SECTION
SCALE: 1" = 1'-0"



3 WALL SECTION
SCALE: 1" = 1'-0"



2 PRECAST DETAILS
SCALE: N.T.S.



1 WALL SECTION
SCALE: 1" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

WALL SECTIONS

SHEET NUMBER:

A6.3

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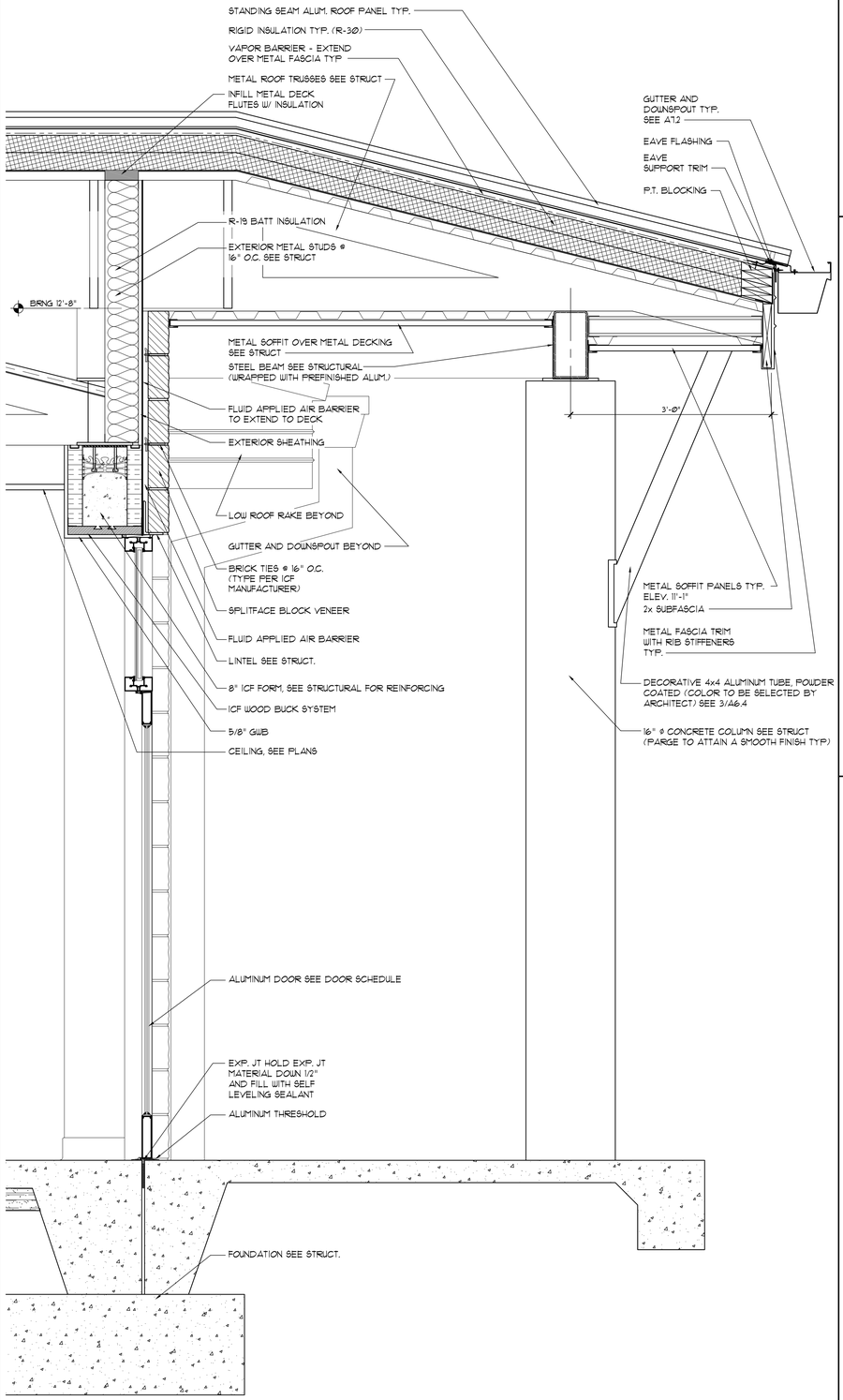
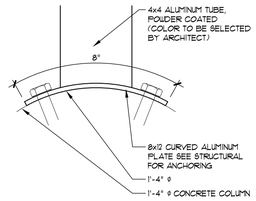
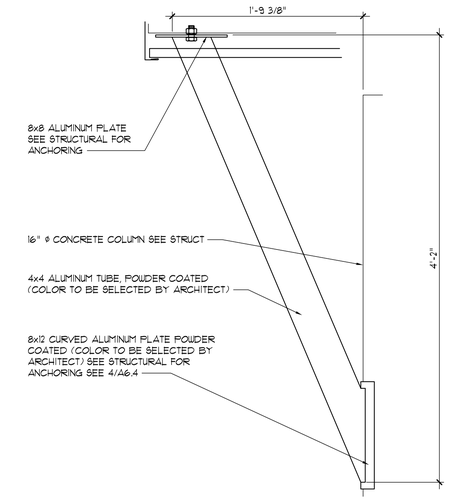


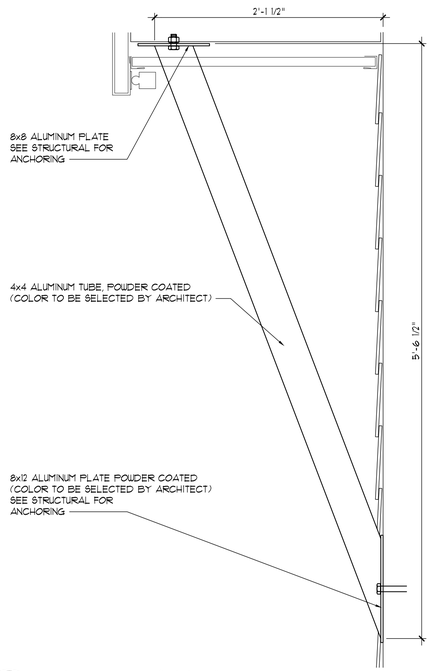
5 ENTRY SECTION
SCALE: 1" = 1'-0"



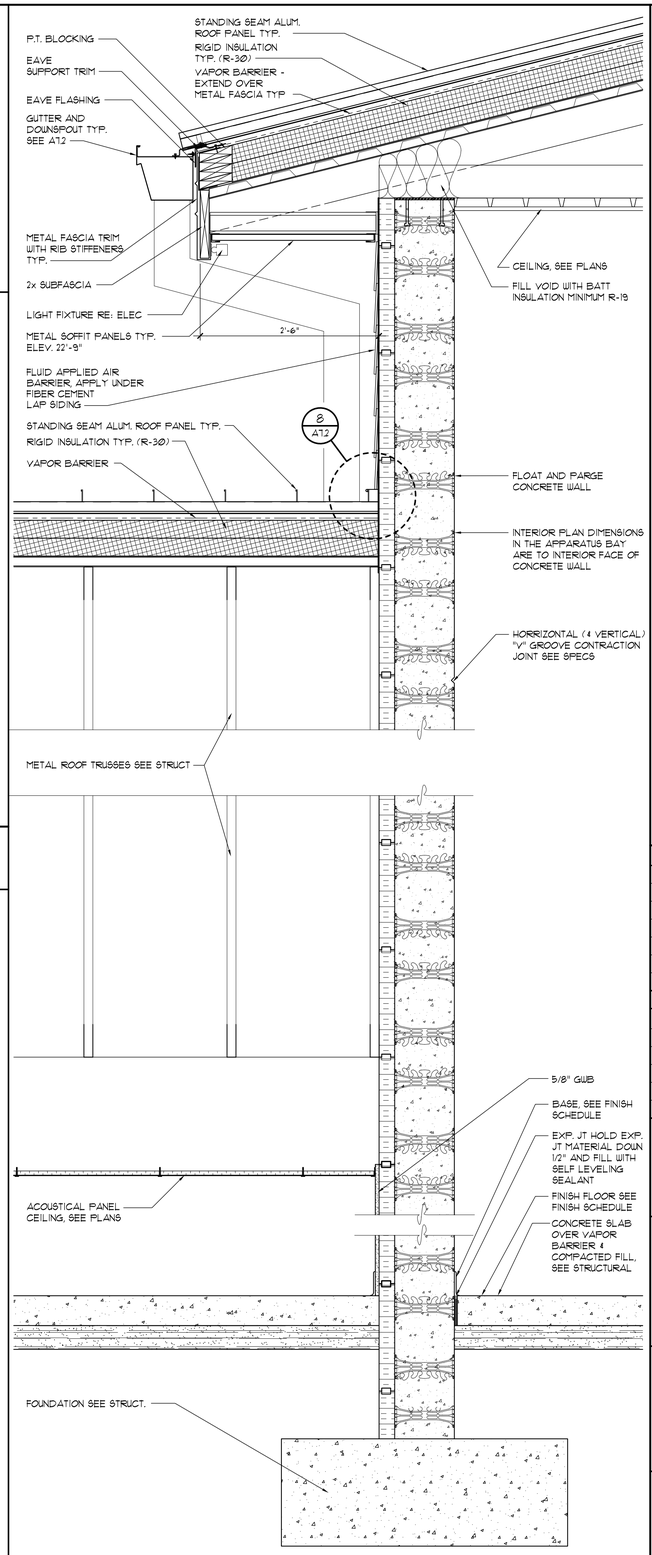
4 CURVED PLATE DETAIL
SCALE: 3" = 1'-0"



3 DECORATIVE CORNER BRACE @ FRONT ENTRY
SCALE: 1-1/2" = 1'-0"



2 DECORATIVE CORNER BRACE
SCALE: 1-1/2" = 1'-0"



1 WALL SECTION
SCALE: 1" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8.1.25 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

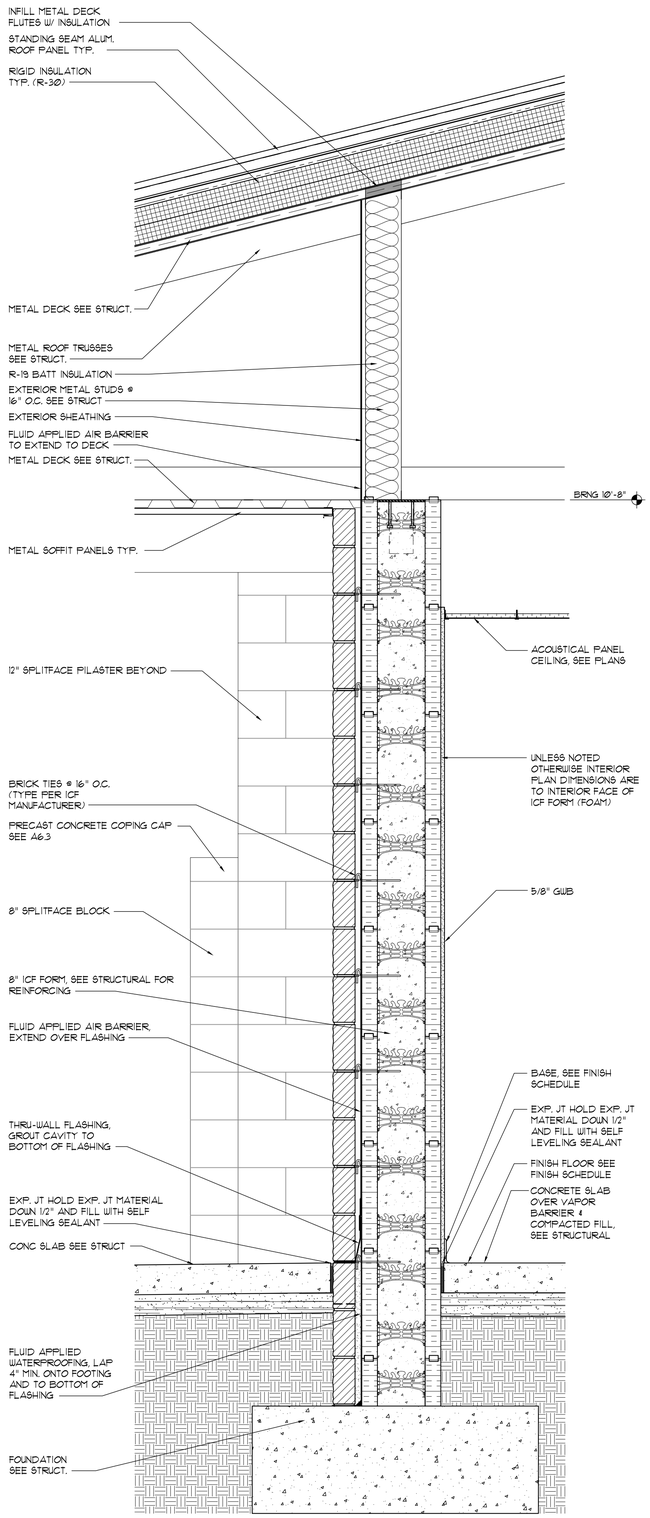
BAY COUNTY, FLORIDA

SHEET TITLE:

WALL SECTIONS

SHEET NUMBER:

A6.4



2 WALL SECTION
SCALE: 1" = 1'-0"

1 NOT USED
SCALE: 1" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

WALL SECTIONS

SHEET NUMBER:

A6.5

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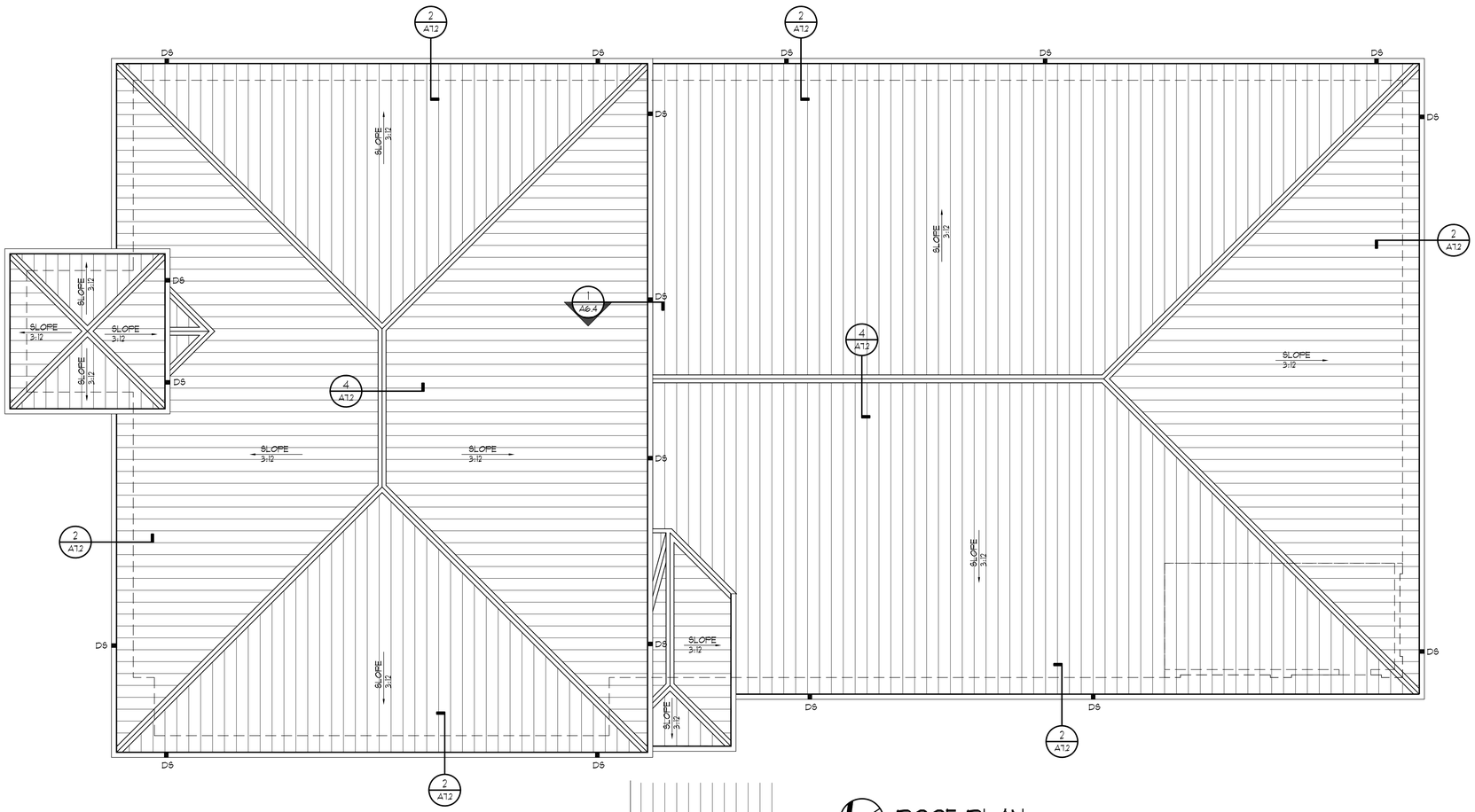
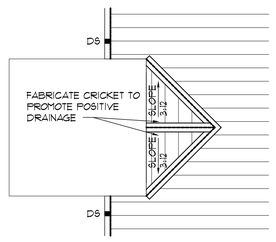
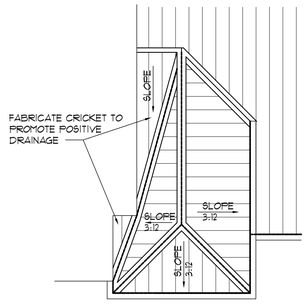




LOW ROOF PLAN

SCALE: 1/8" = 1'-0"



LOW ROOF PLAN

SCALE: 1/8" = 1'-0"

NORTH

ROOF PLAN

SCALE: 1/8" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR , STE 100
PANAMA CITY BEACH, FL
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Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

ROOF PLAN

SHEET NUMBER:

A7.1

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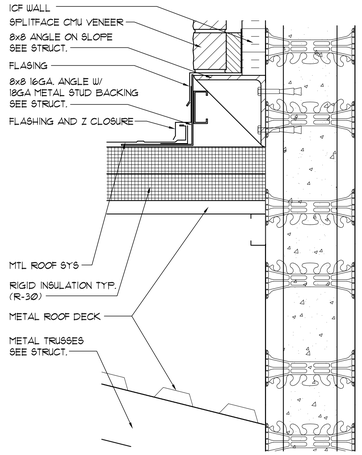
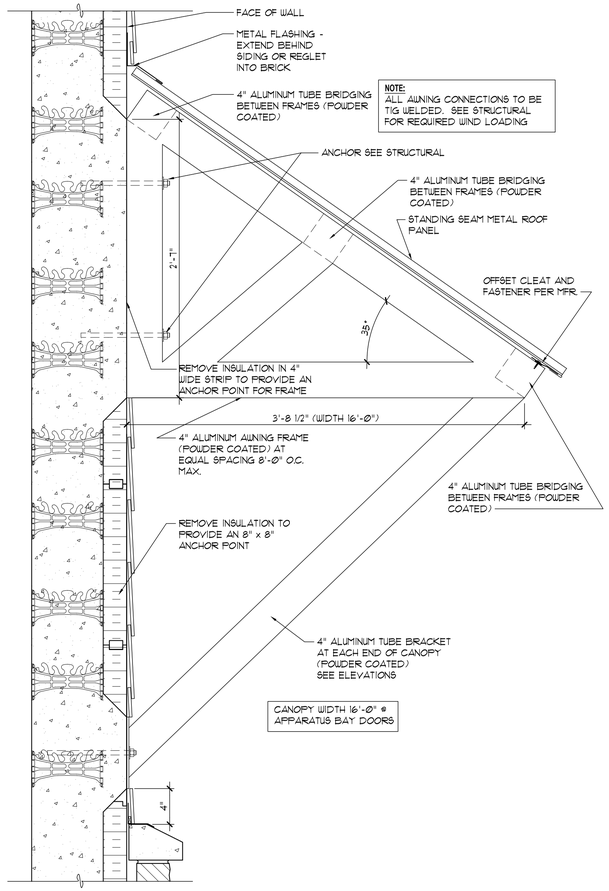
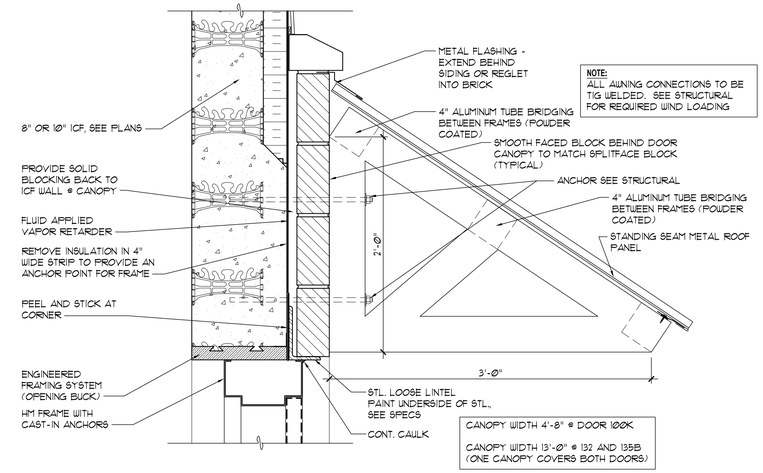


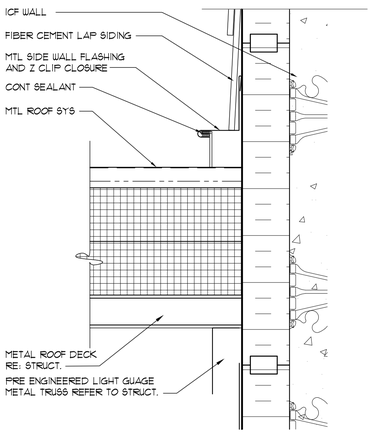
9 WALL TO ROOF DETAIL
SCALE: 1-1/2" = 1'-0"



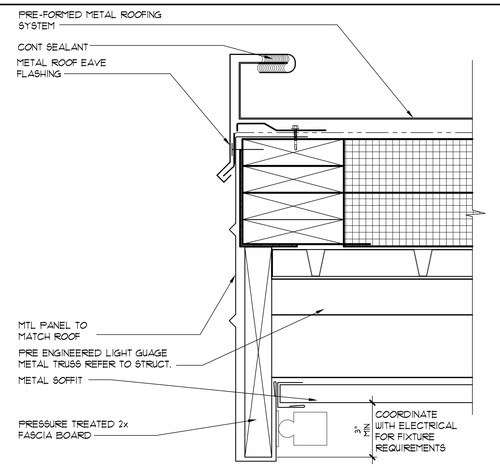
7 TYP DOOR CANOPY
SCALE: 1 1/2" = 1'-0"



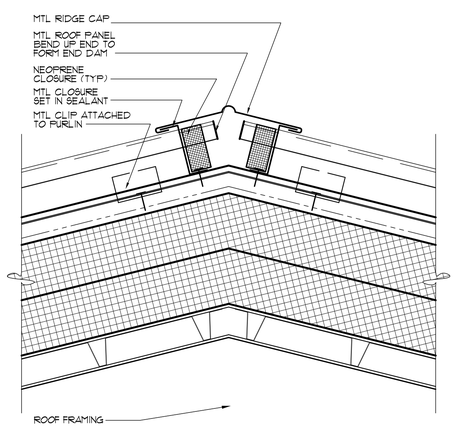
6 WALK DOOR CANOPY
SCALE: 1 1/2" = 1'-0"



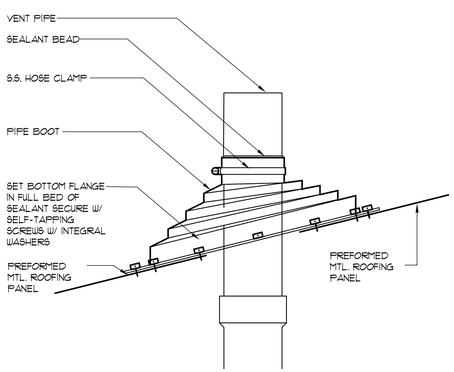
8 WALL TO ROOF DETAIL
SCALE: 3" = 1'-0"



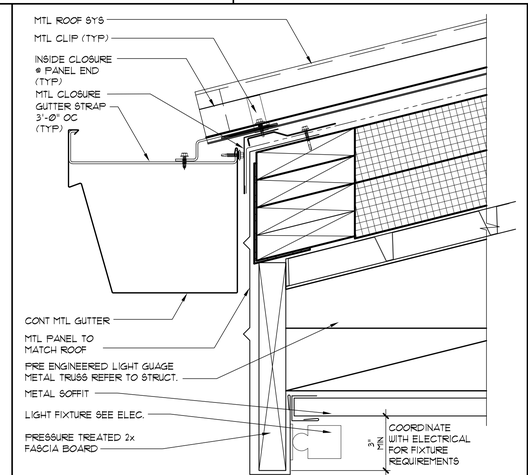
5 TYP. RAKE DETAIL
SCALE: 3" = 1'-0"



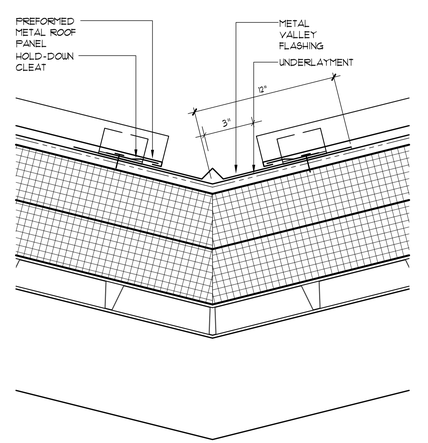
4 TYP RIDGE DETAIL
SCALE: 3" = 1'-0"



3 TYP PIPE PENETRATION
SCALE: 3" = 1'-0"



2 EAVE GUTTER DETAIL
SCALE: 3" = 1'-0"



1 VALLEY DETAIL
SCALE: N.T.S.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA — DAVID VINCENT — AR0014954 — 8.1.23 — REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

ROOF DETAILS

SHEET NUMBER:

A7.2

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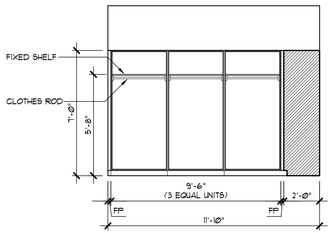
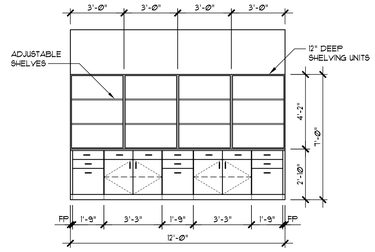
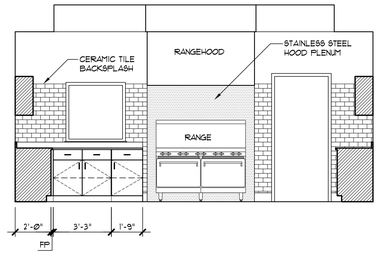


12 UNIFORM STORAGE 131
SCALE: 1/4" = 1'-0"



8 LIVING/DINING KITCHEN 114
SCALE: 1/4" = 1'-0"



4 LIVING/DINING KITCHEN 114
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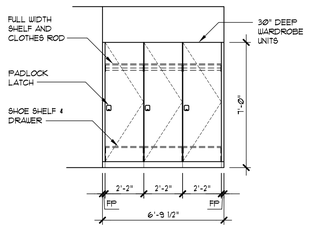
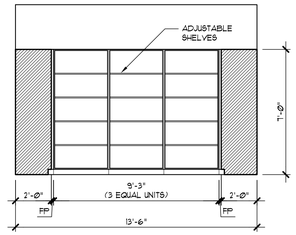
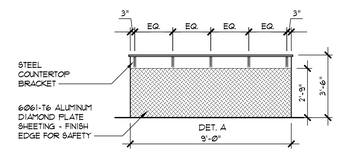


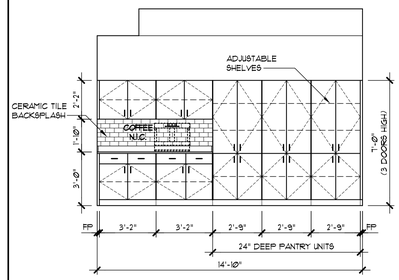
15 TYPICAL BUNK ROOM
SCALE: 1/4" = 1'-0"



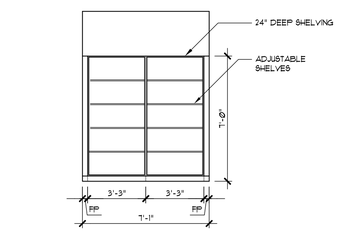
11 UNIFORM STORAGE 131
SCALE: 1/4" = 1'-0"



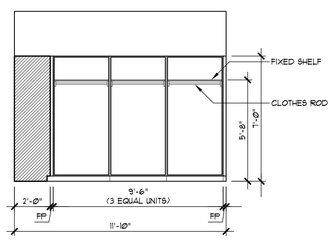
7 LIVING/DINING KITCHEN 114
SCALE: 1/4" = 1'-0"



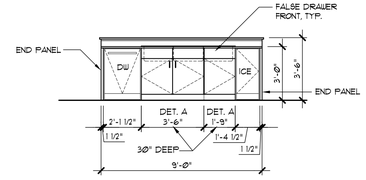
3 LIVING/DINING KITCHEN 114
SCALE: 1/4" = 1'-0"



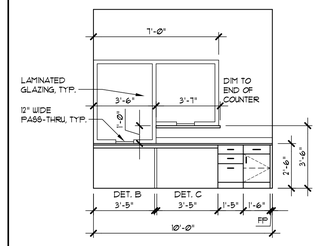
14 LAUNDRY 127
SCALE: 1/4" = 1'-0"



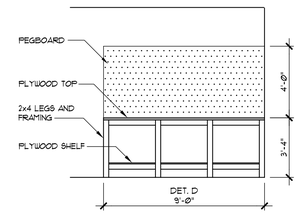
10 UNIFORM STORAGE 131
SCALE: 1/4" = 1'-0"



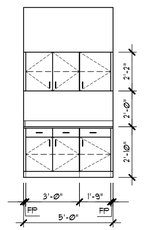
6 LIVING/DINING KITCHEN 114
SCALE: 1/4" = 1'-0"



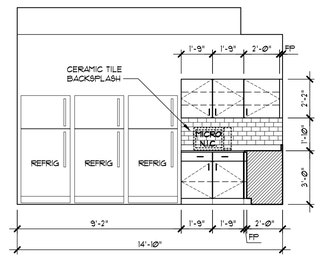
2 ADMIN ASST. 103
SCALE: 1/4" = 1'-0"



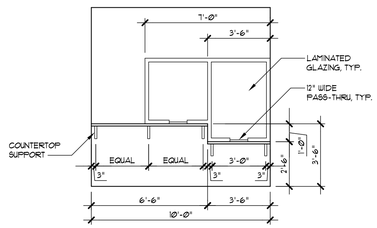
13 TOOLS 100A
SCALE: 1/4" = 1'-0"



9 CONFERENCE ROOM 108
SCALE: 1/4" = 1'-0"



5 LIVING/DINING KITCHEN 114
SCALE: 1/4" = 1'-0"



1 RECEPTION 101
SCALE: 1/4" = 1'-0"

NOTE:
REFER TO SHEET A8.2
FOR CASEWORK DETAILS

GENERAL CASEWORK NOTES:

1. ALL CASEWORK IS SPECIFIED UNDER "MANUFACTURED (CUSTOM) WOOD CASEWORK". SEE SPECIFICATIONS FOR CASEWORK CONSTRUCTION.
2. CASEWORK IS DIMENSIONED FOR MANUFACTURED CASEWORK UNIT SIZING AS REQUIRED FOR THE SPACE IN WHICH THEY ARE INSTALLED. CONTRACTOR SHALL NOTIFY ARCHITECT OF CONFLICTS WITH ANY ADJACENT WORK AND PRIOR TO CHANGING ANY UNITS SIZES.
3. PROVIDE 4" BACKSPLASH ON ALL COUNTER TOPS, U.N.O. WHERE CLEARANCE IS NOT SUFFICIENT BETWEEN WINDOW SILL AND TOP OF COUNTER, PROVIDE A CONTINUOUS 1" QUARTER ROUND WOOD MOLDING IN LIEU OF BACKSPLASH.
4. PROVIDE BACKSPLASHES AT ADJACENT WALLS OR FULL-HEIGHT CABINETS.
5. INSTALL COUNTERTOPS IN ONE PEICE. WHERE COUNTERS ARE ADJACENT AND PERPENDICULAR, OR OF LENGTH THAT IT CANNOT BE ONE PIECE, INSTALL SUCH THAT SEAMS BETWEEN COUNTERTOP SEGMENTS ARE NOT VISIBLE.
6. COORDINATE DIMENSIONAL INFORMATION ON CASEWORK WITH MANUFACTURER & INSTALLERS OF ALL EQUIPMENT, (INCLUDING OWNER PROVIDED EQUIPMENT). COORDINATE ALL UNDERCOUNTER EQUIPMENT (DISHWASHER, ICEMAKER, ETC.) WITH COUNTER HEIGHTS. CONTACT ARCHITECT WITH ANY CONFLICTS.
7. CONTRACTOR TO COORDINATE W/ ARCHITECT PRIOR TO CASEWORK CONSTRUCTION AND INSTALLATION. ALL CABINET BASES SHALL BE CONSTRUCTED OF WOOD OR EQUALLY DECAY RESISTANT MATERIAL AS APPROVED BY OWNER.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

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2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

CASEWORK ELEVATIONS

SHEET NUMBER:

A8.1

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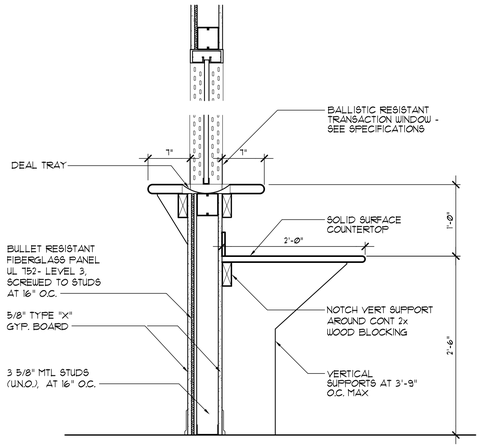
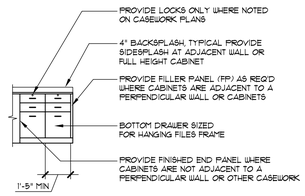


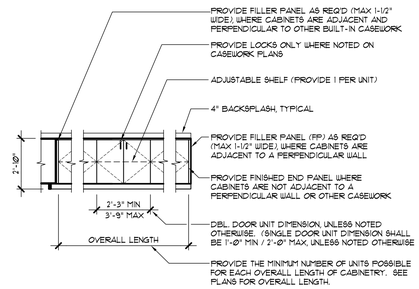
C TRANSACTION WINDOW

SCALE: 1" = 1'-0"



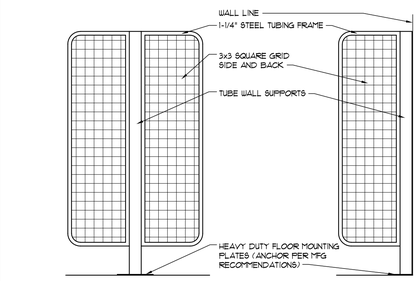
4 DRAWER BASE CABINETS

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



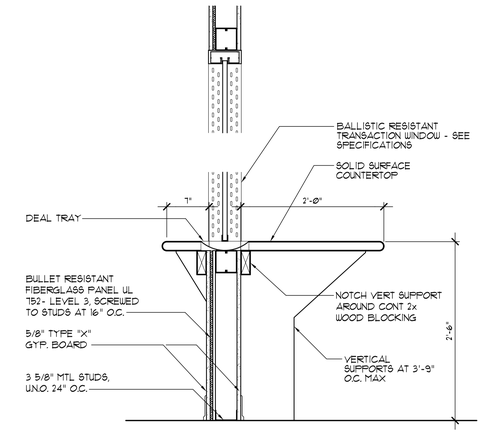
3 TYPICAL BASE CABINETS

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



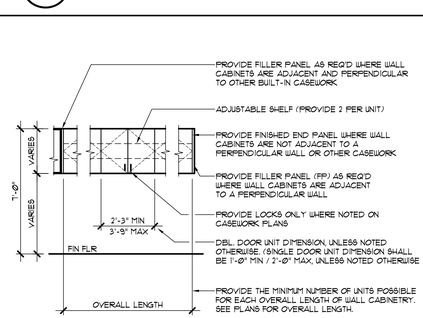
5 TURNOUT GEAR LOCKERS

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



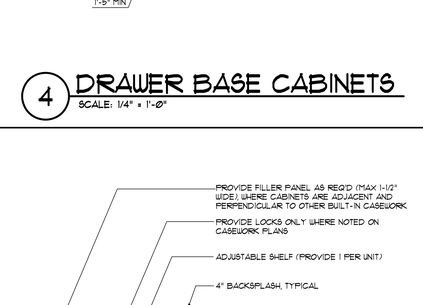
B TRANSACTION WINDOW

SCALE: 1" = 1'-0"



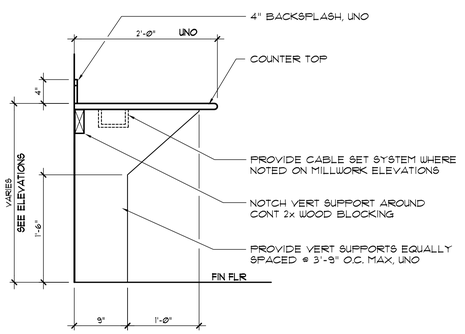
1 TYPICAL BASE CABINETS

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



2 TYPICAL UPPER CABINETS

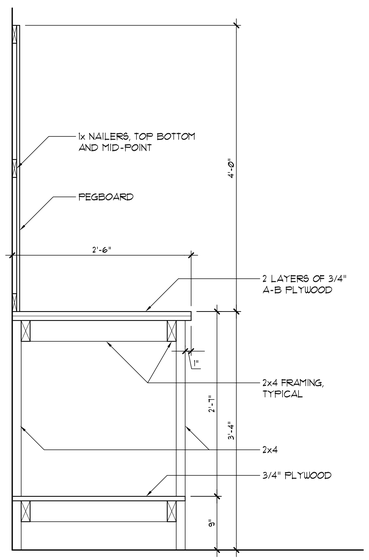
SCALE: 1/4" = 1'-0"



E COUNTER W/KNEE SPACE

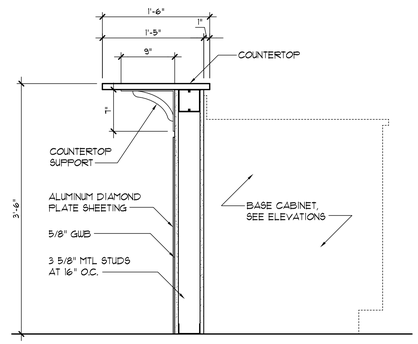
SCALE: 1" = 1'-0"

A-DT01



D TOOL BENCH

SCALE: 1" = 1'-0"



A ISLAND WALL

SCALE: 1" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
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PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8.1.23 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

CASEWORK DETAILS

SHEET NUMBER:

A8.2

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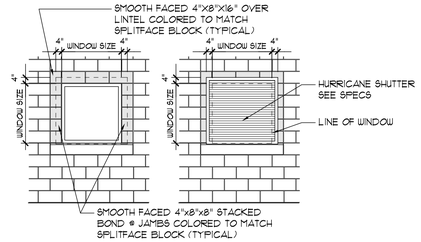
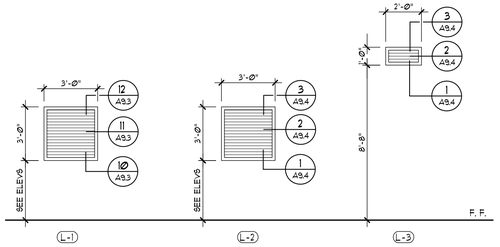


HURRICANE SHUTTER ELEVATIONS

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



LOUVER ELEVATIONS

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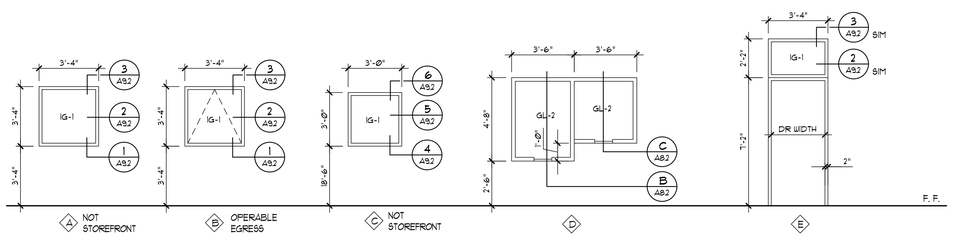
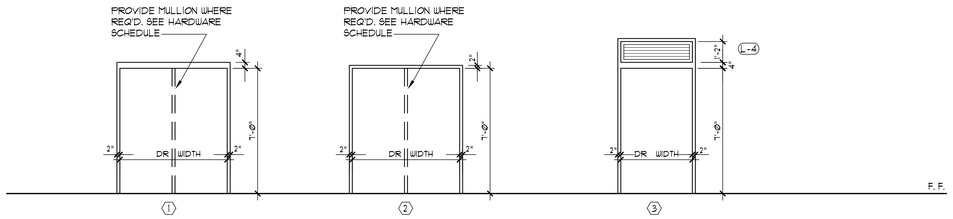


ALUMINUM FRAME ELEVATIONS

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



HOLLOW METAL FRAME ELEVATIONS

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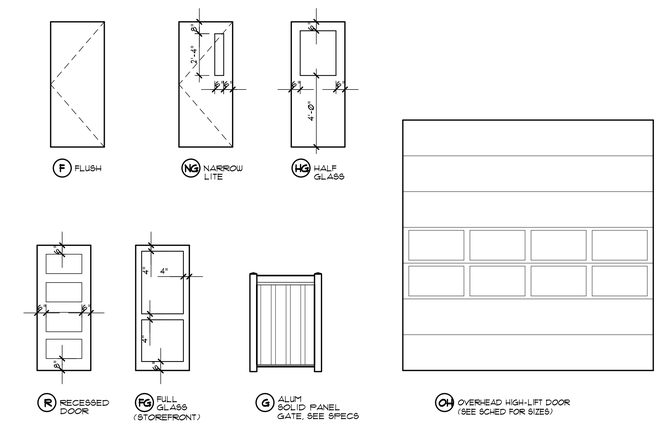


DOOR TYPES

SCALE: N.T.S.

DOOR SCHEDULE

MARK	TYPE	WIDTH	HEIGHT	THICK	DOOR MAT	GLAZING	RATING	FRAME TYPE	FRAME MAT	HDW-SET	HEAD	JAMB	SILL	REMARKS
100A	F	3-0	7-0	1-3/4	HM	-	-	2	HM	17	3/A9.3	2/A9.3	1/A9.1	-
100B	F	3-0	7-0	1-3/4	HM	-	-	2	HM	03	3/A9.3	2/A9.3	1/A9.1	-
100C	F	3-0	7-0	1-3/4	HM	-	-	2	HM	18	3/A9.3	2/A9.3	1/A9.1	-
100D	F	3-0	7-0	1-3/4	HM	-	-	2	HM	14	3/A9.3	2 & 1/A9.3	1/A9.1	-
100E	F	FR3-0	7-0	1-3/4	HM	-	-	2	HM	19	5/A9.3	4/A9.3	1/A9.1	-
100F	F	3-0	7-0	1-3/4	HM	-	-	1	HM	04	8/A9.2	7/A9.2	1/A9.1	1
100G	OH	14-0	14-0	PER MFG	STL	-	-	PER MFG	STL	01	11/A9.2	9 & 10/A9.2	-	-
100H	OH	14-0	14-0	PER MFG	STL	-	-	PER MFG	STL	01	11/A9.2	9 & 10/A9.2	-	-
100J	OH	14-0	14-0	PER MFG	STL	-	-	PER MFG	STL	01	11/A9.2	9 & 10/A9.2	-	-
100K	F	3-0	7-0	1-3/4	HM	-	-	1	HM	04	8/A9.2	7/A9.2	1/A9.1	1
100L	OH	14-0	14-0	PER MFG	STL	-	-	PER MFG	STL	01	11/A9.2	9 & 10/A9.2	-	-
100M	OH	14-0	14-0	PER MFG	STL	-	-	PER MFG	STL	01	11/A9.2	9 & 10/A9.2	-	-
100N	OH	14-0	14-0	PER MFG	STL	-	-	PER MFG	STL	01	11/A9.2	9 & 10/A9.2	-	-
101	FG	3-0	7-0	--	ALUM	GL-2	-	E	ALUM	02	36/A9.2	28/A9.2	1/A9.1	1, 2
101A	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	03	2/A9.1	2/A9.1	1/A9.1	1, 2
102	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	20	2/A9.1	2/A9.1	1/A9.1	-
103	NG	3-0	7-0	1-3/4	SCWD	GL-1	-	2	HM	10	2/A9.1	2/A9.1	1/A9.1	-
103A	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	03	2/A9.1	2/A9.1	1/A9.1	-
104	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	14	2/A9.1	2/A9.1	1/A9.1	-
105	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	20	2/A9.1	2/A9.1	1/A9.1	-
106	NG	3-0	7-0	1-3/4	SCWD	GL-1	-	2	HM	10	2/A9.1	2/A9.1	1/A9.1	-
107	NG	3-0	7-0	1-3/4	SCWD	GL-1	-	2	HM	10	2/A9.1	2/A9.1	1/A9.1	-
108	NG	3-0	7-0	1-3/4	SCWD	GL-1	-	2	HM	03	2/A9.1	2/A9.1	1/A9.1	-
108A	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	21	2/A9.1	2/A9.1	1/A9.1	-
109	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	22	2/A9.1	2/A9.1	1/A9.1	-
110	NG	3-0	7-0	1-3/4	SCWD	GL-1	-	2	HM	10	2/A9.1	2/A9.1	1/A9.1	-
111	HG	3-0	7-0	1-3/4	SCWD	GL-1	-	2	HM	24	2/A9.1	2/A9.1	1/A9.1	-
111A	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	23	2/A9.1	2/A9.1	1/A9.1	-
111B	F	3-0	7-0	1-3/4	HM	-	-	1	HM	28	8/A9.2	7/A9.2	1/A9.1	-
112	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	03	2/A9.1	2/A9.1	1/A9.1	-
113	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	23	2/A9.1	2/A9.1	1/A9.1	-
114	NG	3-0	7-0	1-3/4	SCWD	GL-1	45 Min.	2	HM	11	2/A9.1	2/A9.1	1/A9.1	-
115	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	12	2/A9.1	2/A9.1	1/A9.1	-
116	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	12	2/A9.1	2/A9.1	1/A9.1	-
117	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	12	2/A9.1	2/A9.1	1/A9.1	-
118	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	14	2/A9.1	2/A9.1	1/A9.1	-
119	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	12	2/A9.1	2/A9.1	1/A9.1	-
120	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	14	2/A9.1	2/A9.1	1/A9.1	-
121	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	12	2/A9.1	2/A9.1	1/A9.1	-
122	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	14	2/A9.1	2/A9.1	1/A9.1	-
123	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	12	2/A9.1	2/A9.1	1/A9.1	-
124	F	3-0	7-0	1-3/4	SCWD	-	45 Min.	2	HM	15	2/A9.1	2/A9.1	1/A9.1	-
125	F	3-0	7-0	1-3/4	SCWD	-	20 Min.	2	HM	13	2/A9.1	2/A9.1	1/A9.1	-
125A	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	07	2/A9.1	2/A9.1	1/A9.1	-
126	F	4-0	7-0	1-3/4	SCWD	-	45 Min.	2	HM	27	2/A9.1	2/A9.1	1/A9.1	-
127	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	08	2/A9.1	2/A9.1	1/A9.1	-
128	F	3-0	7-0	1-3/4	SCWD	-	-	2	HM	09	2/A9.1	2/A9.1	1/A9.1	-
129	F	4-0	7-0	1-3/4	HM	-	-	3	HM	26	12/A9.2	7/A9.2	1/A9.1	-
131	NG	3-0	7-0	1-3/4	HM	GL-1	-	2	HM	05	3/A9.3	2/A9.3	1/A9.1	1
131A	F	3-0	7-0	1-3/4	HM	-	-	1	HM	28	8/A9.2	7/A9.2	1/A9.1	-
131B	F	3-0	7-0	1-3/4	HM	-	-	1	HM	28	8/A9.2	7/A9.2	1/A9.1	-
132	NG	3-0	7-0	1-3/4	SCWD	GL-1	45 Min.	2	HM	06	2/A9.1	2/A9.1	1/A9.1	-
132A	HG	3-0	7-0	1-3/4	SCWD	GL-1	45 Min.	2	HM	25	2/A9.1	2/A9.1	1/A9.1	-
132B	F	3-0	7-0	1-3/4	HM	-	-	1	HM	04	8/A9.2	7/A9.2	1/A9.1	1
133	NG	3-0	7-0	1-3/4	SCWD	GL-1	-	2	HM	06	2/A9.1	2/A9.1	1/A9.1	-
133A	NG	3-0	7-0	1-3/4	HM	GL-1	-	2	HM	05	3/A9.3	2/A9.3	1/A9.1	1

GENERAL NOTES:

ALL WIDTH AND HEIGHT INFORMATION SHOWN ARE NOMINAL DIMENSIONS FOR REFERENCE ONLY. ACTUAL DIMENSIONS SHALL BE ADJUSTED FOR PROPER CLEARANCES, SHIM SPACES AND CONSTRUCTION TOLERANCES BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL.

SILL HEIGHTS ABOVE FF. ARE TYPICAL CONDITIONS U.O.N.

ALL WINDOWS WITHIN 4'-0" OF ADJACENT DOORS ARE TO HAVE TEMPERED GLASS.

COORD W/ MECHANICAL FOR DOOR UNDERCUTS.

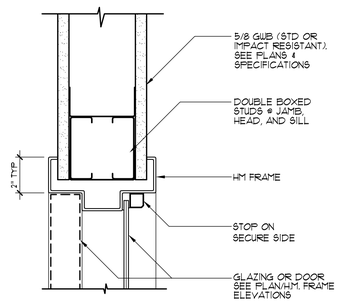
'S' SUFFIX AT HEAD, JAMB & SILL DETAIL REFERENCES IN DOOR SCHEDULE DENOTES SIMILAR CONDITION.

DOOR SCHEDULE REMARKS:

1. CARD READER, SEE TELECOM DWGS
2. REMOTE DOOR RELEASE, SEE TELECOM DWGS
3. WIDTH IS ROUGH OPENING WIDTH

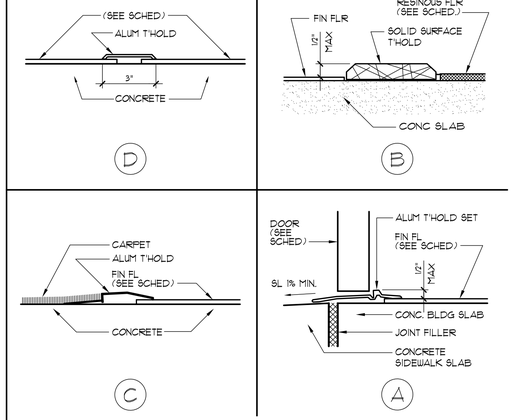
GLAZING TYPES:

TYPE GL-1: FULLY TEMPERED GLAZING, SEE SPECIFICATIONS.
TYPE GL-2: LAMINATED GLAZING, SEE SPECIFICATIONS.
TYPE IG-1: SEALED INSULATING GLASS, SEE SPECIFICATIONS.



2 HEAD, JAMB, SILL DETAIL

SCALE: 3" = 1'-0"



1 THRESHOLD DETAILS

SCALE: 3" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA — DAVID VINCENT — AR0014954 — 8.1.23 — REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

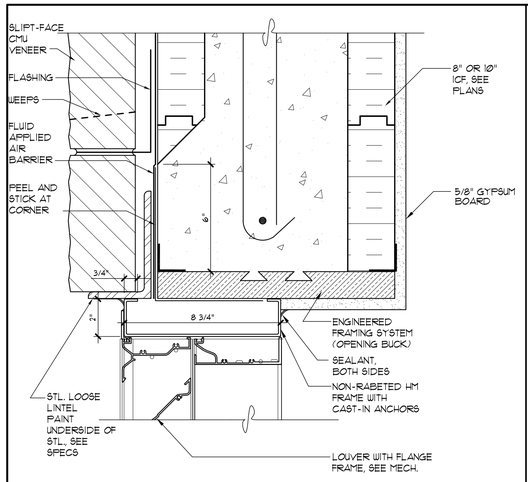
BAY COUNTY, FLORIDA

SHEET TITLE:

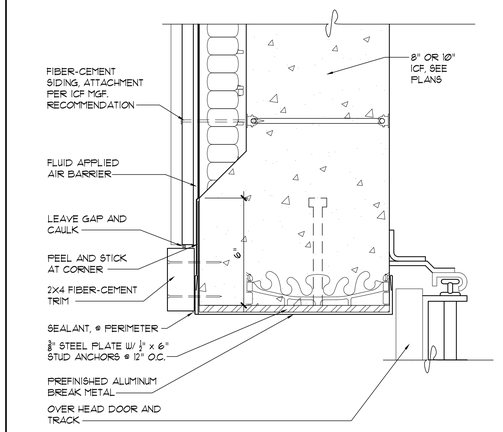
DOOR SCHEDULE AND FRAME ELEVATIONS

SHEET NUMBER:

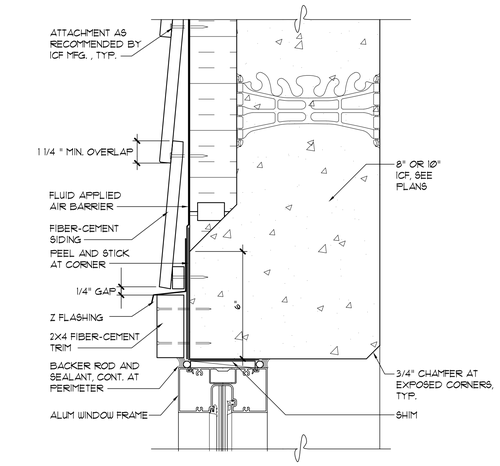
A9.1



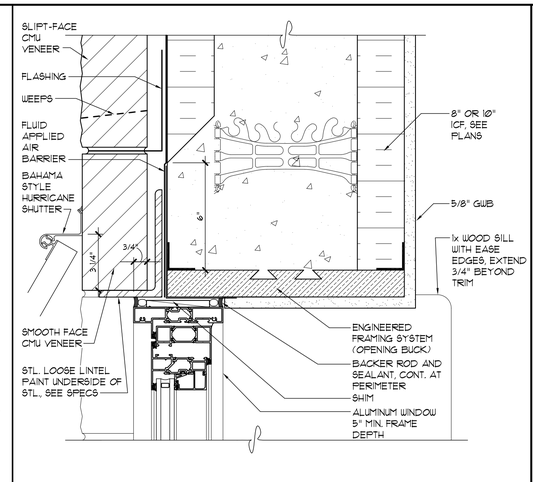
12 HM HEAD AT SPLIT-FACE CMU
SCALE: 3" = 1'-0"



9 OH DOOR JAMB AT CEMENT BRD
SCALE: 3" = 1'-0"



6 ALUM. HEAD AT SIDING
SCALE: 3" = 1'-0"



3 ALUM. HEAD AT SPLIT-FACE CMU
SCALE: 3" = 1'-0"

11 OH DOOR HEAD AT CEMENT BRD
SCALE: 3" = 1'-0"

8 HM HEAD AT SPLIT-FACE CMU
SCALE: 3" = 1'-0"

5 ALUM. JAMB AT SIDING
SCALE: 3" = 1'-0"

2 ALUM. JAMB AT SPLIT-FACE CMU
SCALE: 3" = 1'-0"

10 OH JAMB AT SPLIT-FACE CMU
SCALE: 3" = 1'-0"

7 HM JAMB AT SPLIT-FACE CMU
SCALE: 3" = 1'-0"

4 ALUM. SILL AT SIDING
SCALE: 3" = 1'-0"

1 ALUM. SILL AT SPLIT-FACE CMU
SCALE: 3" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA — J. DAVID VINCENT — AR0014954 — 8.1.23 — REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

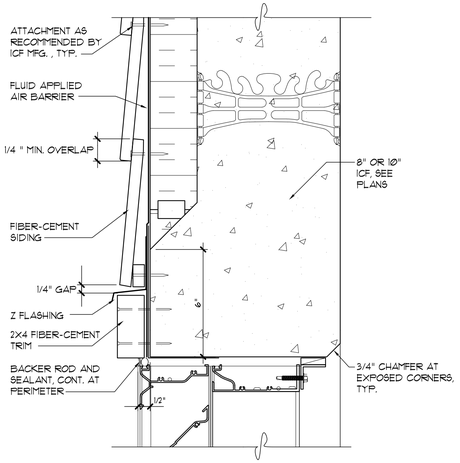
SHEET TITLE:

HEAD, JAMB AND SILL DETAILS

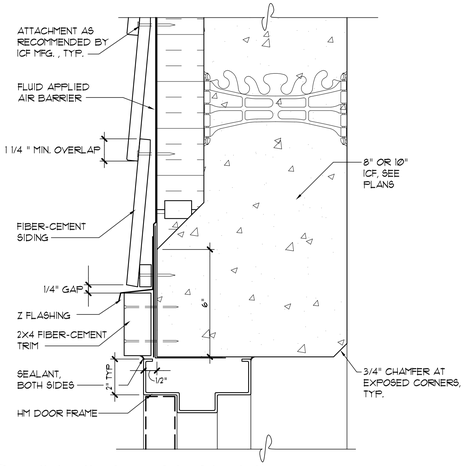
SHEET NUMBER:

A9.2

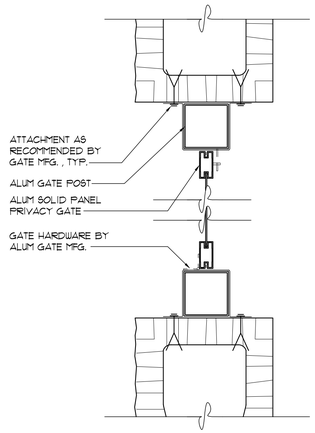
J:\22833-PCB Fire Station #32 Hutchison Blvd\A9-2.dwg, 7/31/2023 2:53:16 PM, Shane Boullie, Adobe PDF, 1:1



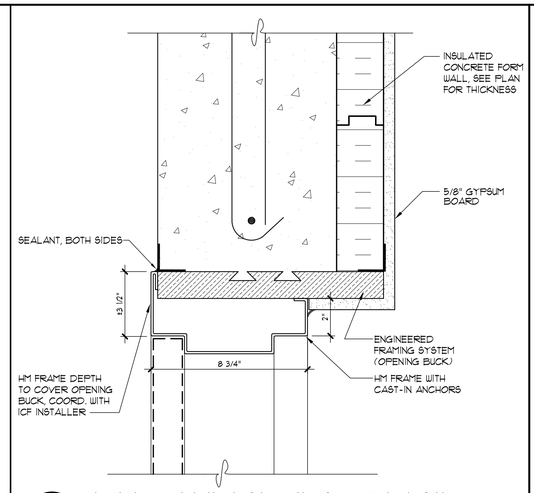
12 LOUVER HEAD AT SIDING
SCALE: 3" = 1'-0"



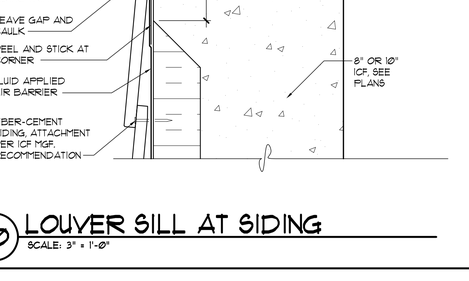
9 HM HEAD AT SIDING
SCALE: 3" = 1'-0"



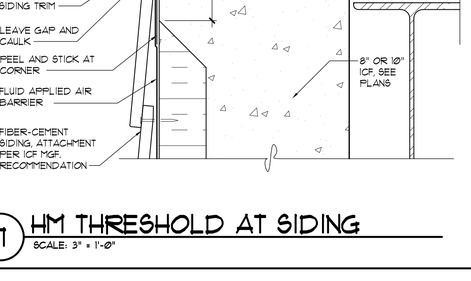
6 ALUMINUM GATE JAMB DETAIL
SCALE: 3" = 1'-0"



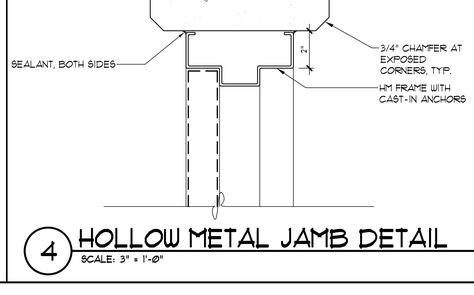
3 HOLLOW METAL HEAD DETAIL
SCALE: 3" = 1'-0"



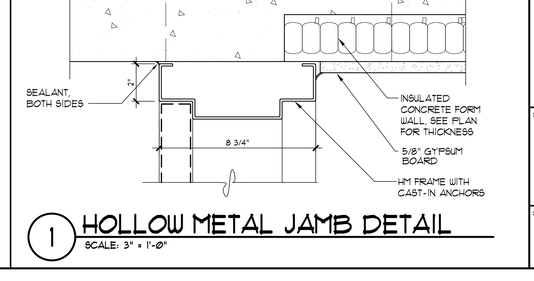
11 LOUVER JAMB AT SIDING
SCALE: 3" = 1'-0"



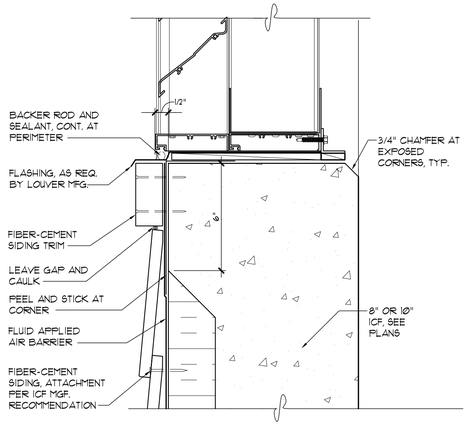
8 HM JAMB AT SIDING
SCALE: 3" = 1'-0"



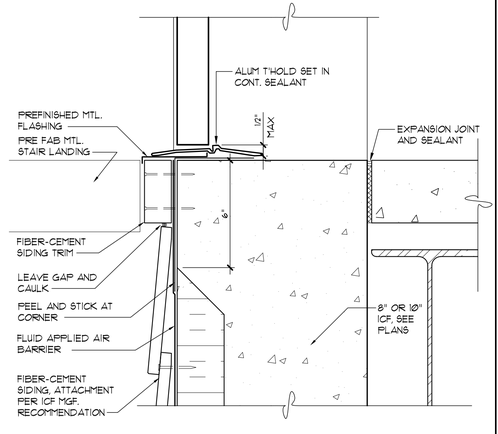
5 HOLLOW METAL HEAD DETAIL
SCALE: 3" = 1'-0"



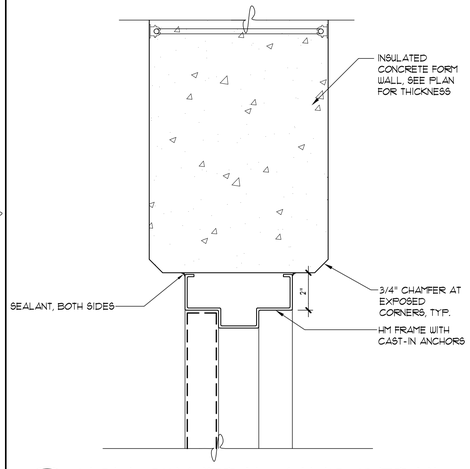
2 HOLLOW METAL JAMB DETAIL
SCALE: 3" = 1'-0"



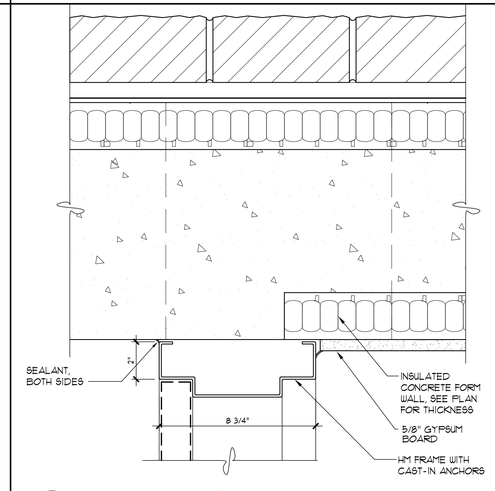
10 LOUVER SILL AT SIDING
SCALE: 3" = 1'-0"



7 HM THRESHOLD AT SIDING
SCALE: 3" = 1'-0"



4 HOLLOW METAL JAMB DETAIL
SCALE: 3" = 1'-0"



1 HOLLOW METAL JAMB DETAIL
SCALE: 3" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA · DAVID VINCENT · AR0014954 · 8.1.23 · REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

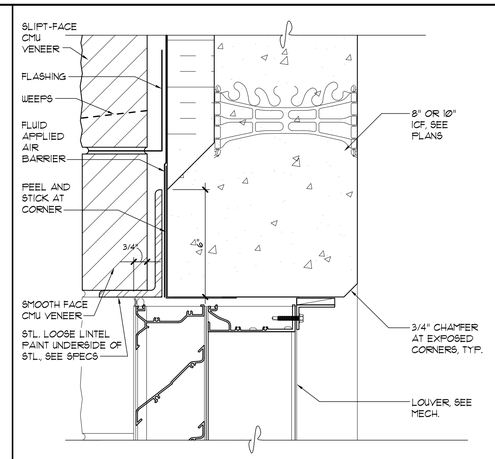
BAY COUNTY, FLORIDA

SHEET TITLE:

HEAD, JAMB AND SILL DETAILS

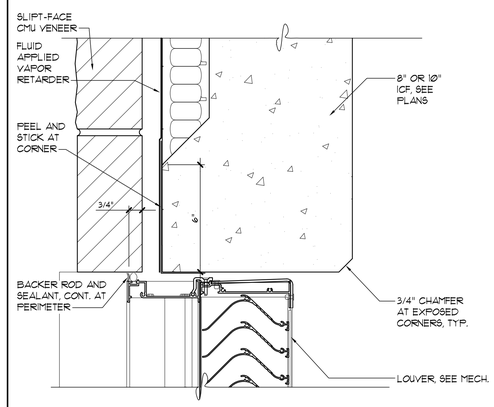
SHEET NUMBER:

A9.3



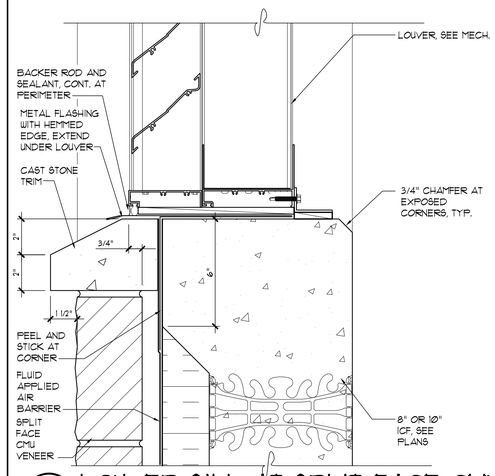
3 LOUVER HEAD AT SPLIT-FACE CMU

SCALE: 3" = 1'-0"



2 ALUM. JAMB AT SPLIT-FACE CMU

SCALE: 3" = 1'-0"



1 LOUVER SILL AT SPLIT-FACE CMU

SCALE: 3" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

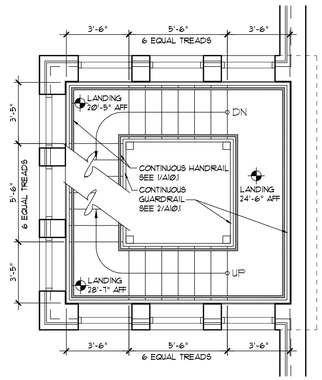
BAY COUNTY, FLORIDA

SHEET TITLE:

HEAD, JAMB AND SILL DETAILS

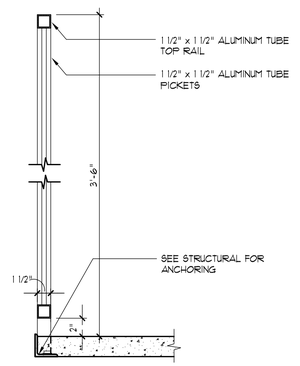
SHEET NUMBER:

A9.4



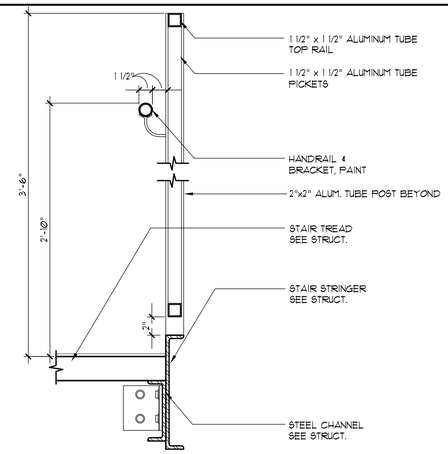
9 TOWER STAIR PLAN - LANDING 2

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



6 TYP. BALCONY RAILING DTL

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



3 TYP. STAIR RAILING DTL

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

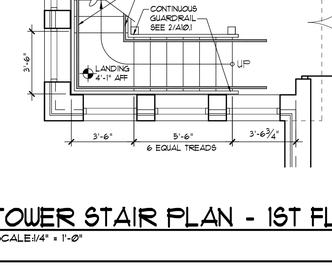
STAIR NOTES:

ALL DIMENSIONS FOR STAIRS TO BE COORDINATED AND VERIFIED WITH STRUCTURAL DRAWINGS AND SPECIFICATIONS.

ALL GUARDRAILS TO MEET THE REQUIREMENTS OF THE FLORIDA STATE BUILDING CODE.

ALL HANDRIALS TO MEET THE REQUIREMENTS OF THE FLORIDA STATE ACCESSIBILTY CODE.

REFER TO STRUCTURAL DRAWINGS FOR STAIR CONSTRUCTION DRAWINGS AND DETAILS.



8 TOWER STAIR PLAN - LANDING 1

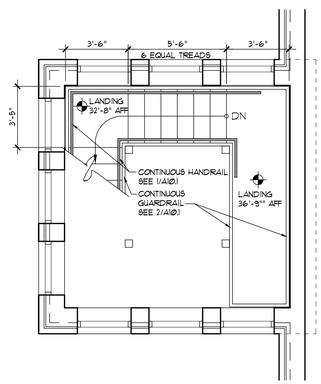
SCALE:1/4" = 1'-0"

5 CORNER DETAIL

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

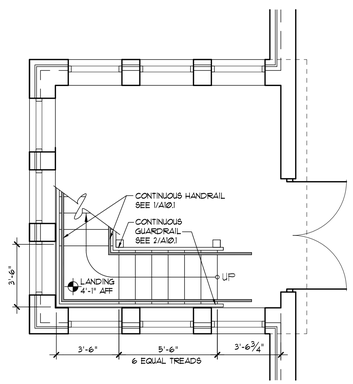
2 TYP - GUARDRAIL

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



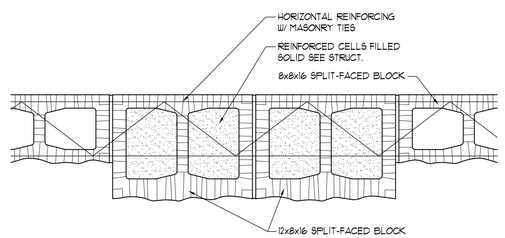
10 TOWER STAIR PLAN - LANDING 3

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



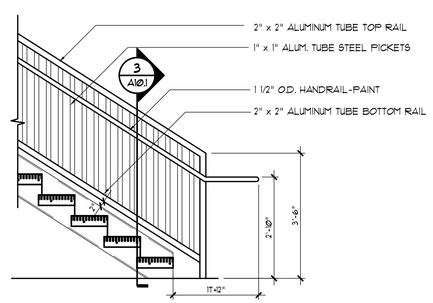
7 TOWER STAIR PLAN - 1ST FLOOR

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



4 PILASTER DETAIL

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



1 TYP - STAIR/GUARDRAIL

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

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

STATE OF FLORIDA
DAVID VINCENT
AR0014954
8.1.23
REGISTERED ARCHITECT

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

MISCELLANEOUS DETAILS

SHEET NUMBER:

A10.1

STRUCTURAL NOTES:

1. GENERAL
1.1. COORDINATE ALL INFORMATION CONTAINED IN THIS STRUCTURAL SET WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND OTHER TRADES. CONTACT BTK ENGINEERING IF CONFLICT IS FOUND.
1.2. SEE ARCHITECTURAL DRAWINGS FOR FINISHES.
1.3. REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
1.4. SHOP DRAWINGS REQUIRED:
1.4.1. CONCRETE REINFORCEMENT/EMBEDS FABRICATION DRAWINGS
1.4.2. STRUCTURAL STEEL - FABRICATION/ERECTION DRAWINGS
1.4.3. ALUMINUM STAIRS - FABRICATION/ERECTION DRAWINGS
1.4.4. LIGHT GAUGE METAL STUD FRAMING (EXTERIOR) - ENGINEERED
1.4.5. ROOF TRUSSES - ENGINEERED SYSTEM.
1.4.6. ICF - LAYOUT DRAWINGS
1.5. SUBMITTALS REQUIRED:
1.5.3. SOILS COMPACTION REPORTS.
1.5.4. CONCRETE MIX DESIGN.
1.5.5. MORTAR MIX DESIGN
1.5.6. CONCRETE TEST REPORTS.
1.5.7. MASONRY UNIT - PRODUCT DATA
1.5.8. METAL DECK - PRODUCT DATA
1.5.9. ICF - PRODUCT DATA
1.6. CONTRACTOR IS ALSO RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
1.7. SITE AND CONSTRUCTION SHALL COMPLY WITH OSHA OR EM385 AT ALL TIMES.
1.8. SITE SHALL BE MAINTAINED IN A CLEAN, ORDERLY, AND SAFE MANNER AT ALL TIMES.

2. SOILS
2.1. CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL REPORT PERFORMED BY ARDAMAN AND ASSOCIATES TESTING.
2.2. GEOTECHNICAL REPORT IS STILL PRELIMINARY AT THE TIME OF THESE DRAWINGS. THE PRELIMINARY REPORT SHOWS A FAIRLY DEEP LEVEL OF ORGANICS TO BE REMOVED. THERE WERE ALSO SOME PLACES THAT WILL BE TESTED DURING A DRYER SEASON. THE FOUNDATION DETAILS ARE SUBJECT TO CHANGE PENDING THE OFFICIAL REPORT.
2.3. CONTRACTOR SHALL VERIFY SOIL IS FREE OF MUCK, CLAY, SILT, ORGANICS, OR OTHER UNSUITABLE MATERIALS.
2.4. CONTRACTOR SHALL REMOVE ALL LAYERS OF SOIL THAT CONTAIN ORGANICS.
2.5. CONTRACTOR SHALL VERIFY FLOOD ZONES AND WATER TABLES AND ASSURE FINISH FLOOR IS AT THE REQUIRED ELEVATION.
2.6. CONTRACTOR SHALL VERIFY AND COMPLY WITH ALL BUILDING SETBACKS AND EASEMENTS.
2.7. SOIL SHALL BE CAPABLE OF SUPPORTING AND ALLOWABLE BEARING PRESSURE OF 2000 PSF.
2.8. CONTRACTOR SHALL VERIFY ALL SOILS ARE COMPACTED TO 98% MAXIMUM DENSITY (MODIFIED PROCTOR).
2.9. ALL SOILS UNDER SLABS SHALL BE TREATED FOR TERMITES.
2.10. STRUCTURAL BACKFILL AND FILL SOILS
2.10.1. COMPLY WITH GEOTECHNICAL REPORT FOR STRUCTURAL FILL OR FILL REQUIRED FOR SITE DEVELOPMENT. THIS SHOULD BE PLACED IN LOOSE LIFTS NOT EXCEEDING 12 INCHES IN THICKNESS WHEN COMPACTED BY THE USE OF A VIBRATORY DRUM ROLLER. THE LIFT THICKNESS SHOULD BE REDUCED TO 8 INCHES IF THE ROLLER OPERATES IN THE STATIC MODE OR IF TRACK-MOUNTED COMPACTION EQUIPMENT IS USED. IF HAND-HELD COMPACTION EQUIPMENT IS USED, THE LIFT THICKNESS SHOULD BE FURTHER REDUCED TO 6 INCHES. STRUCTURAL FILL IS DEFINED AS A NON-PLASTIC, INORGANIC, GRANULAR SOIL HAVING LESS THAN 10 PERCENT MATERIAL PASSING THE NO. 200 MESH SIEVE AND CONTAINING LESS THAN 4 PERCENT ORGANIC MATERIAL. TYPICALLY, THE MATERIAL SHOULD EXHIBIT MOISTURE CONTENTS WITHIN ±2 PERCENT OF THE MODIFIED PROCTOR OPTIMUM MOISTURE CONTENT (ASTM D 1557) DURING THE COMPACTION OPERATIONS. COMPACTION SHOULD CONTINUE UNTIL DENSITIES OF AT LEAST 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557) HAVE BEEN ACHIEVED WITHIN EACH LIFT OF THE COMPACTED STRUCTURAL FILL.
2.10.2. THE FILL UNDER THE APPARATUS BAYS SHALL CONSIST OF AN 8" FDOT CRUSHED LIME ROCK, CRUSHED CONCRETE, OR GRADED AGGREGATE ROAD BASE. COMPACTED IN TWO LIFTS, AND PROVIDE A MODULUS SUBGRADE REACTION OF 300 PCI MINIMUM.

3. CONCRETE
3.1. CAST IN PLACE CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14.
3.2. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE BREAK STRENGTH AFTER 28 DAYS.

3.2.1.	COLUMN FOOTINGS	3000 PSI	
3.2.2.	WALL FOOTINGS	3000 PSI	
3.2.3.	ICF WALLS	4000 PSI	450 PSI FLEXURAL
3.2.4.	SLAB	4500 PSI	500 PSI FLEXURAL
3.2.5.	SLAB (APPARATUS BAY)	5000 PSI	600 PSI FLEXURAL

3.3. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO BTK ENGINEERING FOR APPROVAL PRIOR TO PROCUREMENT. ALLOW ONE WEEK FOR REVIEW.
3.4. CONCRETE SHALL HAVE FIELD CYLINDERS TAKEN AND TESTED IN ACCORDANCE WITH ACI 318. (SEE ICF WALLS FOR ADDITIONAL REQUIREMENTS)
3.5. CONCRETE SLUMP SHALL BE BETWEEN 3 AND 6 INCHES AT THE TIME OF PLACEMENT.
3.6. CONCRETE COVER SHALL BE IN ACCORDANCE WITH SECTION 7.7.1, ACI318-14:

CONCRETE EXPOSED TO EARTH OR WEATHER	
#6 THROUGH #18 BARS	2"
#5 BAR W31 OR D31 WIRE OR SMALLER	1 1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER	
#11 BARS OR SMALLER	3/4"

FOOTINGS AND GRADE BEAMS SHALL HAVE 3" REGARDLESS OF THE BAR SIZE OR THE DIRECTION TO THE EDGE.
3.7. ALL FOUNDATION REINFORCING BARS SHALL BE GRADE 60, ASTM615 AND LAP 36 BAR DIAMETERS.
3.8. ALL CAST IN PLACE NOT ASSOCIATED WITH THE FOUNDATION SHALL BE GRADE 60, ASTM615 AND HAVE A CLASS B TENSION LAP SPLICE
3.9. WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A185 AND LAP A MINIMUM OF 6".
3.10. WELDED WIRE REINFORCEMENT SHALL BE PLACED IN THE UPPER ONE HALF OF THE SLAB ON SUPPORTS (NOT PULLED INTO PLACE.)
3.11. PROPORTION NORMAL-WEIGHT CONCRETE MIXTURE AS FOLLOWS:
3.11.1. PORTLAND CEMENT: ASTM C 150, TYPE I/II, **NO FLY ASH PERMITTED**
3.11.2. MINIMUM COMPRESSIVE STRENGTH: 3000, 4500, AND 5000 PSI AT 28 DAYS.
3.11.3. MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO: 0.51.
3.11.4. SLUMP LIMIT: 3" TO 6".
3.11.5. NORMAL-WEIGHT AGGREGATES: ASTM C 33, CLASS 3M COARSE AGGREGATE OR BETTER, GRADED.
3.11.6. MAXIMUM COARSE-AGGREGATE SIZE: 3/4" MAXIMUM UNLESS NOTED.
3.11.7. FINE AGGREGATE: FREE OF MATERIALS WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.
3.11.8. AIR CONTENT: 4 PERCENT, PLUS OR MINUS 1.5 PERCENT AT POINT OF DELIVERY FOR 3/4-INCH (38-MM) NOMINAL MAXIMUM AGGREGATE SIZE.
3.11.9. NO CALCIUM CHLORIDE PERMITTED.
3.11.10. HIGH EARLY SET ADMIXTURES ARE ENCOURAGED IF THEY ARE NON CORROSIVE TO THE REINFORCEMENT.
3.12. FINISH TEXTURE SHALL BE VERIFIED WITH ARCHITECT.
3.13. CONCRETE SURFACE SHALL BE UNIFORM AND STRAIGHT AND LEVEL TO WITHIN 1/8" IN A TEN FOOT STRAIGHT EDGE.

4. PRE ENGINEERED TRUSSES
4.1. NO TRUSSES SHALL BE SET UNTIL A REPRESENTATIVE FROM BTK ENGINEERING HAS APPROVED STRUCTURE IS READY TO RECEIVE THE TRUSSES.
4.2. TRUSS SYSTEM SHALL BE DESIGNED TO WITHSTAND THE OUTWARD THRUST. HORIZONTAL DEFLECTION AT BEARING SHALL BE LIMITED TO 1/4".
4.3. TRUSSES SYSTEM AND INDIVIDUAL TRUSSES SHALL BE DESIGNED BY A REGISTERED ENGINEER TO WITHSTAND 160 MPH WIND LOAD AS WELL AS A 10 PSF DEAD LOAD ON THE TOP CHORD AND A 10 PSF ON THE BOTTOM CHORD.
4.4. INSTALL LATERAL BRACING AT 48" O/C THROUGH THE FIRST FOUR TRUSSES.
4.5. TRUSS TOP AND BOTTOM CHORDS SHALL BE A MINIMUM OF 16 GA MATERIAL.

5. MASONRY
5.1. ALL CMU BELOW FINISH FLOOR SHALL BE POURED SOLID WITH 3000 PSI GROUT CONFORMING TO ASTM C476.
5.2. CONCRETE MASONRY WORK SHALL CONFORM TO ACI 530, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES AND ACI 530.1 SPECIFICATION FOR MASONRY STRUCTURES.
5.3. CONCRETE MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1,500 PSI.
5.4. MORTAR SHALL COMPLY WITH THE BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY AND SHALL BE.

5.4.1.	WALLS BELOW GRADE	TYPE M
5.4.2.	WALLS ABOVE GRADE	TYPE S

5.5. REINFORCED CONCRETE MASONRY UNITS SHALL BE GROUTED WITH 3,000 PSI COURSE GROUT CONFORMING TO ASTM C476.
5.6. WALL HORIZONTAL REINFORCEMENT SHALL BE 9 GA TRUSS TYPE AT 16" O/C.
5.7. ALL WALL REINFORCEMENT SHALL BE LAPPED A MINIMUM OF 48 BAR DIAMETER.
5.8. MASONRY CONTROL JOINTS SHALL BE LOCATED BY ARCHITECT AT NATURAL BREAKS OR BENDS IN THE STRUCTURE AND 20'-0" O/C MAX.

6. INSULATED CONCRETE FORM WALLS
6.1. INSULATED CONCRETE FORMS FOR THIS SET OF DRAWINGS WERE BASED ON NURDUA WALL SYSTEM. ANY SUBSTITUTION SHALL BE APPROVED BY BOTH THE ARCHITECT AND ENGINEER.
6.2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE COMPLETED FORM SYSTEM.
6.3. CONTRACTOR SHALL PROCURE THE SERVICES OF AN INDEPENDENT INSPECTOR TO CERTIFY THE PLACEMENT OF THE REINFORCEMENT PRIOR TO POURING CELLS WITH CONCRETE.
6.4. DUE TO THE LACK OF VISUAL INSPECTION AFTER THE CONCRETE HAS BEEN POURED EACH TRUCK OF CONCRETE SHALL HAVE FIELD CYLINDERS TAKEN AND TESTED IN ACCORDANCE WITH ACI 318.
6.5. CONCRETE FORM MANUFACTURER SHALL SUBMIT IN WRITING THE MAXIMUM POUR HEIGHT BASED ON THE FORMS SUBMITTED.
6.6. VERTICAL AND HORIZONTAL V JOINTS ON EXPOSED WALLS SHALL BE LOCATED PER ARCHITECT'S DRAWINGS AND TO A DEPTH NOT TO EXCEED 1".
6.7. COLD JOINTS SHALL BE PREPPED AND PATCHED PER ARCHITECT'S DRAWINGS.
6.8. ALL NON-INSULATED CONCRETE SHALL BE SEALED. INCLUDING BLOCK OUTS FOR EXTERIOR ATTACHMENTS.
6.9. CONTRACTOR SHALL VERIFY WITH THE EACH TRADE CONTRACTOR EACH'S REQUIREMENT FOR BLOCK-OUTS OR INSULATION REMOVAL FOR ATTACHMENT.
6.10. REINFORCEMENT SHALL BE TIED OR SPLICED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6.11. FORMS SHALL HAVE AN INTEGRAL VERTICAL EXTERIOR ATTACHMENT POINTS AT A MAXIMUM SPACING OF 8" O/C.
6.12. FORMS SHALL PROVIDE FOR CORNER AND OPENING TRIM ATTACHMENTS AT LOCATIONS THAT WILL RECEIVE HARDIE BOARD COVERING.

7. STRUCTURAL STEEL
7.1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED ACCORDING TO AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS."
7.2. STEEL FABRICATOR'S SPECIALTY ENGINEER SHALL DESIGN ANY CONNECTIONS NOT DETAILED IN THESE DOCUMENTS. THE SPECIALTY ENGINEER SHALL BE REGISTERED IN THE PROJECT STATE. CONNECTION DESIGN CALCULATIONS AND STEEL DETAILER'S SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE SPECIALTY ENGINEER AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. SUBMIT SHOP DRAWINGS PREPARED IN ACCORDANCE WITH AISC MANUAL "DETAILING FOR STEEL CONSTRUCTION", LATEST EDITION. STEEL
7.3. STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, 50 KSI. STRUCTURAL STEEL SHAPES, PLATES, ANGLES, AND CHANNELS SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B, FY = 46 KSI, UNLESS NOTED OTHERWISE. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554-07a GRADE 36 UNLESS NOTED OTHERWISE.
7.4. BOLTS SHALL CONFORM TO ASTM A325, TYPE 3 (CORROSION RESISTANCE), ¾-INCH DIAMETER MINIMUM, UNLESS NOTED OTHERWISE. BOLTS IN BEARING CONNECTIONS SHALL BE DESIGNATED TYPE N, TENSIONED, SNUG-TIGHT AS DEFINED BY AISC. ALL OTHER BOLTS SHALL BE PRE-TENSIONED.
7.5. USE PRE-QUALIFIED WELDED JOINTS AS PER AISC, AND AWS D1.1 "STRUCTURAL WELDING CODE." USE ONLY CERTIFIED WELDERS; ALL ELECTRODES SHALL CONFORM TO AWS A5 GRADE E70XX. BARE ELECTRODE AND GRANULAR FLUX SHALL CONFORM TO AWS A5, F70 AWS FLUX CLASSIFICATION. MINIMUM WELD SIZE TO BE 3/16" FILLET WELD, U.N.O.
7.6. CUTS, BOLTS, COPING, ETC. REQUIRED FOR WORK OR OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTS OR BURNING HOLES IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL ONLY PERMITTED ON AN INDIVIDUAL, REVIEWED BASES.
7.7. SHOP CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS MAY BE WELDED OR BOLTED. FIELD CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE BOLTED, WHERE POSSIBLE.
7.8. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND DRAWINGS RELATED TO OTHER TRADES. CONTRACTOR SHALL BE RESPONSIBLE TO CHECK AND COORDINATE DIMENSIONS, CLEARANCES, ETC. WITH THE WORK OF OTHER TRADES. THE STRUCTURAL STEEL CONTRACTOR SHALL PROVIDE FRAMING AROUND OPENINGS IN ROOF AS INDICATED IN THE MECHANICAL AND ARCHITECTURAL DRAWINGS.
7.9. STRUCTURAL STEEL CONTRACTOR SHALL COORDINATE THE BOTTOM OF BASE PLATE ELEVATION WITH THE TOP OF CONCRETE ELEVATION. IN CASE OF CONFLICT, THE CONTRACTOR SHALL MAKE ALLOWANCE IN HIS BID FOR MORE STRINGENT REQUIREMENTS.
7.10. STRUCTURAL STEEL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
7.11. ALL STRUCTURAL STEEL FOR THIS PROJECT SHALL BE HOT DIPPED GALVANIZED MINIMUM OF G90 COATING.
7.12. ALL WELDS OR FIELD CUTTING AND FITTING SHALL BE GROUND CLEAN AND COATED WITH COLD APPLIED GALVANIZING.
7.13. ALL STRUCTURAL STEEL TO BE GROUNDED TO PEOJECT ELECTRICAL GROUND.

EAVE HEIGHT	
TOWER	45'-2"
APPARATUS BAY	23'-4"
OFFICE SPACE	10'-8"
ROOF SLOPE	3:12
COLLATERAL/GRAVITY	10 PSF
ROOF LIVE LOAD (REDUCIBLE)	20 PSF
FIRST FLOOR LIVE LOAD	100 PSF (OFFICE)
APPARATUS BAY (AASHTO)	HL-93

TABLE OF CONTENTS

APPLICABLE CODES

Florida Building Code, Building (FBC-B)	2020
Minimum Design Loads For Building and Other Structures	ASCE 7-16

BRADLEY TODD KENT LICENSED FLORIDA

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REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	BLK	BLK	03/31/23
CONSTRUCTION DOCUMENTS	BLK	BLK	05/10/23
BID DOCUMENTS	BLK	BLK	08/01/23

JRA ARCHITECTS
2211 THOMAS DR. , STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

STRUCTURAL ENGINEERING
BTK ENGINEERING SERVICES, INC.
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ENGINEERING BUSINESS #9613
BRADLEY T. KENT P.E.
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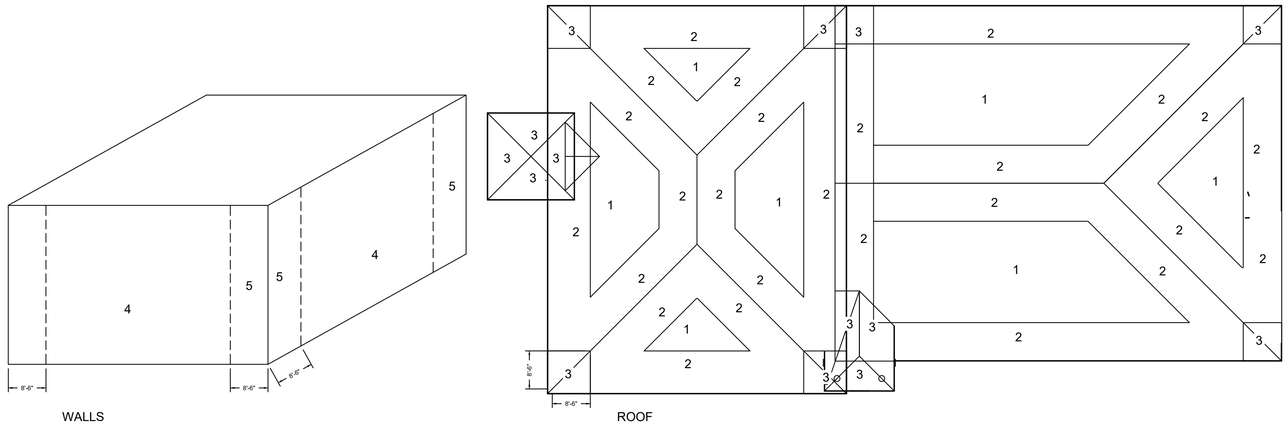
EXODUS 4:11

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
STRUCTURAL NOTES

SHEET NUMBER:
S0.1



VM-1 WIND MAP
S0.2 SCALE: 1/16"=1'

Design Criteria

Design Velocity (ult 3 sec gust)	160.00 mph
Building Category	II
Risk Category	IV
Wind Exposure	C
Enclosure Classification	Enclosed
Internal Pressure Coefficient	±0.18
Base Pressure	53.09 psf

Building Specifications

Building Depth	82.67 ft
Building Width	160 ft
Eave Height	22.67 ft
Mean Roof Height	26 ft
Roof Slope	3 on 12
End Zone Width	8.267 ft
Velocity (ASD 3 sec gust)	124 mph

Component and Cladding Pressures (Effective Wind Area ≤ 10 sqft)						MRFS Design Pressures			
Zone	GCp	GCpi	qh psf	(GCp+GCpi)	qh[(GCp+GCpi)] psf	Building Section	Zone	Inward psf	Outward psf
1+	0.5	0.18	53.09	0.68	36.10	Wall (Windward)	1	37.70	-33.45
1-	-0.9	-0.18	53.09	-1.08	-57.34	Roof (Windward)	2	0.00	-46.19
2+	0.5	0.18	53.09	0.68	36.10	Roof (Leeward)	3	0.00	-35.04
2-	-1.7	-0.18	53.09	-1.88	-99.82	Wall (Leeward)	4	0.00	-33.45
2o	-2.2	0	53.09	-2.2	-116.80	Gable (Windward)	5	30.79	0.00
3+	0.5	0.18	53.09	0.68	36.10	Gable (Leeward)	6	0.00	-24.95
3-	-2.1	-0.18	53.09	-2.28	-121.05	Wall (Windward)	1E	52.03	-35.04
3o	-3.7	0	53.09	-3.7	-196.44	Roof (Windward)	2E	0.00	-66.37
4+	1	0.18	53.09	1.18	62.65	Roof (Leeward)	3E	0.00	-46.19
4-	-1.1	-0.18	53.09	-1.28	-67.96	Wall (Leeward)	4E	0.00	-43.54
5+	1	0.18	53.09	1.18	62.65	Gable (Windward)	5E	41.94	0.00
5-	-1.4	-0.18	53.09	-1.58	-83.89	Gable (Leeward)	6E	0.00	-32.39

NOTE: DESIGN PRESSURES ARE ULTIMATE DESIGN PRESSURES AND MAY BE REDUCED BY A FACTOR OF 0.6 TO CONVERT TO ALLOWABLE STRESS PRESSURES.

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

WIND CRITERIA

SHEET NUMBER:

S0.2

BRADLEY TODD KENT STATE OF FLORIDA LICENSED 59384

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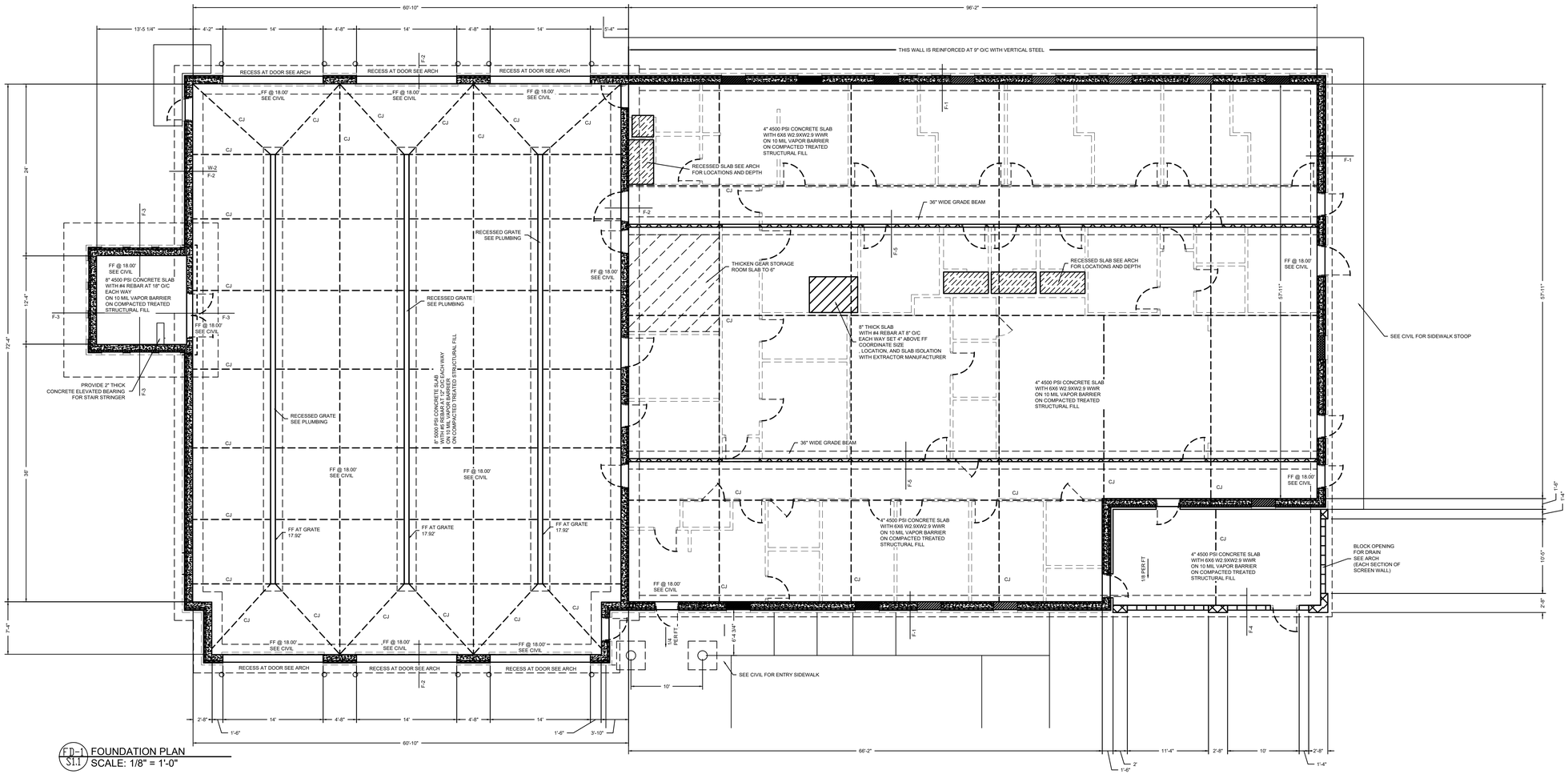
JRA-FIRESTATION 32 -STRUCTURAL-BID.DWG



FD-1 / S1.1 FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

CJ — DENOTES MINIMUM LOCATIONS OF SLAB CONTROL JOINTS. ADDITIONAL SAW CUT JOINTS SHALL BE SPACED AT 12 FT O/C TO SUPPRESS SHRINKAGE CRACKS. NO PORTION OF THE SLAB MAY HAVE A LENGTH TO WIDTH RATIO GREATER THAN 1.5 TO 1. CONTROL JOINTS SHALL BE POSITIONED A EACH INSIDE CORNER OR REINFORCE THE SLAB WITH (3) #5 REBAR "L"S WITH 25" EACH WAY AT 8" O/C STARTING 8" FROM SLAB EDGE.

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

FOUNDATION PLAN

SHEET NUMBER:

S1.1

BRADLEY TODD KENT LICENSE NUMBER 59384 STATE OF FLORIDA PROFESSIONAL ENGINEER

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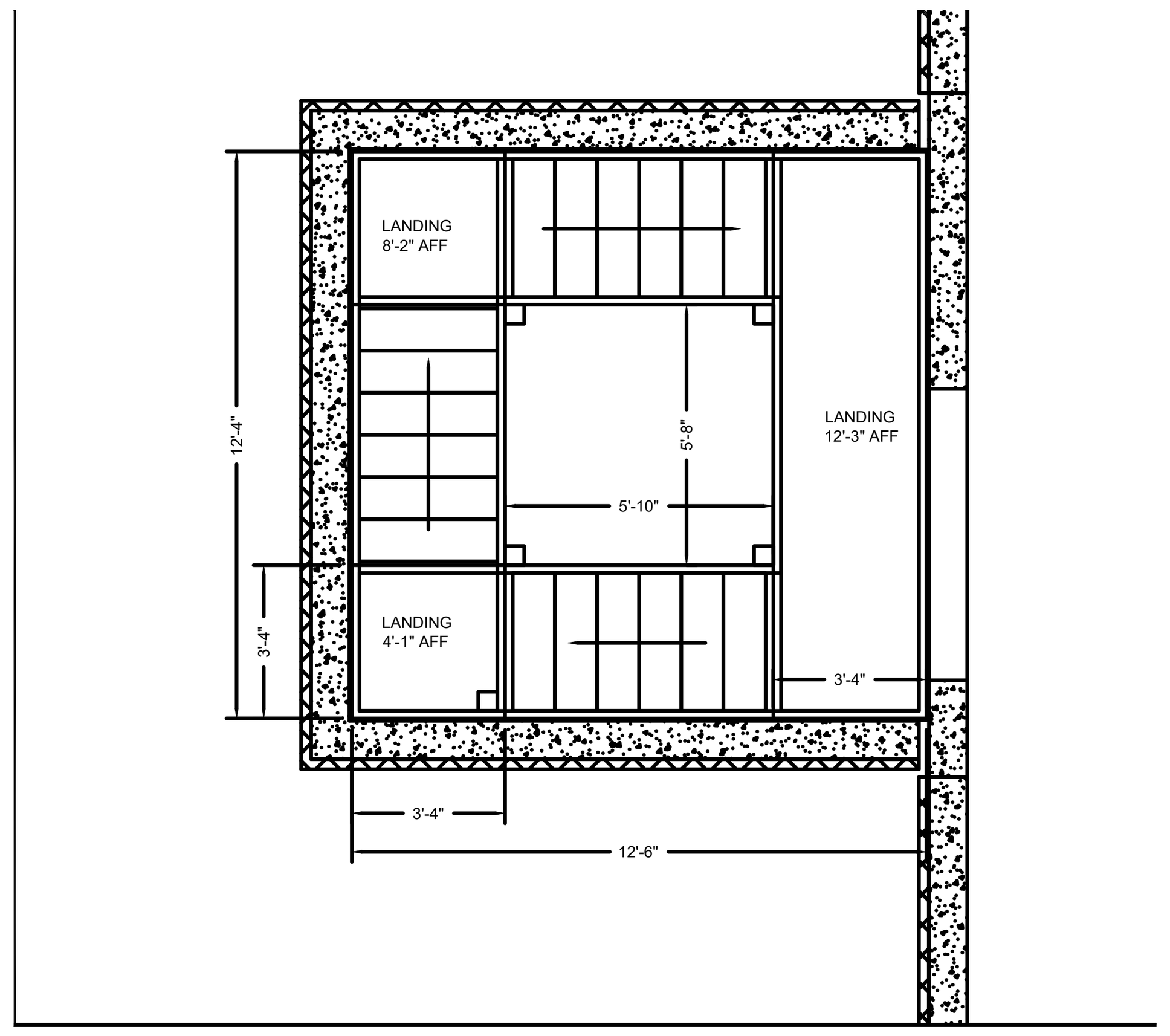
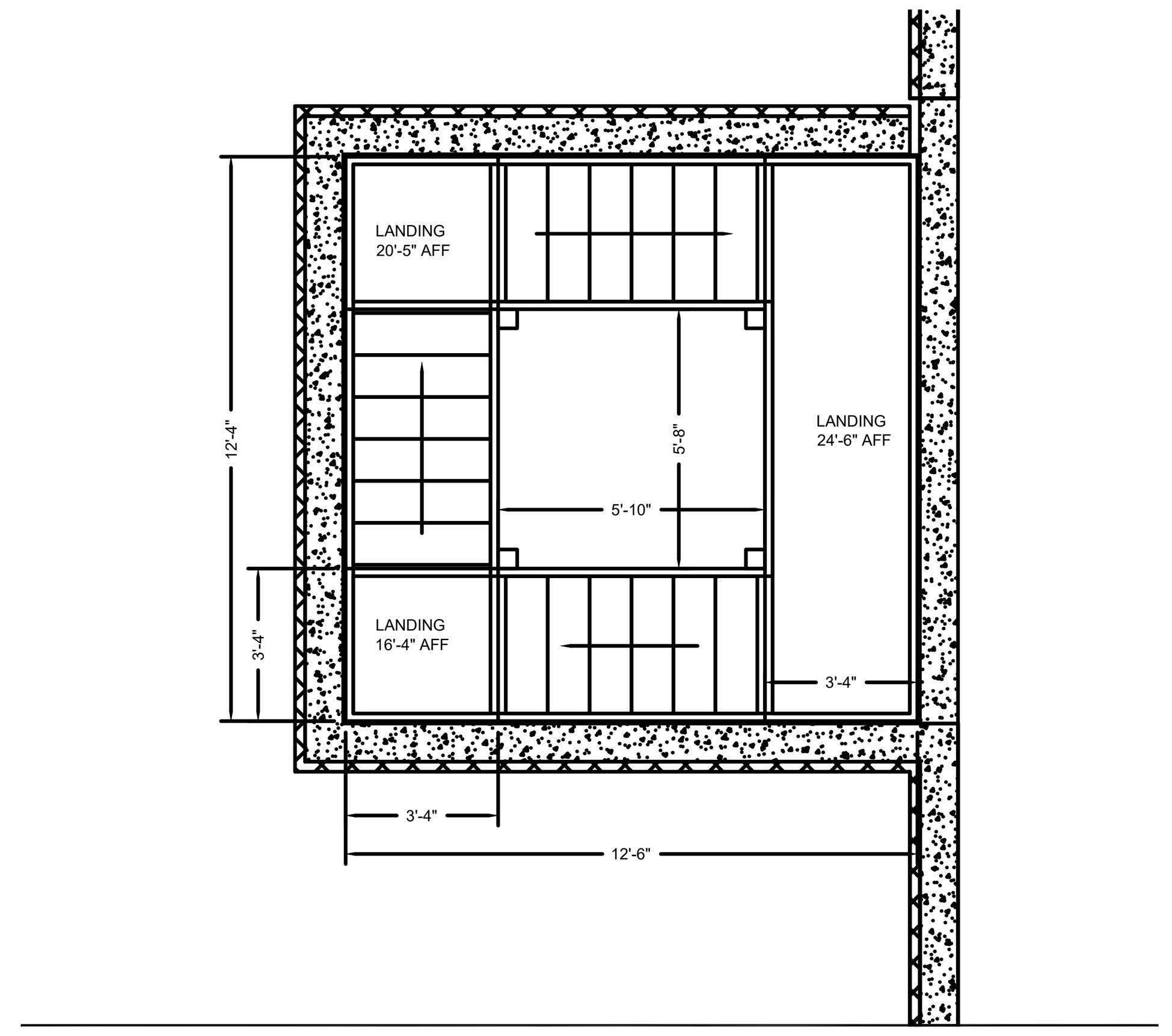


ST-1 / S1.2 STAIR LEVEL ONE
SCALE: 1/4" = 1'-0"



ST-2 / S1.2 STAIR LEVEL TWO
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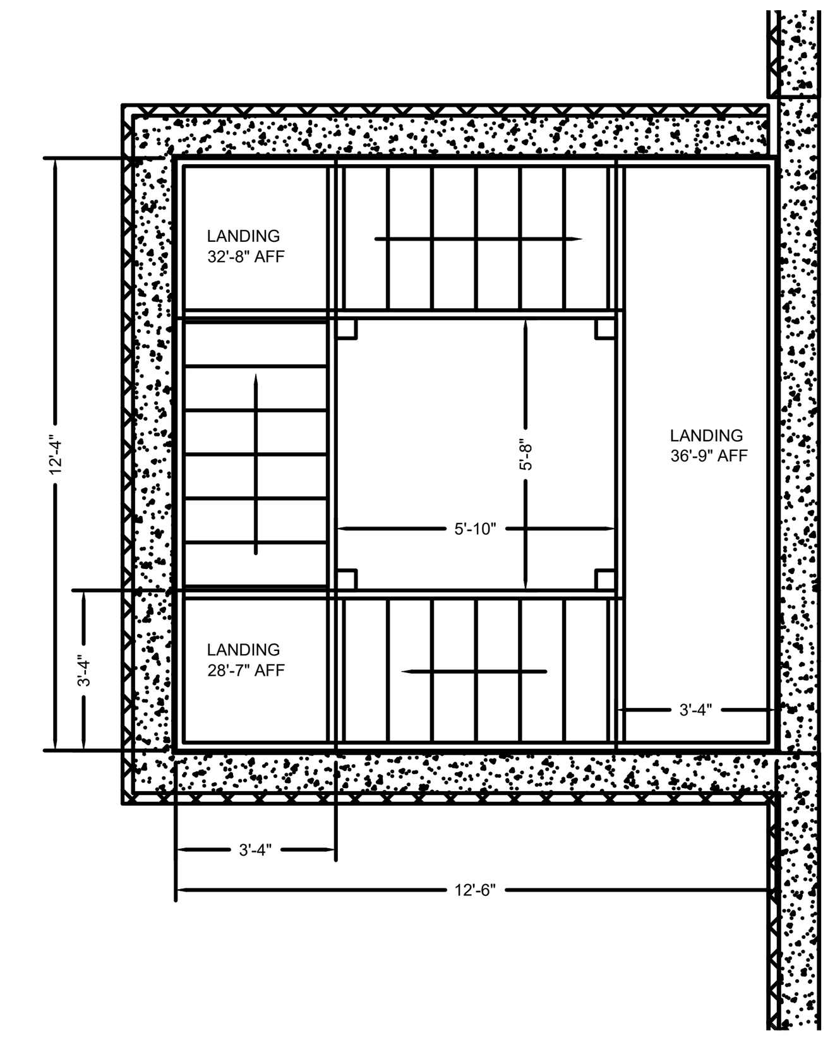

ST-3 / S1.2 STAIR LEVEL THREE
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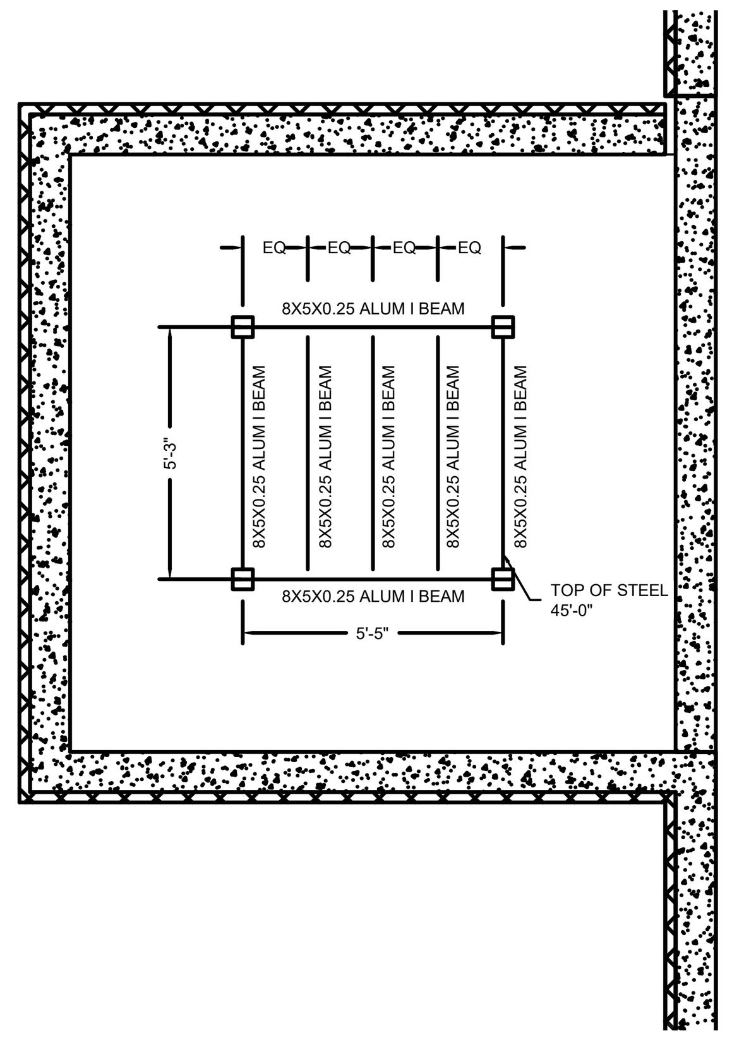
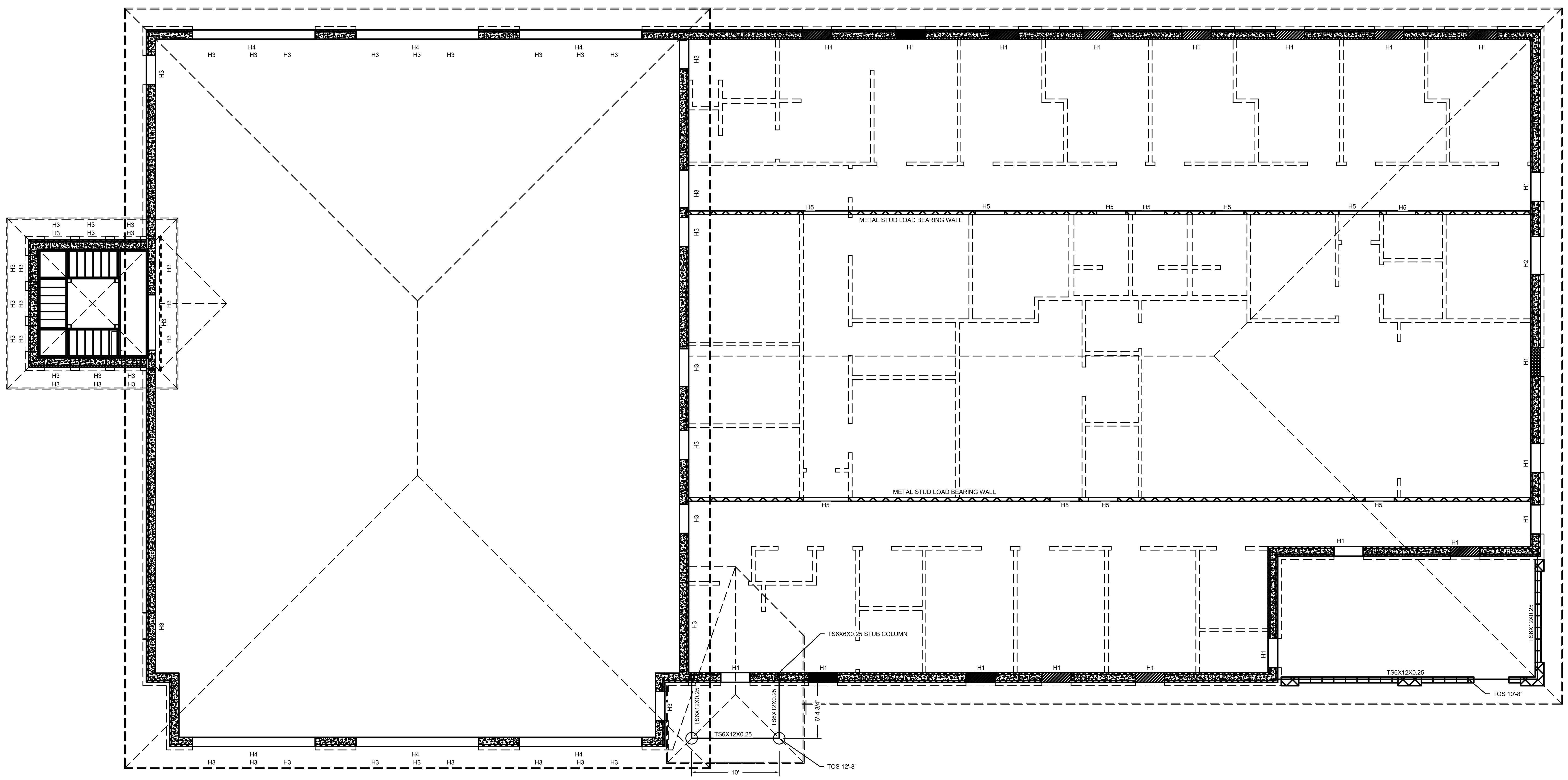


ST-4 / S1.2 STAIR TOP AT HANGER
SCALE: 1/4" = 1'-0"



H-1 / S1.2 HEADER/LINTEL PLAN
SCALE: 1/8" = 1'-0"

BRADLEY TODD KENT LICENSE
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FIRESTATION 32 -STRUCTURAL-BID.DWG

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BID DOCUMENTS	BTK	BTK	08/01/23

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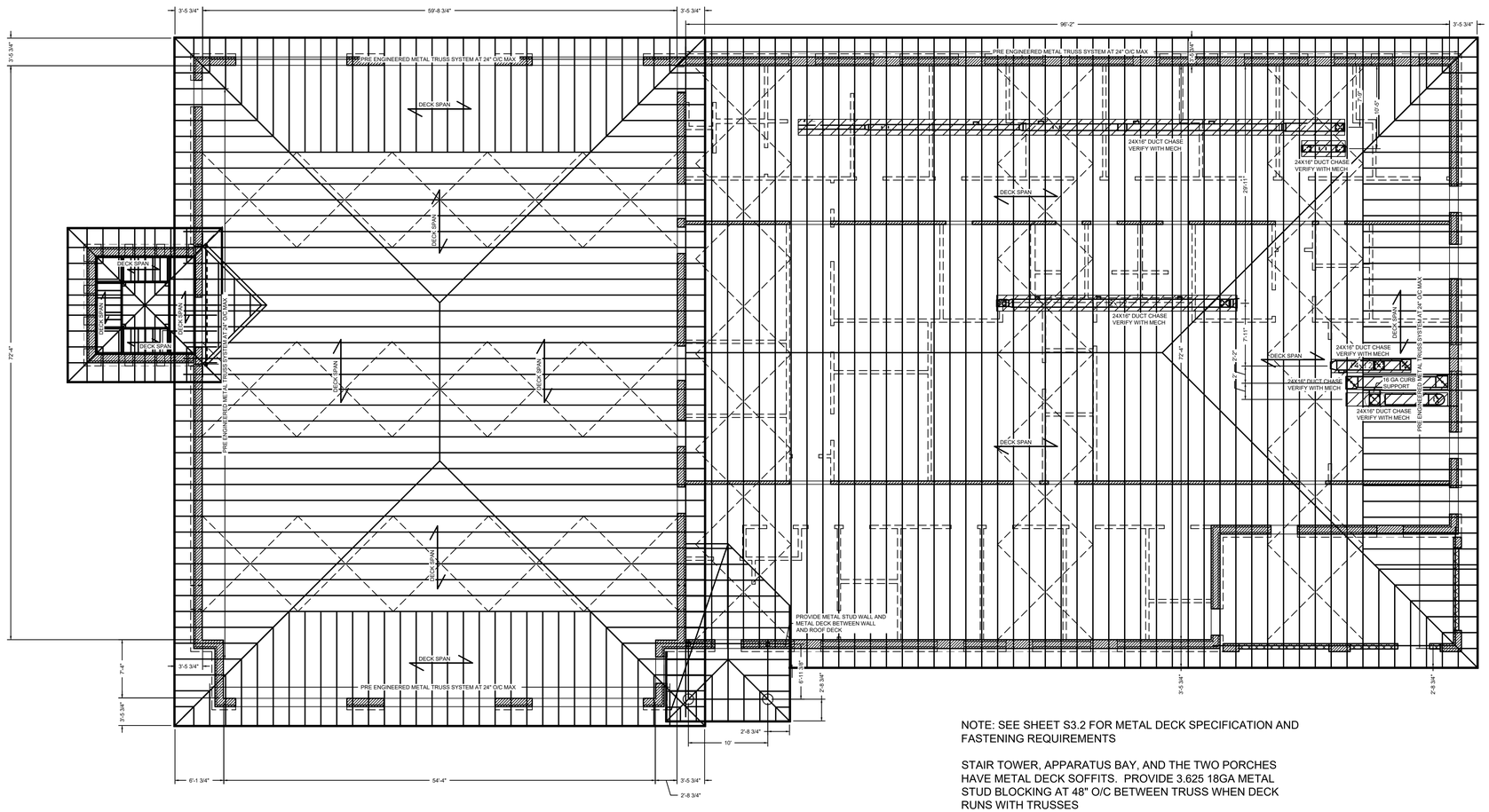
PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
LINTEL/HEADER PLAN

SHEET NUMBER:
S1.2



FR-1 / S1.3 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

NOTE: SEE SHEET S3.2 FOR METAL DECK SPECIFICATION AND FASTENING REQUIREMENTS

STAIR TOWER, APPARATUS BAY, AND THE TWO PORCHES HAVE METAL DECK SOFFITS. PROVIDE 3.625 18GA METAL STUD BLOCKING AT 48" O/C BETWEEN TRUSS WHEN DECK RUNS WITH TRUSSES

TRUSS TOP AND BOTTOM CHORDS SHALL BE FABRICATED WITH MATERIALS NOT LESS THAN 16 GA THICKNESS.

BRADLEY TODD KENT
No. 59384

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JRA-FIRESTATION 32 -STRUCTURAL-BID.DWG

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	BTK	BTK	03/31/23
CONSTRUCTION DOCUMENTS	BTK	BTK	05/10/23
BID DOCUMENTS	BTK	BTK	08/01/23

JRA ARCHITECTS
2211 THOMAS DR. , STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

STRUCTURAL ENGINEERING

BTK ENGINEERING SERVICES, INC.
1101 BRICKYARD ROAD, CHIPLEY, FL 32428
ENGINEERING BUSINESS #9613
BRADLEY T. KENT P.E.
FLORIDA REGISTRATION #59384
PHONE: (850) 676-4140

EXODUS 4:11

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

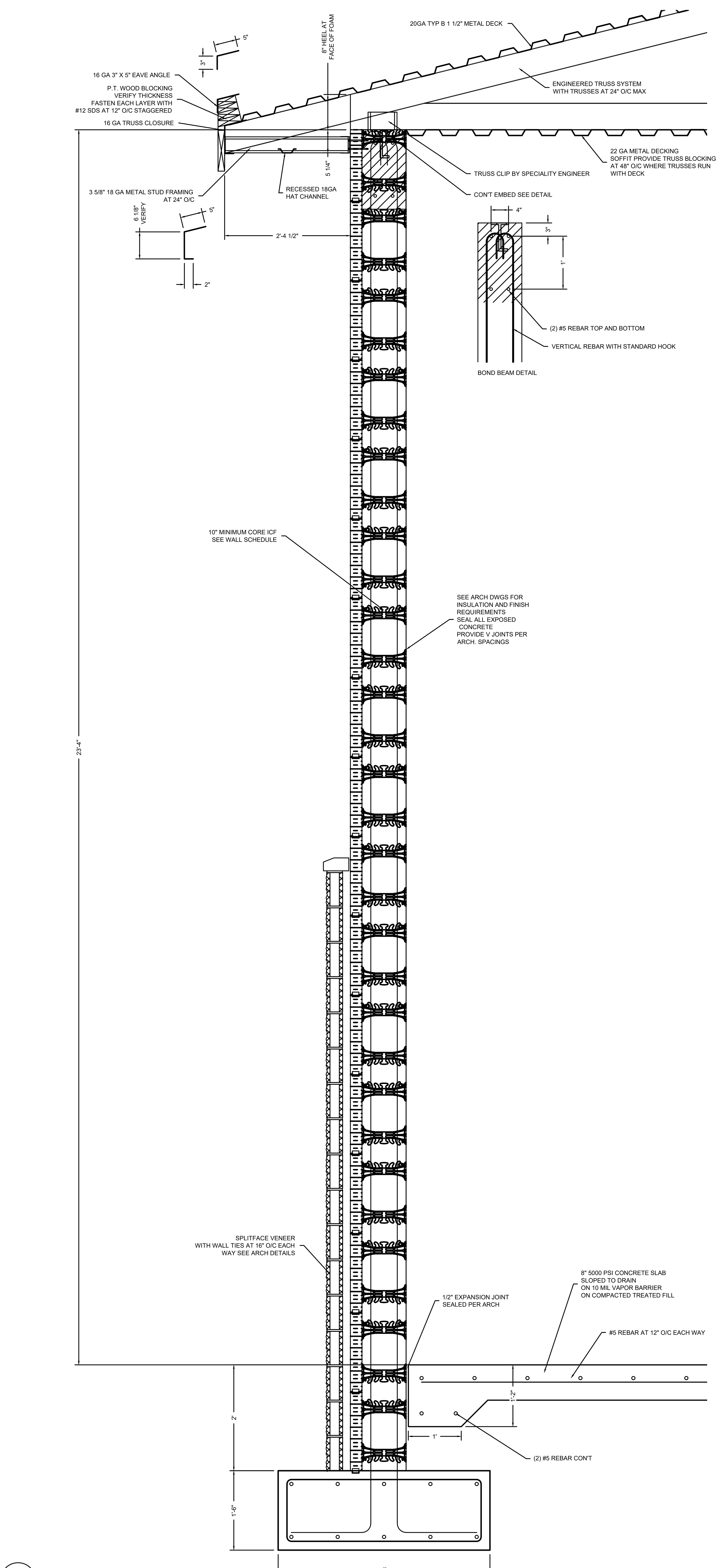
BAY COUNTY, FLORIDA

SHEET TITLE:

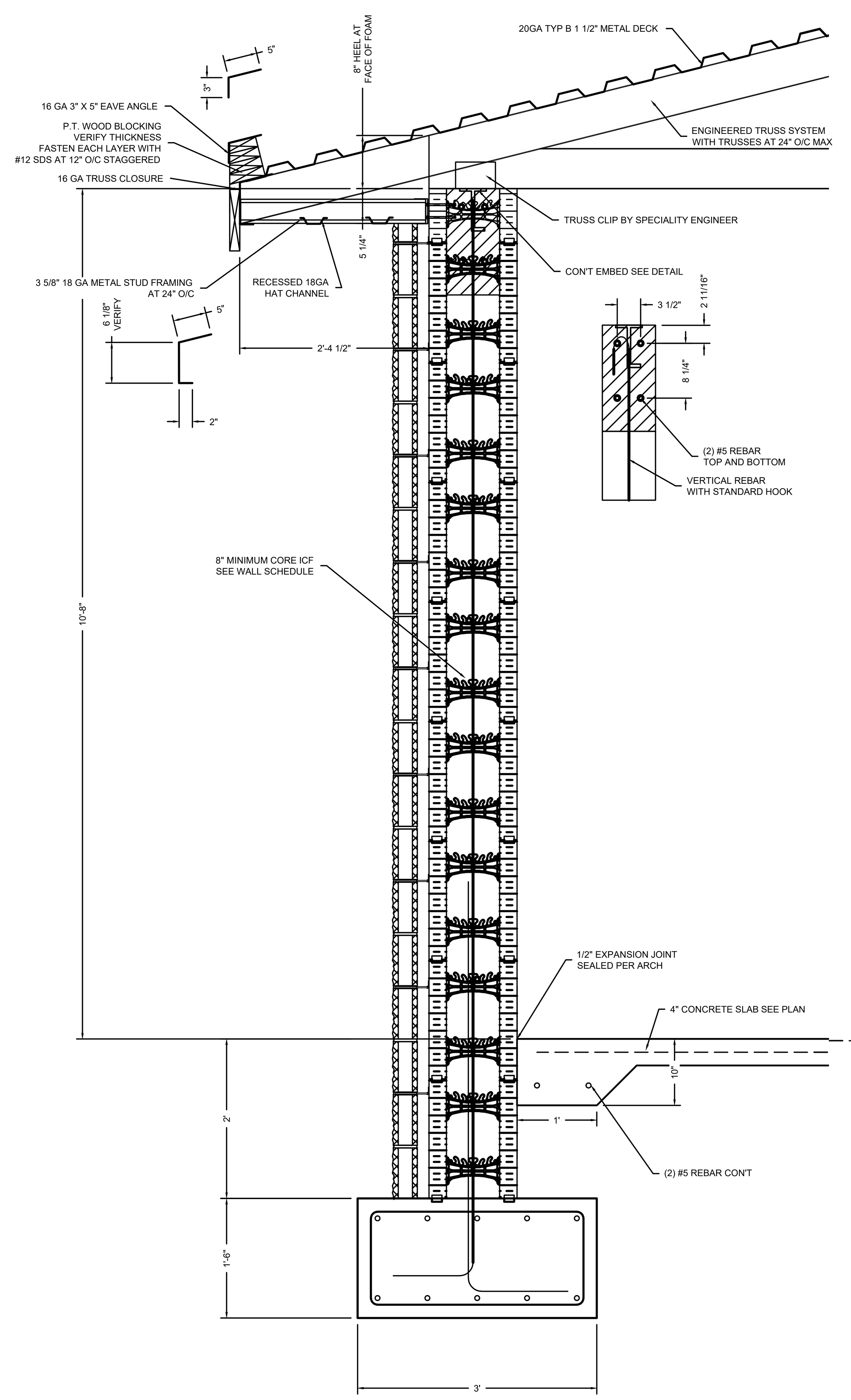
ROOF FRAMING PLAN

SHEET NUMBER:

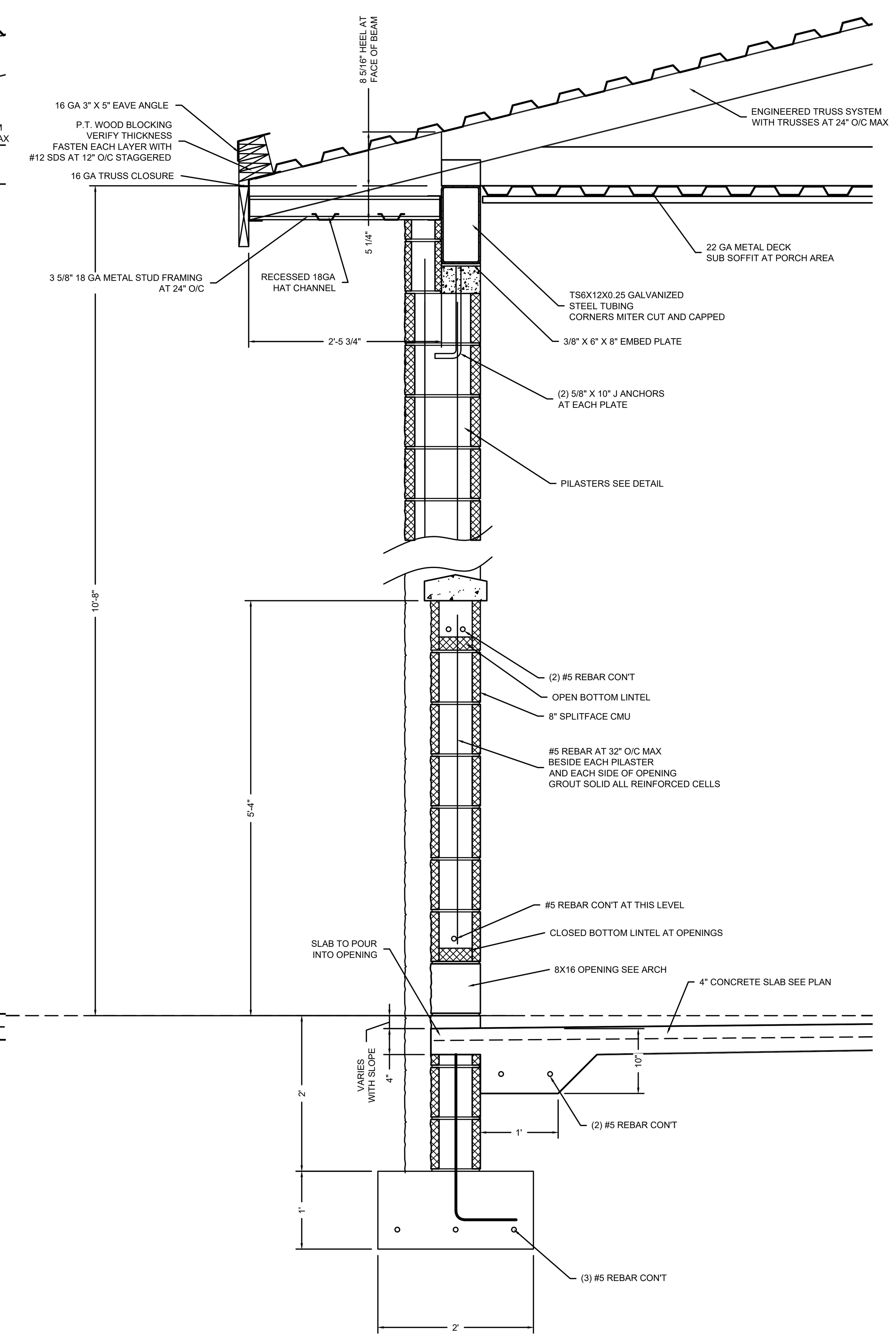
S1.3



D-1 / S2.1 STRUCTURAL WALL SECTION APPARATUS BAY
SCALE: 3/4" = 1'-0"



D-2 / S2.1 STRUCTURAL WALL SECTION (DAY AREA)
SCALE: 3/4" = 1'-0"



D-3 / S2.1 STRUCTURAL WALL SECTION (COVERED AREA)
SCALE: 3/4" = 1'-0"

BRADLEY TODD KENT LICENSE

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FIRESTATION 32 -STRUCTURAL-BID.DWG

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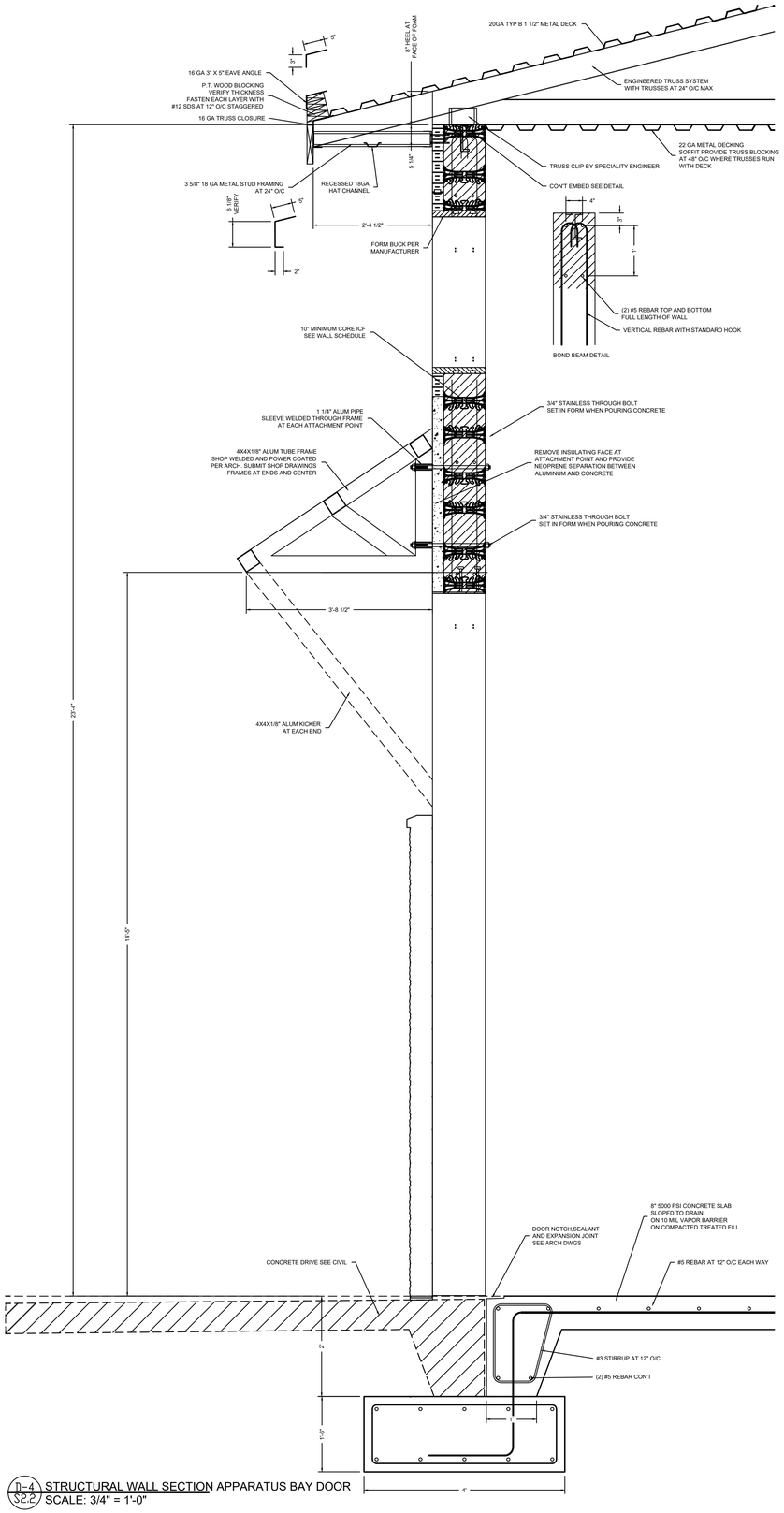
EXODUS 4:11

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

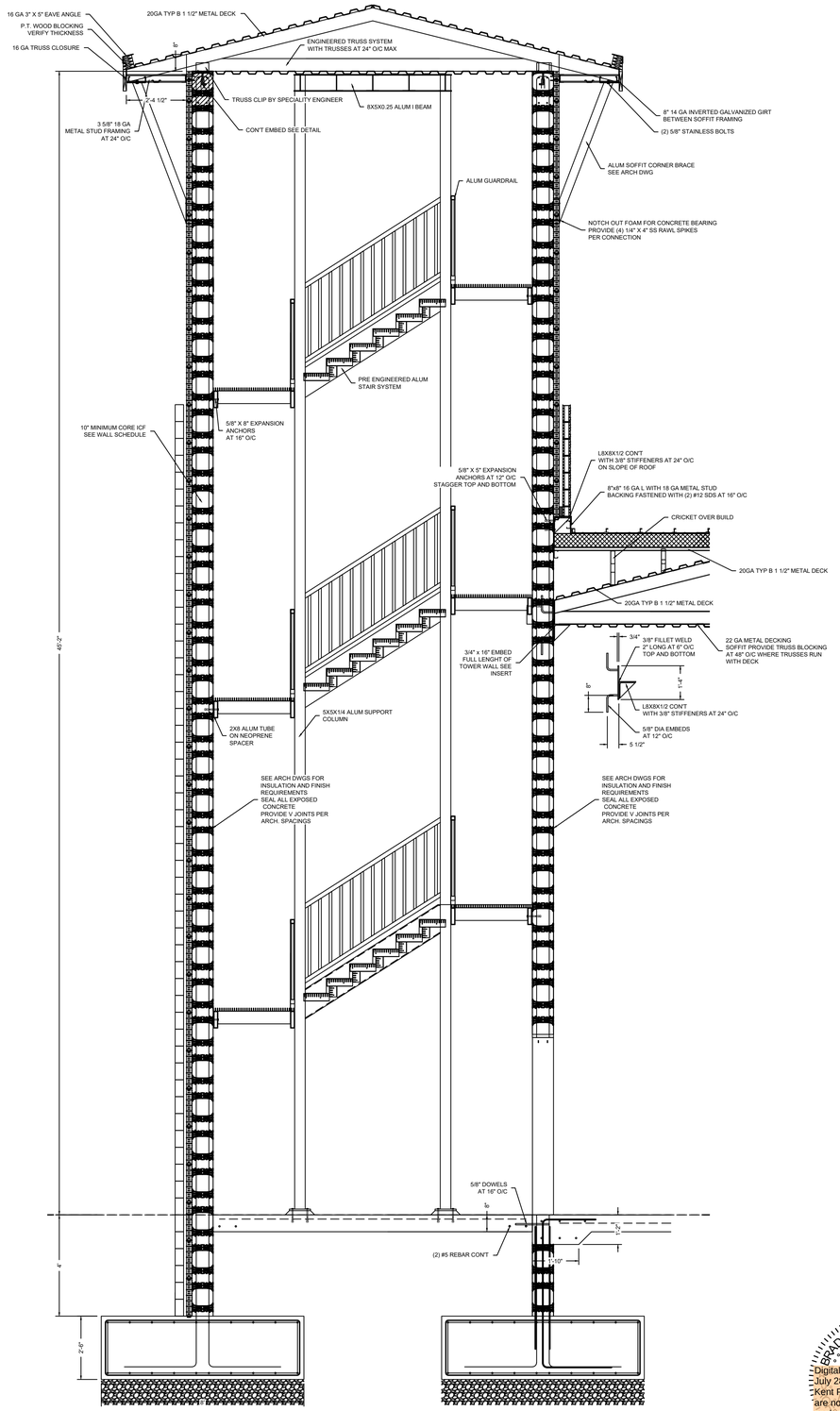
BAY COUNTY, FLORIDA

SHEET TITLE:
STRUCTURAL WALL SECTIONS

SHEET NUMBER:
S2.1



D-4 / S2.2 STRUCTURAL WALL SECTION APPARATUS BAY DOOR
SCALE: 3/4" = 1'-0"



D-5 / S2.2 STRUCTURAL WALL SECTION STAIR TOWER
SCALE: 3/8" = 1'-0"

Digitally signed and sealed on July 28, 2023 by Bradley Todd Kent P.E. #59384. Printed copies are not considered signed and sealed. Digital copies should be verified for valid certification.

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EXODUS 4:11

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

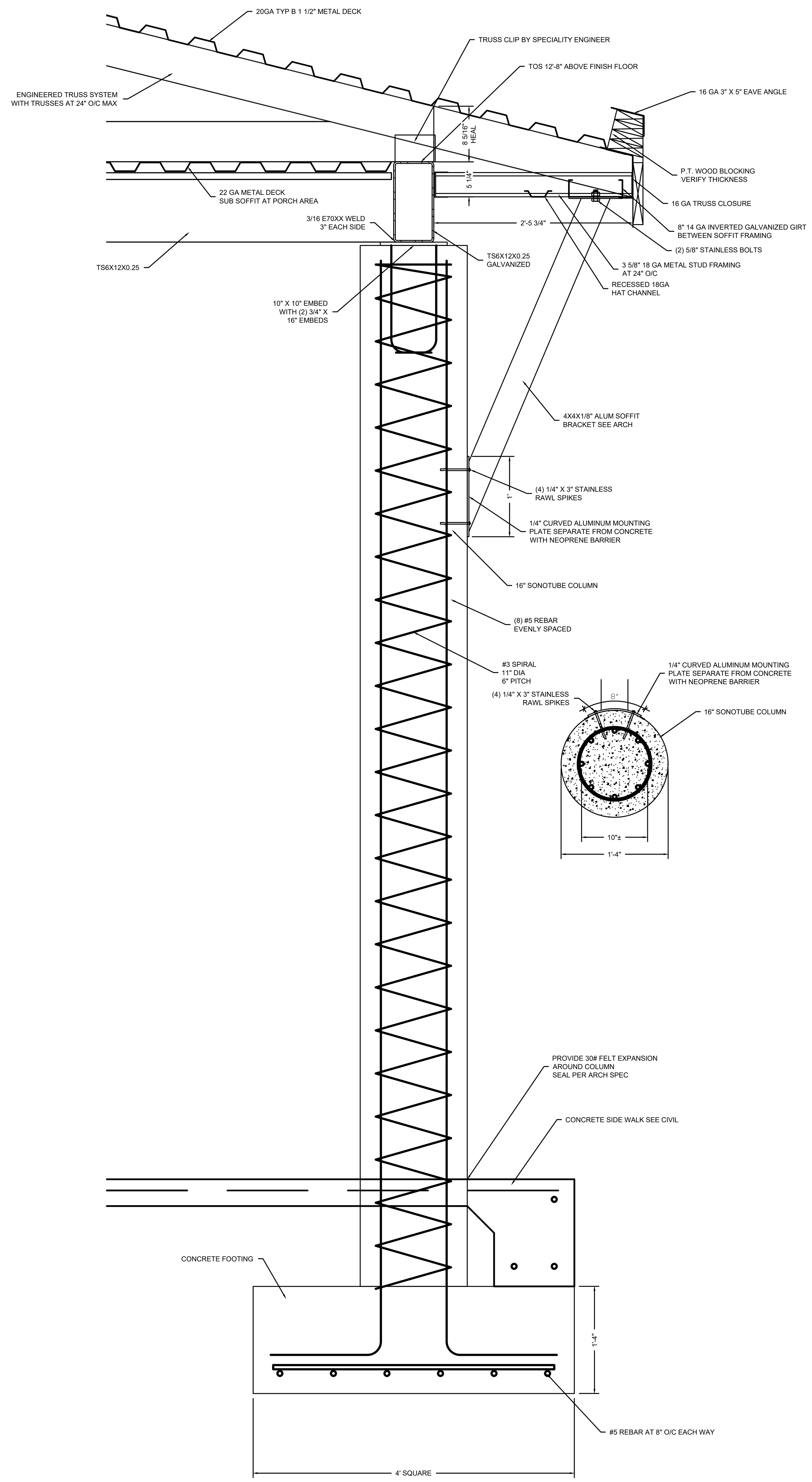
BAY COUNTY, FLORIDA

SHEET TITLE:

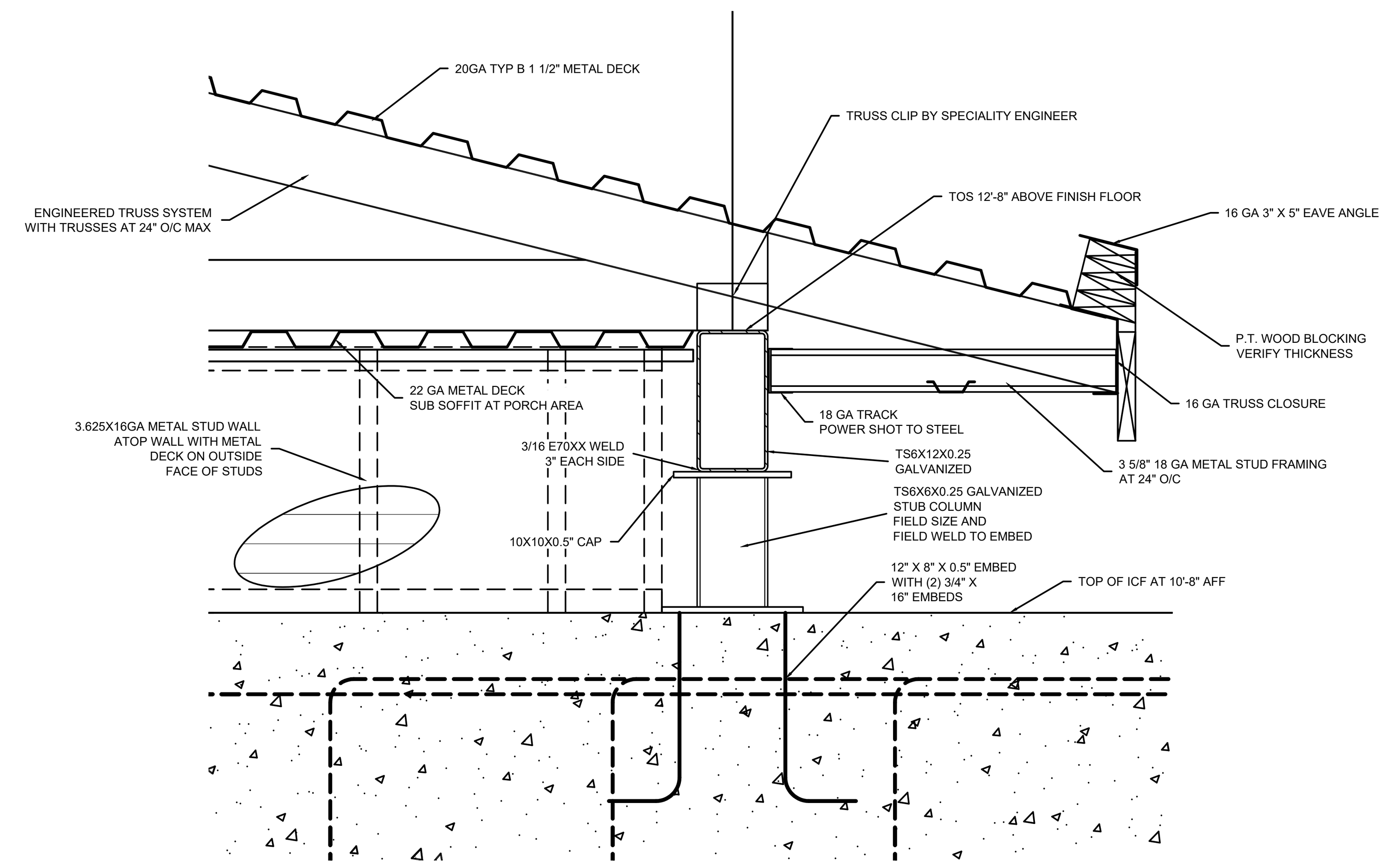
STRUCTURAL WALL SECTIONS

SHEET NUMBER:

S2.2



D-5 / S2.3 STRUCTURAL WALL SECTION (FRONT ENTRY)
SCALE: 1" = 1'-0"



D-6 / S2.3 STRUCTURAL WALL SECTION (FRONT ENTRY)
SCALE: 1" = 1'-0"

BRADLEY TODD KENT LICENSE No. 59384 STATE OF FLORIDA PROFESSIONAL ENGINEER

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FIRESTATION 32 -STRUCTURAL-BID.DWG

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ENGINEERING BUSINESS #9613
BRADLEY T. KENT P.E.
FLORIDA REGISTRATION #59384
PHONE: (850) 676-4140

EXODUS 4:11

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

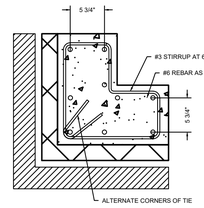
BAY COUNTY, FLORIDA

SHEET TITLE:

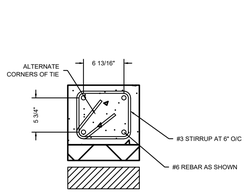
STRUCTURAL WALL SECTIONS

SHEET NUMBER:

S2.3



RD-1 S2.4 JAMB REINFORCEMENT DETAIL
SCALE: 1" = 1'-0"



RD-2 S2.4 JAMB REINFORCEMENT DETAIL
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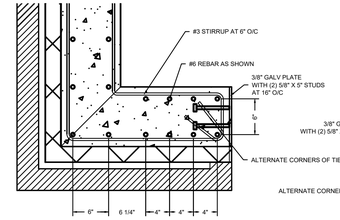
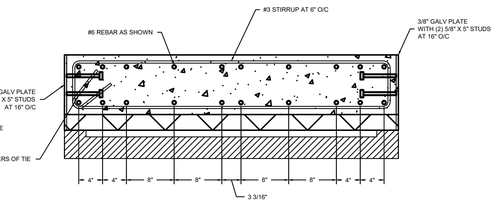
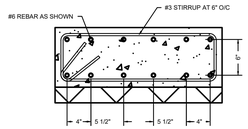


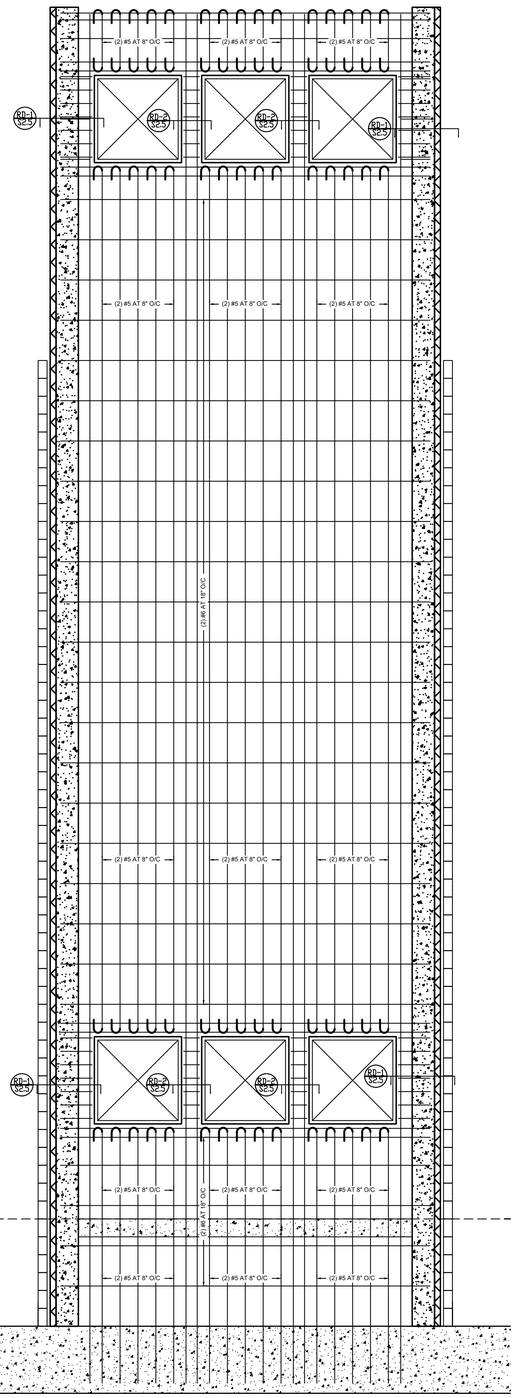
RD-3 S2.4 JAMB REINFORCEMENT DETAIL
SCALE: 1" = 1'-0"



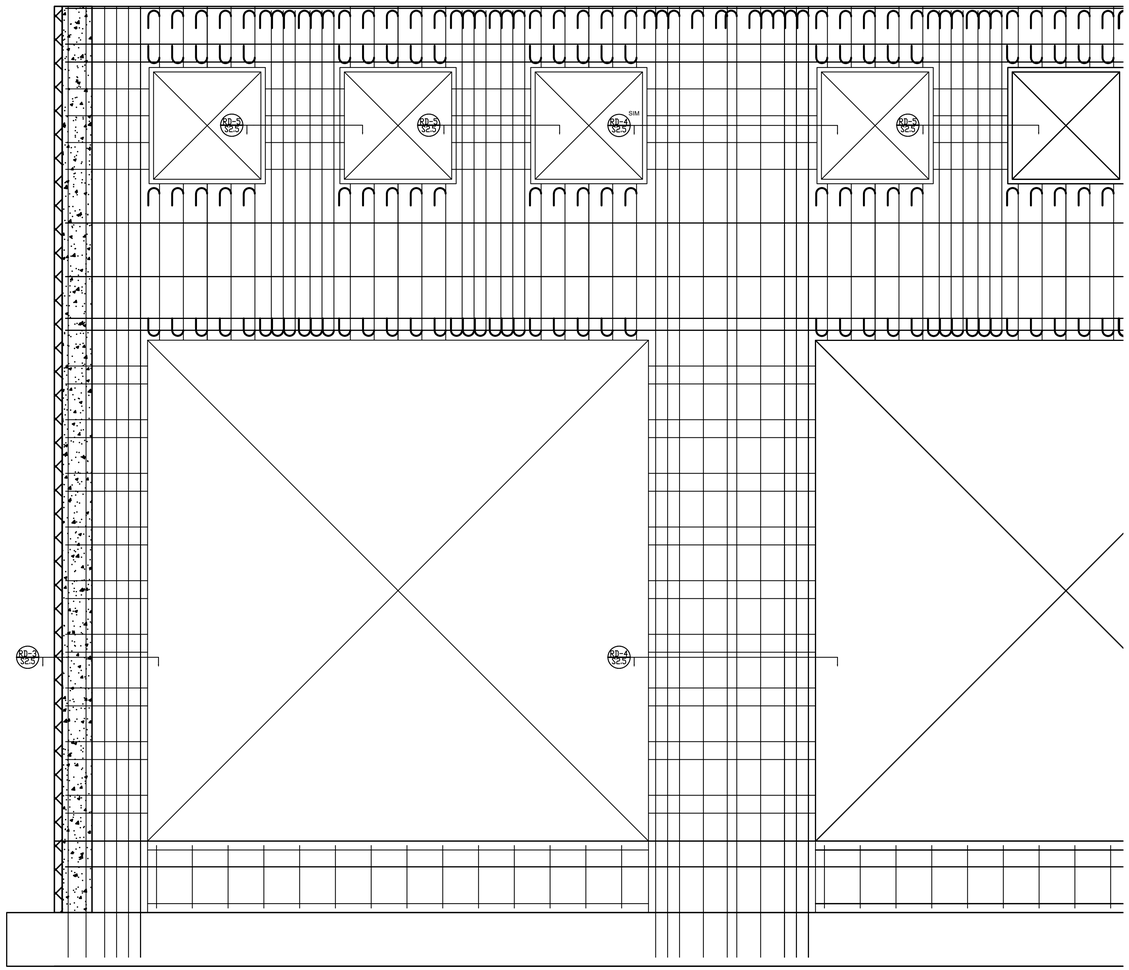
RD-4 S2.4 JAMB REINFORCEMENT DETAIL
SCALE: 1" = 1'-0"



RD-5 S2.4 JAMB REINFORCEMENT DETAIL
SCALE: 1" = 1'-0"



RE-1 S2.4 REINFORCEMENT ELEVATION (TOWER)
SCALE: 3/8" = 1'-0"



RE-2 S2.4 REINFORCEMENT ELEVATION (APPARATUS BAY)
SCALE: 1/2" = 1'-0"

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JRA ARCHITECTS
2211 THOMAS DR. , STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

STRUCTURAL ENGINEERING
BTK ENGINEERING SERVICES, INC.
1101 BRICKYARD ROAD, CHIPLEY, FL 32428
ENGINEERING BUSINESS #9613
BRADLEY T. KENT P.E.
FLORIDA REGISTRATION #59384
PHONE: (850) 676-4140

EXODUS 4:11

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

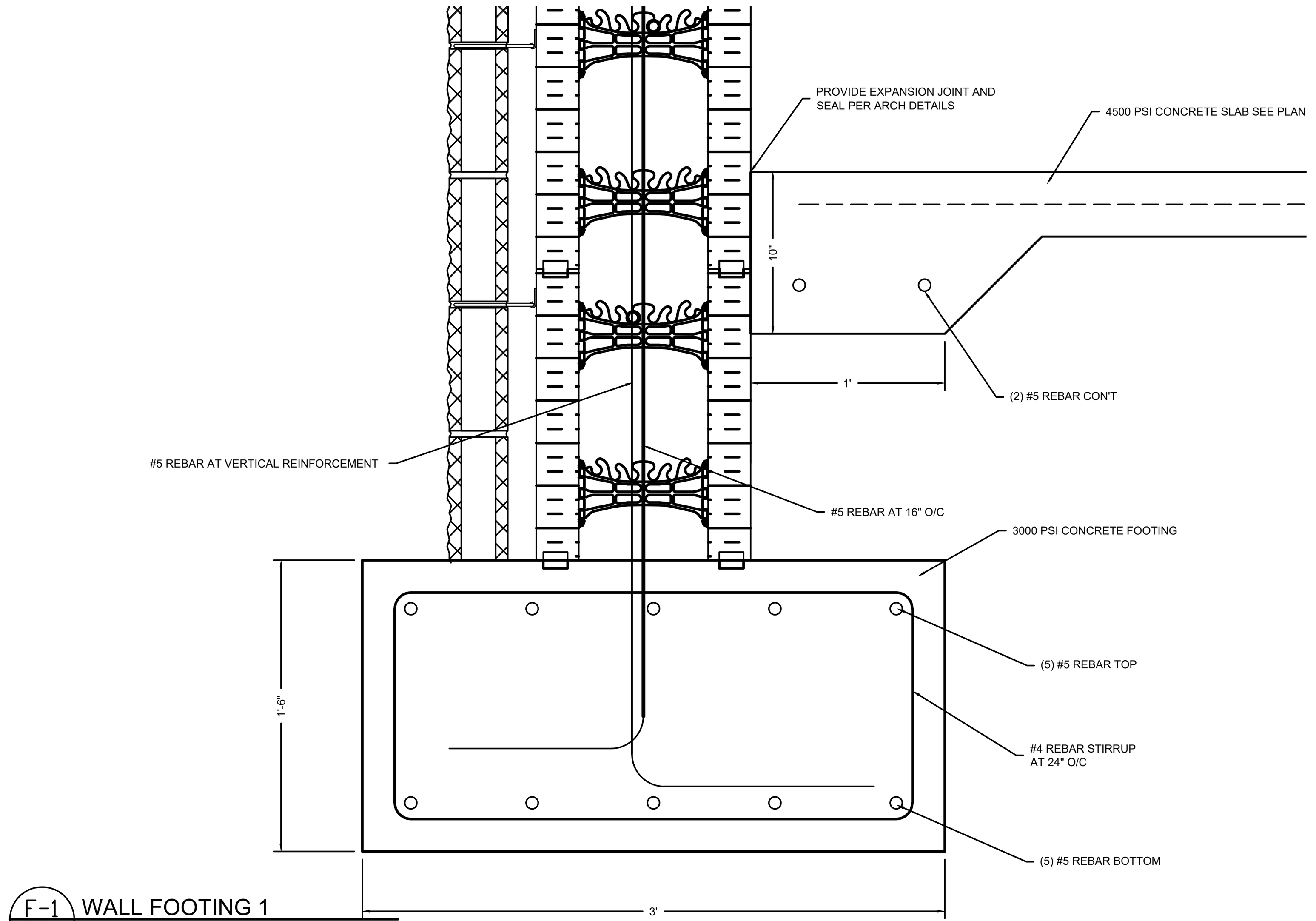
SHEET TITLE:

STRUCTURAL WALL
REINFORCEMENT ELEVATIONS

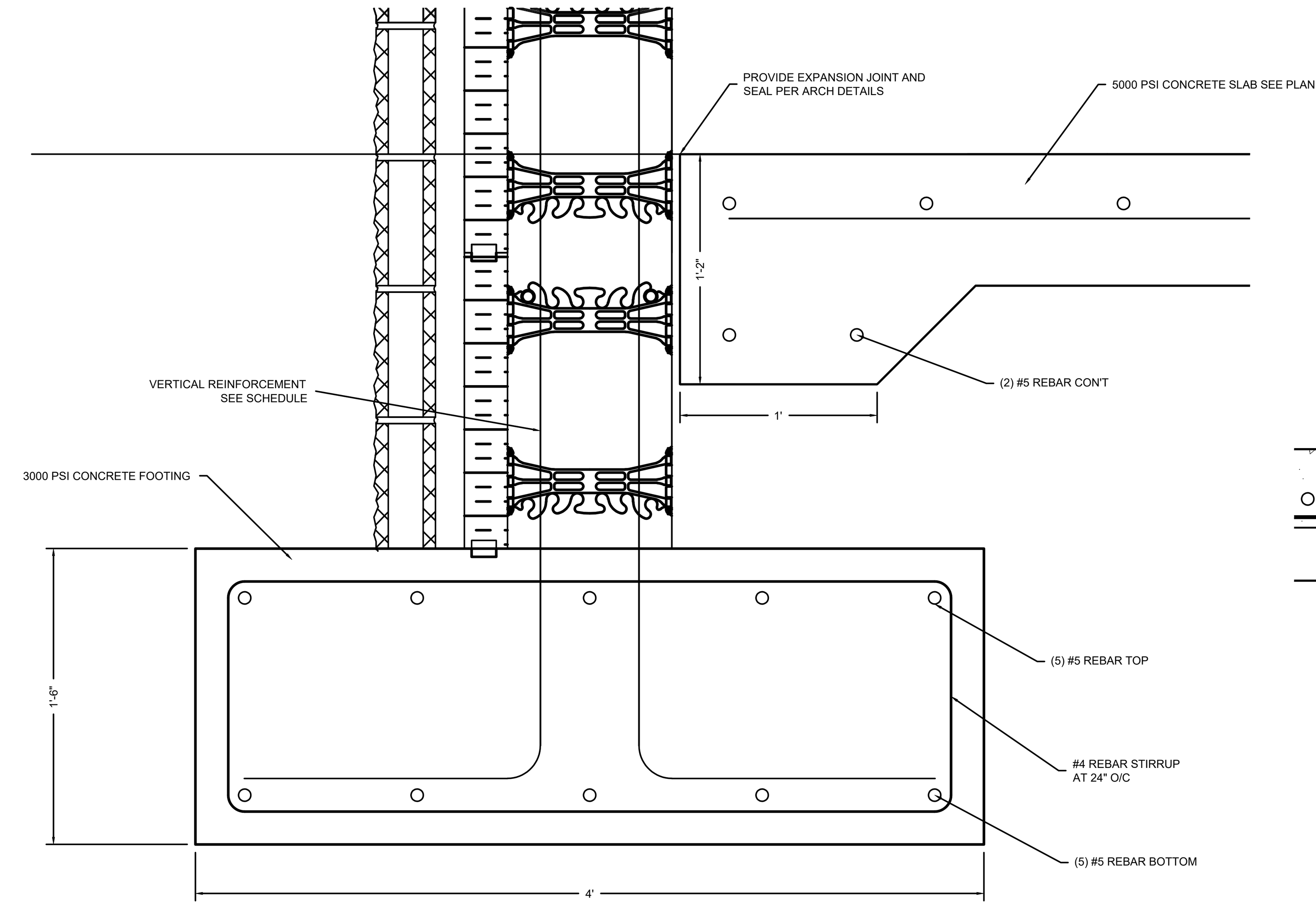
SHEET NUMBER:

S2.4

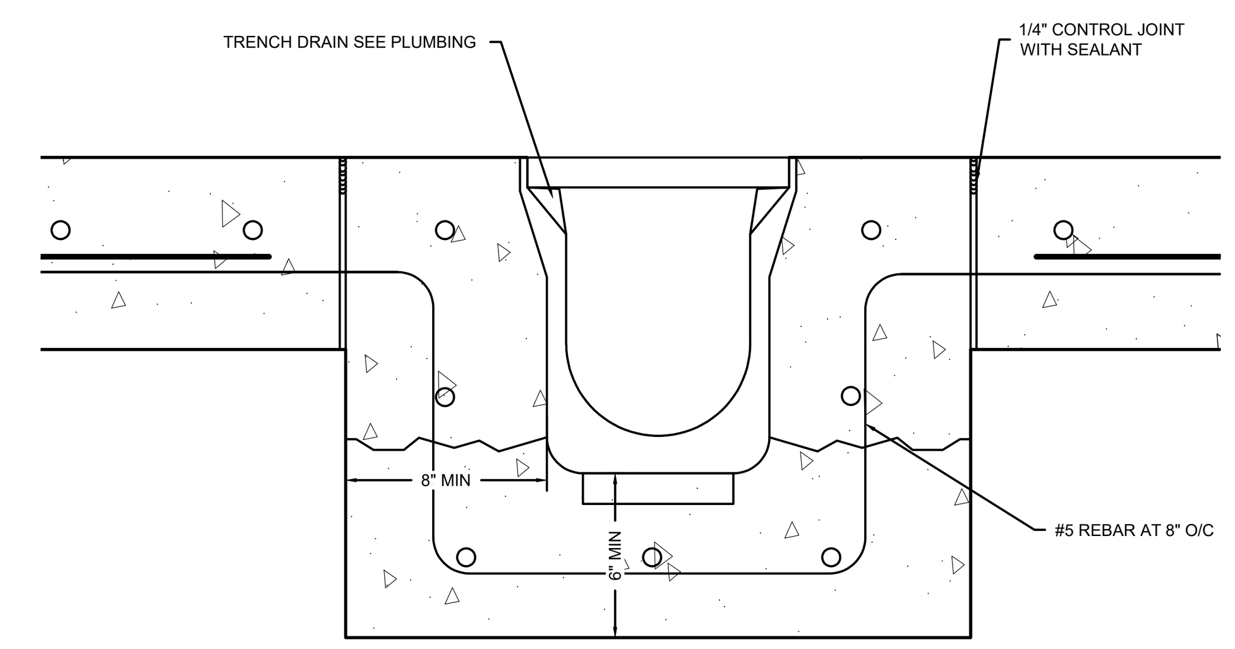
PCBFIRESTATION 32 -STRUCTURAL-BID.DWG



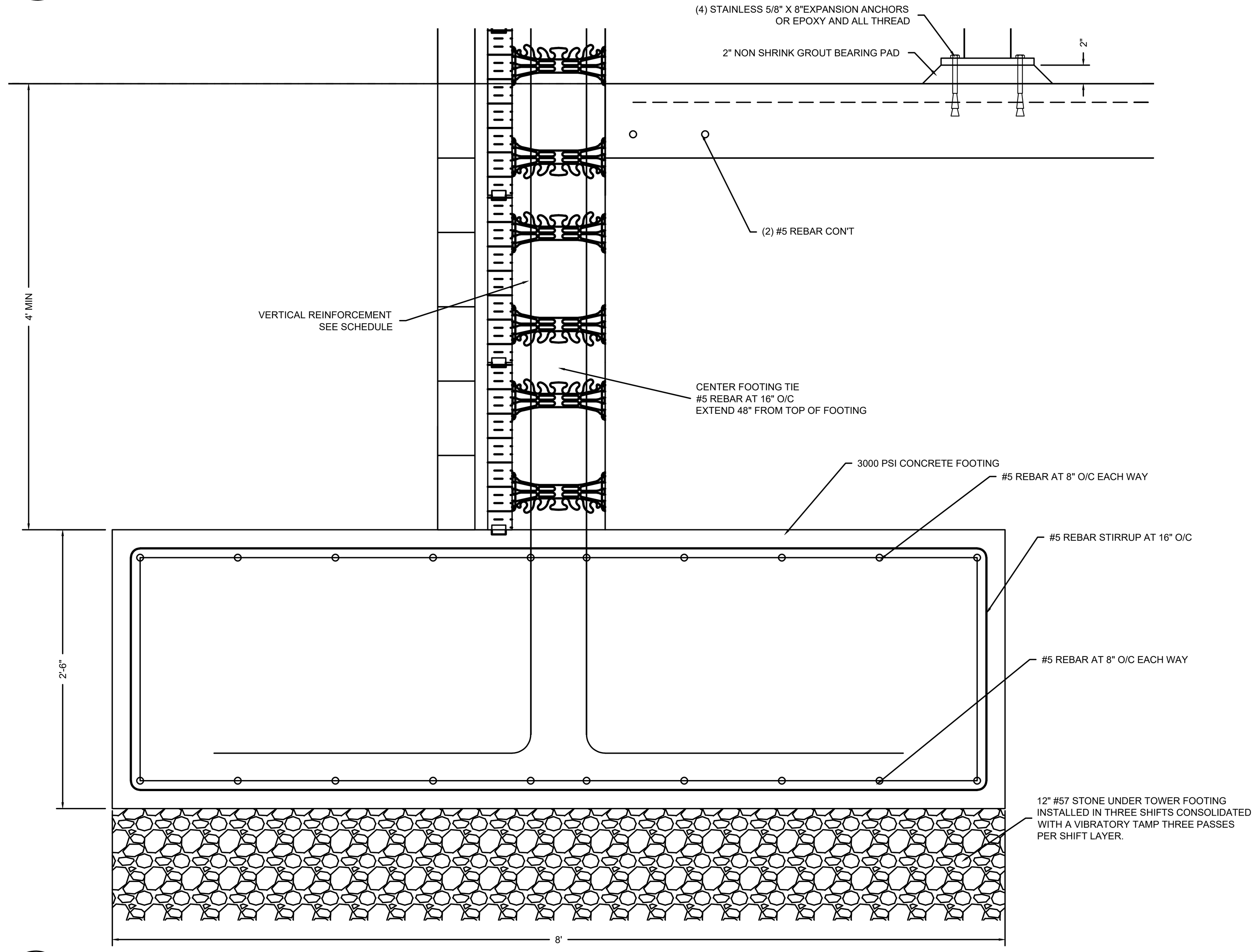
F-1 S3.1 WALL FOOTING 1
SCALE: 1 1/2" = 1'-0"



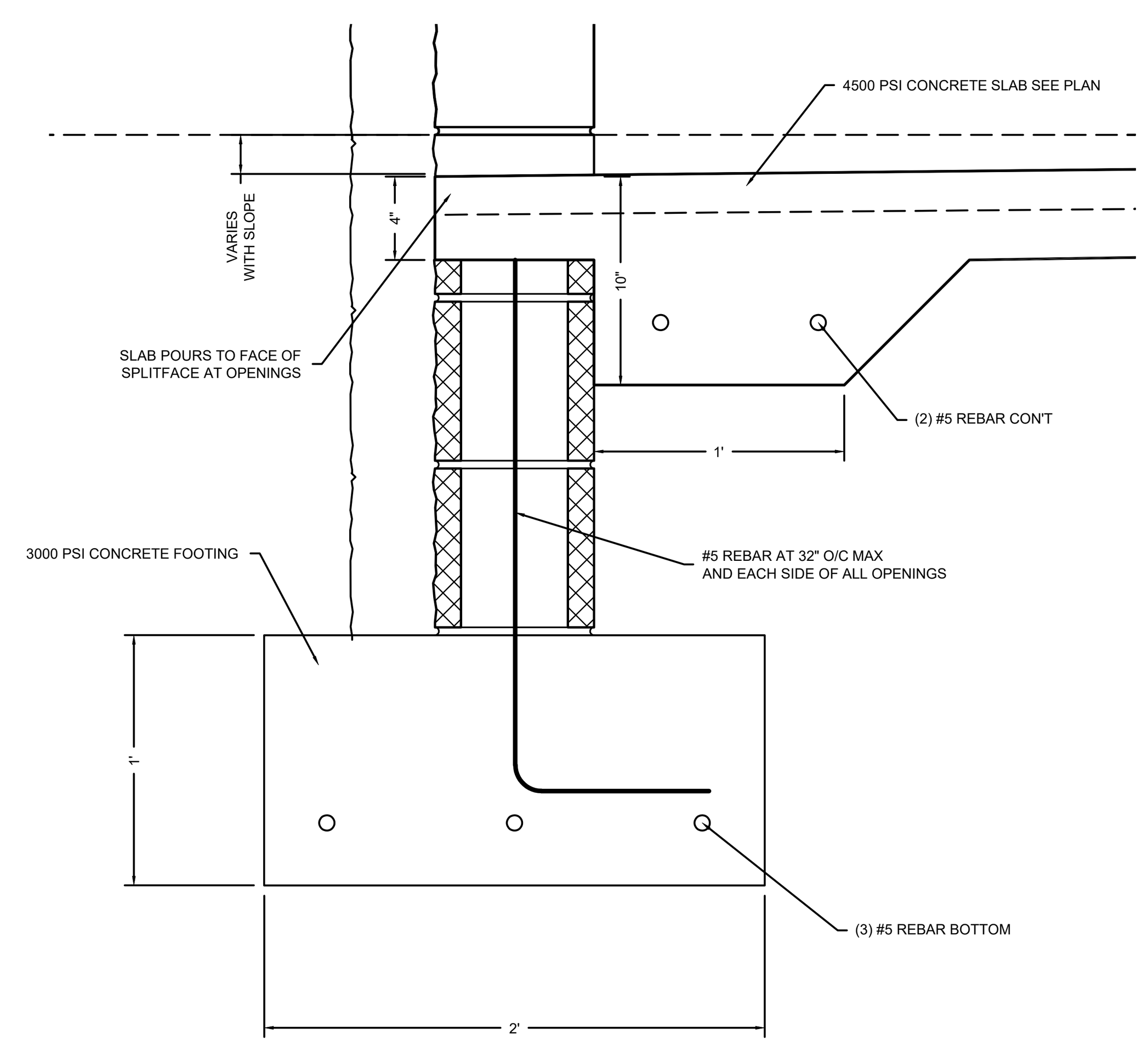
F-2 S3.1 WALL FOOTING 2
SCALE: 1 1/2" = 1'-0"



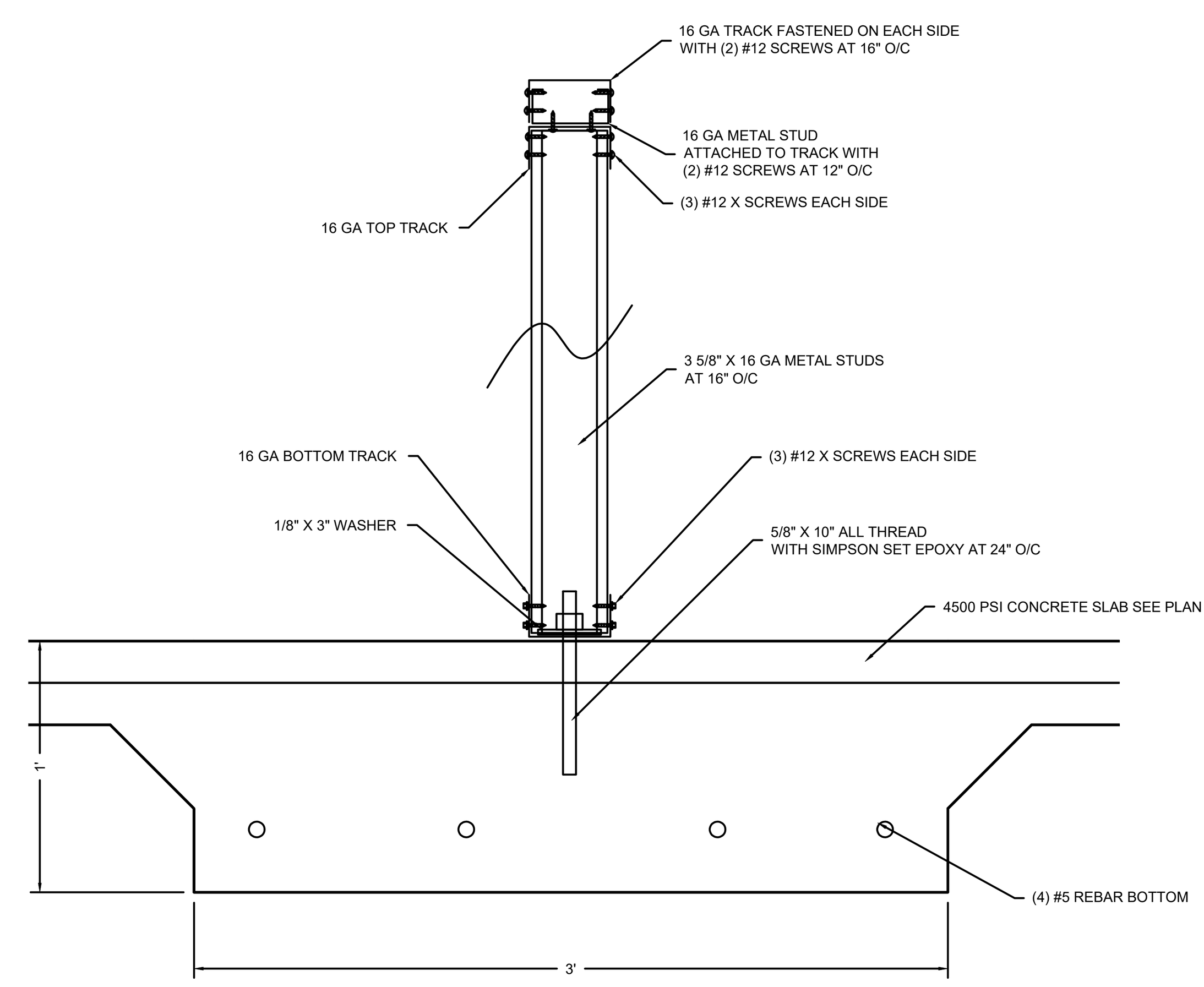
TD-1 S3.1 TRENCH DRAIN
SCALE: 1 1/2" = 1'-0"



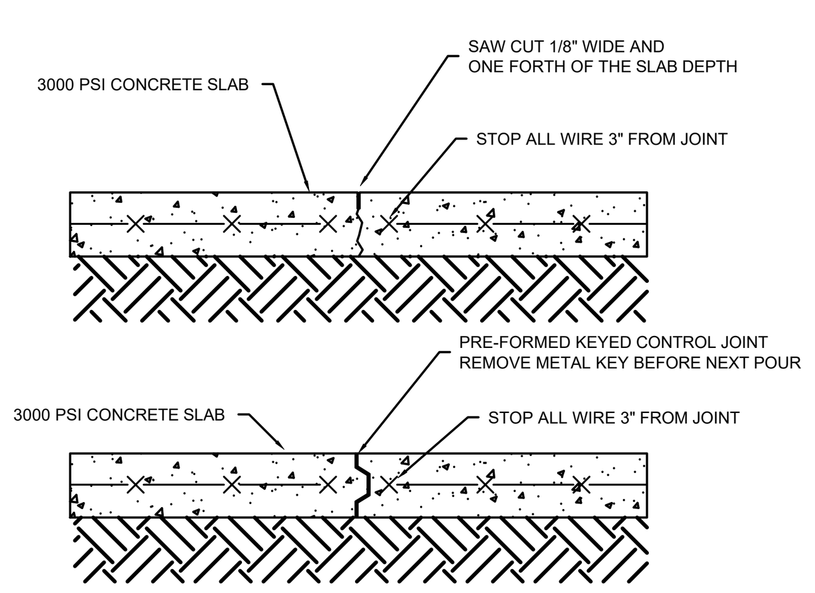
F-3 S3.1 WALL FOOTING 3
SCALE: 1" = 1'-0"



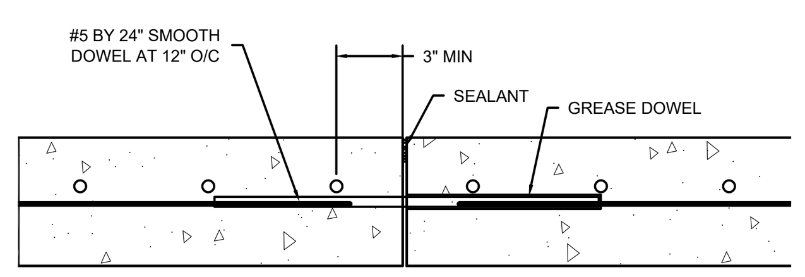
F-4 S3.1 WALL FOOTING 4
SCALE: 1 1/2" = 1'-0"



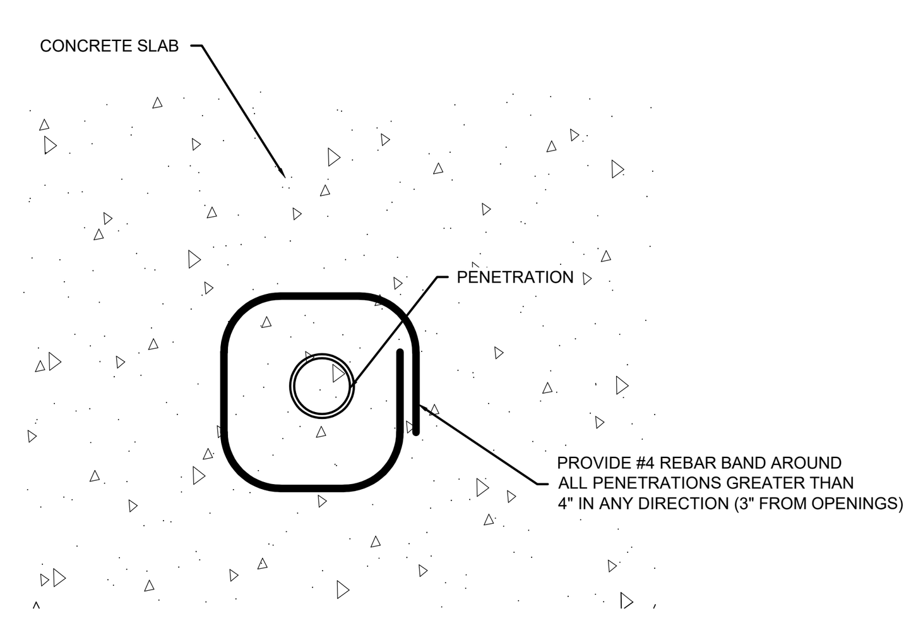
F-5 S3.1 WALL FOOTING 5
SCALE: 1 1/2" = 1'-0"



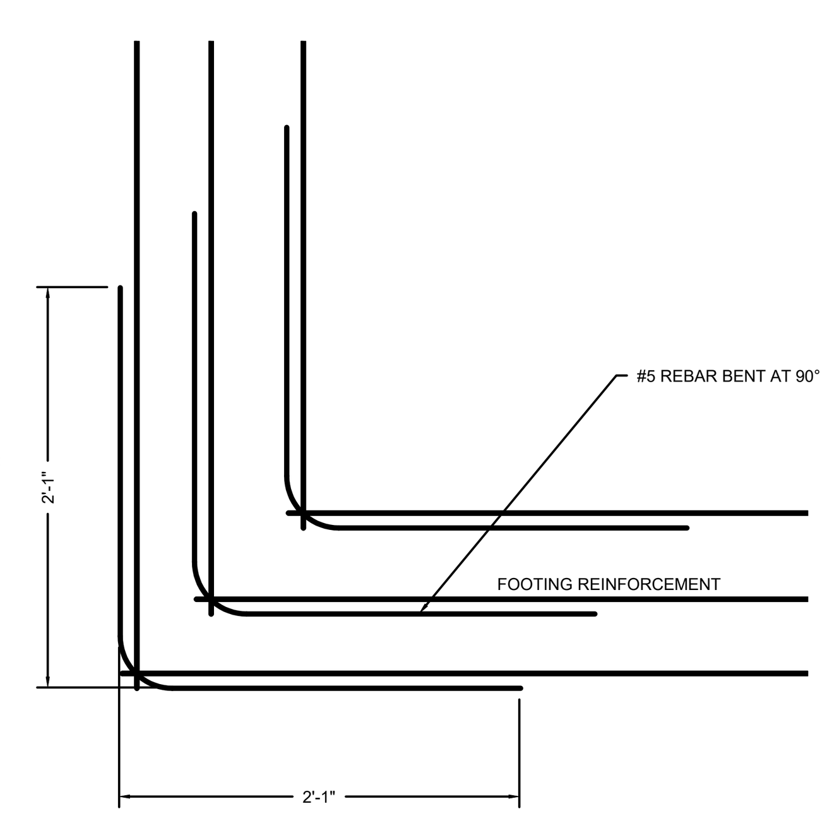
CJ-1 S3.1 CONTROL JOINT OPTIONS
SCALE: 1" = 1'-0"



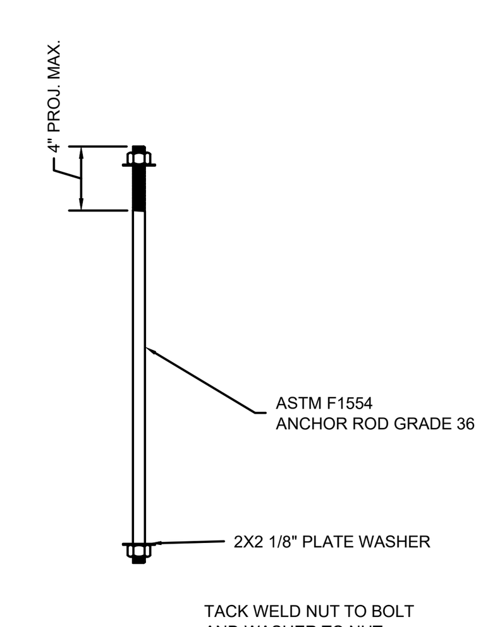
CJ-2 S3.1 CONTROL JOINT APPARATUS BAY
SCALE: 1" = 1'-0"



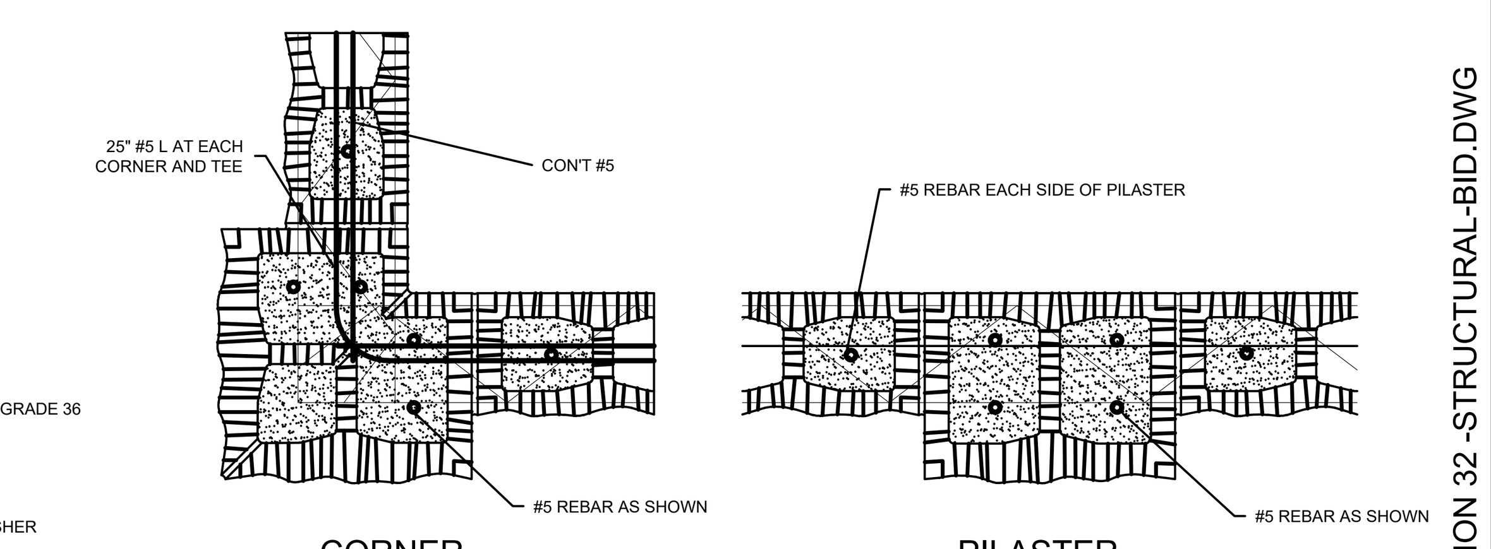
SP-1 S3.1 SLAB PENETRATION DETAIL
SCALE: 1" = 1'-0"



CR S3.1 CORNER REINFORCEMENT AT FOOTING
SCALE: 1" = 1'-0"



AB-1 S3.1 ANCHOR BOLT FOR STRUCTURAL STEEL
SCALE: 1" = 1'-0"



SWC S3.1 CORNER REINFORCEMENT AT MASO[NRY]
SCALE: 1" = 1'-0"

BRADLEY TODD KENT LICENSE

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FIRESTATION 32 -STRUCTURAL-BID.DWG

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JRA ARCHITECTS
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PHONE: (850) 236-9832
Commission Number: 21804

STRUCTURAL ENGINEERING
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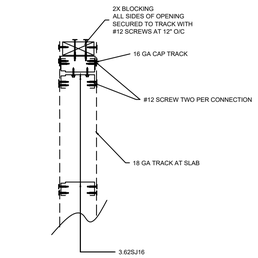
ENGINEERING BUSINESS #9613
BRADLEY T. KENT P.E.
FLORIDA REGISTRATION #59384
PHONE: (850) 676-4140
EXODUS 4:11

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD
BAY COUNTY, FLORIDA

SHEET TITLE:
STRUCTURAL FOOTING DETAILS

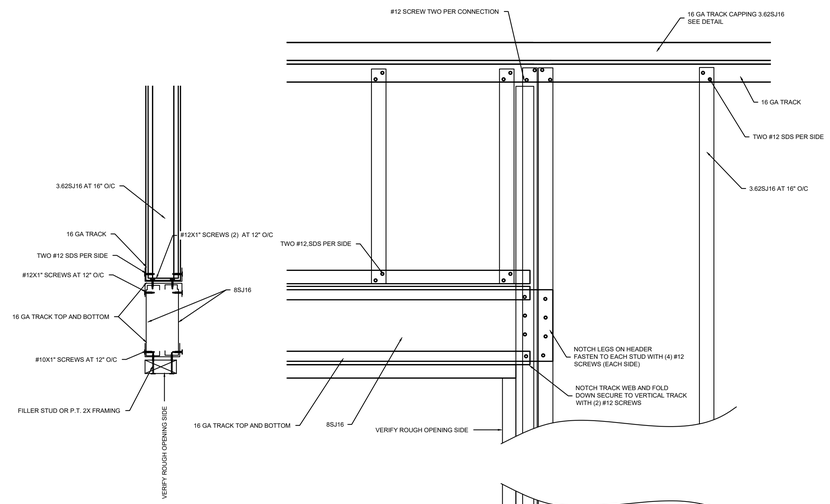
SHEET NUMBER:
S3.1

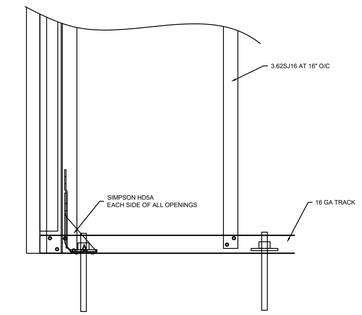
#5 REBAR BENT AT 90°



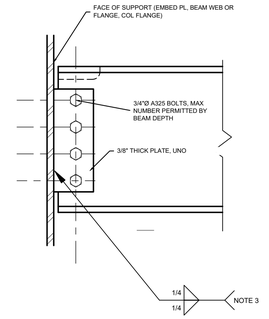
LIGHT GAGE FRAMING MANUFACTURER SHALL PROVIDE ENGINEERED SHOP DRAWINGS ENGINEERED BY A DELEGATED PROFESSIONAL ENGINEER.

D-1 / S3.2 TYPICAL JAMB FRAMING DETAIL
SCALE: 1 1/2" = 1'-0"





D-2 / S3.2 TYPICAL HEADER DETAIL
SCALE: 1 1/2" = 1'-0"

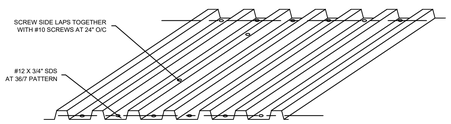


CONVENTIONAL CONNECTION

NOTES:

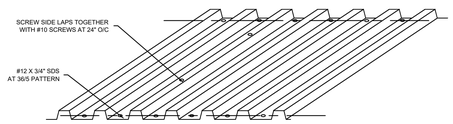
1. FOR CONNECTIONS TO BE DESIGNED BY CONTRACTOR, PLATE SIZE, WELD, AND BOLT SIZE SHOWN IN THIS DETAIL SHALL BE THE MINIMUM ACCEPTABLE.
2. PROVIDE STANDARD BOLT HOLES UNLESS OTHERWISE NOTED. PROVIDE SHORT HORIZONTAL SLOTTED HOLES WHEN CONNECTING CAMBERED MEMBERS.
3. WHEN SUPPORTING PLATE OR FLANGE THICKNESS IS LESS THAN 1/2", REDUCE FILLET WELD SIZE BY 1/16". WHEN SUPPORTING PLATE OR FLANGE THICKNESS EXCEEDS 3/4", INCREASE FILLET WELD SIZE BY 1/16".

ST-1 / S3.2 STEEL BEAM CONNECTION DETAIL (TYP)
SCALE: 1 1/2" = 1'-0"



VULCRAFT 1.5B20 OR EQUAL

ROOF DECK



VULCRAFT 1.5B22 OR EQUAL

SOFFIT AND WALL

MD-1 / S3.2 DECK FASTENING PATTERNS
SCALE: 1" = 1'-0"

CONTRACTOR TO PROVIDE 3.625 18 GA METAL STUD BLOCKING BETWEEN TRUSSES AT 48" O/C FOR ATTACHMENT WHEN TRUSSES RUN PARALLEL TO SPAN

REVISIONS

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PHONE: (850) 676-4140
EXODUS 4:11

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

STRUCTURAL FRAMING DETAILS

SHEET NUMBER:

S3.2

BRADLEY TODD KENT LICENSED PROFESSIONAL ENGINEER STATE OF FLORIDA
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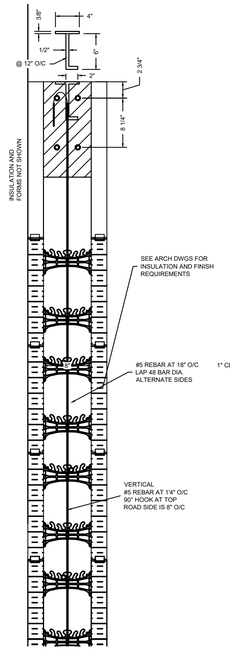
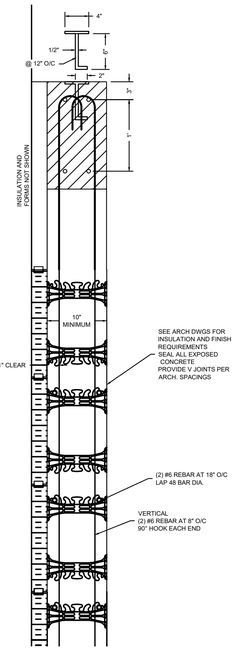
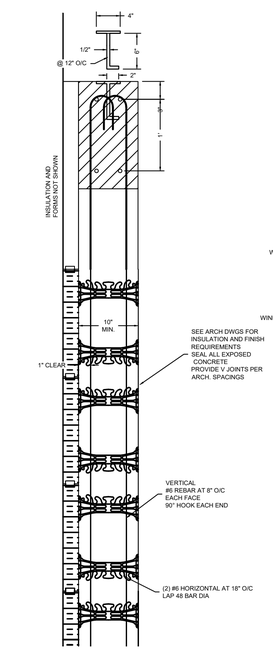
FIRESTATION 32 -STRUCTURAL-BID.DWG



DAY USE AREA
(10'-8" WALL HEIGHT)

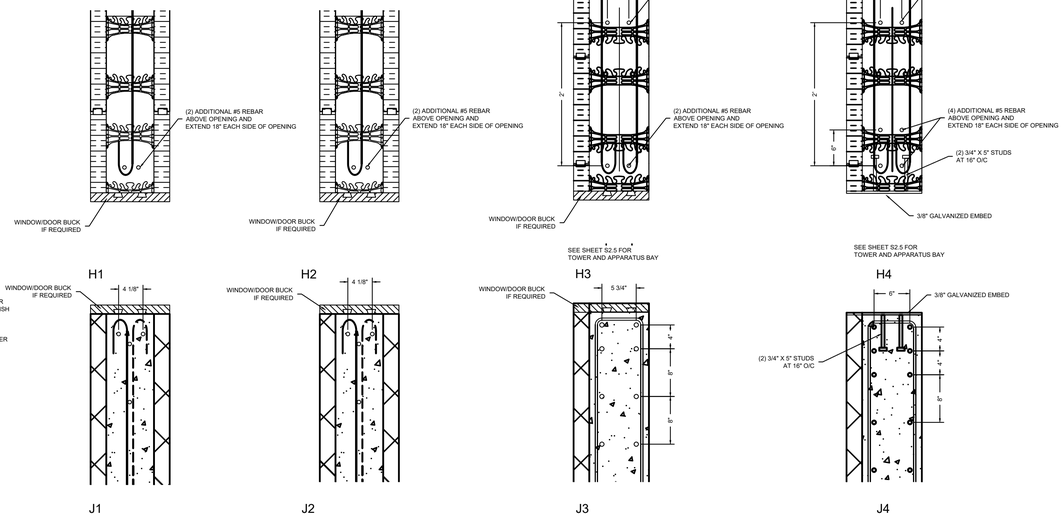


APPARATUS BAY
(WALL HEIGHT 23'-4")



TOWER
(WALL HEIGHT 45'-2")

WD-1 S3.3 WALL SCHEDULE DETAILS
SCALE: 1" = 1'-0"



HD-1 S3.3 HEADER/JAMB DETAILS
SCALE: 1" = 1'-0"

MASONRY VENEER LOOSE LINTEL SCHEDULE

OPENING	LINTEL	BEARING EACH END
6' OR LESS	L4x3-1/2x1/4	6"
OVER 6' TO 10'-0"	L6x4x3/8	8"

NOTES:
1. FOR OPENINGS 6'-0" AND LARGER, PROVIDE SOLID MASONRY JAMB UNDER LINTEL EACH SIDE OF OPENING.
2. FOR OPENINGS LARGER THAN 10'-0", PROVIDE (1) 5/8"Øx1'-0" ANCHOR BOLT EACH END OF LINTEL.
3. ALL STEEL ANGLES USED FOR BRICK VENEER LOOSE LINTELS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	BLK	BLK	03/31/23
CONSTRUCTION DOCUMENTS	BLK	BLK	05/10/23
BID DOCUMENTS	BLK	BLK	08/01/23

JRA ARCHITECTS
2211 THOMAS DR. , STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

STRUCTURAL ENGINEERING
BTK ENGINEERING SERVICES, INC.
1101 BRICKYARD ROAD, CHIPLEY, FL 32428
ENGINEERING BUSINESS #9613
BRADLEY T. KENT P.E.
FLORIDA REGISTRATION #59384
PHONE: (850) 676-4140

EXODUS 4:11

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

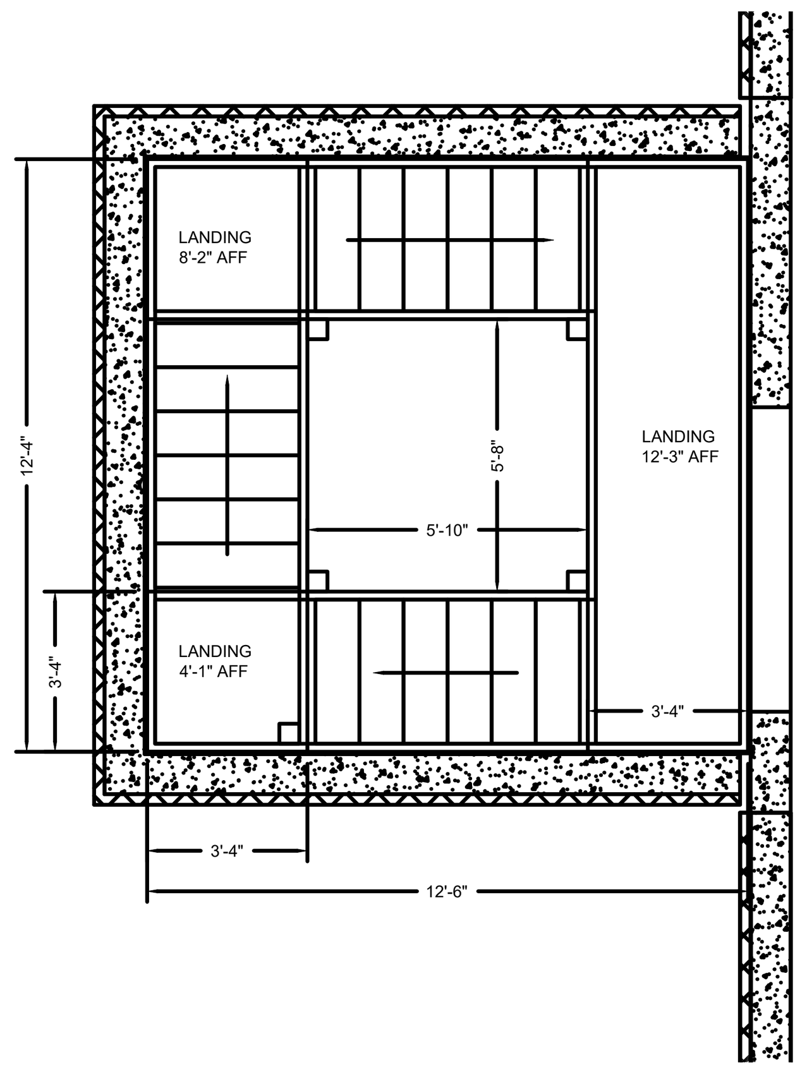
BAY COUNTY, FLORIDA

SHEET TITLE:
STRUCTURAL DETAILS

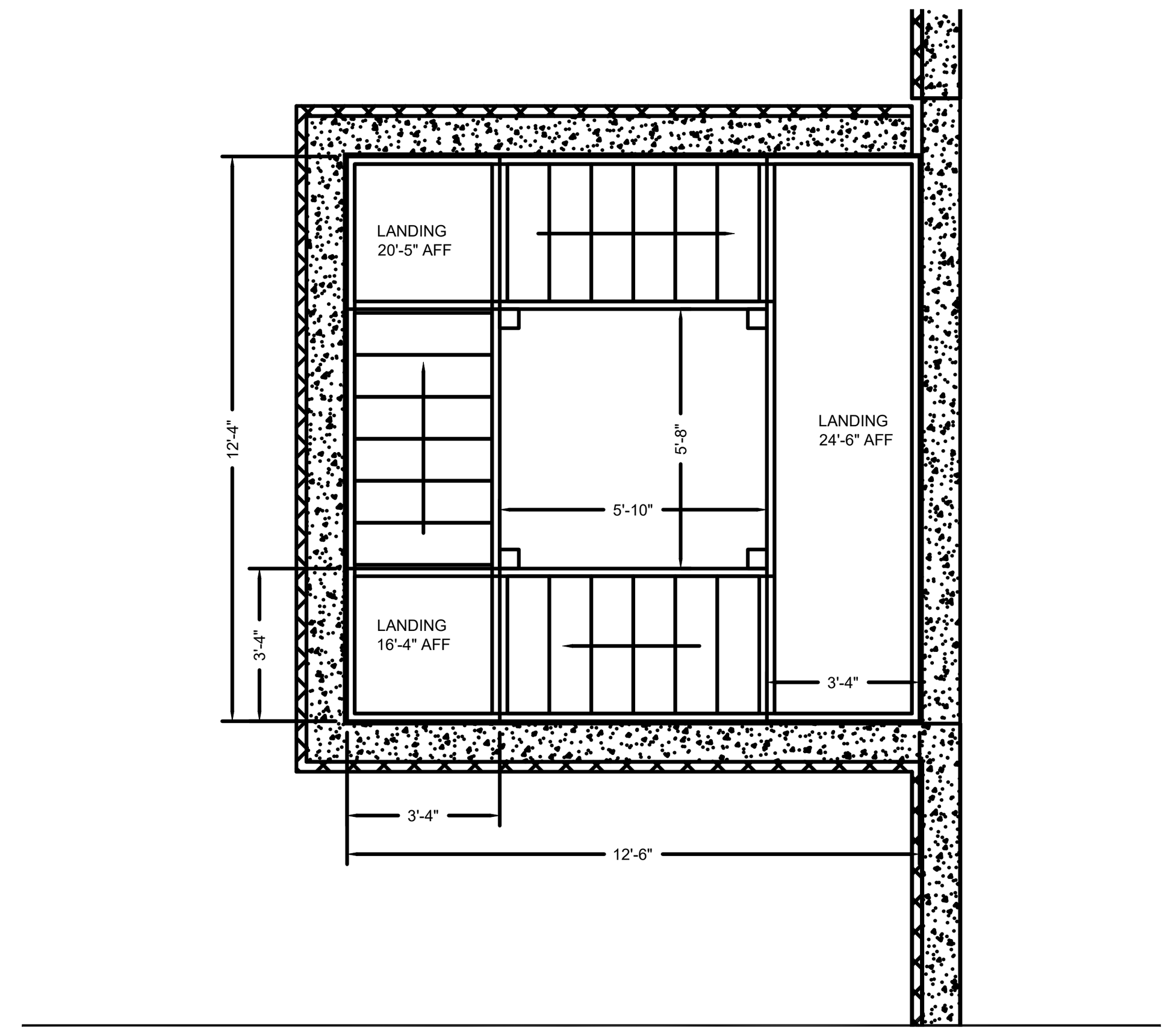
SHEET NUMBER:
S3.3

BRADLEY TODD KENT LICENSED PROFESSIONAL ENGINEER
Digitally signed and sealed on July 28, 2023 by Bradley Todd Kent P.E. #59384. Printed copies are not considered signed and sealed. Digital copies should be verified for valid certification.

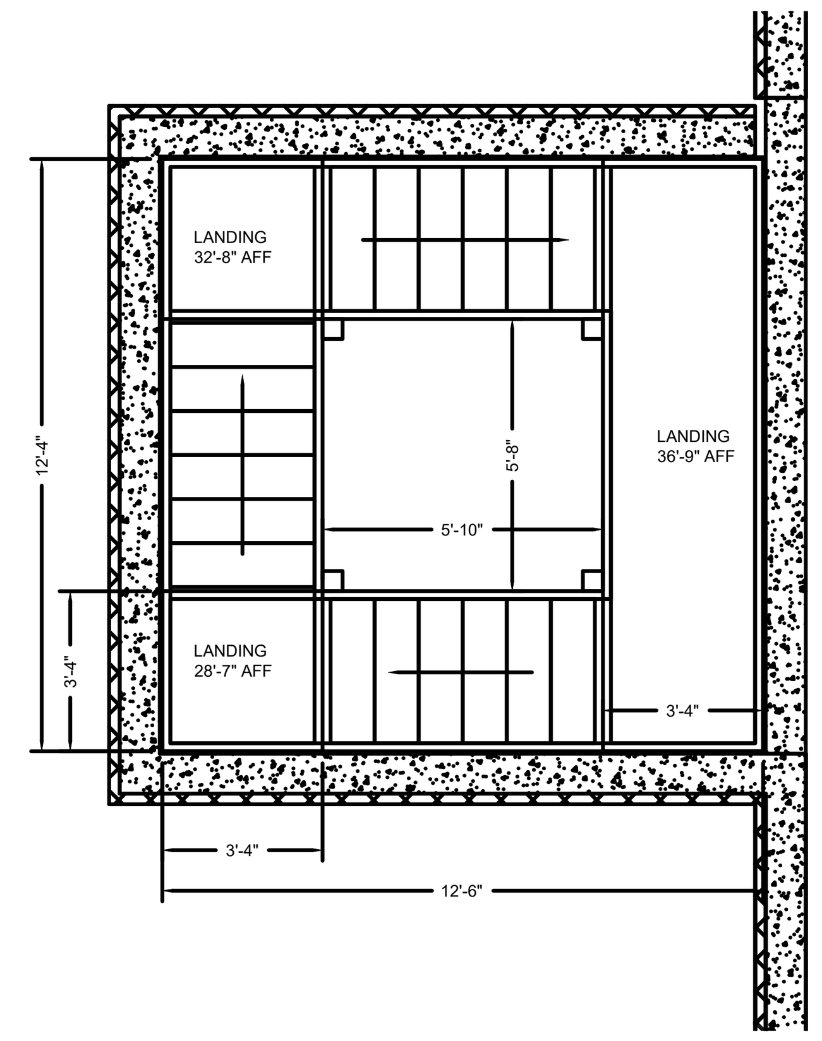
RA-FIRESTATION 32 -STRUCTURAL-BID.DWG



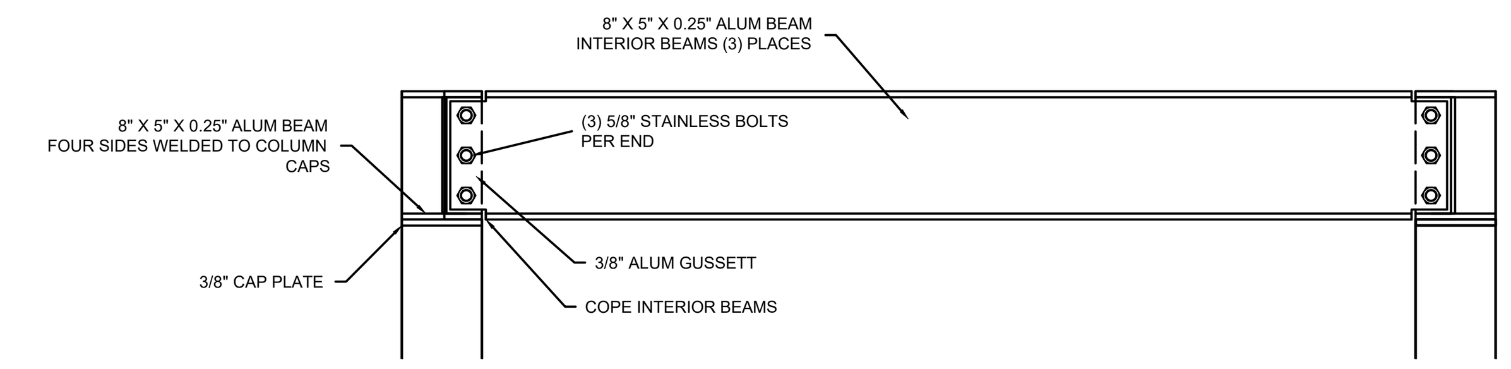
ST-1 / S3.4 STAIR LEVEL ONE
SCALE: 1/4" = 1'-0"



ST-2 / S3.4 STAIR LEVEL TWO
SCALE: 1/4" = 1'-0"

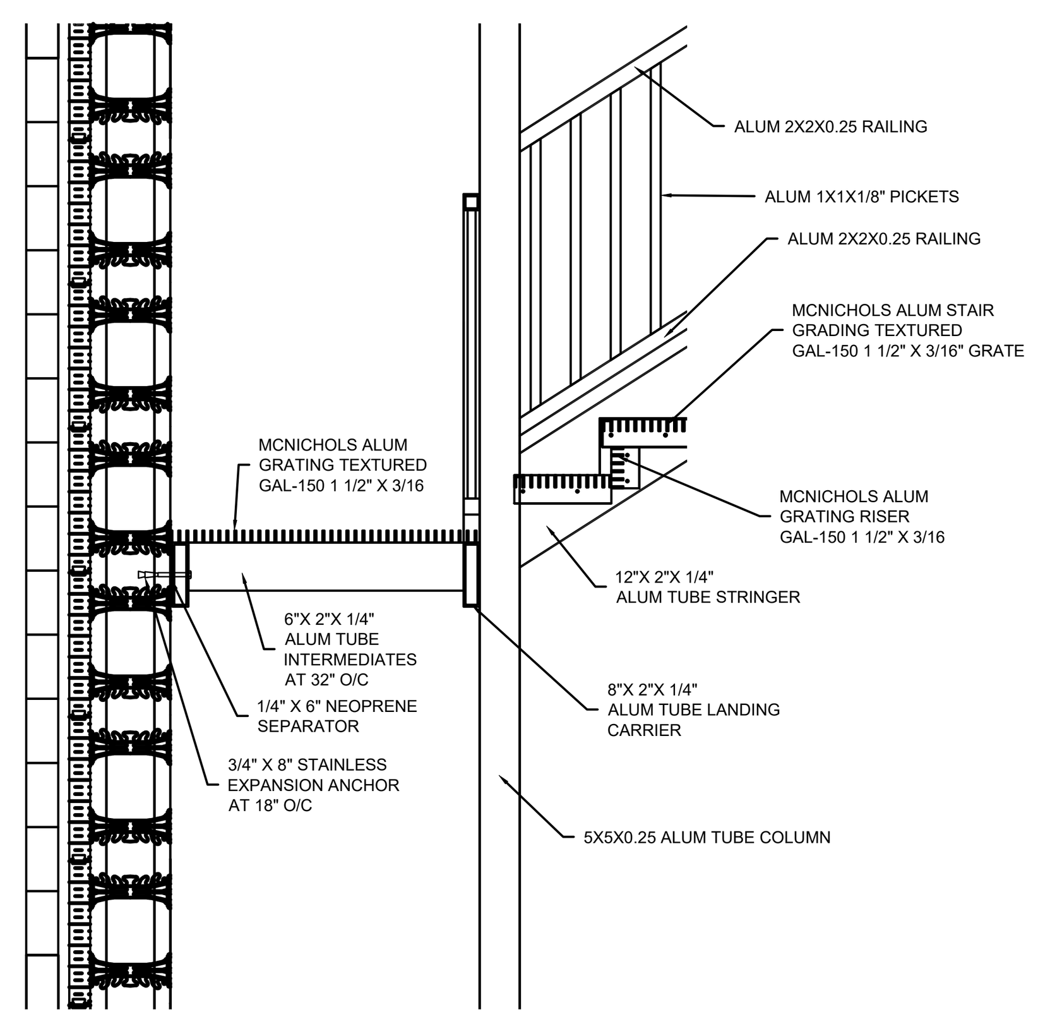


ST-3 / S3.4 STAIR LEVEL THREE
SCALE: 1/4" = 1'-0"

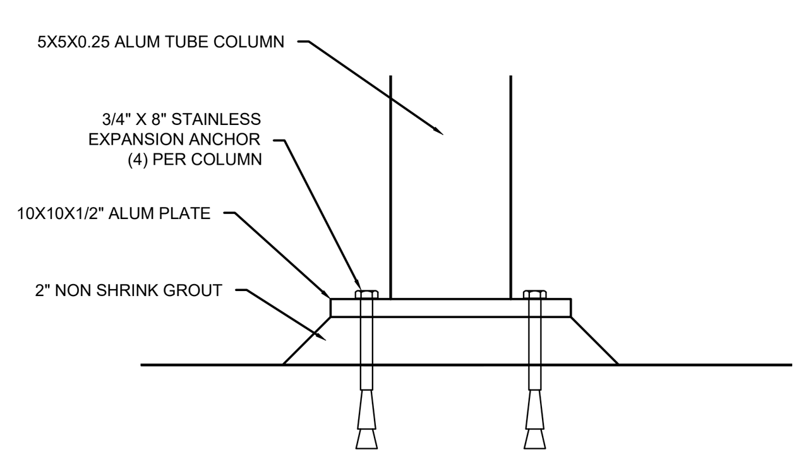


ST-4 / S3.4 STAIR TOP BEAMS
SCALE: 1/4" = 1'-0"

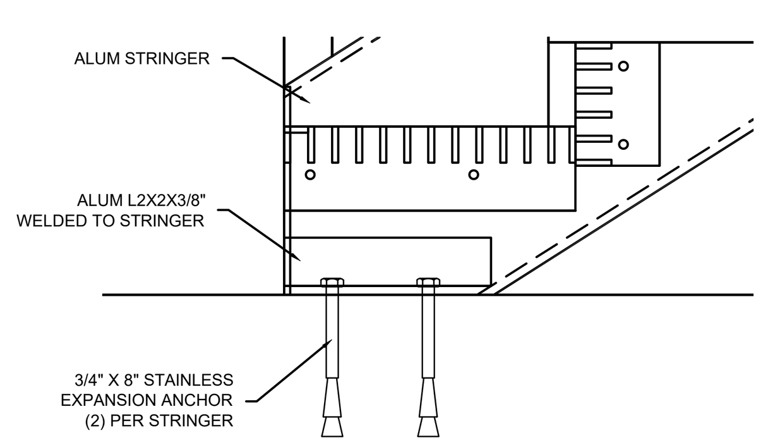
TOWER STAIR LAYOUT



SD-5 / S3.4 STAIR/LANDING TOWER LANDING
SCALE: 1/2" = 1'-0"



SD-6 / S3.4 STAIR COLUMN BASE (TYP)
SCALE: 1 1/2" = 1'-0"



SD-7 / S3.4 STAIR STRINGER BASE (TYP)
SCALE: 1 1/2" = 1'-0"

BRADLEY TODD KENT
LICENSE
No 59384
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Digitally signed and sealed on July 28, 2023 by Bradley Todd Kent P.E. #59384 Printed copies are not considered signed and sealed. Digital copies should be verified for valid certification.

JRA-FIRESTATION 32 -STRUCTURAL-BID.DWG

REVISIONS

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ENGINEERING BUSINESS #9613
BRADLEY T. KENT P.E.
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EXODUS 4:11

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

STAIR DETAILS

SHEET NUMBER:

S3.4

LEGEND

AHU-1	EQUIPMENT TAG
1 / M3	DETAIL TAG (*1* INDICATES IDENTIFICATION NUMBER; *M3* INDICATES THE SHEET NUMBER DRAWN ON)
1	SHEET NOTE
	SUPPLY DUCT SECTION POSITIVE PRESSURE
	RETURN OR EXHAUST DUCT NEGATIVE PRESSURE
AxB	RECTANGULAR DUCT SIZE (*A* INDICATES SIDE SHOWN; *B* INDICATES SIDE NOT SHOWN)
	INDICATES RISE IN ELEVATION OF DUCT.
	EXTERNALLY INSULATED DUCTWORK
	INTERNALLY INSULATED DOUBLE WALL SPIRAL DUCTWORK
	EXTERNALLY INSULATED ROUND FLEXIBLE DUCTWORK
	DUCT ELBOW WITH TURNING VANES
	RADIUSED DUCT ELBOW
	FLEXIBLE DUCT CONNECTION
	MANUAL VOLUME BALANCING DAMPER
M	MOTORIZED DAMPER
FD	FIRE DAMPER WITH ACCESS DOORS
BD	BACKDRAFT DAMPER
	TEE WITH TURNING VANES
	TRANSITION
	FLEX DUCT TAKE OFF WITH MVD SIZE EQUALS DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE
	BRANCH DUCT TAKEOFF WITH MVD

SR-1 / 100	AIR DEVICE TAG. TOP LINE INDICATES TYPE OF DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM
(2)SR-1 / 100	AIR DEVICE TAG. TOP LINE INDICATES TYPE OF DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM (2) INDICATES TYPICAL OF TWO DEVICES
TYP	TYPICAL
TEMP	TEMPERATURE
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
MA	MIXED AIR
OA	OUTDOOR AIR
TA	TRANSFER AIR
EF	EXHAUST FAN
CD	CEILING DIFFUSER
RG	RETURN GRILLE
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
CREF	CEILING ROOF EXHAUST FAN
AHU	INDOOR AIR HANDLING UNIT
CU	OUTDOOR CONDENSING UNIT
T1	TEMPERATURE AND HUMIDITY SENSOR WITH SET POINT ADJUSTMENT, *1* INDICATES UNIT CONTROLLED
S	DUCT MOUNTED SMOKE DETECTOR
FD	FLOOR DRAIN
UC	UNDERCUT DOOR ¾*
DG	18*x18* DOOR GRILLE WITH AUXILLARY MOUNTING FRAME. TITUS MODEL CT-700I.
AFF	ABOVE FINISHED FLOOR
FD	FIRE DAMPER AT CEILING DIFFUSER OR GRILLE.
XFR	TRANSFER AIR
DDC	DIRECT DIGITAL CONTROLS
IRH	INFRARED RADIANT HEATER
TC	TIME CLOCK
SWG	SIDE WALL GRILLE WITH OPPOSED BLADE BALANCING DAMPER
$	EQUIPMENT SWITCH
CF	CEILING FAN

SEQUENCE OF OPERATION

AHU/HP

GENERAL: PROVIDE PROGRAMMABLE THERMOSTAT FOR EACH UNIT. THERMOSTAT SHALL BE CAPABLE OF PERFORMING THE SEQUENCE OUTLINED BELOW. THERMOSTAT SHALL ACCEPT AN EXTERNAL OCCUPIED SCHEDULE FROM THE ELECTRONIC MECHANICAL EQUIPMENT TIME CLOCK.

OCCUPIED MODE: THE THE INDOOR FAN SHALL RUN CONTINUOUSLY. THE HP SHALL CYCLE TO MAINTAIN SPACE TEMPERATURE. THE ELECTRIC HEAT SHALL OPERATE A 2ND STAGE OF HEAT ONLY WHEN OUTDOOR TEMPERATURE IS BELOW 40°F. THE SETPOINT FOR COOLING SHALL BE 75° F ADJUSTABLE. THE SETPOINT FOR HEATING SHALL BE 70° F ADJUSTABLE.

UNOCCUPIED MODE: THE INDOOR FAN AND HP SHALL CYCLE TO MAINTAIN SETPOINT TEMPERATURE. THE SETPOINT FOR COOLING SHALL BE 85° F ADJUSTABLE. THE SETPOINT FOR HEATING SHALL BE 60°F ADJUSTABLE.

OVERRIDE MODE: THE OVERRIDE MODE SHALL PLACE THE SYSTEM IN OCCUPIED MODE FOR 1 HOUR.

IRH

PROVIDE SINGLE STAGE PROGRAMMABLE THERMOSTAT. OCCUPIED SETPOINT = 65°F (ADJUSTABLE) UNOCCUPIED SETPOINT = 50°F (ADJUSTABLE). WHEN IRH-1,2,3, OR 4 IS RUNNING, EF-7 SHALL RUN TO PROVIDE ADEQUATE VENTILATION.

OAU/CU-1

THE FOLLOWING SEQUENCE OF OPERATIONS SHALL BE PROVIDED BY THE UNIT MANUFACTURER:

GENERAL: PROVIDE FACTORY MOUNTED AND WIRED DIGITAL CONTROLLER CAPABLE OF PERFORMING THE SEQUENCE OUTLINED BELOW. STARTING AND STOPPING OF EQUIPMENT SHALL BE BY A UNIT MOUNTED DIGITAL CONTROLLER. WITH THE DIGITAL CONTROLLER IN THE AUTO POSITION, THE UNIT SHALL BE STARTED AUTOMATICALLY BY THE OCCUPANCY SIGNAL FROM THE ELECTRONIC TIME CLOCK AND ALL CONTROLS ACTIVATED SUBJECT TO THE FIRE ALARM RELAY, SAFETIES, AND OVERLOADS. THE CONTROLLER SHALL BE CAPABLE OF 7 DAY PROGRAMMING WITH OCCUPIED AND UNOCCUPIED SCHEDULING. INTERLOCKED EXHAUST FANS SHALL RUN CONTINUALLY DURING OCCUPIED TIMES.

OCCUPIED MODE DEHUMIDIFICATION: THE MOTORIZED OA DAMPER SHALL OPEN TO THE BALANCED POSITION AND THE INDOOR FAN SHALL RUN CONTINUOUSLY. THE UNIT SHALL DEHUMIDIFY SUPPLY AIR ANYTIME THE OUTDOOR AIR DEWPOINT IS ABOVE 55°F. THE UNIT SHALL REHEAT SUPPLY AIR TO SPACE CONDITIONS WITH VARIABLE HOT GAS REHEAT, MAINTAINING LEAVING AIR TEMPERATURE OF 72°F.

OCCUPIED MODE HEATING: WHEN THE OUTDOOR AIR TEMPERATURE FALLS BELOW 50°F, THE UNIT SHALL MODULATE SCR ELECTRIC STRIP HEAT TO MAINTAIN 70°F LEAVING AIR TEMPERATURE. THE ELECTRIC HEAT SHALL BE LOCKED OUT DURING COOLING.

SUPPLY AIR RESET-TEMPERATURE BASED: AT THE START OF EACH PERIOD OF OCCUPANCY, THE UNIT CONTROLLER SHALL SET SUPPLY AIR TEMPERATURE TO 60F. THE UNIT CONTROLLER SHALL MONITOR THE ASSOCIATED AHU'S IN THE AREAS SERVED BY THE OAU. UPON A CALL FOR HEATING FROM MORE THAN 10% OF THE UNITS SERVED BY THE OAU, THE UNIT CONTROLLER SHALL RESET OAU DISCHARGE AIR TEMPERATURE UP IN 5F INCREMENTS UNTIL THERE ARE FEWER THAN 10% OF THE UNITS SERVED WITH HEATING DEMAND OR A MAXIMUM SUPPLY AIR TEMPERATURE OF 75F HAS BEEN REACHED.

SUPPLY AIR RESET-HUMIDITY BASED: THE UNIT CONTROLLER SHALL MONITOR THE ASSOCIATED AHU'S IN THE AREAS SERVED BY EACH OAU. UPON A RISE IN AVERAGE RELATIVE HUMIDITY ABOVE 65% (ADJUSTABLE), THE CONTROLLER SHALL RESET OAU DISCHARGE AIR TEMPERATURE UP IN 5F INCREMENTS UNTIL THE CALL FOR DEHUMIDIFICATION HAS BEEN SATISFIED OR A MAXIMUM SUPPLY AIR TEMPERATURE OF 75F HAS BEEN REACHED.

UNOCCUPIED MODE: THE MOTORIZED OA DAMPER SHALL CLOSE AND THE UNIT SHALL NOT OPERATE.

GENERAL NOTES

1. ALL DUCT DIMENSIONS ARE NET INSIDE.
2. VERIFY COLLAR SIZES ON ALL AIR TERMINALS, EQUIPMENT OUTLETS AND INLETS, TRANSITION DUCTWORK AS NECESSARY. EXTERNALLY INSULATE TRANSITIONS AT EQUIPMENT CONNECTIONS.
3. FIELD VERIFY CLEAR SPACE AVAILABLE, ROUTING PATH, AND CONFLICTS WITH STRUCTURE AND THE WORK OF OTHER TRADES PRIOR TO FABRICATING DUCTWORK. PROVIDE OFFSETS IN DUCTWORK AS REQUIRED, WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT. SUBMIT SHOP DRAWINGS ON DUCTWORK LAYOUT PRIOR TO COMMENCING WORK. MAINTAIN CLEARANCE AROUND ALL LIGHT FIXTURES AS REQUIRED TO REMOVE AND SERVICE FIXTURES. COORDINATE WITH ROOF TRUSSES/STRUCTURE. PRESSURE TEST ALL DUCTWORK FOR LEAKS. SEE SPECIFICATIONS.
4. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, PIPING, AND DUCTWORK SUCH THAT MANUFACTURERS' RECOMMENDED CLEARANCES ARE MET FOR ALL ACCESS PANELS, MOTORS, FANS, BELTS, FILTERS AND AIR INTAKES. CONDENSATE LINES SHALL BE CLEAR OF FILTER RACK ACCESS.
5. PROVIDE DUCT FLEX CONNECTIONS & VIBRATION ISOLATION FOR ALL UNITS NOT INTERNALLY ISOLATED.
6. ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR INTAKE DUCTWORK SHALL BE GALVANIZED SHEET METAL.
7. ALL AHU AND OAU FILTERS SHALL BE OF A READILY AVAILABLE SIZE, OF DISPOSABLE TYPE, AND BE ACCESSIBLE WITHOUT THE USE OF SCREWS OR OTHER MECHANICAL DEVICES REQUIRING TOOLS.
8. PROVIDE ACCESS PANELS IN CEILINGS AS REQUIRED FOR MAINTENANCE AND ADJUSTMENT OF EQUIPMENT LOCATED ABOVE CEILING.
9. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION OF ALL EQUIPMENT AND UTILITIES.
10. ROUTE REFRIGERANT LINES AND CONDENSATE ALONG WALLS OF MECHANICAL ROOMS. LINES SHALL NOT CROSS WALKING PATH TO INDOOR EQUIPMENT.
11. ALL LOW VOLTAGE CONTROLS SHALL BE ROUTED IN CONDUIT.
12. ALL WORK SHALL COMPLY WITH 7TH EDITION (2020) FLORIDA BUILDING CODE.

DUCTWORK NOTES

1. ALL ROUND FLEXIBLE DUCT SHALL BE FLEXMASTER TYPE 8M ACOUSTICAL FLEX OR ENGINEER APPROVED EQUAL. MAXIMUM LENGTH OF ANY FLEXIBLE DUCT RUNOUT SHALL BE 5'-0*. WHERE LENGTH REQUIRED EXCEEDS 5'-0*, INSTALL EXTERNALLY INSULATED ROUND SNAPLOCK DUCT FOR BALANCE OF DISTANCE TO SPIN-IN TAP AT MAIN DUCT TRUNK.
2. SEAL ALL DUCT PENETRATIONS OF WALLS AIRTIGHT, REGARDLESS OF WHETHER WALLS ARE FIRE RATED OR NOT.
3. ALL SUPPLY AIR DUCTWORK FROM AHU'S (EXCEPT TAKEOFFS TO SUPPLY AIR DIFFUSERS) SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2* W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
4. ALL RETURN AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2* W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
5. ALL OUTSIDE AIR INTAKE DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2* W.G., SEAL CLASS A, EXTERNALLY INSULATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
6. STANDARD EXHAUST AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1/2* W.G., SEAL CLASS A, EXTERNALLY INSULATED.
7. WHEN ROUTING DUCTWORK OVER LIGHTS, PROVIDE A MINIMUM 6* CLEARANCE BETWEEN DUCT AND LIGHTS.

100% OUTSIDE AIR UNIT SCHEDULE

UNIT OAU/CU	BASIS OF DESIGN	OAU MODEL	CU MODEL	CONFIGURATION	TOTAL AIRFLOW (CFM)	OA (CFM)	ESP (IN. WC)	FAN (HP)	DEHUMIDIFICATION					HEATING		OAU ELECTRICAL			CU ELECTRICAL			NOTES
									EAT° (DB/WB)	LAT° (DP)	TOTAL (BTUH)	SENSIBLE (BTUH)	ISMRE	EAT (DB)	KW	VOLTS/PHASE	MCA	MOP	VOLTS/PHASE	MCA	MOP	
1	DESERT AIRE	OV08	RC9S05 1CK	SPLIT	890	890	0.5	4.14	84.0/80.0	50.7	105400	39200	8.9	25	14	208/3	61	70	208/3	7.4	15	1,2,3,4,5,6,7,8,9

1. ISMRE IS INTEGRATED SEASONAL MOISTURE REMOVAL EFFICIENCY.
2. ESP DOES NOT INCLUDE FILTER, CASING, ETC.
3. PROVIDE 100% OUTSIDE AIR DEHUMIDIFICATION UNIT WITH HOT GAS REHEAT AND LIQUID SUBCOOLING.
4. PROVIDE SCR ELECTRIC HEAT.
5. PROVIDE SINGLE POINT POWER CONNECTION.
6. PROVIDE REFRIGERANT SHOP DRAWINGS.
7. PROVIDE DIRECT DRIVE FAN WITH EC MOTOR.
8. MAXIMUM WEIGHT: 965 LBS.
9. PROVIDE MOTORIZED OUTSIDE AIR DAMPER.

SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT AHU/HP	BASIS OF DESIGN	MODEL (AHU/HP)	SA (CFM)	OA (CFM)	ESP (IN.H20)	FAN (HP)	COOLING					HEATING				SUPPL.	AHU ELECTRICAL			HP ELECTRICAL			NOTES
							MAT° (DB/WB)	OAT° (DB/WB)	TOTAL (BTUH)	SENSIBLE (BTUH)	SEER	MAT ° (DB)	OAT ° (DB)	TOTAL (BTUH)	HSPF	HEAT (KW)	VOLTS/PHASE	MCA	MOP	VOLTS/PHASE	MCA	MOP	
1	TRANE	TEM6A0B24H21/4TWR5019H1	730	170	0.53	0.33	71.9/60.7	95.0/78.0	15700	13400	15.00	70.0	20	7500	8.85	2.88	208/1	21	25	208/1	12	20	1,2,3,4,5,6,7,8,9
2	TRANE	TEM6A0B30H21/4TWR5030H1	1010	270	0.41	0.33	71.6/61.2	95.0/78.0	21600	18100	15.25	70.0	20	3600	9.50	2.88	208/1	21	25	208/1	17	25	1,2,3,4,5,6,7,8,9
3	TRANE	TEM6A0B30H21/4TWR5030H1	975	320	0.32	0.33	71.7/60.3	95.0/78.0	21900	19400	15.25	70.1	20	2600	9.50	2.88	208/1	21	25	208/1	17	25	1,2,3,4,5,6,7,8,9
4	TRANE	TEM6A0C36H31/4TWR5036H1	770	130	0.73	0.50	72.0/60.7	95.0/78.0	25000	21900	15.00	69.9	20	8900	9.50	2.88	208/1	23	25	208/1	18	30	1,2,3,4,5,6,7,8,9

1. PROVIDE 2 * 30% FILTERS AND FILTER HOUSING SHOWN IN DETAILS.
2. EFFICIENCIES IN ACCORDANCE WITH ARI STANDARD 210/240.
3. ESP DOES NOT INCLUDE FILTER, CASING, ETC.
4. PROVIDE CONTROL KIT TO INCLUDE BLOWER CONTACTOR OR STARTER, TRANSFORMER, ELECTRIC HEATER INTLERLOCKS. ELECTRICAL SERVICE SHALL BE A SINGLE POINT OF CONNECTION.
5. PROVIDE THERMAL EXPANSION VALVES.
6. DIRECT DRIVE AHU FAN.
7. COOLING CAPACITY IS NET AND DOES NOT INCLUDE FAN HEAT.
8. PROVIDE UNIT MOUNTED CIRCUIT BREAKER FOR INDOOR AIR HANDLERS.
9. PRETREATED OUTSIDE AIR.

Keith A. Johnson, State of Florida, Professional Engineer, License No. 86457. This item has been digitally signed and sealed by Keith A. Johnson on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

2023.07.28 09:43:44 -05'00'

KEITH A. JOHNSON LICENSE NO. 86457 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS

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PHASE	DRAWN	CHECKED	DATE
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95% DOCUMENTS	KAJ	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	KAJ	KAJ	05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
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PHONE: (850) 236-9832
Commission Number: 21804

CONSULTANTS:

WATFORD ENGINEERING
4453 Clinton Street, Marianna, Florida 32446 (850) 526-3447 Project Number: 2023-025
Florida Certificate of Authorization: 27505 Keith A. Johnson, PE Florida License 86457

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

HVAC LEGEND, SCHEDULES, AND NOTES

SHEET NUMBER:

M0.1

FAN SCHEDULE

UNIT	TYPE	CFM	MAX. FAN RPM	ESP (IN. H20)	MAX. MOTOR POWER	SONES/db (MAX.)	BASIS OF DESIGN	MODEL	CONTROL	ELECTRICAL VOLTS/PHASE	NOTES
EF-1	WALL	130	1333	0.2	0.02 HP	3.2	GREENHECK	SE1-8-440-VG	DEDICATED SWITCH	115/1	1,2,3,4,5
EF-2	WALL	1770	1179	0.2	1/2 HP	7.3	GREENHECK	SE1-16-426-VG	DEDICATED SWITCH	115/1	1,2,3,4,5
EF-3	WALL	1770	1179	0.2	1/2 HP	7.3	GREENHECK	SE1-16-426-VG	DEDICATED SWITCH	115/1	1,2,3,4,5
EF-4	ROOF	1310	1311	1.0	3/4 HP	11.6	ACCUREX	XCUBE-140-7	INTERLOCK WITH KITCHEN HOOD	115/1	1,2,3,4,6,7,8,9
EF-5	INLINE	435	1125	0.5	84 W	1.5	GREENHECK	CSP-A700-VG	INTERLOCK WITH OAU-1	115/1	1,2,3,4,5
EF-6	WALL	640	1551	0.2	1/6 HP	7.3	GREENHECK	SE1-10-440-VG	INTERLOCK WITH INFRARED HEATERS	115/1	1,2,3,4,5
SF-1	INLINE	350	562	0.15	1/2 HP	0.6	GREENHECK	SQ-120-VG	INTERLOCK WITH TURNOUT DRYER	115/1	1,2,3,4,5
SF-2	ROOF	1045	627	0.25	1/4 HP	NA	ACCUREX	XKSFB-109-H15-01	INTERLOCK WITH KITCHEN HOOD	115/1	1,2,3,4,6,7,8

1. PROVIDE DISCONNECT
2. PROVIDE SOLID STATE SPEED CONTROLLER.
3. PROVIDE BACK DRAFT DAMPER
4. PROVIDE THERMAL OVERLOAD
5. PROVIDE DIRECT DRIVE FAN
6. PROVIDE BELT DRIVEN FAN WITH ROTARY BELT TENSIONER
7. PROVIDE ALUMINUM ROOF CURB
8. PROVIDE FAN WITH FLORIDA PRODUCT APPROVAL
9. PROVIDE INSULATED HOUSING

VENTILATION SCHEDULE

SPACE TYPE	VENTILATION CFM/S.F.	VENTILATION CFM/PERSON
CORRIDOR	0.06	0
CONFERENCE ROOM	0.06	5
OFFICE	0.06	5
RECEPTION	0.06	5
RESTROOM	0	70/FIXTURE
SHOWER	0	50/FIXTURE
DWELLING UNIT	0.06	5
STORAGE	0.12	0
VEHICLE STORAGE	0.75	0
LAUNDRY	0.12	5
KITCHEN	0.12	7.5

NOTE:
VENTILATION RATES HAVE BEEN REDUCED IN ACCORDANCE WITH ASHRAE STANDARD 62.1-2016, INDOOR AIR QUALITY PROCEDURE.

AIR DEVICE SCHEDULE

MARK	MAX AIRFLOW CFM	AIR DEVICE SIZE	DUCT CONNECTION SIZE	TITUS MODEL
CD-1 / CFM	80	12x12	6Ø	TDC-AA
CD-2 / CFM	245	12x12	8Ø	TDC-AA
CD-3 / CFM	350	12x12	10Ø	TDC-AA
SWG-1 / CFM	205	8x6	8x6	272RS
RG,EG,SG,TG,RR,ER				
xx-1 / CFM	450	12x12	12x12	350FL
xx-2 / CFM	1705	22x22	22x22	350FL

NOTES:
1. MAX NC=20
2. PROVIDE 2x2 LAY IN PANEL FOR AIR DEVICES IN LAY IN CEILINGS.
3. PROVIDE BEVELED MOUNTING FRAME FOR CEILING DIFFUSERS IN HARD CEILINGS.
4. PROVIDE FLAT MOUNTING FRAME FOR GRILLES LOCATED IN HARD CEILINGS.
5. PROVIDE ALUMINUM BIRD SCREEN FOR SOFFIT GRILLES.

CEILING FAN SCHEDULE

UNIT	TYPE	MAX. FAN RPM	MAX. MOTOR POWER	dBA (MAX.)	BASIS OF DESIGN	MODEL	CONTROL	ELECTRICAL VOLTS/PHASE	NOTES
CF-1	CF	148	1 HP	<55	BIG ASS FAN	BASIC 6 10 FT	VARIABLE SPEED WALL SWITCH	115/1	1,2,3,4
CF-2	CF	148	1 HP	<55	BIG ASS FAN	BASIC 6 10 FT	VARIABLE SPEED WALL SWITCH	115/1	1,2,3,4
CF-3	CF	148	1 HP	<55	BIG ASS FAN	BASIC 6 10 FT	VARIABLE SPEED WALL SWITCH	115/1	1,2,3,4
CF-4	CF	300	107W	-	GLOBAL INDUSTRIAL	OUTDOOR 5 FT	VARIABLE SPEED WALL SWITCH	120/1	1,2
CF-5	CF	300	107W	-	GLOBAL INDUSTRIAL	OUTDOOR 5 FT	VARIABLE SPEED WALL SWITCH	120/1	1,2

1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE WALL MOUNTED SPEED CONTROL SWITCH TO FIT IN STANDARD SINGLE SWITCH SPACE.
3. FAN SHALL BE INTERLOCKED TO SHUT DOWN UPON FIRE ALARM ACTIVATION.
4. MOUNT AT 19 FT A.F.F.

DEHUMIDIFIER SCHEDULE

UNIT DH	BASIS OF DESIGN	MODEL	BLOWER (CFM)	WATER REMOVAL (PINTS/DAY)	SOUND RATING	POWER VOLTS/PHASE	POWER WATTS	NOTES
1	ULTRA-AIRE	MD33	155	33	46 dBA	120/1	324	1,2,3

1. PROVIDE 1/2" WASHABLE AIR FILTER.
2. PROVIDE INTERNALLY MOUNTED CONTROLS BEHIND TAMPER-PROOF COVER
3. WATTS AND WATER REMOVAL BASED ON 80ºF AND 60%RH.

INFRARED HEATER SCHEDULE

UNIT IRH	BASIS OF DESIGN	MODEL	BTUH	MOUNT HEIGHT	REFLECTOR PATTERN	ELECTRICAL VOLTS/PHASE	ELECTRICAL AMPS	GAS	NOTES
1	SPACERAY	DK40	40000	20 FT A.F.F.	30º	115/1	0.4	NATURAL	1,2,3,4,5,6
2	SPACERAY	DK40	40000	20 FT A.F.F.	30º	115/1	0.4	NATURAL	1,2,3,4,5,6
3	SPACERAY	DK40	40000	20 FT A.F.F.	30º	115/1	0.4	NATURAL	1,2,3,4,5,6
4	SPACERAY	DK40	40000	20 FT A.F.F.	30º	115/1	0.4	NATURAL	1,2,3,4,5,6

1. PROVIDE ASSYMETRIC REFLECTOR.
2. HEATERS SHALL BE EQUIPPED WITH A 24-VOLT DIRECT SPARK IGNITION WITH AUTOMATIC 100% SHUTOFF SYSTEM.
3. HEATER CONTROL SHALL INCLUDE A PRESSURE SWITCH DESIGNED FOR COMPLETE UNIT SHUTOFF.
4. HEATERS SHALL BE EQUIPPED WITH AN ON-LINE DIAGNOSIS MONITORING LIGHT SYSTEM.
5. HEATERS SHALL OPERATE UNDER NEGATIVE PRESSURE.
6. HEATER EXHAUST SHALL INCLUDE A DRAFT INDUCER, THE DRAFT INDUCER SHALL BE PERMANENTLY LUBRICATED, TOTALLY ENCLOSED,SHIELDED,FAN COOLED AND HAVE A HEAVY DUTY BALL BEARING MOTOR.

LOUVER SCHEDULE

MARK	AIRFLOW CFM (MAX)	LOUVER SIZE (WxH) INCHES	FREE AREA FT² (MIN)
LVR-1 / CFM	1770	36x36	4.5
LVR-2 / CFM	1770	36x36	4.5
LVR-3 / CFM	435	24x12	0.63
LVR-4 / CFM	990	52x16	1.8

1. PROVIDE GREENHECK MODEL 'EHV-901D' (OR EQUAL) EXTRUDED ALUMINUM, WIND-DRIVEN RAIN RESISTANT, STATIONARY LOUVER WITH BIRDSCREEN AND FLORIDA PRODUCT APPROVAL.
2. FINISH TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.
3. PROVIDE LOUVERS WITH FLANGED FRAME. VERIFY FRAME TYPE WITH ARCHITECT.

KITCHEN HOOD SCHEDULE

UNIT	TYPE	ACCUREX MODEL	DIMENSIONS LxWxH	FILTER FACE VELOCITY FT/MIN	EXHAUST CONNECTION	EXHAUST CFM	EXHAUST S.P.	SUPPLY PLENUM LxWxH	SUPPLY CONNECTION	SUPPLY CFM	SUPPLY S.P.	NOTES
H-1	CANOPY	XBDW	72x42x24	131	13x9	1310	0.435	84x14x10	16x10(2)	1045	0.26	1,2,3

1. PROVIDE WET CHEMICAL FIRE SUPPRESSION SYSTEM MOUNTED IN UTILITY CABINET WITH REMOTE PULL STATION.
2. PROVIDE EXTERNAL AIR CURTAIN SUPPLY PLENUM.
3. PROVIDE TWO LIGHTS IN HOOD.

MINI SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT	BASIS OF DESIGN	MODEL	NOMINAL COOL CAPACITY (BTUH)	DESIGN COOLING OUTDOOR TEMP DB	SEER	NOMINAL HEAT CAPACITY (BTUH)	DESIGN HEATING OUTDOOR TEMP DB	HSPF	VOLTS/PHASE	MCA (AMPS)	MOP (AMPS)	NOTES
MHP-1	MITSUBISHI	MUY-GL12NA	12000	95.0	23.1	N/A	N/A	N/A	208/1	9	15	1,2,3,4
MHP-2	MITSUBISHI	PUZ-HA36NKA	33600	95.0	18.5	38000	25	10.0	208/1	24	35	1,2,3

1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67ºF (DB/WB), OUTDOOR OF 95ºF (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70ºF (DB), OUTDOOR OF 43ºF(WB)
3. EFFICIENCY VALUES FOR EER, IEER, AND COP ARE BASED ON AHRI 1230 TEST METHOD FOR MIXTURE OF DUCTED AND NON-DUCTED INDOOR UNITS.
4. PROVIDE COOLING-ONLY OUTDOOR UNIT.

MINI SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE

UNIT	BASIS OF DESIGN	MODEL	TYPE	NOMINAL COOL CAPACITY (BTUH)	DESIGN COOLING EAT ºF DB/WB	DESIGN COOLING CAPACITY (BTUH) COOLING TOTAL	DESIGN COOLING CAPACITY (BTUH) COOLING SENSIBLE	NOMINAL HEAT CAPACITY (BTUH)	DESIGN HEATING TOTAL CAPACITY (BTUH)	DESIGN HEATING EAT ºF DB	AIRFLOW (CFM)	VOLTS/PHASE	FAN (WATTS)	FAN FLA (AMPS)	NOTES
WM-1.1	MITSUBISHI	MSZ-GL12NA	WALL MOUNT	12000	75.4/46.2	3700	3700	N/A	N/A	N/A	201	FED FROM HP	30	0.76	1,2,3,4,5,6,7,8,9
WM-2.1	MITSUBISHI	PKA-A36KA7	WALL MOUNT	33600	73.0/61.0	27200	26400	38000	0	70	730	FED FROM HP	56	0.57	1,2,3,4,5,6,7,8

1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67ºF (DB/WB), OUTDOOR OF 95ºF (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70ºF (DB), OUTDOOR OF 43ºF(WB)
3. DESIGN COOLING CONDITIONS ARE AT 95ºF AMBIENT; DESIGN HEATING CONDITIONS ARE AT 26ºF AMBIENT
4. DESIGN CAPACITY IS NET CAPACITY FOR INSTALLATION ACCOUNTING FOR 65 FT PIPE RUN LENGTHS, ETC.
5. CALCULATE REFRIGERANT LINE SIZES BASED UPON FINAL FIELD PIPING LAYOUT.
6. EXPOSED (INDOOR OR OUTDOOR) REF PIPING SHALL BE HARD DRAWN COPPER.
7. PROVIDE HARD WIRED REMOTE THERMOSTAT.
8. PROVIDE DISCONNECT.
9. PROVIDE COOLING-ONLY INDOOR UNIT.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS	KAJ	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	KAJ	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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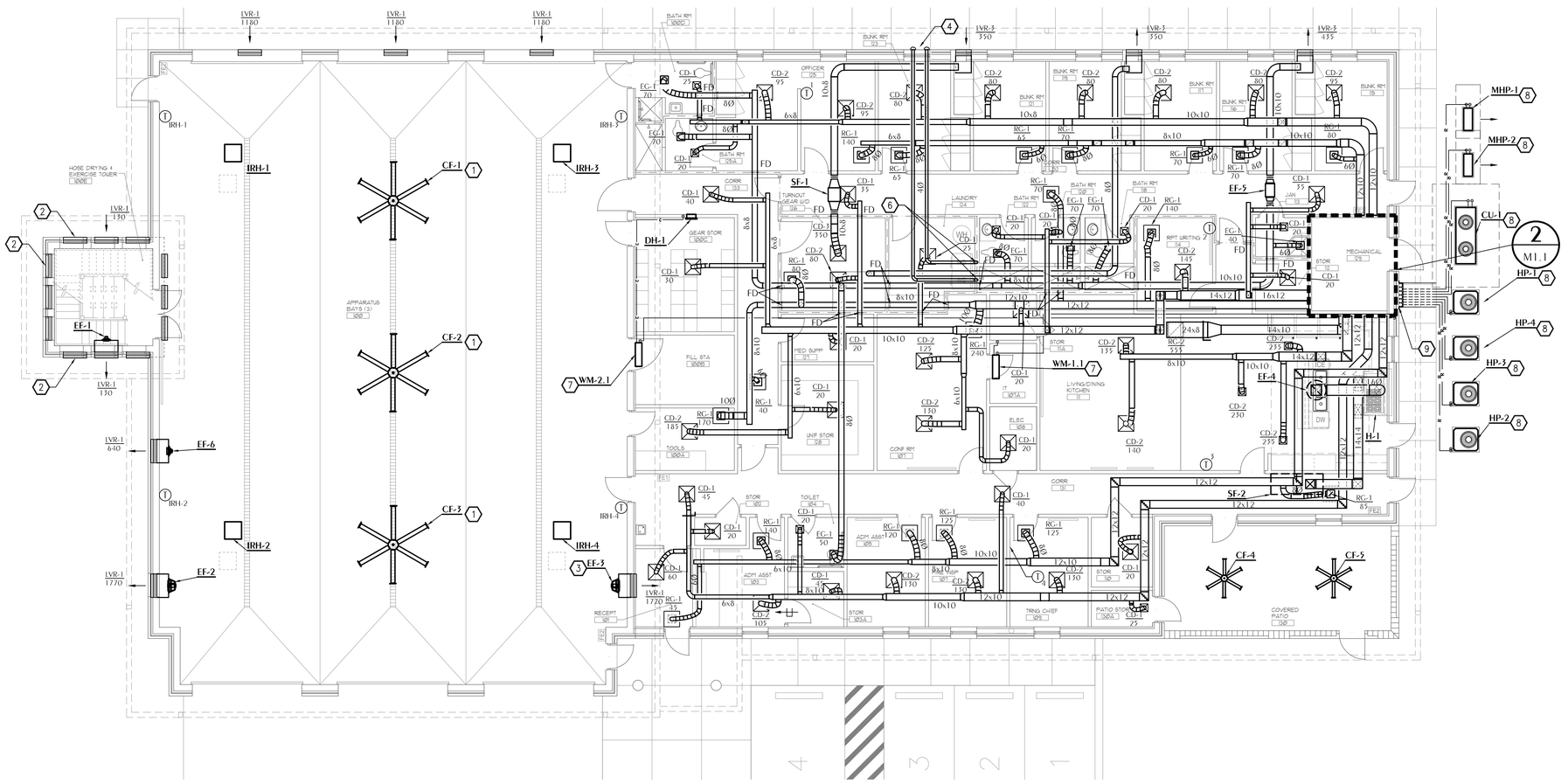
4452 Clinton Street, Marianna, Florida 32446 — Florida Certificate of Authorization: 27825
850.526.3447 Project Number: 2023-028 — Keith A. Johnson, PE Florida License 86457

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

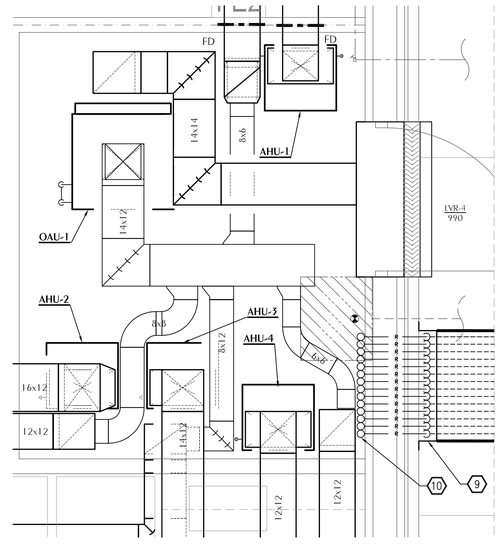
SHEET TITLE:
HVAC SCHEDULES

SHEET NUMBER:
M0.2



1 M1.1 HVAC FLOOR PLAN

SCALE: 1/8" = 1'-0"



2 M1.1 MECHANICAL ROOM ENLARGED PLAN

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

SHEET NOTES

1. COORDINATE CEILING FAN SWITCH WITH ELECTRICAL DRAWINGS.
2. PROVIDE THREE LVR-1'S PLACED HIGH AND THREE LVR-2'S PLACED LOW. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.
3. FAN SHALL BE PLACED TO EXHAUST AIR ABOVE LOWER ROOF. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION.
4. PROVIDE SEIHO MODEL SFZC VENT CAP WITH BACKDRAFT DAMPER FOR DRYER EXHAUST.
5. ROUTE REFRIGERANT PIPING ALONG WALL OF MECHANICAL ROOM TO OAU-1
6. PROVIDE UTILITY BOX IN WALL TO ALLOW DRYER DUCT TO RISE UP IN WALL CAVITY. BOX TO HAVE CONNECTION FOR 4" ROUND DUCT. BOX TO BE 22 GAUGE ALUMINIZED STEEL. DRYERBOX MODEL 425 OR APPROVED EQUAL. DUCT FROM DRYER SHALL BE RIGID.
7. ROUTE CONDENSATE TO NEAREST HUB DRAIN. REFER TO PLUMBING DRAWINGS.
8. REFRIGERANT PIPING SHALL BE ROUTED IN TRENCH ACROSS SIDEWALK AND SHALL ENTER MECHANICAL ROOM AT 12" ABOVE GRADE. REFER TO DETAIL 2/M2.2.
9. ROUTE REFRIGERANT TO ENTER MECHANICAL ROOM AT 12" AFF. CONCEAL PIPING WITH ALUMINUM CHASE. SEAL CHASE WATER TIGHT AT TOP AND BOTTOM.
10. RISE UP WITH REFRIGERANT PIPING INSIDE MECHANICAL ROOM. CONTINUE OVERHEAD TO INDOOR UNITS.

REVISIONS

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SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	KAJ	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	KAJ	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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850.526.3447 Project Number: 2023-028
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Keith A. Johnson, PE Florida License 86457

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

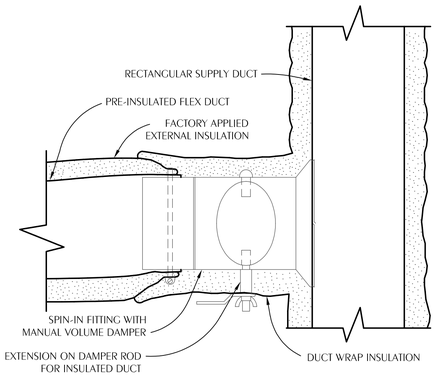
BAY COUNTY, FLORIDA

SHEET TITLE:

HVAC FLOOR PLAN

SHEET NUMBER:

M1.1

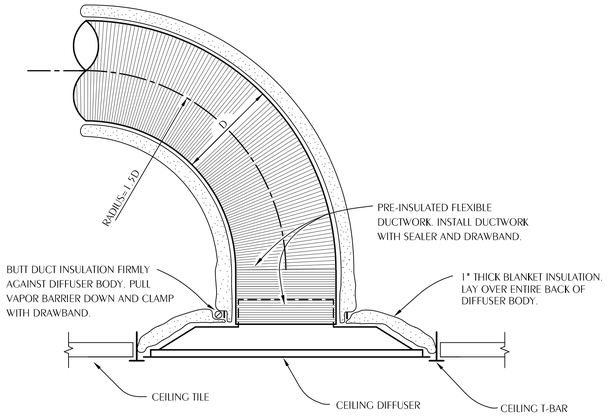


NOTES:
CONNECT FLEXIBLE DUCT TO FITTING WITH DRAWBAND AND SEALER.

ROUND HARD DUCT RUNOUTS SHOULD START WITH SPIN-IN FITTINGS SIMILAR TO THIS DETAIL.

PROVIDE CABLE ACTIVATED DAMPER WITH ADJUSTMENT IN FACE OF CEILING DIFFUSER FOR INACCESSIBLE TAKE OFFS LOCATED ABOVE HARD CEILINGS.

1 TYPICAL FLEX DUCT TAKEOFF DETAIL
M2.1 SCALE: NONE

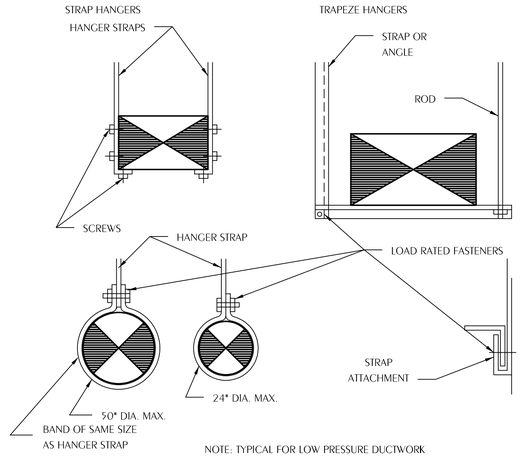


NOTES:
FLEX DUCT SHALL BE NO LONGER THAN 5'-0".

PROVIDE 24x24 LAY IN PANEL FOR DIFFUSERS IN LAY IN CEILINGS.

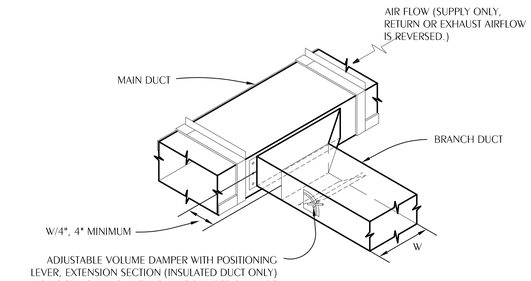
PROVIDE BEVELED MOUNTING FRAME FOR DIFFUSERS IN HARD CEILINGS.

2 TYPICAL FLEX DUCT TAKEOFF DETAIL
M2.1 SCALE: NONE



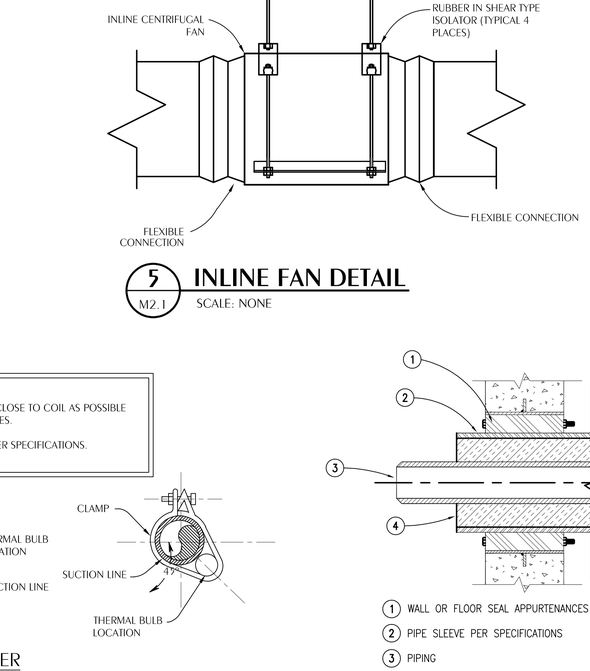
NOTE: TYPICAL FOR LOW PRESSURE DUCTWORK

3 DUCT HANGER DETAILS
M2.1 SCALE: NONE

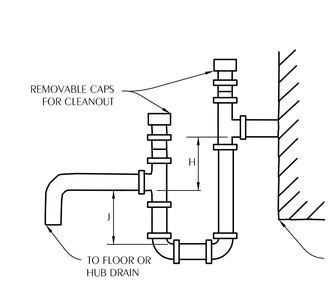


NOTES:
PROVIDE CABLE ACTIVATED DAMPER WITH ADJUSTMENT IN FACE OF CEILING DIFFUSER FOR INACCESSIBLE TAKEOFFS LOCATED ABOVE HARD CEILINGS.

4 TYPICAL BRANCH DUCT TAKEOFF
M2.1 SCALE: NONE



5 INLINE FAN DETAIL
M2.1 SCALE: NONE



NOTES:
PIPE TYPE 'L' HARD DRAWN COPPER CONDENSATE LINE AT FULL SIZE OF UNIT CONNECTION, BUT IN NO CASE SMALLER THAN 3/4".

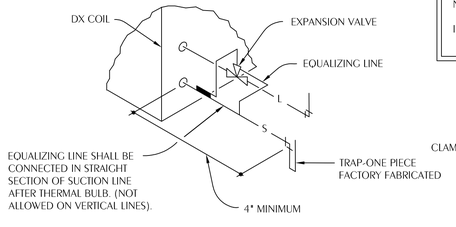
LOCATE TRAPS SO AS TO BE ACCESSIBLE FOR CLEANING.

H = AIR UNIT TOTAL STATIC PRESSURE + 1"

J = H/2

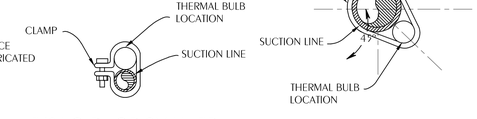
CONDENSATE PIPE SHALL BE PROVIDED BY THE HVAC CONTRACTOR.

6 NEGATIVE PRESSURE CONDENSATE DRAIN TRAP
M2.1 SCALE: NONE



NOTES:
THERMOSTATIC BULB TO BE AS CLOSE TO COIL AS POSSIBLE NOT ALLOWED ON VERTICAL LINES.

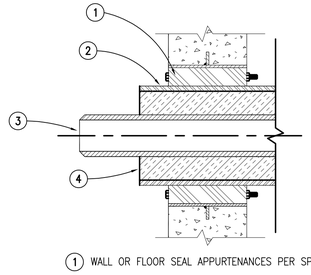
INSULATE REFRIGERANT LINES PER SPECIFICATIONS.



5/8" O.D. OR SMALLER

7/8" O.D. OR LARGER

7 REFRIGERANT COIL CONNECTION DETAIL
M2.1 SCALE: NONE



1. WALL OR FLOOR SEAL APPURTENANCES PER SPECIFICATIONS
2. PIPE SLEEVE PER SPECIFICATIONS
3. PIPING
4. INSULATION

8 TYPICAL WALL PIPE PENETRATION
M2.1 SCALE: NONE

REVISIONS				
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PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
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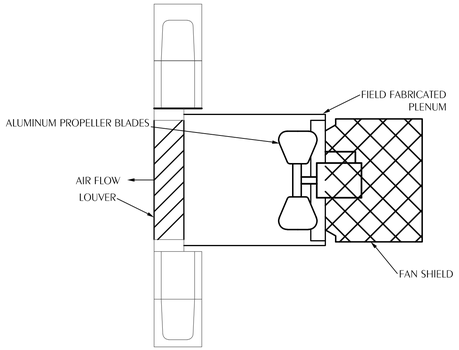
850.526.3447 Project Number: 2023-028 Keith A. Johnson, PE Florida License #6457

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
HVAC DETAILS

SHEET NUMBER:
M2.1



NOTES:
FAN SHALL BE WALL MOUNTED, DIRECT DRIVEN, PROPELLER EXHAUST FAN.

FASTENERS SHOULD BE PLACED 6-10 INCHES CENTERS ON THE PERIMETER OF THE WALL COLLAR, COLLAR SHALL BE CAULKED TO THE EXTERIOR OF WALL.

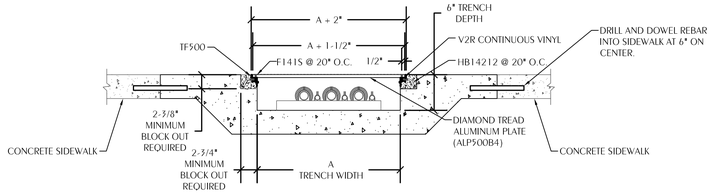
FAN PLENUM SHALL EXTEND A MINIMUM OF 18" FROM THE WALL.

1 M2.2 WALL FAN DETAIL

NONE

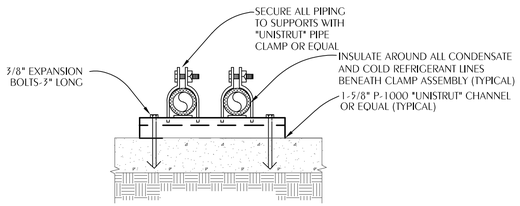
TRENCH PART NUMBER	LENGTH OF A	PLATE THICKNESS
TSD-12-500	1'-0"	1/2"
TSD-24-500	2'-0"	1/2"

1/2" ALUMINUM TREAD PLATE
PROVIDE TRENCH COVER AND FRAME BY BALCO OR EQUAL



2 M2.2 TYPICAL TRENCH COVER DETAIL

SCALE: NONE



SURFACE MOUNTED

NOTE:
PROVIDE FACTORY END CAPS FOR CHANNEL.

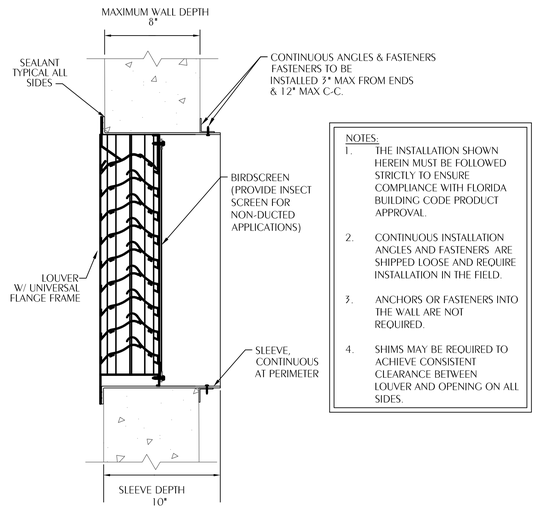
PROVIDE ALUMINUM JACKET BETWEEN INSULATION AND PIPE CLAMP AT ALL INDOOR LOCATIONS.

PROVIDE SMOOTH ALUMINUM JACKET OVER ALL EXPOSED OUTDOOR INSULATION.

PROVIDE SUPPORT AT INTERVALS REQUIRED BY THE FLORIDA BUILDING CODE AND PROJECT SPECIFICATIONS.

3 M2.2 TYPICAL EXTERIOR PIPING SUPPORT DETAIL

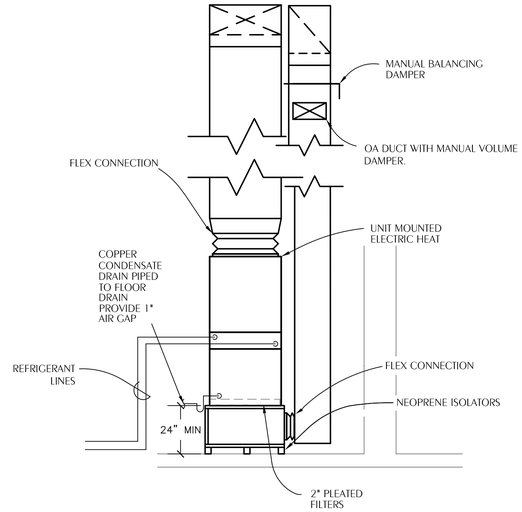
SCALE: NONE



NOTES:
1. THE INSTALLATION SHOWN HEREIN MUST BE FOLLOWED STRICTLY TO ENSURE COMPLIANCE WITH FLORIDA BUILDING CODE PRODUCT APPROVAL.
2. CONTINUOUS INSTALLATION ANGLES AND FASTENERS ARE SHIPPED LOOSE AND REQUIRE INSTALLATION IN THE FIELD.
3. ANCHORS OR FASTENERS INTO THE WALL ARE NOT REQUIRED.
4. SHIMS MAY BE REQUIRED TO ACHIEVE CONSISTENT CLEARANCE BETWEEN LOUVER AND OPENING ON ALL SIDES.

4 M2.2 WALL LOUVER DETAIL

SCALE: NONE GREENHECK EHV-901D OR EQUAL
FLORIDA PRODUCT APPROVAL #19683



NOTES:
SECURE REFRIGERANT LINES AND CONDENSATE PIPING WITH UNISTRUT.

PROVIDE FACTORY FABRICATED RETURN AIR PLENUM OR ENGINEER APPROVED EQUAL WITH 2" FILTER FRAME.

SIZE COPPER CONDENSATE LINE AT FULL SIZE OF UNIT CONNECTION, BUT IN NO CASE SMALLER THAN 3/4".

5 M2.2 VERTICAL UPFLOW AHU DETAIL

SCALE: NONE

REVISIONS

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PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	KAJ	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	KAJ	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
HVAC DETAILS

SHEET NUMBER:
M2.2

VERTICAL INSTALLATION

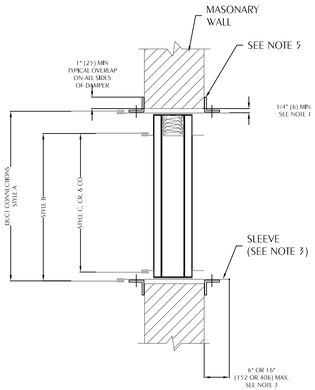
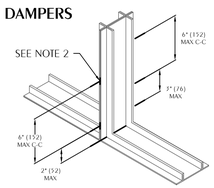


FIGURE 1

STAINLESS STEEL DAMPERS



GALVANIZED DAMPERS

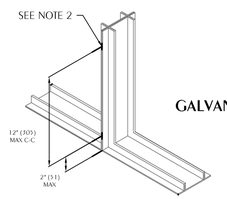


FIGURE 2
1 1/2 HOUR

HORIZONTAL INSTALLATION

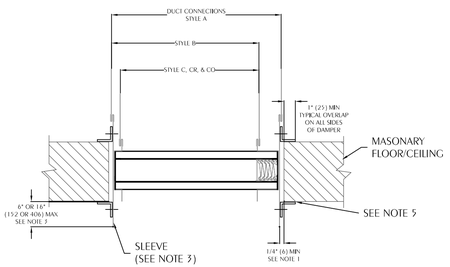


FIGURE 3

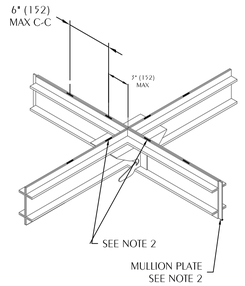


FIGURE 4
1 1/2 HOUR

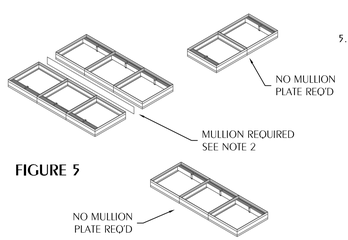
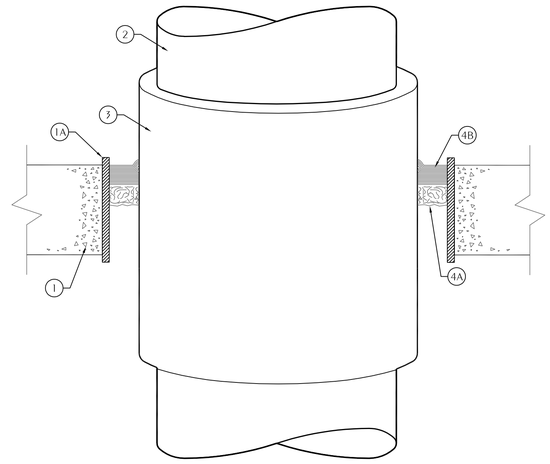


FIGURE 5

1. **Opening Clearance**
The opening in the wall or floor shall be larger than the damper/sleeve assembly to permit installation or expansion. For two angle installations the opening shall be a minimum of 1/8" per foot (3 per 305) larger than the overall size of the damper/sleeve assembly. The maximum opening size shall not exceed 1/8" per foot (3 per 305) plus 2" (51), nor shall the opening be less than 1/4" (6) larger than the damper/sleeve assembly. For one angle installations, the opening shall be a minimum of 1/4" (6) to a maximum of 1" (25) larger than the overall size of the damper/sleeve assembly. The opening may be as much as 2" (51) larger than the damper/sleeve assembly if a 16ga (1.6) mounting angles is utilized.
2. **Fasteners and Multiple Section Assembly**
Use No. 10 (M5) bolts or screws, 3/16" (5) rivets, tack welds or spot welds as depicted in figures 3 and 4 and spaced as follows when joining individual dampers to make multiple section damper assemblies or when fastening damper to the sleeve:
Vertical Mount (In wall)
Galvanized steel dampers 12" (305) spacing
Stainless steel dampers 6" (152) spacing
Horizontal Mount (In floor)
All dampers 6" (152) spacing
Multiple section horizontal mount dampers require a 14 gage thick x 41/2" (2 x 114) wide steel reinforcing plate sandwiched between the damper frames with 1/2" (13) long welds staggered intermittently and spaced on maximum 6" (152) centers. The reinforcing plate must be the same material as the dampers. The length must be equal to the damper width of two or more adjoining damper sections. Reinforcing plates are not required for assemblies consisting of two dampers attached end-to-end or three dampers attached side-to-side as depicted in figure 5.
3. **Damper Sleeve**
Sleeve thickness must be equal to or thicker than the duct connected to it. Sleeve gage requirements are listed in the SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems and in NFPA90A. If a breakaway style duct/sleeve connection is not used, the sleeve shall be a minimum of 16 gage (1.6) for dampers up to 36" (914) wide by 24" (610) high and 14 gage (1.9) for dampers exceeding 36" (914) wide by 24" (610) high. Damper sleeve shall not extend more than 6" (152) beyond the fire wall or partition unless damper is equipped with a factory installed access door. Sleeve may extend up to 16" (406) beyond the fire wall or partition on sides equipped with a factory installed access door. Sleeve shall terminate at both sides of wall within dimensions shown.
4. **Damper Orientation**
Use "Air Flow" and "Mount with Arrow Up" labels on Dynamic DIBD and DIBDX models for proper damper orientation. For Static IBD models use only "Mount With Arrow Up" label on damper for proper damper orientation.
5. **Mounting Angles**
Mounting angles shall be a minimum of 11/2" x 11/2" x 20 gage steel (38 x 38 x 1.0). For openings in metal stud, wood stud walls or concrete/masonry walls and floors of sizes 90" x 49" or 49" x 90" (2286 x 1245 or 1245 x 2286) and less mounting angles are only required on one side of the wall or top side of the floor and must be attached to both the sleeve and the wall or floor. Mounting angles may be installed directly to the metal stud under the wall board on metal stud wall installations only. Larger openings require mounting angles on both sides of the partition and must be attached only to the sleeve. Mounting angles must overlap the partition a minimum of 1" (25). Do not weld or fasten angles together at corners of dampers. Ruskin fire dampers may be installed using Ruskin FAST angle for one angle installation or Ruskin PFMA for two angle installations.
a. **Mounting Angle Fasteners**
Sleeve: #10 bolts or screws, 3/16" (5) steel rivets or 1/2" (13) long welds.
Masonry/Wall or Floor: #10 self-tapping concrete screws.
Wood/Steel Stud Wall: #10 screws
b. **Mounting Angle Fastener Spacing**
For one angle installations the sleeve fasteners shall be spaced at 6" (152) o.c. and the wall or floor fasteners shall be spaced at 12" (305) o.c. with a minimum of 2 fasteners on each side, top and bottom. Screw fasteners used in metal stud must engage the metal stud a minimum of 1/2" (13). Screw fasteners used in wood stud must engage the wood stud a minimum of 3/4" (19). Screw fasteners used in masonry walls or floors must engage the wall a minimum of 11/2" (38). For two angle installations the fasteners shall be spaced at 8" (203) o.c.
6. **Duct/Sleeve Connections**
a. **Break-away Duct/Sleeve Connections**
Rectangular ducts must use one or more of the connections: plain "S" slip, hemmed "S" slip, double "S" slip, inside slip joint, standing S, standing S (angle reinforced), standing, standing S (bar reinforced), standing S (angle reinforced, or drive slip joint.
A maximum of two #10 sheet metal screws on each side and the bottom, located in the center of the slip pocket and penetrating both sides of the slip pocket may be used.
Connections using these slip joints on the top and bottom with flat drive slips up to 20" (508) long on the sides may also be used.
b. **Round and Oval Break-away Connections**
Round and flat oval break-away connections must use either a 4" (102) wide drawband or #10 sheet metal screws spaced equally around the circumference of the duct as follows:
• Duct diameters 22" (559) and smaller — Maximum 3 screws.
• Duct diameters over 22" (559) and including 36" (914) — Maximum 5 screws.
• Duct diameters over 36" (914) and up to and including 191" (4851) total perimeter — Maximum 8 screws. For flat oval ducts, the diameter is considered the largest (major) dimension of the duct.
Note: When optional sealing of these joints is desired, the following sealants may be applied in accordance with the sealant manufacturer's instructions:
Hardcast, Inc. — Iron Grip 601
Precision –PA2084T
Eco Duct Seal 44-52 Design Polymerics — DP 1010
c. **Flanged Break-away Style Duct Sleeve Connections.**
Flanged connection systems manufactured by Ductmate, Nexus or Ward are approved break-away connections when installed as shown on the Flanged System Breakaway Connections Supplement. TDC and TDF roll-formed flanged connections using 3/8" (10) steel bolts and nuts, and metal cleats, as tested by SMACNA, are approved break-away connections when installed as shown on the Flanged System Breakaway Connections Supplement.
d. **Non-Break-away Duct/Sleeve Connections**
If other duct sleeve connections are used, the sleeve shall be a minimum of 16 gage (1.6) for dampers up to 36" (914) wide x 24" (610) high and 14 gage (2.0) for dampers exceeding 36" (914) wide x 24" (610) high.
7. **Installation and Maintenance**
To ensure optimum operation and performance, the damper must be installed so it is square and free from racking. Each fire damper should be maintained and tested on a regular basis and in accordance with the latest editions of NFPA 90A and local codes. Care should be exercised to ensure that such tests are performed safely and do not cause system damage.



CONSULT CURRENT UNDERWRITERS LABORATORIES "FIRE RESISTANCE DIRECTORY" FOR DETAILS

UL SYSTEM CAJ5001

1. **FLOOR OR WALL ASSEMBLY**—MIN 2-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150) PCF CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED **CONCRETE BLOCKS***. MAX DIAM OF OPENING IS 18 IN. SEE **CONCRETE BLOCKS** (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
1A. **STEEL SLEEVE**—NOM 10 IN. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 2 IN. ABOVE TOP OF FLOOR OR BEYOND EITHER SURFACE OF WALL. **T RATING IS 0 HR WHEN SLEEVE IS USED.**
2. **THROUGH PENETRANT**—NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE, NOM 12 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.
3. **PIPE COVERING***—NOM 1/2 TO 2 IN: THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN. 3.5 PCF) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT. SEE PIPE AND EQUIPMENT COVERING—MATERIALS*(BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
4. **FIRESTOP SYSTEM**—THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:
A. **PACKING MATERIAL**—MIN 1 IN. THICKNESS OF FIRMLY PACKED MINERAL WOOL BATT INSULATION USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR SLEEVE OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM B).
B. **FILL, VOID OR CAVITY MATERIAL***—CAULK—APPLIED TO FILL THE ANNULAR SPACE FLUSH WITH THE TOP SURFACE OF THE FLOOR OR SLEEVE OR FLUSH WITH BOTH SURFACES OF WALL. WHEN NOM PIPE COVERING THICKNESS IS 2 IN., MIN THICKNESS OF CAULK FILL MATERIAL IS 2 IN. WHEN NOM PIPE COVERING THICKNESS IS 1-1/2 IN. OR LESS, MIN THICKNESS OF CAULK FILL MATERIAL IS 1 IN. THE HOURLY F AND T RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON THE THICKNESS OF THE FLOOR OR WALL, THE SIZE OF PIPE, THE THICKNESS OF PIPE COVERING MATERIAL AND THE SIZE OF THE ANNULAR SPACE (BETWEEN THE PIPE COVERING MATERIAL AND THE EDGE OF THE CIRCULAR THROUGH OPENING), AS SHOWN IN THE FOLLOWING TABLE:

MIN FLOOR OR WALL THKNS IN.	MAX PIPE DIAM IN.	NOM PIPE COVERING THKNS IN.	ANNULAR SPACE IN.	F RATING HR	T RATING HR
2-1/2	4	1 OR 1-1/2	1/2 TO 2-3/8	2	1
4-1/2	4	2	1/4 TO 3-5/8	2	1-1/2
2-1/2	12	1	1/2 TO 1-1/2	2	1/2
4-1/2	12	1	1/2 TO 2-3/8	3	1
2-1/2	12	1/2	1/2 TO 2-3/8	2	0

MINNESOTA MINING & MFG. CO.—CP 25WB+.
*BEARING THE UL CLASSIFICATION MARKING

2 M2.3 **TYPICAL FIRE RATED WALL/FLOOR PENETRATION**
SCALE: NONE — FIBERGLASS INSULATED METALLIC PIPE

1 M2.3 **TYPICAL HORIZONTAL AND VERTICAL FIRE DAMPER DETAIL**
SCALE: NONE

NOTE: ALL SYSTEMS DETAILED ON MECHANICAL PENETRATIONS SHEETS ARE BASED ON THE MANUFACTURERS SPECIFIED AS BASIS OF DESIGN AND APPLY TO MECHANICAL, FIRE PROTECTION, AND PLUMBING. THE CONTRACTOR SHALL SUBMIT A PENETRATIONS PACKAGE DETAILING EACH PENETRATION AND PRODUCTS TO BE USED TO THE PERMITTING AUTHORITY FOR THE ACTUAL SYSTEMS TO BE USED.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	KAJ	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	KAJ	KAJ	05/10/23
BID DOCUMENTS			08/01/23

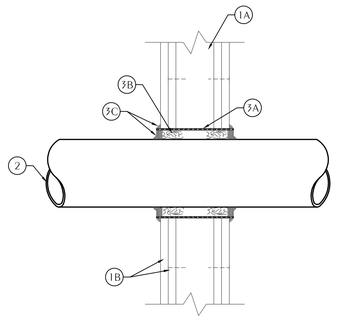
JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

CONSULTANTS:
WATFORD ENGINEERING
4452 Clinton Street, Marianna, Florida 32446 Florida Certificate of Authorization: 27925
850.526.3447 Project Number: 2023-028 Keith A. Johnson, PE Florida License 86457

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD
BAY COUNTY, FLORIDA

SHEET TITLE:
HVAC DETAILS

SHEET NUMBER:
M2.3

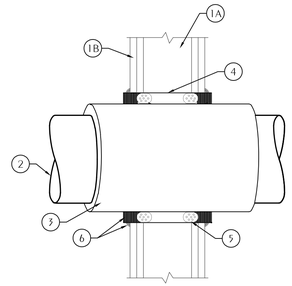


CONSULT CURRENT UNDERWRITERS LABORATORIES, INC. *FIRE RESISTANCE DIRECTORY* FOR DETAILS.
UL SYSTEM WL1003

1. **WALL ASSEMBLY**—THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   A. **STUDS**—WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-1/2 IN. WIDE BY 1-3/8 IN. DEEP CHANNELS SPACED MAX 24 IN. OC.
   B. **WALLBOARD, GYPSUM***—NOM 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 15 IN.

   THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.
2. **THROUGH-PENETRANT**—ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE SPACE BETWEEN PIPES, CONDUITS OR TUBING AND THE STEEL SLEEVE (ITEM 3A) SHALL BE MIN OF 0 IN. (POINT CONTACT) TO MAX 2-3/8 IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
   A. **STEEL PIPE**—NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
   B. **IRON PIPE**—NOM 12 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE. NOM 12 IN. DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.
   C. **CONDUIT**—NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
   D. **COPPER TUBING**—NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
   E. **COPPER PIPE**—NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
3. **FIRESTOP SYSTEM**—INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS.
   A. **STEEL SLEEVE**—CYLINDRICAL SLEEVE FABRICATED FROM MIN 0.019 IN. THICK (NO. 28 GAUGE) GALV SHEET STEEL AND HAVING A MIN 2 IN. LAP ALONG THE LONGITUDINAL SEAM. LENGTH OF STEEL SLEEVE TO BE EQUAL TO THICKNESS OF WALL PLUS 1 TO 4 IN. SUCH THAT, WHEN INSTALLED, THE ENDS OF THE SLEEVE WILL PROJECT APPROXIMATELY 1/2 TO 2 IN. BEYOND THE SURFACE OF THE WALL ON BOTH SIDES OF THE WALL ASSEMBLY.
      SLEEVE INSTALLED BY COILING THE SHEET STEEL TO A DIAM SMALLER THAN THE THROUGH OPENING, INSERTING THE COIL THROUGH THE OPENINGS AND RELEASING THE COIL TO LET IT UNCOIL AGAINST THE CIRCULAR CUTOUTS IN THE GYPSUM WALLBOARD LAYERS.
   B. **PACKING MATERIAL**—MIN 1 IN. THICKNESS OF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO STEEL SLEEVE ON BOTH SIDES OF THE WALL ASSEMBLY AS PERMANENT FORMS. PACKING MATERIAL TO BE RECESSED MIN 1/2 IN. FROM END OF STEEL SLEEVE (FLUSH WITH OR RECESSED INTO GYPSUM WALLBOARD SURFACE) ON BOTH SIDES OF WALL ASSEMBLY.
   B1. **PACKING MATERIAL**—(NOT SHOWN)—AS AN ALTERNATE TO ITEM B, NOM 1 IN. THICK POLYETHYLENE BACKER ROD MAY BE USED. THE BACKER ROD IS TO BE RECESSED WITHIN THE STEEL SLEEVE A MIN OF 1 IN. FROM EACH SURFACE OF WALL.
   C. **FILL, VOID OR CAVITY MATERIALS***—**CAULK**—WHEN MINERAL WOOL BATT INSULATION IS USED, APPLIED TO FILL THE STEEL SLEEVE TO A MIN DEPTH OF 1/2 IN. ON BOTH SIDES OF WALL ASSEMBLY. WHEN BACKER ROD IS USED, A MIN THICKNESS OF 1 IN. OF CP-25WB+ CAULK IS REQUIRED FLUSH WITH SURFACE OF WALL. A NOM 1/4 IN. DIAM CONTINUOUS BEAD OF CAULK SHALL BE APPLIED AROUND THE CIRCUMFERENCE OF THE STEEL SLEEVE AT ITS EGRESS FROM THE GYPSUM WALLBOARD LAYERS ON BOTH SIDES OF THE WALL ASSEMBLY. MINNESOTA MINING & MFG. CO.—CP 25WB+

*BEARING THE UL CLASSIFICATION MARKING

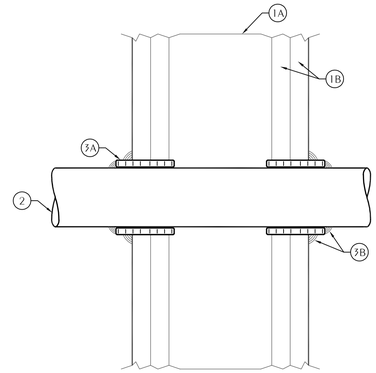


CONSULT CURRENT UNDERWRITERS LABORATORIES *FIRE RESISTANCE DIRECTORY* FOR DETAILS
UL SYSTEM WL5011

1. **WALL ASSEMBLY**—THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALLASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES.
   A. **STUDS**—WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE BY 1-3/8 DEEP CHANNELS SPACED MAX 24 IN. OC.
   B. **WALLBOARD, GYPSUM***—NOM 5/8 IN. THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 14-1/2 IN. FOR WOOD STUD WALLS AND 17 IN. FOR STEEL STUD WALLS.

   THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS 1 HR WHEN INSTALLED IN A 1 HR FIRE RATED WALL AND 2 HR WHEN INSTALLED IN A 2 HR FIRE RATED WALL.
2. **THROUGH PENETRANTS**—ONE METALLIC PIPE, CONDUIT OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
   A. **STEEL PIPE**—NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE. WHEN STEEL PIPE IS USED, T RATING IS 1 HR.
   B. **CONDUIT**—NOM 3 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR STEEL CONDUIT. WHEN STEEL CONDUIT IS USED, T RATING IS 1/4 HR.
   C. **COPPER TUBING**—NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING. WHEN COPPER TUBING IS USED, T RATING IS 1/2 AND 1 HR WHEN INSTALLED IN 1 AND 2 HR RATED WALLS, RESPECTIVELY.
   D. **COPPER PIPE**—NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE. WHEN COPPER PIPE IS USED, T RATING IS 1/2 AND 1 HR WHEN INSTALLED IN 1 AND 2 HR RATED WALLS, RESPECTIVELY.
3. **PIPE COVERING***—NOM 1 OR 1-1/2 IN. THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN 3.5 PCF) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORYAPPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENER STRIP TAPE SUPPLIED WITH THE PRODUCT.
   SEE **PIPE AND EQUIPMENT COVERINGS—MATERIALS**—(BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
4. **STEEL SLEEVE**—CYLINDRICAL SLEEVE FABRICATED FROM MIN 0.019 IN. THICK (NO. 28 GAUGE) GALV SHEET STEEL AND HAVING A MIN 2 IN. LAP ALONG THE LONGITUDINAL SEAM. LENGTH OF STEEL SLEEVE TO BE EQUAL TO THICKNESS OF WALL PLUS 1 IN. SUCH THAT, WHEN INSTALLED, THE ENDS OF THE SLEEVE WILL PROJECT APPROX 1/2 IN. BEYOND THE SURFACE OF THE WALL ON BOTH SIDES OF THE WALL ASSEMBLY. THE DIAM OF THE OPENINGS CUT IN THE GYPSUM WALLBOARD LAYERS ON EACH SIDE OF THE WALL ASSEMBLY (CONCENTRIC WITH PIPE) TO BE 2 TO 2-1/2 IN. LARGER THAN OUTSIDE DIAM OF PIPE INSULATION SUCH THAT, WHEN THE STEEL SLEEVE IS INSTALLED, A 1 TO 1-1/4 IN. ANNULAR SPACE WILL BE PRESENT BETWEEN THE STEEL SLEEVE AND THE PIPE INSULATION AROUND THE ENTIRE CIRCUMFERENCE OF THE PIPE. SLEEVE INSTALLED BY COILING THE SHEET STEEL TO A DIAM SMALLER THAN THE THROUGH OPENING, INSERTING THE COIL THROUGH THE OPENINGS AND RELEASING THE COIL TO LET IT UNCOIL AGAINST THE CIRCULAR CUTOUTS IN THE GYPSUM WALLBOARD LAYERS.
5. **PACKING MATERIAL**—POLYETHYLENE BACKER ROD OR MIN 1 IN. THICKNESS OF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO STEEL SLEEVE ON BOTH SIDES OF THE WALL ASSEMBLY AS PERMANENT FORMS. PACKING MATERIAL TO BE RECESSED MIN 1 IN. FROM END OF STEEL SLEEVE (RECESSED MIN 1/2 IN. INTO GYPSUM WALLBOARD SURFACE) ON BOTH SIDES OF WALL ASSEMBLY.
6. **FILL, VOID OR CAVITY MATERIALS***—**CAULK**—MIN 1 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS ON BOTH SIDES OF WALL ASSEMBLY. THICKNESS FOR FILL MATERIAL FOR NOM 3 IN. DIAM (OR SMALLER) STEEL PIPES OR CONDUITS MAY BE REDUCED TO A MIN 1/2 IN. A NOM 1/4 IN. DIAM CONTINUOUS BEAD OF CAULK SHALL BE APPLIED AROUND THE CIRCUMFERENCE OF THE STEEL SLEEVE AT ITS EGRESS FROM THE GYPSUM WALLBOARD LAYERS ON BOTH SIDES OF THE WALL ASSEMBLY.
   MINNESOTA MINING & MFG. CO.—CP 25WB+

*BEARING THE UL CLASSIFICATION MARKING



CONSULT CURRENT UNDERWRITERS LABORATORIES *FIRE RESISTANCE DIRECTORY* FOR DETAILS
UL SYSTEM WL2003

1. **WALL ASSEMBLY**—THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   A. **STUDS**—WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE BY 1-3/8 IN. DEEP CHANNELS SPACED MAX 24 IN. OC.
   B. **WALLBOARD, GYPSUM***—5/8 IN. THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 3-1/8 IN.
2. **THROUGH PENETRANTS**—ONE NONMETALLIC PIPE OR CONDUIT TO BE CENTERED INTHE THROUGH OPENING. THE ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND PERIPHERY OF OPENING SHALL BE MIN 1/4 IN. AND MAX 3/8 IN. PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF NONMETALLIC PIPES OR CONDUITS MAY BE USED:
   A. **POLYVINYL CHLORIDE (PVC) PIPE**—NOM 2 IN. DIAM (OR SMALLER) SCHEDULE 40 SOLID CORE PVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEM.
   B. **RIGID NONMETALLIC CONDUIT++**—NOM 4 IN. DIAM (OR SMALLER)(SCHEDULE 40 OR 80) PVC CONDUIT INSTALLED IN ACCORDANCE WITH ARTICLE 347 OF THE NATIONAL ELECTRIC CODE (NFPA NO. 70).
   C. **CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE**—NOM 2 IN. DIAM (OR SMALLER) SDR17 CPVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEMS.
   D. **CELLULAR CORE POLYVINYL CHLORIDE (CCPVC) PIPE**—NOM 2 IN. DIAM (OR SMALLER) SCHEDULE 40 CELLULAR CORE PVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEM.
   E. **ACRYLONITRILE BUTADIENE STYRENE (ABS) PIPE**—NOM 2 IN. DIAM (OR SMALLER) SCHEDULE 40 SOLID CORE ABS PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEMS.
   F. **CELLULAR CORE ACRYLONITRILE BUTADIENE STYRENE (CCABS) PIPE**—NOM 2 IN. DIAM (OR SMALLER) SCHEDULE 40 CELLULAR CORE ABS PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEMS.
3. **FIRESTOP SYSTEM**—INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F AND T RATINGS FOR THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED. THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS.
   A. **FILL, VOID OR CAVITY MATERIALS***—**WRAP STRIP**—NOM 1/4 IN. THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. WIDE STRIPS. NOM 2 IN. WIDE STRIP TIGHTLY WRAPPED AROUND NONMETALLIC PIPE (FOIL SIDE OUT) WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROX 1-1/4 IN. SUCH THAT APPROX 3/4 IN. OF THE WRAP STRIP PROTRUDES FROM THE WALL SURFACE.
      MINNESOTA MINING & MFG. CO.—FS-195+
   B. **FILL, VOID OR CAVITY MATERIALS***—**CAULK OR PUTTY**—MIN 5/8 IN. THICKNESS OF CAULK OR PUTTY APPLIED INTO ANNULAR SPACE BETWEEN WRAP STRIP AND PERIPHERY OF OPENING. A NOM 1/4 IN. DIAM BEAD OF CAULK OR PUTTY TO BE APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED EDGE OF THE WRAP STRIP LAYERS APPROX 3/4 IN. FROM THE WALL SURFACE. MINNESOTA MINING & MFG. CO.—CP 25WB+ CAULK OR MPS-2+ PUTTY. (NOTE: L RATINGS APPLY ONLY WHEN TYPE CP-25 WB+ CAULK IS USED.)
   C. **FOIL TAPE**—(NOT SHOWN)—NOM 4 IN. WIDE, 3 MIL THICK ALUMINUM TAPE WRAPPED AROUND PIPE PRIOR TO THE INSTALLATION OF THE WRAP STRIP (ITEM 3A). MIN OF ONE WRAP, FLUSH WITH BOTH SIDES OF WALL AND PROCEEDING OUTWARD. TAPE IS NOT REQUIRED FOR PIPES SHOWN IN ITEMS 2A, 2B AND 2C.

*BEARING THE UL CLASSIFICATION MARKING

1 M2.4 **TYPICAL FIRE RATED WALL PENETRATION**
SCALE: NONE — BARE METALLIC PIPE

2 M2.4 **TYPICAL FIRE RATED WALL PENETRATION**
SCALE: NONE — INSULATED METALLIC PIPE

3 M2.4 **TYPICAL FIRE RATED WALL PENETRATION**
SCALE: NONE — BARE PLASTIC PIPE 2" DIAMETER OR SMALLER

NOTE: ALL SYSTEMS DETAILED ON MECHANICAL PENETRATIONS SHEETS ARE BASED ON THE MANUFACTURERS SPECIFIED AS BASIS OF DESIGN AND APPLY TO MECHANICAL, FIRE PROTECTION, AND PLUMBING. THE CONTRACTOR SHALL SUBMIT A PENETRATIONS PACKAGE DETAILING EACH PENETRATION AND PRODUCTS TO BE USED TO THE PERMITTING AUTHORITY FOR THE ACTUAL SYSTEMS TO BE USED.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	KAJ	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	KAJ	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
HVAC DETAILS

SHEET NUMBER:
M2.4

LEGEND

———	S OR W	SOIL OR WASTE PIPING
- - - - -	V	VENT PIPING
——— CW ———	CW	COLD WATER SUPPLY PIPING
——— HW ———	HW	HOT WATER SUPPLY PIPING
——— HWR ———	HWR	HOT WATER RETURN PIPING
——— A ———	A	COMPRESSED AIR
——— GAS ——— GAS ———	G	GAS
	GV	GATE VALVE
	CV	CHECK VALVE
	BV	BALL VALVE
	HB	HOSE BIBB
	WH	WALL HYDRANT
	CO	CLEANOUT TO FLOOR
	FD	FLOOR DRAIN
	COTG	CLEANOUT TO GRADE
	COAC	CLEANOUT ABOVE CEILING
		UNION
	VTR	VENT THRU ROOF
1		SHEET NOTE
		POINT OF CONNECTION TO EXISTING
	SH	SHOWER
	MR	MOP RECEPTOR
	UR	URINAL
	WC	WATER CLOSET
	UB	WALL MOUNTED UTILITY BOX
	IWH	INSTANTANEOUS ELECTRIC WATER HEATER
	EWC	ELECTRIC WATER COOLER
	L	LAVATORY
	WH	WALL HYDRANT
	HB	HOSE BIBB
	KW	KILOWATT
	AD	AIR DROP
	TP	AUTOMATIC TRAP PRIMER
	WHA	TYPE "A" WATER HAMMER ARRESTER
	WHB	TYPE "B" WATER HAMMER ARRESTER
	WHC	TYPE "C" WATER HAMMER ARRESTER
	HR	HOSE REEL
	A	AIR
	G	GAS
	AC	AIR COMPRESSOR
	UH-1(M)	EQUIPMENT TAG; (M) INDICATES MECHANICAL EQUIPMENT. REFER TO M SHEETS

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	PIPE SIZES-INCHES					REMARKS
		CW	HW	W	G	A	
WC-1	WATER CLOSET (HANDICAP, MANUAL)	1	"	4	"	"	HANDICAP HEIGHT @ 17", FLOOR MOUNT, ELONGATED BOWL, 1.5" TOP SPUD, MANUAL FLUSH VALVE, 1.28 GPF, OPEN FRONT SEAT LESS COVER
L-1	LAVATORY (20X17)	3/8	3/8	1-1/4	"	"	COUNTERTOP MOUNT, OVAL, VITREOUS CHINA, 4" CENTERS, MIXING VALVE, POLISHED CHROME PLATED FAUCET, STRAIGHT LEVER HANDLES, 1.2 GPM, TAILPIECE, P-TRAP, STOPS & SUPPLIES, INSULATION
L-2	LAVATORY (HANDICAP, 20X18)	3/8	3/8	1-1/4	"	"	WALL MOUNT, CHAIR CARRIER, VITREOUS CHINA, 4" CENTERS, INSULATION KIT, MIXING VALVE, POLISHED CHROME PLATED FAUCET, STRAIGHT LEVER HANDLES, 1.2 GPM, P-TRAP, TAILPIECE, STOPS & SUPPLIES
SK-1	SINK (TRIPLE, 63"x22"x10 1/8")	3/8	3/8	1-1/2	"	"	COUNTERTOP, TRIPLE COMPARTMENT, STAINLESS STEEL, TWO (2) SINGLE HOLE PULL OUT FAUCET WITH STRAIGHT LEVER HANDLE, 1.5 GPM, TAILPIECE, P-TRAP, STOPS & SUPPLIES, DISPOSAL
DT-1	TROUGH DRAIN (12"Hx18"Wx3'L)	"	"	4	"	"	ABS PLASTIC DRAIN TROUGH SLOPED BETWEEN 1/8" & 1/4" PER FOOT, LINT SCREEN WITH OVERFLOW AND HINGED LID
SH-1	SHOWER (HANDICAP)	1/2	1/2	2	"	"	WALL MOUNT, STAINLESS STEEL, PRESSURE BALANCING VALVE WITH LIMIT STOP & INTEGRAL SERVICE STOPS, SHOWERHEAD, WALL/HAND SHOWER WITH HOSE & SLIDE BAR, INLINE VACUUM BREAKER
UB-1	RECESSED UTILITY WALL BOX (ICE-MAKER HOOK-UP)	1/4	"	"	"	"	FACTORY FABRICATED, 16 GAUGE STEEL EPOXY FINISH, FACTORY INSTALLED SHANK VALVE
UB-2	RECESSED UTILITY WALL BOX (WASHER HOOK-UP)	1/2	1/2	2	"	"	FACTORY FABRICATED, 16 GAUGE STEEL EPOXY FINISH
FD	FLOOR DRAIN	1/2	"	3	"	"	DEEP SEAL, TRAP PRIMER CONNECTION
MV-1	WATER MIXING VALVE	3/4	3/4	-	-	-	THERMOSTATIC, BRASS, BRONZE, STAINLESS STEEL, EXPOSED WALL MOUNT, REGULATOR KNOB
TD-1	TRENCH DRAIN (12"WIDE X 40'LONG)	"	"	4	-	-	RECTANGULAR TOP, VANDAL PROOF, NICKLE BRONZE GRATE, HIGH DENSITY POLYETHYLENE, STAINLESS STEEL FRAME, INTERLOCKING ENDS, P-TRAP, BUILT-IN SLOPE OF 0.7%
GWH-1	GAS WATER HEATER	1-1/2	1-1/2	-	3/4	-	120,000 BTU/H INPUT, NATURAL GAS, 100 GALLONS, 97% THERMAL EFFICIENCY, CONCENTRIC VENT, MANIFOLD KIT
IWH-1	INSTANTANEOUS GAS WATER HEATER	3/4	3/4	-	3/4	-	157,000 BTU/H INPUT, NATURAL GAS, 0.95 ENERGY FACTOR, INDOOR LOCATION
CP-1	CIRCULATOR PUMP	"	3/4	-	-	-	BRONZE, IN-LINE TYPE, 1/4 HP, 115V, FLOW RATE @ 1 GPM, HEAD @ 2.6', CIRCUIT SETTER SET TO 1GPM, CIRCUIT SOLVER VALVE, AQUASTAT, DIGITAL TIMER
TCV	TEMPERATURE CONTROL VALVE	"	1/2	-	-	-	SELF-ACTING THERMOSTATIC RECIRCULATION VALVE SET AT 100°F.
EWC-1	ELECTRIC WATER COOLER (DUAL LEVEL)	1/2	"	1-1/2	"	"	WALL MOUNT, CHAIR CARRIER, SINGLE LEVEL, BOTTLE FILL STATION, SELF-CONTAINED, STAINLESS STEEL, PUSH BAR
TP	TRAP PRIMER	1/2	"	"	"	"	PPP MODEL MP-500 ELECTRONIC SOLENOID TRAP PRIMER, INTEGRAL VACUUM BREAKER, DISTRIBUTION UNIT, AND MINIMUM ELEVATION 12" AFF, 120V/1PHASE
HB	HOSE BIB	"	3/4	-	-	-	CHROME FINISH, ANTI-SIPHON VACUUM BREAKER, WHEEL HANDLE
MR-1	MOP SINK (24"x24"x24")	3/8	3/8	3	-	-	FLOOR TYPE, NEO-CORNER, TERRAZZO, 8" CENTERS, TOP BRACE FAUCET WITH INTERGAL STOPS, STRAIGHT LEVER HANDLES, VACUUM BREAKER, MOP HANGER

1. WATER SUPPLY TAPPING TO EACH PLUMBING FIXTURE SHALL BE FULL SIZE (MINIMUM).
2. SEE ELECTRICAL DWGS FOR FINAL POWER REQUIREMENTS.
3. PROVIDE WATER HAMMER ARRESTERS ON HOT & COLD WATER SUPPLY BRANCHES SERVING SINGULAR, MULTIPLE OR GROUPS OF PLUMBING FIXTURES. ADHERENCE TO THE PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I.-WH201 (PER SPECIFICATIONS) SHALL BE EMPLOYED IN DETERMINING PROPER SIZE, SELECTION, PLACEMENT, LOCATION AND INSTALLATION OF ARRESTERS.

PLUMBING GENERAL NOTES

1. COORDINATE ALL PIPING WITH DUCTWORK SHOP DRAWINGS. ROUTE PIPING AS REQUIRED TO AVOID CONFLICTS.
2. PRIOR TO START OF ANY WORK, COORDINATE SANITARY SEWER AND POTABLE WATER PIPING WITH CIVIL DRAWINGS.
3. FIELD VERIFY PIPE INVERTS PRIOR TO LAYING OUT SANITARY SEWER PIPING.
4. ALL PIPING PASSING THROUGH WALLS SHALL HAVE A SLEEVE PER SPECIFICATIONS.
5. ALL PIPING PASSING THROUGH FIRE-RATED WALLS SHALL HAVE A FIRE-RATED SLEEVE PER SPECIFICATIONS.
6. ALL PIPING INDICATED IS ABOVE THE CEILING EXCEPT THE OBVIOUS SANITARY SOIL, WASTE, VENT AND POTABLE WATER PIPING BELOW FLOOR OR GRADE.
7. SEE TOILET ROOM ELEVATIONS ON ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHT.
8. COORDINATE LOCATION OF ALL FLOOR DRAINS SERVING HVAC EQUIPMENT WITH HVAC EQUIPMENT SHOP DRAWINGS.
9. UNDER SLAB SOIL, WASTE AND VENT PIPING PASSING TO UNDERSIDE OR THROUGH FOUNDATION FOOTING, WALL OR GRADE BEAM SHALL BE PROVIDED WITH A RELIEVING ARCH OR PIPE SLEEVE 2 (TWO) PIPE SIZES GREATER THAN PIPE SIZE INDICATED ON PLANS. COORDINATE FINAL PIPE ROUTING AND LAYOUT WITH STRUCTURAL DRAWINGS.
10. PRIOR TO SUBSTANTIAL COMPLETION OF NEW WORK AREAS, CONTRACTOR SHALL HAVE SANITARY PLUMBING SYSTEM CLEARED OF DEBRIS OR ANY MATTER THAT WOULD INTERFERE OR PREVENT ADEQUATE CONVEYANCE OF MATERIALS FROM MOVING THROUGH AND TERMINATING INTO BUILDING OR PUBLIC DISPOSAL FACILITIES.
11. ALL (VTR'S) VENT THRU ROOF PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.
12. ALL PIPING PENETRATIONS THROUGH WALLS OR FLOORS SHALL BE SEALED TO EQUAL THE RATING OF THE WALLS OR FLOORS.
13. ALL TRAP PRIMERS AND DOMESTIC WATER ISOLATION VALVES SHALL BE ACCESSIBLE. TRAP PRIMERS LOCATED IN THE VICINITY OF WATER CLOSETS SHALL BE ACTIVATED BY WATER CLOSET USAGE. ISOLATION VALVES SHALL BE OF THE QUARTER TURN BALL OR GATE TYPE.
14. ALL COMPONENTS OF PLUMBING SYSTEMS ARE TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND THE REQUIREMENTS OF THE 2020 FLORIDA BUILDING CODE (7TH EDITION).
15. CONTRACTOR SHALL DEVELOP COORDINATION SHOP DRAWINGS WHICH IDENTIFY ROUTING OF PLUMBING PIPE AND LOCATION OF EQUIPMENT. SHOP DRAWINGS SHALL INDICATE COORDINATION WITH THE WORK OF OTHER TRADES.

(1) A FOUNDATION MAY BE REQUIRED IN VERY POOR SOIL CONDITIONS.

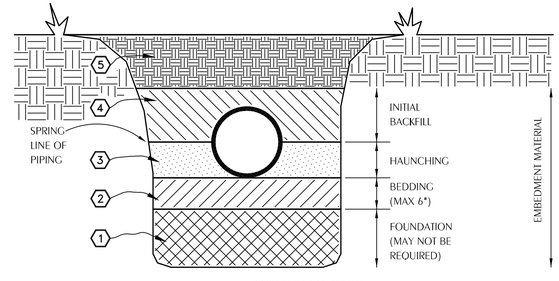
(2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE. IN DRY SOIL CONDITIONS, CLASS II OR III MATERIAL SHALL BE HAND PLACED IN 4-6", LIGHTLY COMPACTED UNIFORM AND NOT FINER THAN THE FOUNDATION MATERIAL. IN WET CONDITIONS, CLASS I, II OR III MATERIAL SHALL BE HAND PLACED IN 4-6", UNIFORM AND NOT FINER THAN THE FOUNDATION MATERIAL. WHEN UTILIZING CLASS I MATERIAL, SUFFICIENT AMOUNTS OF CLASS II OR III MATERIAL SHALL BE ADDED TO FILL ALL VOIDS CREATED BY THE USE OF CLASS I MATERIAL.

(3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. CLASS II OR III MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.

(4) INITIAL BACKFILL MATERIAL SHALL BE CLASS II OR III. IT SHALL BE PLACED WITHIN 24-30" ABOVE THE TOP OF THE PIPE AND TAMPED BY A PORTABLE VIBRATOR. FINAL BACKFILL MATERIAL MAY BE MACHINE PLACED. THE MATERIAL SHALL BE CLASS II OR III MATERIAL. CLASS IV MATERIAL MAY BE INSTALLED OUTSIDE OF ROADWAY.

(5) FINAL BACKFILL UNDER ROADWAYS MAY REQUIRE SPECIAL COMPACTION AND DENSITY TESTS. A MINIMUM OF 30" OF COVER OVER THE TOP OF THE PIPE SHALL BE PROVIDED BEFORE THE TRENCH IS WHEEL- LOADED.

NOTE:
ALL EMBEDMENT MATERIALS SHALL BE NO LESS THAN 95% OF MAXIMUM DENSITY. LABORATORY TESTING OF THE SOIL WILL BE REQUIRED. THIS PROCEDURE SHALL BE REQUIRED ON ALL INSTALLATIONS. ALL TRENCHING, EXCAVATION, AND BACKFILLING SHALL BE IN ACCORDANCE WITH 2020 FLORIDA PLUMBING CODE.



EMBEDMENT MATERIALS

CLASS I: ANGULAR, 1/4"-1-1/2", GRADED STONE, INCLUDING A NUMBER OF FILL MATERIALS THAT HAVE REGIONAL SIGNIFICANCE SUCH AS CORAL, SLAG, CINDERS, CRUSHED STONE AND CRUSHED SHELLS.

CLASS II: COARSE SANDS AND GRAVELS WITH MAXIMUM PARTICLE SIZE OF 1-1/2" INCLUDING VARIOUS GRADED SANDS AND GRAVELS CONTAINING SMALL PERCENTAGES OF FINES, GENERALLY GRANULAR AND NON-COHESIVE, EITHER WET OR DRY. SOIL TYPES GW, GP, SW, AND SP ARE INCLUDED IN THIS CLASS.

CLASS III: FINE SAND AND CLAY GRAVELS, INCLUDING FINE SANDS, SAND-CLAY MIXTURES AND GRAVEL-CLAY MIXTURES. SOIL TYPES GM, GC, SM, AND SC ARE INCLUDED IN THIS CLASS.

CLASS IV: SILT, SILTY CLAYS, AND CLAYS, INCLUDING INORGANIC CLAYS AND SILT OF MEDIUM TO HIGH PLASTICITY AND LIQUID LIMITS. SOIL TYPES MH, ML, CH, AND CL ARE INCLUDED IN THIS CLASS. THESE MATERIALS ARE NOT TO BE USED FOR BEDDING, HAUNCHING, OR INITIAL BACKFILL.

CLASS V: THIS CLASS INCLUDES THE ORGANIC SOILS, AS WELL AS SOILS CONTAINING FROZEN EARTH, DEBRIS, ROCKS LARGER THAN 1-1/2" IN DIAMETER AND OTHER FOREIGN MATERIALS. THESE MATERIALS ARE NOT TO BE USED FOR BEDDING, HAUNCHING, OR INITIAL BACKFILL.

1 / P0.1 EXCAVATION AND BACKFILL DETAIL
SCALE: NONE

Keith A. Johnson, State of Florida, Professional Engineer, License No. 86457. This item has been digitally signed and sealed by Keith A. Johnson on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

2023.07.28 09:44:04 -05'00'

KEITH A. JOHNSON LICENSE NO. 86457 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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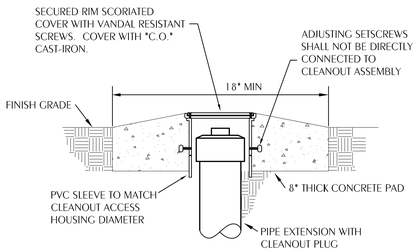
Florida Certificate of Authorization: 27825 Keith A. Johnson, PE Florida License 86457

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

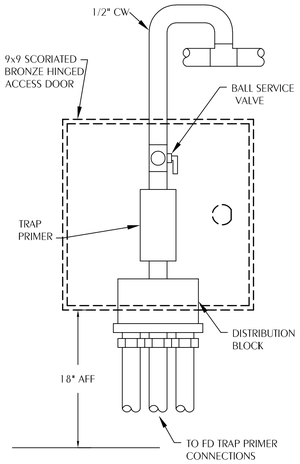
BAY COUNTY, FLORIDA

SHEET TITLE:
PLUMBING LEGENDS, SCHEDULE, NOTES, AND DETAILS

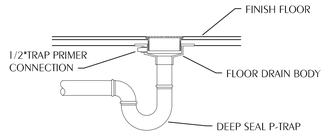
SHEET NUMBER:
P0.1



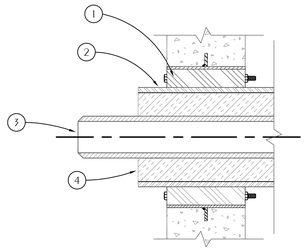
1 CLEANOUT TO GRADE
P0.2 SCALE: NONE



2 TRAP PRIMER DETAIL
P0.2 SCALE: NONE

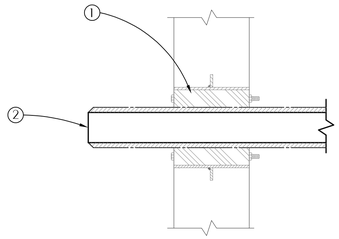


3 FLOOR DRAIN WITH TRAP PRIMER DETAIL
P0.2 SCALE: NONE



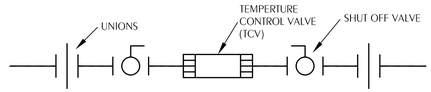
1. WALL SEAL APPURTENANCES PER SPECIFICATIONS
2. PIPE SLEEVE PER SPECIFICATIONS
3. PIPING
4. INSULATION

5 TYPICAL PIPE PENETRATION OF WALL
P0.2 SCALE: NONE

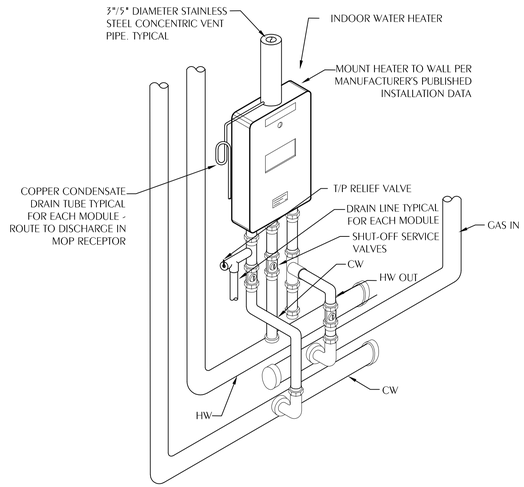


1. WALL SEAL APPURTENANCES PER CONTRACT SPECIFICATIONS
2. GAS PIPING

6 TYPICAL GAS PIPE WALL PENETRATION DETAIL
P0.2 SCALE: NONE

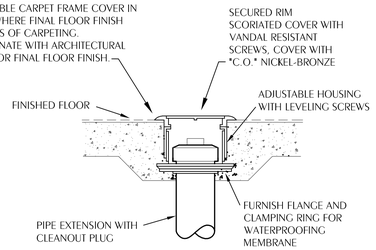


4 THERMOSTATIC TEMPERATURE CONTROL VALVE DETAIL
P0.2 SCALE: NONE

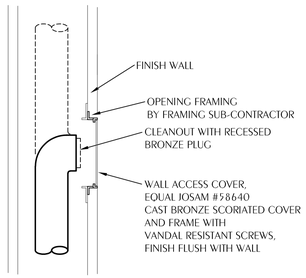


7 INSTANTANEOUS WATER HEATER DETAIL
P0.2 SCALE: NONE

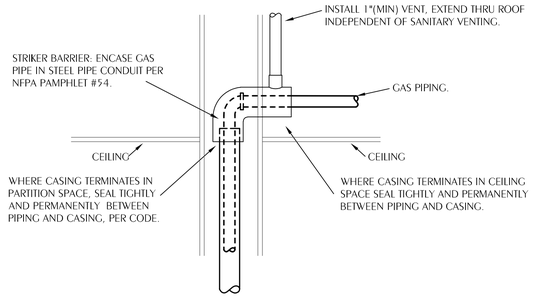
NOTE:
PROVIDE NICKEL BRONZE ADJUSTABLE CARPET FRAME COVER IN AREAS WHERE FINAL FLOOR FINISH CONSISTS OF CARPETING. COORDINATE WITH ARCHITECTURAL DWGS FOR FINAL FLOOR FINISH.



8 CLEANOUT TO FLOOR
P0.2 SCALE: NONE

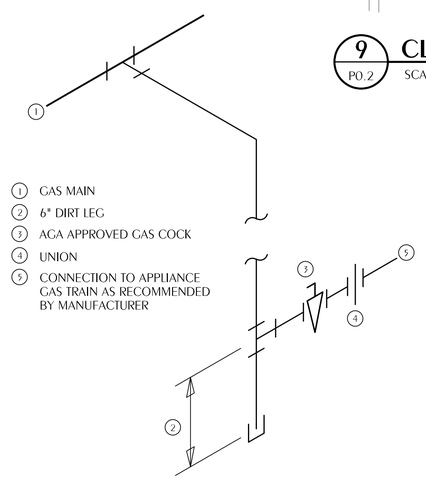


9 CLEANOUT TO WALL
P0.2 SCALE: NONE



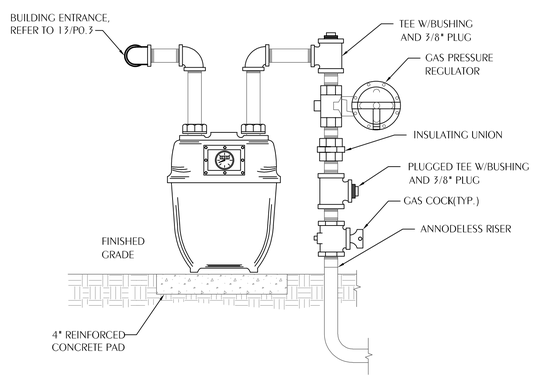
TYPICAL INTERIOR PARTITION GAS PIPING AT CEILING

10 VENTILATED GAS CONDUIT DETAIL
P0.2 SCALE: NONE

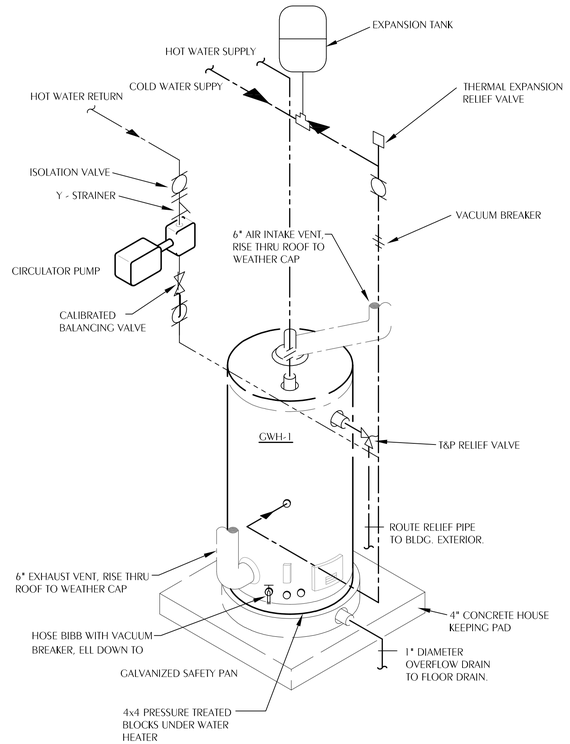


1. GAS MAIN
2. 6" DIRT LEG
3. AGA APPROVED GAS COCK
4. UNION
5. CONNECTION TO APPLIANCE GAS TRAIN AS RECOMMENDED BY MANUFACTURER

11 TYPICAL GAS PIPING CONNECTION DETAIL
P0.2 SCALE: NONE



12 TYPICAL GAS METER DETAIL
P0.2 SCALE: NONE



13 GAS FIRED WATER HEATER MANIFOLD SCHEMATIC
P0.2 SCALE: NONE

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
2211 THOMAS DR., STE 100
PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 21804

CONSULTANTS:
WATFORD ENGINEERING
4452 Clinton Street, Marianna, Florida 32446 Florida Certificate of Authorization: 27925
850.526.3447 Project Number: 2021-028 Keith A. Johnson, PE Florida License 86457

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
PLUMBING DETAILS

SHEET NUMBER:
P0.2

GAS FIRED EQUIP. SCHEDULE

TAG	INPUT (BTUH)	CONNECTION SIZE	INLET PRESSURE RANGE IN. W.C.
RANGE BY OTHERS	302,000	1/2"	0" - 5"
IRH-1-4(M)	40,000	1/2"	7" - 14"
IWH-1	157,000	1-1/4"	4" - 10.5"
GWH-1	120,000	1-1/4"	3.5" - 14"

NOTE: SIZES BASED ON A NATURAL GAS SYSTEM, INLET PRESSURE OF 2 PSI OR LESS, PRESSURE DROP OF 3.0" W.C., AND A SPECIFIC GRAVITY OF 0.60.

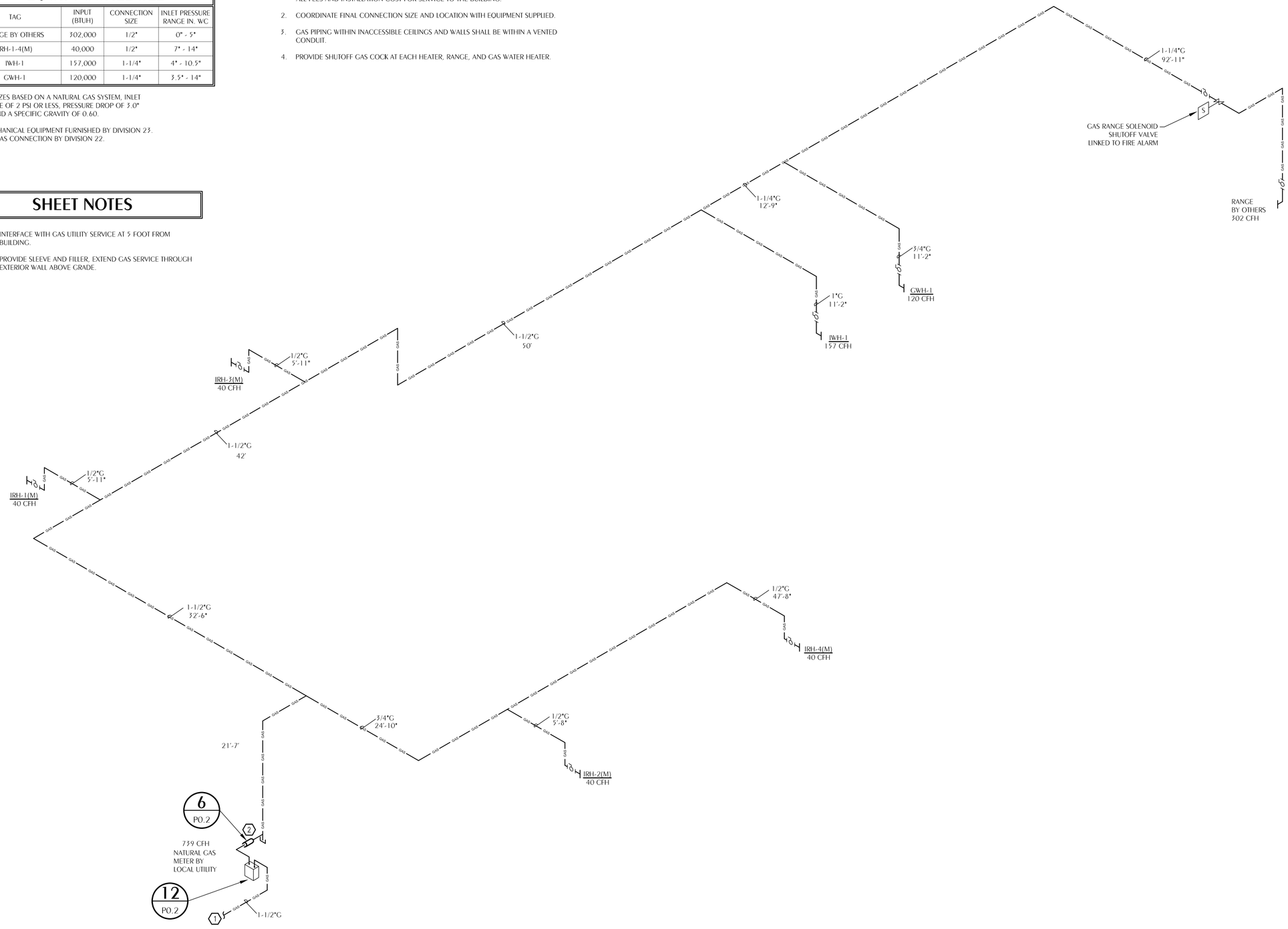
(M)MECHANICAL EQUIPMENT FURNISHED BY DIVISION 23. FINAL GAS CONNECTION BY DIVISION 22.

GENERAL NOTES

1. COORDINATE GAS SERVICE AND METERING WITH GAS UTILITY. CONTRACTOR SHALL PAY ALL FEES AND INSTALLATION COST FOR SERVICE TO THE BUILDING.
2. COORDINATE FINAL CONNECTION SIZE AND LOCATION WITH EQUIPMENT SUPPLIED.
3. GAS PIPING WITHIN INACCESSIBLE CEILINGS AND WALLS SHALL BE WITHIN A VENTED CONDUIT.
4. PROVIDE SHUTOFF GAS COCK AT EACH HEATER, RANGE, AND GAS WATER HEATER.

SHEET NOTES

1. INTERFACE WITH GAS UTILITY SERVICE AT 5 FOOT FROM BUILDING.
2. PROVIDE SLEEVE AND FILLER, EXTEND GAS SERVICE THROUGH EXTERIOR WALL ABOVE GRADE.



1 P0.3 **NATURAL GAS RISER DIGRAM**

SCALE: NONE

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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850.526.3447 Project Number: 2023-028 Keith A. Johnson, PE Florida License 85457

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

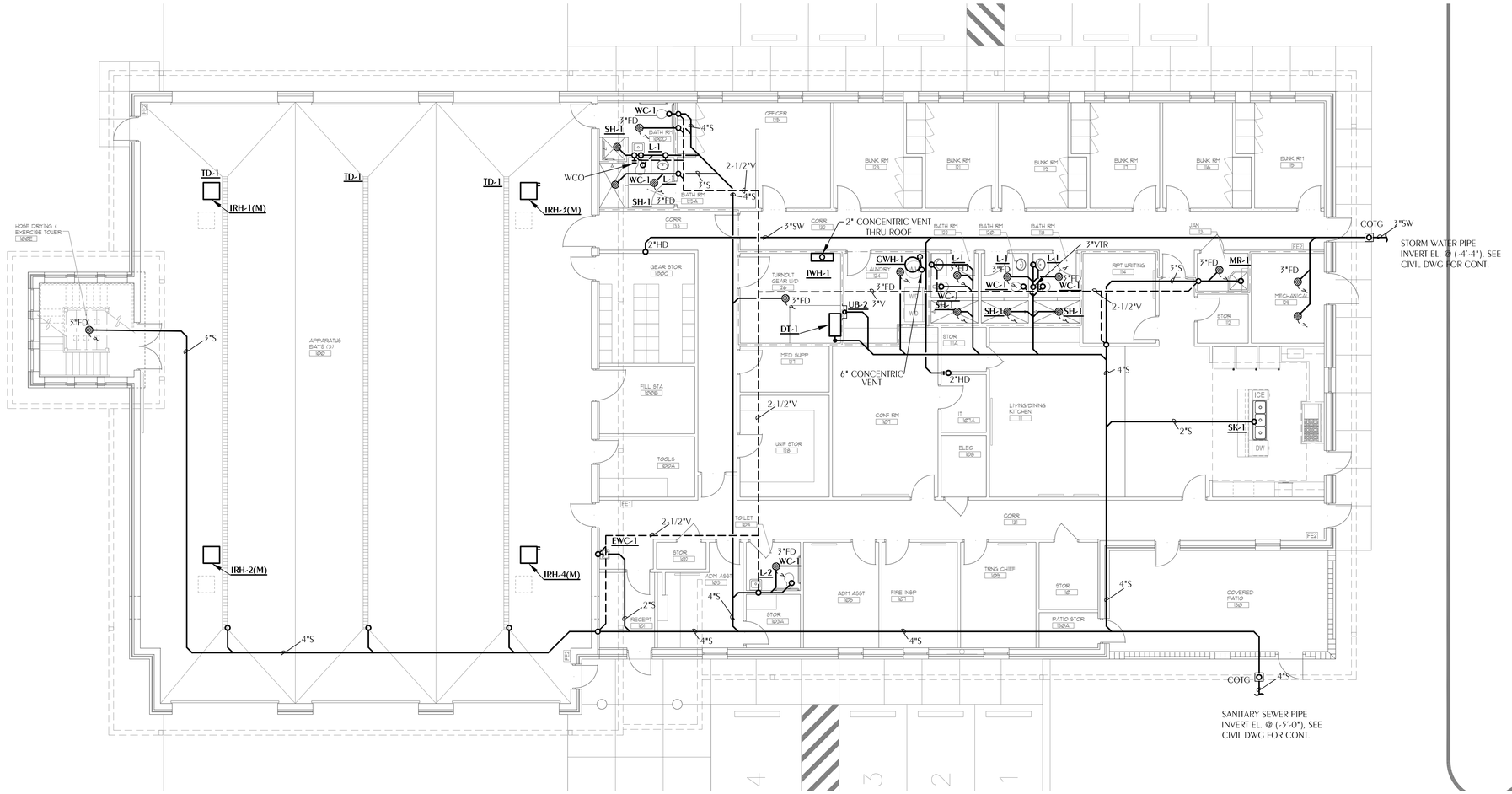
BAY COUNTY, FLORIDA

SHEET TITLE:

PLUMBING DETAILS

SHEET NUMBER:

P0.3



1 PLUMBING FLOOR PLAN - SANITARY

P1.1

SCALE: 1/8" = 1'-0"

REFERENCE:
FINISHED FLOOR ELEVATION = 0'-0"

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

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SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

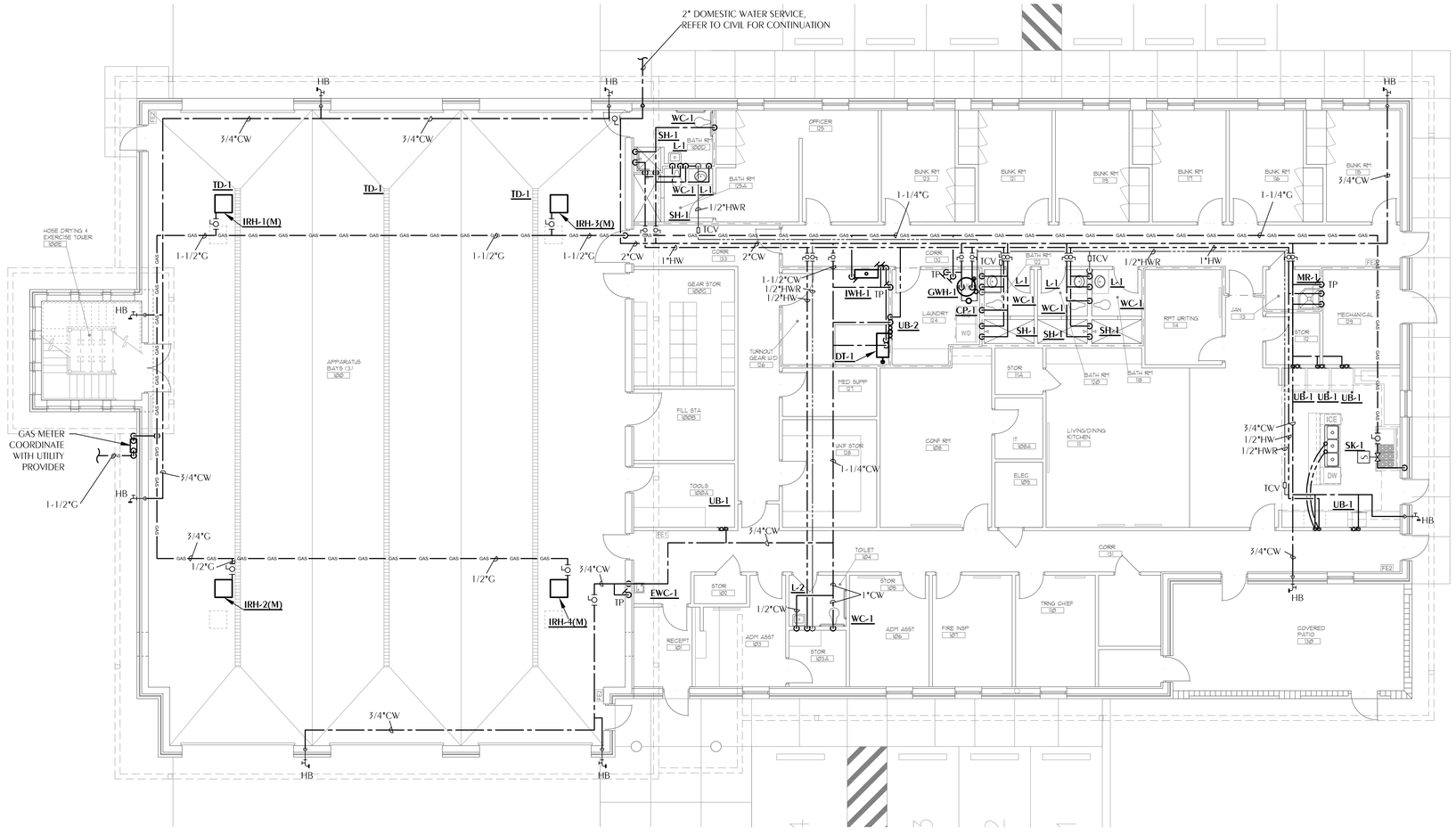
BAY COUNTY, FLORIDA

SHEET TITLE:

PLUMBING FLOOR PLAN-
SANITARY

SHEET NUMBER:

P1.1



1 P1.2 PLUMBING PLAN - DOMESTIC WATER & NATURAL GAS

SCALE: 1/8" = 1'-0"

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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850.526.3447 Project Number: 2023-028 Keith A. Johnson, PE Florida License 86457

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

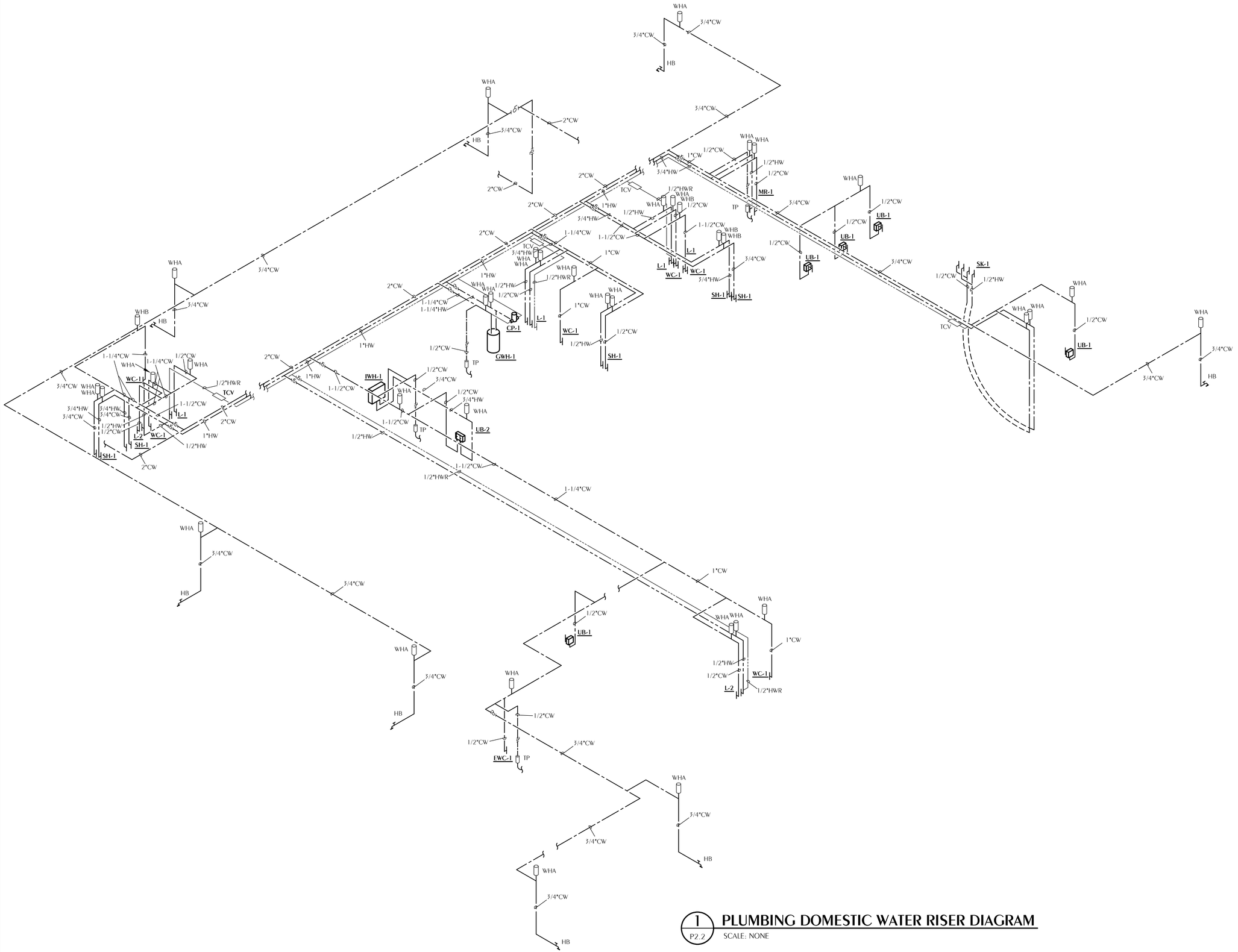
BAY COUNTY, FLORIDA

SHEET TITLE:

PLUMBING FLOOR PLAN-
DOMESTIC WATER AND
NATURAL GAS

SHEET NUMBER:

P1.2



1 P2.2 PLUMBING DOMESTIC WATER RISER DIAGRAM

SCALE: NONE

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

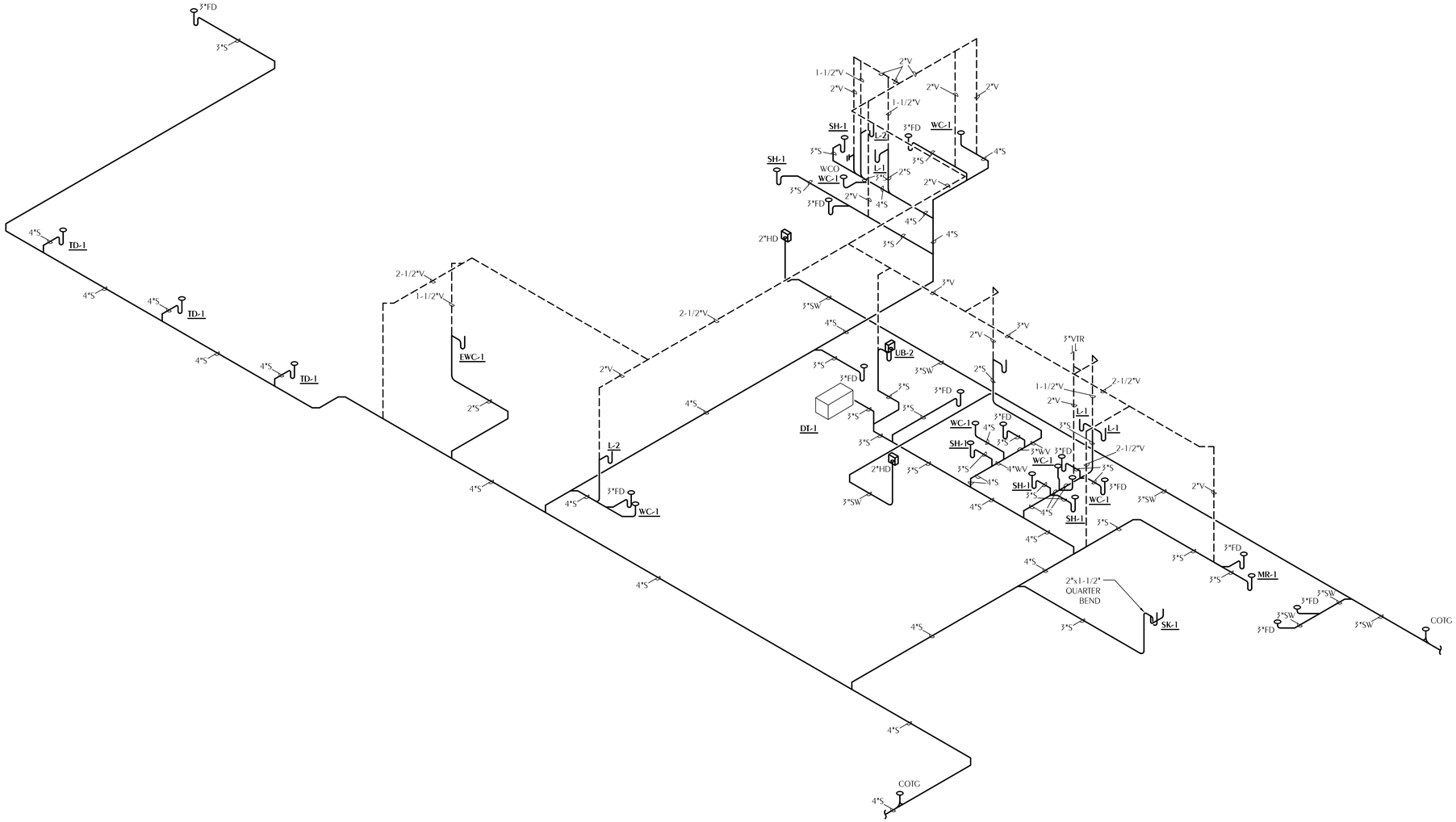
BAY COUNTY, FLORIDA

SHEET TITLE:

PLUMBING DOMESTIC WATER RISER DIAGRAM

SHEET NUMBER:

P2.1



1 PLUMBING SANITARY RISER DIAGRAM

P2.1 SCALE: NONE

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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850.526.3447 Project Number: 2023-028 Keith A. Johnson, PE Florida License 86457

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
PLUMBING SANITARY RISER
DIAGRAMS

SHEET NUMBER:
P2.2

DESIGN CRITERIA

THE NEW FACILITY SHALL BE PROTECTED BY A WET PIPE SPRINKLER SYSTEM. INCLUDE A DOMESTIC WATER DEMAND OF 68 GPM ON THE MAIN SERVING THE SITE FIRE AND DOMESTIC WATER SYSTEMS. THE WET PIPE SYSTEM SHALL BE HYDRAULICALLY DESIGNED WITH AN OUTSIDE HOSE STREAM ALLOWANCE AS NOTED ON EACH SYSTEM ENGINEERING SUMMARY AND DENSITY VALUES AS FOLLOWS:

LIGHT HAZARD = 0.10 GPM/SF WITH A MAXIMUM OF 225 SF COVERAGE PER SPRINKLER

ORDINARY HAZARD GROUP 1 = 0.15 GPM/SF WITH A MAXIMUM OF 130 SF COVERAGE PER SPRINKLER

ORDINARY HAZARD GROUP 2 = 0.20 GPM/SF WITH A MAXIMUM OF 130 SF COVERAGE PER SPRINKLER

THE SPRINKLER DESIGN SHALL BE BASED ON THE MOST HYDRAULICALLY DEMANDING 1500 SF. THE CONTRACTOR IS ALLOWED TO REDUCE THE DESIGN AREA BASED ON THE USE OF QUICK RESPONSE SPRINKLERS AND CEILING HEIGHT IN ACCORDANCE WITH NFPA 13.

THE DESIGN OF THE SPRINKLER SYSTEM SHALL BE BASED UPON WATER SUPPLY INFORMATION OBTAINED BY THE SPRINKLER CONTRACTOR AND WITNESSED BY THE AUTHORITY HAVING JURISDICTION. WATER SUPPLY SHALL BE PRESUMED AVAILABLE AT THE POINT OF CONNECTION OF THE FIRE MAIN TO THE WATER SUPPLY SYSTEM. THE FOLLOWING FLOW TEST DATA WAS OBTAINED BY THE ENGINEER ON MARCH 31, 2023, PROVIDED BY SEAGO FIRE PROTECTION.

HYDRANT #1:

STATIC = 72

RESIDUAL = 53

HYDRANT #2:

FLOWING = 919 GPM

COEFFICIENT 0.9"

GENERAL NOTES

1. IT IS NOTED THAT SOME AREAS WILL BE REQUIRED TO BE PROTECTED AS ORDINARY HAZARD (MECHANICAL ROOMS, ETC.) THESE AREAS HAVE BEEN IDENTIFIED BY A DIFFERENT HATCHING PATTERN THEN THE LIGHT HAZARD AREAS ON THE PLANS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN CURRENT WATER FLOW DATA AND DESIGN SPRINKLER SYSTEMS ACCORDINGLY. SHALL OBTAIN CURRENT WATER FLOW DATA AND DESIGN MODIFICATIONS ACCORDINGLY.
3. MAINTAIN THE INTEGRITY OF ALL FIRE RATED ASSEMBLIES AND ACOUSTICAL ASSEMBLIES.
4. CONTRACTOR SHALL COORDINATE SYSTEM DESIGN WITH ALL OTHER TRADES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING INSPECTOR'S TEST LOCATIONS IN ACCORDANCE WITH NFPA 13 AND THE AUTHORITY HAVING JURISDICTION.
6. ALL PIPING SHALL OBSERVE PROPER PITCH. PROVIDE DRAINS FOR LOW POINTS.
7. THE SPRINKLER SYSTEM SHALL BE ARRANGED FOR FLUSHING. READILY REMOVABLE FITTINGS SHALL BE PROVIDED AT THE END OF ALL CROSSMAINS.
8. PIPE HANGERS SHALL BE INSTALLED AS REQUIRED BY NFPA 13 FOR SUPPORTING SPRINKLER PIPING. NO OTHER PIPING OR DEVICES SHALL BE ATTACHED TO THE SPRINKLER HANGER SYSTEM UNLESS THE HANGER HAS BEEN DESIGNED TO CARRY THE ADDITIONAL LOAD.
9. THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL STRENGTH OF THE BUILDING TO ENABLE IT TO CARRY THE LOAD OF THE FIRE PROTECTION SYSTEM.
10. ALL UNDERGROUND PIPING SHALL BE DUCTILE IRON WITH FITTINGS AND JOINTS PER NFPA 13. TEFLON TAPE SHALL BE ADDED TO ALL MALE THREADS OF PIPE AS A JOINING COMPOUND.
11. ALL ABOVE GROUND WET SPRINKLER PIPE THAT IS THREADED SHALL BE SCHEDULE 40 BLACK WITH BLACK CAST/MALEABLE IRON FITTINGS WITH JOINTS PER NFPA 13. TEFLON TAPE SHALL BE ADDED TO ALL MALE THREADS OF PIPE AS A JOINING COMPOUND. CPVC PIPING IS NOT ACCEPTABLE.
12. ALL ABOVE GROUND WET SYSTEM SPRINKLER PIPE THAT IS WELDED OR ROLL-GROOVED SHALL BE SCHEDULE 10 BLACK WITH BLACK CAST/MALEBLE IRON FITTINGS WITH JOINTS PER NFPA 13. CPVC PIPING IS NOT ACCEPTABLE.
13. TRENCHING SHALL BE PERFORMED BY HAND WHERE THERE IS THE POSSIBILITY OF ENCOUNTERING OBSTACLES OR EXISTING UTILITY LINES. WHERE CLEAR AND UNOBSTRUCTED AREAS ARE TO BE EXCAVATED, APPROPRIATE MACHINE EXCAVATION METHODS MAY BE EMPLOYED. PROVIDE PROPER BACKFILL AS REQUIRED PER SPECIFICATIONS.
14. INSTALL SPRINKLER HEADS CENTER OF TILE IN ACOUSTICAL CEILINGS. HEAD LOCATIONS SHALL BE GUIDED BY ARCHITECTURAL ELEMENTS FOR OTHER CEILING TYPES.
15. DO NOT LOCATE INSPECTORS TEST LOCATIONS OR DRAINS IN FINISHED OR OTHER FINISHED SPACES. INDICATE ALL LOCATIONS ON SHOP DRAWINGS.
16. SITE PIPING BEYOND 5'-0" OUTSIDE OF BUILDING SHOWN FOR REFERENCE ONLY. REFER TO CIVIL PLANS FOR BACK FLOW PREVENTER WITH FIRE DEPARTMENT CONNECTION.
17. SITE PIPING SHOWN FOR REFERENCE ONLY. REFER TO CIVIL SITE UTILITY PLANS FOR SITE PIPING, BACK FLOW PREVENTER, AND HYDRANT LOCATIONS.
18. FLEXIBLE CONNECTIONS TO SPRINKLER HEADS ARE NOT ALLOWED.
19. PROVIDE MEANS FOR A FORWARD FLOW TEST, DOWN STREAM OF BACKFLOW PREVENTION VALVES.

WATER BASED SPRINKLER SYSTEM REQUIREMENTS

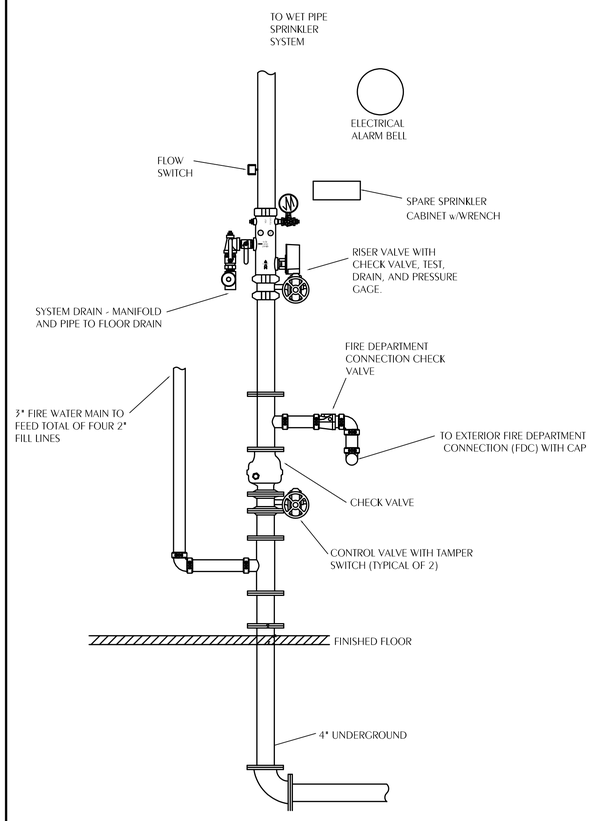
1. THE POINT OF SERVICE, BACKFLOW PREVENTER, & FDC ARE SHOWN FOR REFERENCE ONLY. REFER TO THE CIVIL SITE UTILITY PLAN FOR FURTHER INFORMATION.
2. THE BUILDING SHALL BE FULLY SPRINKLED IN ACCORDANCE WITH 2016 EDITION OF NFPA 13 AND LOCAL CODES. STANDPIPE DESIGN SHALL BE IN ACCORDANCE WITH 2016 EDITION OF NFPA 14 AND LOCAL CODES.
3. REFER TO PLAN SHEETS AND HAZARD CLASSIFICATION LEGEND FOR HAZARD CLASSIFICATION OF EACH ROOM OR AREA.
4. THE NEW SYSTEMS SHALL SHALL BE HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA 13.

   LIGHT HAZARD: 0.10 GPM/SF, MAX 225 SF PER HEAD, 15 FT MAX NOMINAL SPACING; ORDINARY TEMPERATURE RATING HEADS.
   ORDINARY HAZARD GROUP 1: 0.15 GPM/SF, MAX 130 SF PER HEAD, 15 FT MAX NOMINAL SPACING; INTERMEDIATE TEMPERATURE RATING HEADS.
   ORDINARY HAZARD GROUP 2: 0.20 GPM/SF, MAX 130 SF PER HEAD, 15 FT MAX NOMINAL SPACING; INTERMEDIATE TEMPERATURE RATING HEADS.

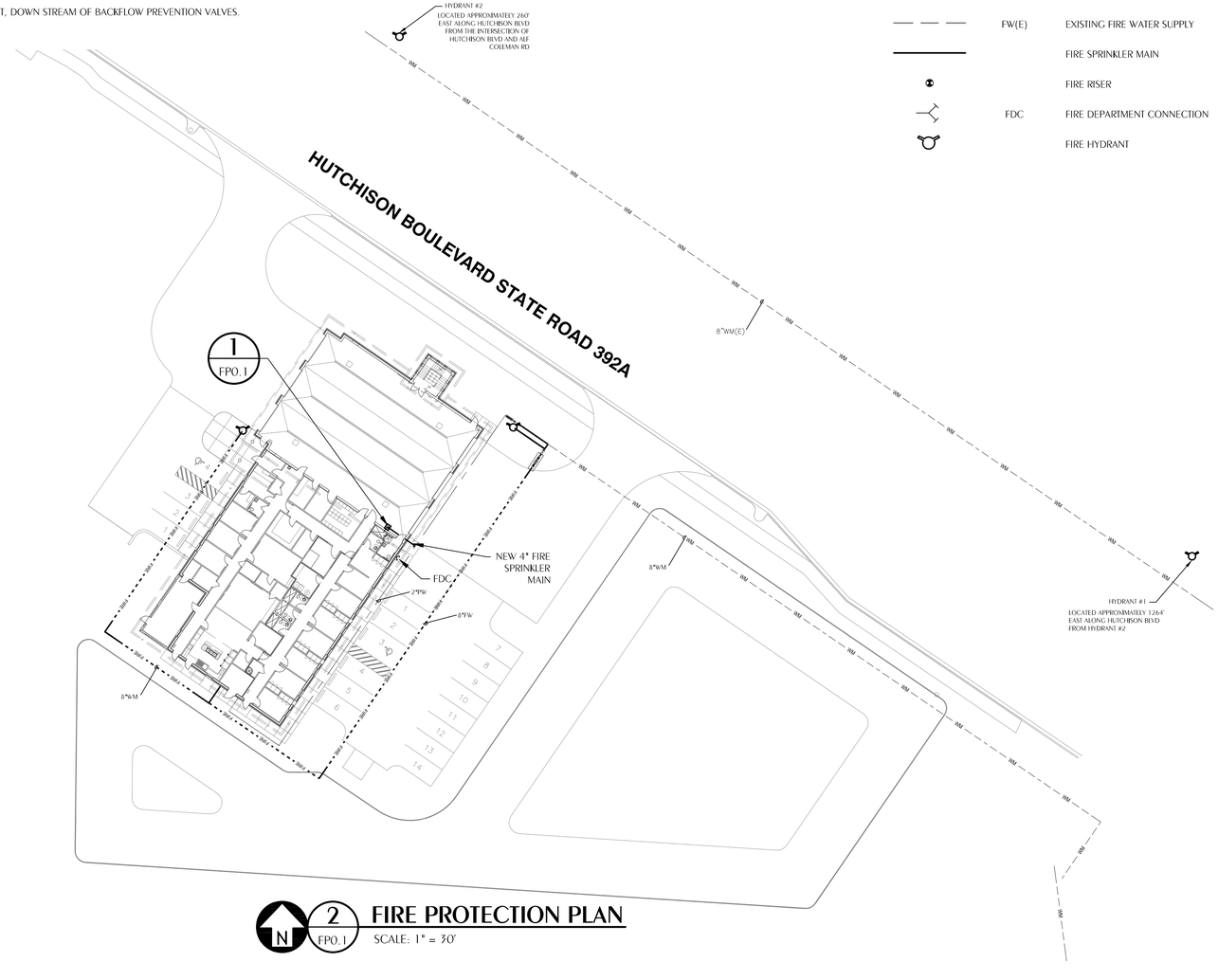
   FOR ADDITIONAL REQUIREMENTS, REFER TO DESIGN CRITERIA NOTES ON THIS SHEET.
5. THE POINT OF SERVICE CONNECTION IS A CIRCULATING MAIN.
6. REFER TO DESIGN CRITERIA NOTES ON THIS SHEET FOR FLOW TEST DATA.
7. REFER TO COMBINED RISER AND STANDPIPE DETAIL FOR VALVE AND SUPERVISION REQUIREMENTS.
8. MICROBIAL INDUCED CORROSION IS NOT ANTICIPATED IN THIS PROJECT.
9. REFER TO CIVIL SITE UTILITY DRAWINGS FOR BACKFLOW PREVENTER. MAXIMUM DESIGN PRESSURE DROP SHALL NOT EXCEED 3 PSI.
10. REFER TO DIVISION 21 SPECIFICATIONS FOR QUALITY AND PERFORMANCE SPECIFICATIONS OF ALL FIRE PROTECTION COMPONENTS.
11. NO FIRE PUMP IS REQUIRED.
12. NO ON SITE FIREWATER STORAGE TANK IS REQUIRED.

LEGEND

FIRE	FW	FIRE WATER SUPPLY (SITE)
	PW	POTABLE WATER SUPPLY
WM	WM	WATER MAIN
	FW(E)	EXISTING FIRE WATER SUPPLY
		FIRE SPRINKLER MAIN
		FIRE RISER
	FDC	FIRE DEPARTMENT CONNECTION
		FIRE HYDRANT



1 / FP0.1 **WET PIPE RISER DETAIL**
SCALE: NONE



N / 2 / FP0.1 **FIRE PROTECTION PLAN**
SCALE: 1" = 30'

Keith A Johnson, State of Florida, Professional Engineer, License No. 86457
This item has been digitally signed and sealed by Keith A Johnson on the date indicated here.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
2023.07.28 09:42:52 -05'00'
KEITH A. JOHNSON LICENSE NO. 86457 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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850.526.3447 Project Number: 2023-028 — Keith A. Johnson, PE Florida License 86457

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
FIRE PROTECTION SITE PLAN

SHEET NUMBER:
FP0.1

SYSTEM ENGINEERING SUMMARY

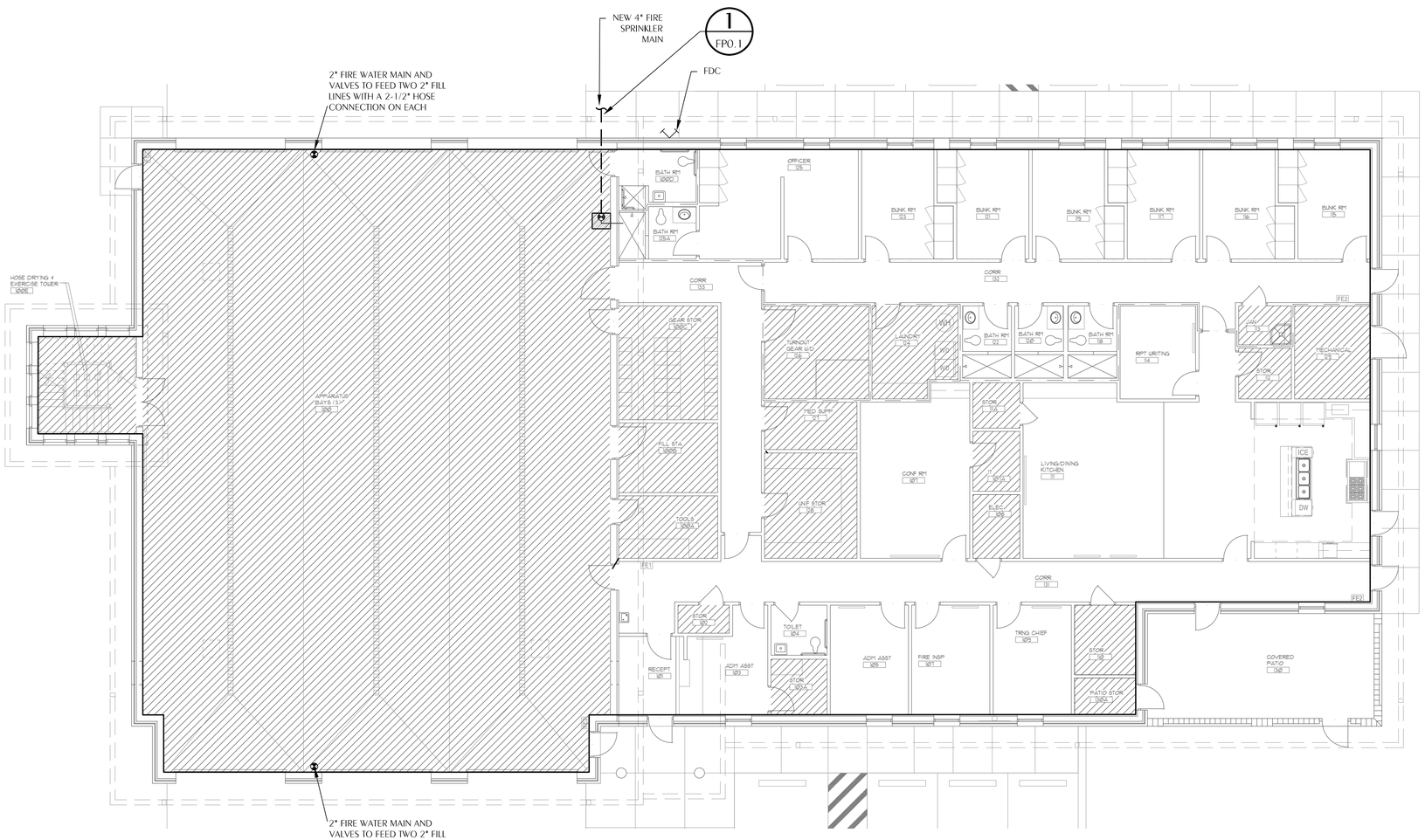
AREA SERVICED	11502 SF
HYDRAULICALLY MOST REMOTE AREA	1500 SF
HAZARD CLASSIFICATION OF REMOTE AREA	ORDINARY HAZARD GROUP 1
SYSTEM DESIGN FLOW RATE (INDOOR)	292.5 GPM
OUTSIDE HOSE STREAM DEMAND	0 GPM
DOMESTIC WATER DEMAND	68 GPM
TOTAL WATER DEMAND	542.5 GPM
WATER PRESSURE DATA	
END HEAD PRESSURE	7 PSI
ELEVATION LOSS	11.26 PSI
OUTSIDE FRICTION LOSS	10.10 PSI
BACK FLOW PREVENTOR	2 PSI
SAFETY FACTOR	10 PSI
AVAILABLE INSIDE FRICTION LOSS	60.36 PSI

HAZARD CLASSIFICATION

	LIGHT HAZARD
	ORDINARY HAZARD GROUP 1
	ORDINARY HAZARD GROUP 2

GENERAL NOTES

1. BECAUSE OF EXTREMELY TIGHT CLEARANCE IN THE CEILING SPACE, CAREFUL COORDINATION WITH ALL TRADES MUST BE DOCUMENTED WITH SHOP DRAWINGS.



1 FP1.1 **FIRE PROTECTION PLAN**

SCALE: 1/8" = 1'-0"

REVISIONS

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95% DOCUMENTS	TLC	KAJ	03/31/23
CONSTRUCTION DOCUMENTS	TLC	KAJ	05/10/23
BID DOCUMENTS			08/01/23

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PROJECT:

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FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

FIRE PROTECTION PLAN

SHEET NUMBER:

FP1.1

ELECTRICAL LEGEND

A–1 ADJACENT TO ARROW INDICATES HOMERUN OF CIRCUIT NO. 1 TO PANEL A; "B" INDICATES FIXTURE TYPE; MARKS ACROSS RACEWAY RUN INDICATES THE NUMBER OF NO. 12 CONDUCTORS; UNLESS NOTED OTHERWISE NO MARKS INDICATES TWO NO. 12 CONDUCTORS AND ONE NO. 12 GREEN GROUND CONDUCTOR IN 1/2" CONDUIT (2#12 & 1#12 GND–1/2"C)

CEILING FIXTURE

WALL BRACKET FIXTURE

POLE MOUNTED FIXTURE

2' X 2' FIXTURE; CEILING MOUNTED; ARROW INDICATES LENS DIRECTION

2' X 2' FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; CEILING MOUNTED; ARROW INDICATES LENS DIRECTION

2' X 4' FIXTURE; CEILING MOUNTED

'2 X 4' FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; CEILING MOUNTED

EXIT SIGN; CEILING MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN

EXIT SIGN; BACK MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN

JUNCTION BOX; MOUNTED ABOVE CEILING

JUNCTION BOX; MOUNTED FLUSH IN WALL WITH BLANK COVER

DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

CEILING MOUNTED SIMPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT FLUSH IN CEILING UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5361

QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

TAMPER RESISTANT DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL SERIES BR20xxTR

QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA GF–5–20R; HUBBELL SERIES GF5362

DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA GF–5–20R; HUBBELL SERIES GF5362

WP LETTERS "WP" ADJACENT TO SYMBOL INDICATES GFI WEATHER RESISTANT RECEPTACLE; HUBBELL HBL5362WR WITH WEATHERPROOF COVER; PASS AND SEYMOUR WIUFC10S COVER/BOX.

DUPLEX RECEPTACLE FOR TELEVISION WITH TVSS PROTECTION, LED AND ALARM; 125V; 20A; 2 POLE; 3 WIRE; GND; SEE TELECOM PLANS FOR MOUNTING DETAILS. NEMA 5–20R; HUBBELL SERIES HBL5362SA

DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; HALF–CONTROLLED RECEPTACLE; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES BR20C1

QUAD RECEPTACLE (TWO DUPLEX); 125V; 20A; 3 POLE GND; HALF–CONTROLLED RECEPTACLE; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES BR20C1

COMBINATION POWER/TELECOM FLOOR BOX; FOUR DUPLEX RECEPTACLES; 125V; 20A; 3 POLE GND; NEMA 5–20R; HUBBELL SERIES HBL5352; REFER TO TELECOM PLANS FOR FLOOR BOX PART NUMBERS, INSTALLATION DETAILS AND LOCATION.

LETTERS +XX" ADJACENT TO SYMBOL INDICATES RECEPTACLE MOUNTING HEIGHT.
+AC" = ABOVE COUNTER OR BACKSPLASH (+46" MAXIMUM TO TOP OF DEVICE)
+DF" = VERIFY HEIGHT FOR DRINKING FOUNTAIN WITH MECHANICAL CONTRACTOR
+TV" = VERIFY HEIGHT OF TV WITH OWNER.
+SM" = VERIFY HEIGHT OF SECURITY MONITOR WITH OWNER.
+DM" = VERIFY HEIGHT OF DISPATCH MONITOR WITH OWNER.

'X' SPECIAL TYPE RECEPTACLE 'X' DENOTES NEMA TYPE; CEILING MOUNTED; VERIFY EXACT LOCATION & REQUIREMENTS WITH EQUIPMENT CONTRACTOR.
A = 120V, 30A, 2P, 3W, NEMA L5–30R; HUBBELL SERIES HBL9330.

'X' SPECIAL TYPE RECEPTACLE 'X' DENOTES NEMA TYPE; WALL MOUNTED; VERIFY EXACT LOCATION & REQUIREMENTS WITH EQUIPMENT CONTRACTOR.
A = 120V, 30A, 2P, 3W, NEMA L5–30R; HUBBELL SERIES HBL9330.

S WALL SWITCH; 120/277V; 20A; 1 POLE; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1221

S3 WALL SWITCH; 120/277V; 20A; 3 WAY; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1223

S4 WALL SWITCH; 120/277V; 20A; 4 WAY; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1224

SW LOW VOLTAGE WALL SWITCH WITH VACANCY SENSOR; DUAL TECHNOLOGY; CONNECT TO LOCAL POWER PACK/ROOM CONTROLLER; MT 48" AFF TO C/L; REFER TO SPECS; WATTSTOPPER #LMDW–101–W.

SWD LOW VOLTAGE DIMMING WALL SWITCH WITH VACANCY SENSOR; DUAL TECHNOLOGY; CONNECT TO LOCAL POWER PACK/ROOM CONTROLLER; MT 48" AFF TO C/L; REFER TO SPECS; WATTSTOPPER #LMDW–102–W.

S.I LOW VOLTAGE WALL SWITCH; CONNECT TO LOCAL POWER PACK/ROOM CONTROL; MT 48" AFF TO C/L; REFER TO SPECS; SEE LIGHTING CONTROL DETAILS LETTER "X" INDICATES BUTTON COUNT; REFER TO LOW VOLTAGE SWITCH SCHEDULE FOR SPECIFIC INFORMATION.

MCS MOTOR CONTROL SWITCH; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL SERIES HBL7832D.

WP MCS NEMA 3R MOTOR CONTROL SWITCH; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL SERIES HBL13R22D.

SPECIAL NOTE

SEE TELECOM SHEETS FOR TELECOM, SECURITY AND A/V LEGENDS

ABBREVIATIONS

AHU – AIR HANDLING UNIT
AFF – ABOVE FINISHED FLOOR
C. – CONDUIT
C/L – CENTERLINE
COND – CONDENSING UNIT
CP – CIRCULATION PUMP
DMX – DIGITAL MULTIPLEX
EC – ELECTRICAL CONTRACTOR
EF – EXHAUST FAN
EWC – ELECTRIC WATER COOLER
EWH – ELECTRIC WATER HEATER
FACP – FIRE ALARM CONTROL PANEL
ANNUNC – FIRE ALARM ANNUNCIATOR
GFI – GROUND FAULT PROTECTION
GND – GROUND CONDUCTOR
GWH – GAS WATER HEATER
HP – HEAT PUMP
LTG – LIGHTING
LTS – LIGHTS
RECEPT – RECEPTACLE
TP – TRAP PRIMER
UNO – UNLESS NOTED OTHERWISE
WP – WEATHERPROOF

S* WALL SWITCH; 120/277V; 20A; 1 POLE; A.C. ONLY; PILOT LIGHT; LIGHT 'ON' WITH LOAD 'ON'; MT 48" AFF TO C/L; HUBBELL SERIES HBL1221PLC

SW WALL SWITCH; 120/277V; 20A; 1 POLE; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1221; IN WEATHER PROOF ENCLOSURE

LCB LIGHTING CONTROLS SYSTEM NETWORK BRIDGE; INSTALL CONCEALED ABOVE CEILING; REFER TO LIGHTING CONTROLS DETAILS

VSP VACANCY SENSOR POWER PACK FOR RECEPTACLES; MOUNT ABOVE CEILING; REFER TO LIGHTING CONTROLS DETAIL

RC ROOM CONTROLLER; INSTALL CONCEALED ABOVE CEILING SPACE; REFER TO LIGHTING CONTROLS DETAILS

LOW VOLTAGE OCCUPANCY SENSOR; 360° DUAL–TECHNOLOGY TYPE; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

LOW VOLTAGE VACANCY SENSOR; 360° DUAL–TECHNOLOGY TYPE; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

D DIMMER SWITCH; 120V; SOLID STATE; SIZE AS NOTED; MT 48" AFF TO C/L OR ABOVE COUNTER/BACKSPLASH (+46" MAXIMUM TO TOP OF DEVICE) AS REQUIRED BY LOCATION.

PANEL; 120/208V; MT 72" AFF TO TOP

LNC LIGHTING NETWORK CONTROLLER

LCP LIGHTING CONTROL PANEL

M MOTOR; FURNISHED BY OTHERS

EF EXHAUST FAN; FURNISHED BY OTHERS

MS MAGNETIC STARTER; FURNISHED BY OTHERS

NON–FUSED DISCONNECT SWITCH; AMP SIZE AS NOTED

RACEWAY INSTALLED CONCEALED IN WALLS AND/OR ABOVE CEILING

RACEWAY INSTALLED CONCEALED IN FLOOR SLAB AND/OR BELOW GRADE

RACEWAY INSTALLED EXPOSED

EM EMERGENCY RACEWAY INSTALLED CONCEALED

LV LOW VOLTAGE CONDUCTOR; COORDINATE WITH DEVICE CONNECTION REQUIREMENTS.

FLEXIBLE CONDUIT CONNECTION

CONDUIT STUB UP WITH FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT

F FIRE ALARM SYSTEM MANUAL PULL STATION; MT 48" AFF TO C/L

110 FIRE ALARM SYSTEM STROBE; MT 80" AFF TO BOTTOM, '110' INDICATES CANDELA RATING, NO NUMBER INDICATES 75 CANDELA MINIMUM

H FIRE ALARM SYSTEM AUTOMATIC HEAT DETECTOR; 135 DEGREE/RATE OF RISE TYPE; CEILING MOUNTED

C FIRE ALARM SYSTEM CARBON MONOXIDE DETECTOR; CEILING MOUNTED

SELF–CONTAINED RESIDENTIAL SMOKE/CARBON MONOXIDE ALARM 120V. WITH BATTERY BACK–UP; PUSH–TO–TEST BUTTON & PILOT LIGHT; TANDEM TYPE (ONE ALARMS–ALL ALARM)

FIRE ALARM SYSTEM AUTOMATIC SMOKE DETECTOR; CEILING MOUNTED

FIRE ALARM SYSTEM AUTOMATIC AIR DUCT SMOKE DETECTOR

FIRE ALARM SYSTEM REMOTE INDICATOR FOR AIR DUCT SMOKE DETECTOR; MT 48" AFF TO C/L

FIRE ALARM SYSTEM MAGNETIC DOOR HOLDER; MT 6'–6" AFF TO C/L

R NORMALLY CLOSED RELAY IN H.V.A.C CONTROL CIRCUIT TO OPEN UPON ACTUATION OF BUILDING FIRE ALARM SYSTEM TO SHUT DOWN A/C UNIT. CONTACTS RATED 5 AMPS, 120 VOLTS.

110 FIRE ALARM SYSTEM SIGNAL HORN/STROBE; MT 80" AFF TO BOTTOM, '110' INDICATES CANDELA RATING, NO NUMBER INDICATES '75' CANDELA MINIMUM; AUDIO SIGNAL AND STROBE CANDELA SHALL BE SELECTABLE ON BACK OF DEVICE.

WP FIRE ALARM SYSTEM EXTERIOR, WEATHERPROOF SIGNAL HORN; MT 90" AFF TO BOTTOM; AUDIO SIGNAL SHALL BE SELECTABLE ON BACK OF DEVICE.

FIRE SPRINKLER SYSTEM FLOW/TAMPER SWITCH

SD SMOKE DAMPER; SEE FIRE ALARM RISER DIAGRAM FOR DETAILS; SEE PLANS FOR LOCATIONS

FSD FIRE/SMOKE DAMPER; SEE FIRE ALARM RISER DIAGRAM FOR DETAILS; SEE PLANS FOR LOCATIONS

SV FIRE PROTECTION SPRINKLER SOLENOID VALVE; SEE FIRE ALARM RISER DIAGRAM FOR DETAILS; SEE PLANS FOR LOCATIONS

P PHOTOCELL; REFER TO LIGHTING CONTROLS DETAILS

ELECTRICAL GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT SIZE AND LOCATION OF EQUIPMENT WHICH IS FURNISHED BY OTHERS AND CONNECTED BY ELECTRICAL.

B. RECEPTACLES, SWITCHES AND COVERPLATES COLOR SHALL BE SELECTED BY THE ARCHITECT FROM STANDARD COLORS.

C. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGHING–IN WALL FOR SWITCHES.

D. LOCATION OF LIGHTING FIXTURES, DISCONNECT SWITCHES, ETC. FOR MECHANICAL EQUIPMENT/ROOM SHALL BE COORDINATED WITH FINAL MECHANICAL EQUIPMENT LOCATION TO PROVIDE NATIONAL ELECTRIC CODE REQUIRED ACCESS SPACE.

E. FINAL CONNECTION TO ALL MOTORS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION.

F. ALL EXIT AND EMERGENCY FIXTURES SHALL BE CONNECTED TO LIGHT CIRCUIT AHEAD OF LOCAL SWITCH.

G. ALL PANELBOARDS, BACKBOARDS, TERMINAL CABINETS, ETC SHALL HAVE CUSTOM ENGRAVED MICARTA NAMEPLATE MECHANICALLY AFFIXED IDENTIFYING SYSTEM.

H. PROVIDE GREEN GROUND CONDUCTOR IN ALL CIRCUITS – SIZE PER N.E.C.

I. ALL EXPOSED CONDUITS, BOXES, STRAPS AND HANGERS IN THE CONTRACT AREA WHETHER NEW OR EXISTING THAT ARE PART OF THE ELECTRICAL SYSTEM SHALL BE PAINTED TO MATCH ADJACENT FINISH.

J. PROVIDE CONCRETE MARKER AT END OF ALL CONDUITS STUBBED OUT OF BUILDING FOR FUTURE USE. MARKER SHALL BE 6" DIA X 18" HIGH WITH 2" ABOVE FINISHED GRADE. INSCRIBE IN TOP OF MARKER "E" FOR ELECTRICAL,"T" FOR TELEPHONE,"V" FOR TV CABLE,"F" FOR FIRE ALARM, AND "C" FOR INTERCOM.

K. GENERAL CONTRACTOR SHALL FIELD–VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATES THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.

L. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND REVIEW THE MECHANICAL AND SPECIAL EQUIPMENT SUBMITTALS PRIOR TO SUBMITTING THE ELECTRICAL SUBMITTALS. ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRE SIZE CHANGES RESULTING FROM THIS REVIEW SHALL ALSO BE SUBMITTED FOR APPROVAL.

M. FIRE ALARM LOW VOLTAGE SOURCE AND BATTERY STANDBY SHALL ENERGIZE ALL ITEMS IN FIRE ALARM SYSTEM THAT REQUIRE POWER.

N. VERIFY EXACT LOCATION OF ALL FLOOR OUTLETS WITH THE ARCHITECT PRIOR TO ROUGHING–IN.

O. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FAULT CURRENT CALCULATIONS FOR THE SERVICE EQUIPMENT AND SHALL MARK THE EQUIPMENT WITH THE AVAILABLE FAULT CURRENT AND DATE OF THE CALCULATION PER NEC 110.24. REFER TO TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL.

P. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FAULT LABELS PER NFPA 70E ARTICLE 110.16 FOR NEW EQUIPMENT. THE OWNER SHALL PROVIDE AVAILABLE CALCULATION DATA FOR THE EXISTING EQUIPMENT IN THE ELECTRICAL SYSTEM. REFER TO TYPICAL ARC FLASH HAZARD LABEL DETAIL.

Q. PROVIDE NEUTRAL AT ALL LINE VOLTAGE SWITCH LOCATIONS PER N.E.C. 404.2(C).

R. PROVIDE 'LSI' TRIP UNITS FOR ALL BREAKERS GREATER THAN OR EQUAL TO 200A.

S. PROVIDE CONDUIT BUSHINGS ON ALL ENDS OF CONDUITS.

Sheet List Table

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No. 73790
STATE OF FLORIDA
PROFESSIONAL ENGINEER
08/09/23

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			08/09/23
95% DOCUMENTS	R.E.	R.E.	08/31/23
CONSTRUCTION DOCUMENTS	R.E.	R.E.	09/10/23
BID DOCUMENTS	R.E.	R.E.	08/01/23

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23023
Job No.

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

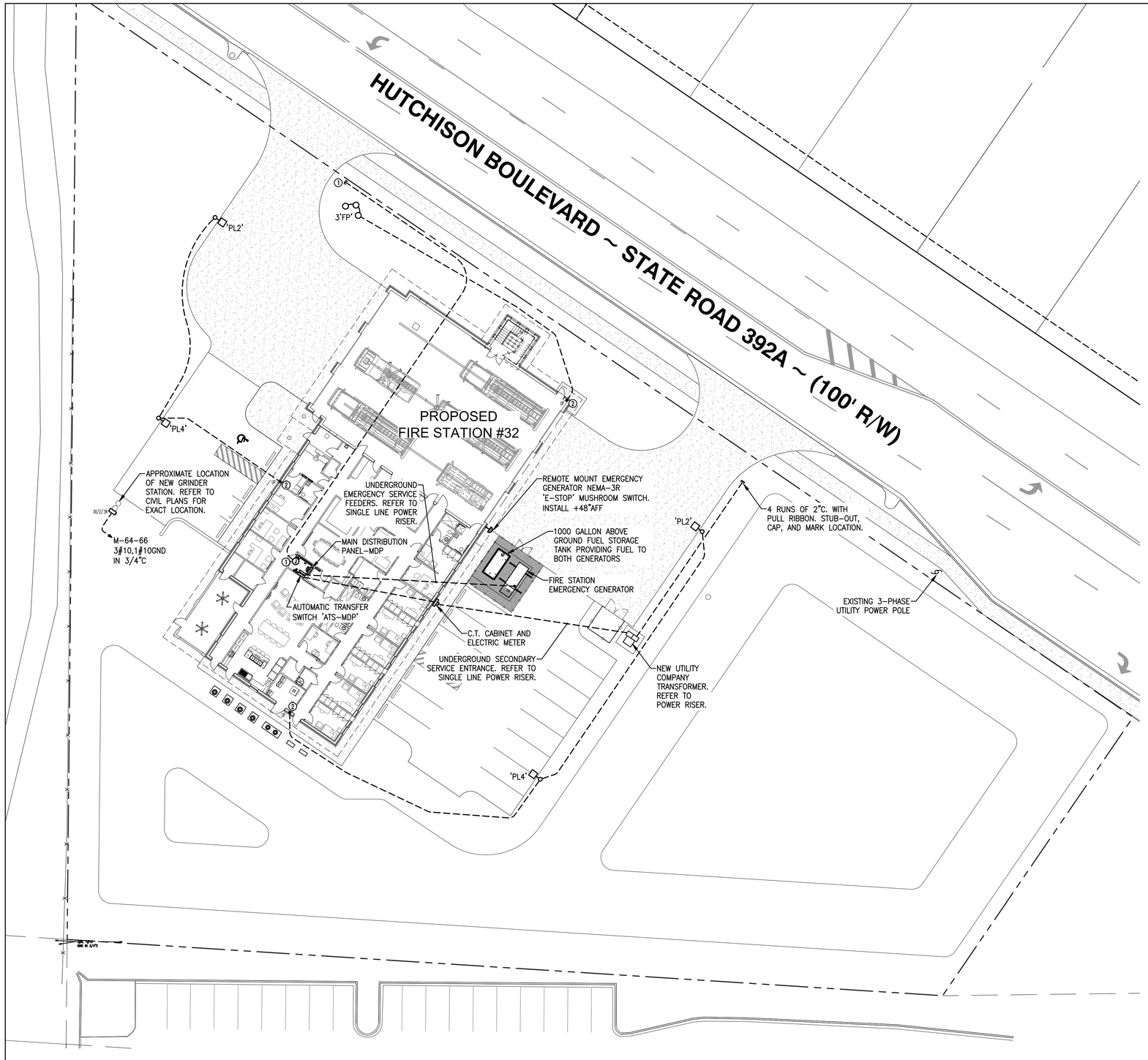
BAY COUNTY, FLORIDA

SHEET TITLE:

LEGEND AND NOTES

SHEET NUMBER:

E0.1



SITE PLAN - ELECTRICAL

1" = 20'-0" 0 10' 20' 40'

NOTES:

① INSTALL JUNCTION 48" AFF TO C/L AT LIGHTING CONTROL CABINET. INSTALL 1" EMPTY CONDUIT WITH PULL RIBBON TO ROAD-SIDE FOR FUTURE CONNECTION TO TRAFFIC SIGNALIZATION EQUIPMENT BY OTHERS. STUB-OUT, CAP AND MARK LOCATION.

② CONNECT TO FIXTURE 'WP' CIRCUIT SERVING THIS LOCATION FOR POWER AND PHOTOCELL CONTROL OF EXTERIOR SITE LIGHTING.

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Job No.

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

SITE PLAN - ELECTRICAL

SHEET NUMBER:

E1.1

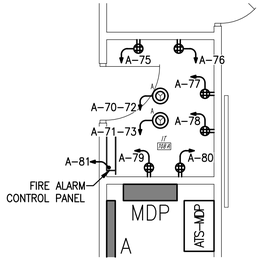
*** KITCHEN HOOD CONNECTION NOTE ***

CONTRACTOR SHALL COORDINATE EXACT NUMBER AND LOCATION OF RELAYS FOR CONNECTION TO HOOD SYSTEM. CONTRACTOR SHALL ENSURE ALL ELECTRICAL AND CONTROL CONNECTIONS ARE COORDINATED WITH HOOD MANUFACTURER/INSTALLER. CONTRACTOR SHALL COORDINATE ALL FIRE ALARM SYSTEM REQUIREMENTS WITH HOOD MANUFACTURER/INSTALLER FOR SYSTEM SHUT DOWN REQUIREMENTS.

*** OVERHEAD BAY DOORS NOTES ***

CONTRACTOR SHALL INSTALL THE FOLLOWING FOR EACH BAY DOOR:

1. ONE INTERIOR OVERHEAD MOUNTED PRESENCE SENSOR.
2. ONE RADIO RECEIVER PER DOOR AND TWO DUAL BUTTON REMOTES. REMOTE SHALL OPEN AND CLOSE OPPOSING DOORS WITH ONE REMOTE.
3. DOOR CONTROLLERS WITH 'TIME-TO-CLOSE' TIMER CAPABILITY. CONTRACTOR SHALL COORDINATE DOOR CONTROL INSTALLATION WITH DOOR MANUFACTURER FOR CONNECTIONS REQUIREMENTS.

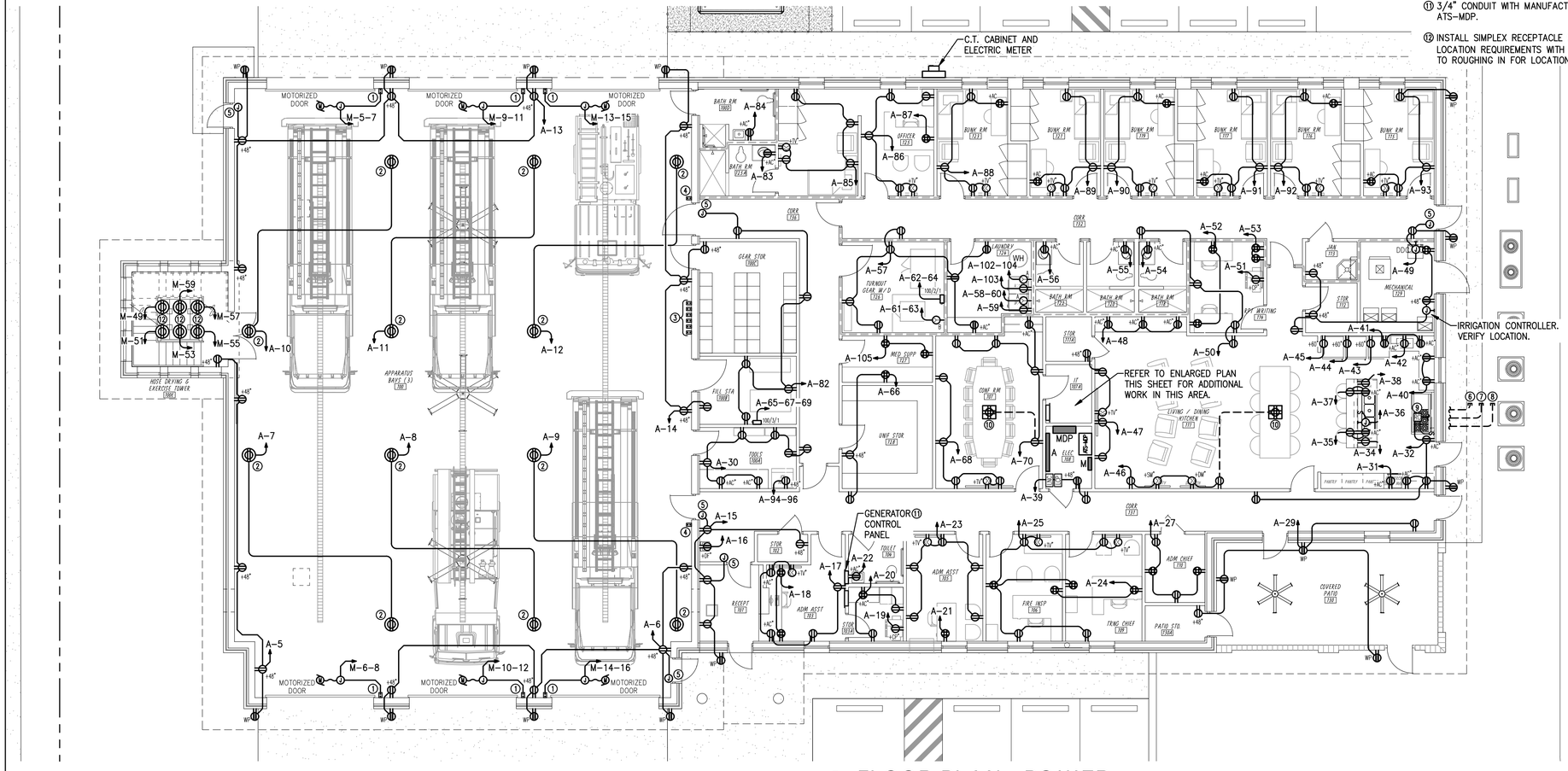


ENLARGE TELECOM ROOM POWER

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

NOTES:

1. DOOR OPERATOR SWITCH FURNISHED WITH DOOR. MOUNT 48" ABOVE FINISHED FLOOR TO CENTERLINE. COORDINATE INSTALLATION REQUIREMENTS WITH DOOR MANUFACTURER PRIOR TO ROUGHING-IN.
2. INSTALL CEILING MOUNTED TWIST-LOCK SIMPLEX RECEPTACLE FOR CONNECTION TO VEHICLE CHARGING CORD REEL BEING PROVIDED BY OTHERS AND INSTALLED BY ELECTRICAL CONTRACTOR. CONNECTION TO "POP-OFF" DEVICE MOUNTED ON TRUCK BEING PROVIDED BY OTHERS. COORDINATE PLUG CONFIGURATION WITH "POP-OFF" DEVICE MANUFACTURER PRIOR TO INSTALLATION.
3. DOOR OPERATOR SWITCH GROUP FURNISHED WITH DOORS. MOUNT 48" ABOVE FINISHED FLOOR TO CENTERLINE. COORDINATE INSTALLATION REQUIREMENTS WITH DOOR MANUFACTURER PRIOR TO ROUGHING-IN. INSTALL ONE MOMENTARY SWITCH PER BAY DOOR FOR INDIVIDUAL DOOR CONTROL.
4. EMERGENCY RESPONSE PUSHBUTTON SWITCH. MOUNT 48" ABOVE FINISHED FLOOR TO CENTERLINE. COORDINATE INSTALLATION REQUIREMENTS WITH DOOR MANUFACTURER PRIOR TO ROUGHING-IN. INSTALL ONE MOMENTARY SWITCH FOR CONTROL OF ALL BAY DOORS AT THE SAME TIME. INTEGRATE WITH DOOR CONTROLLERS FOR TIMER FUNCTION 'TIME-TO-CLOSE' CONTROL. BAY DOORS TO CLOSE WITHIN 4-MINUTES OF 'TIME-TO-CLOSE' ACTIVATION UNLESS INDICATED OTHERWISE BY THE FIRE CHIEF. REFER TO EMERGENCY RESPONSE DOOR SYSTEM WIRING DIAGRAM.
5. INSTALL JUNCTION BOX ABOVE CEILING FOR CONNECTION TO POWERED ACCESS CONTROLLED DOOR BEING PROVIDED BY OTHERS AND CONNECTED BY ELECTRICAL CONTRACTOR.
6. INSTALL (3)1" EMPTY CONDUITS WITH PULLRIBBONS 36" PAST FOOTER AND BACK TO PANEL-A; FOR FUTURE USE. TERMINATE INTO PULLBOX.
7. INSTALL (3)1" EMPTY CONDUITS WITH PULLRIBBONS 36" PAST FOOTER AND BACK TO PANEL-M; FOR FUTURE USE. TERMINATE INTO PULLBOX.
8. INSTALL (2)2" EMPTY CONDUIT WITH PULLRIBBONS 36" PAST FOOTER AND BACK TO PANEL-MDP; FOR FUTURE USE. TERMINATE INTO PULLBOX.
9. INSTALL CONNECTION TO SECONDARY GAS SOLENOID VALVE TO SHUT OFF GAS TO COOKING EQUIPMENT DURING A DISPATCH EVENT. INSTALL MANUAL "RESET" SWITCH ADJACENT TO EQUIPMENT TO RESTORE GAS TO EQUIPMENT POST DISPATCH EVENT. REFER TO LIGHTING CONTROLS DETAILS FOR CONTROL CONNECTIONS REQUIREMENTS.
10. INSTALL DEVICE WITHIN FLOOR BOX BEING SPECIFIED BY TELECOM ENGINEER. COORDINATE INSTALLATION REQUIREMENTS WITH TELECOM PLANS.
11. 3/4" CONDUIT WITH MANUFACTURER RECOMMENDED CONTROL CABLES TO ATS-MDP.
12. INSTALL SIMPLEX RECEPTACLE WEB OF BEAM SUPPORT. COORDINATE LOCATION REQUIREMENTS WITH HOSE LIFT HOIST INSTALLER/SUPPLIER PRIOR TO ROUGHING IN FOR LOCATION.



FLOOR PLAN - POWER

1/8" = 1'-0"

0 4' 8' 16'

REVISIONS

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23023 Job No.

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

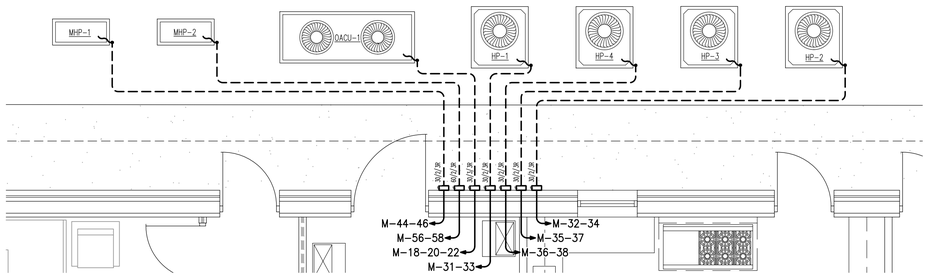
BAY COUNTY, FLORIDA

SHEET TITLE:

FLOOR PLAN - POWER

SHEET NUMBER:

E2.1

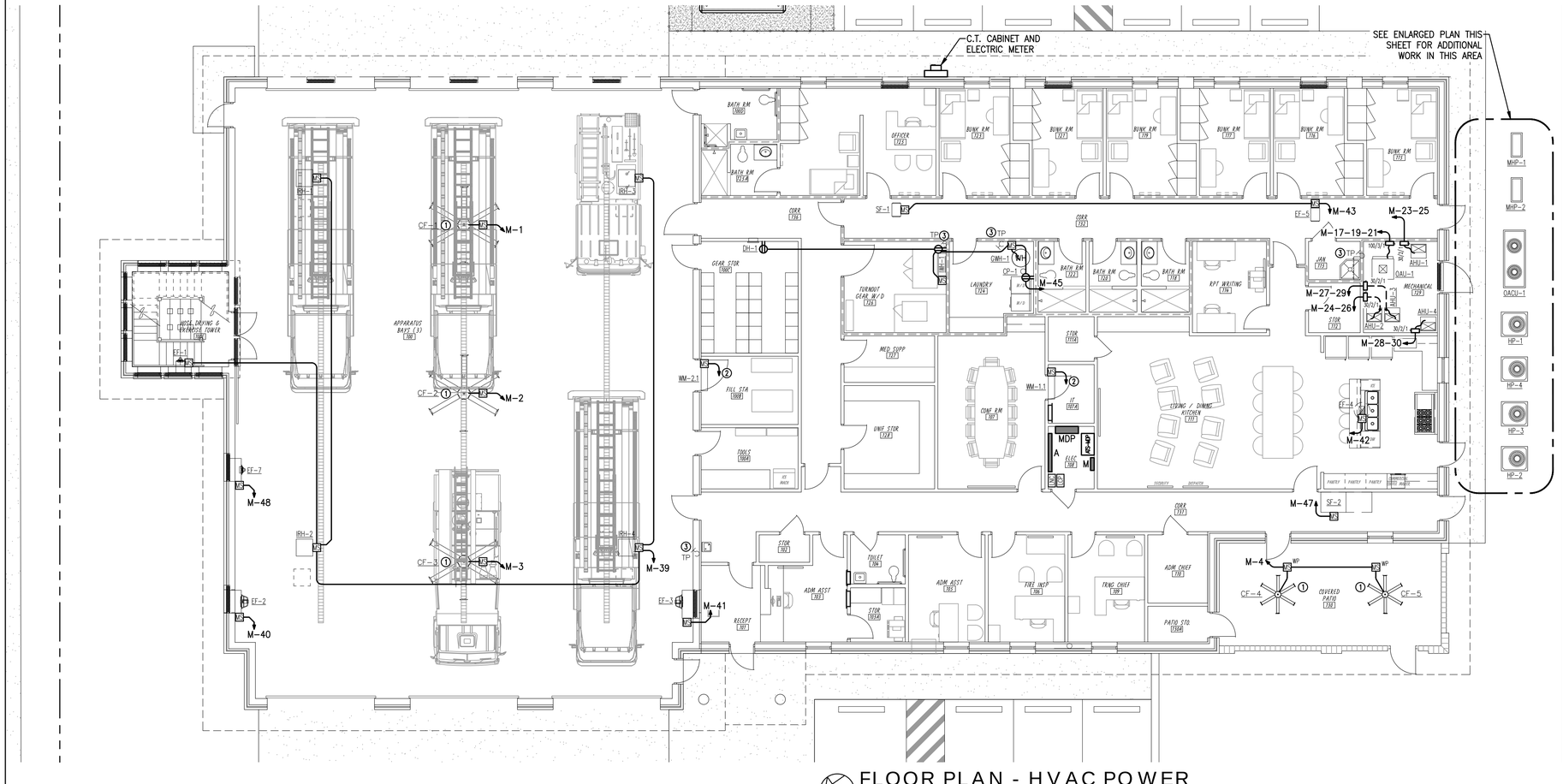


ENLARGED PLAN - HVAC POWER

1/4" = 1'-0"

NOTES:

1. CEILING FAN BEING PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONNECTIONS TO BE MADE BY ELECTRICAL CONTRACTOR.
2. INSTALL CONNECTION BETWEEN WM-1 (INDOOR UNIT) AND DSCU-5.1 (OUTDOOR UNIT). THE INDOOR UNIT IS POWERED AND CONTROLLED FROM THE OUTDOOR UNIT. COORDINATE SPECIFIC CONDUIT AND CONDUCTOR REQUIREMENTS WITH HVAC CONTRACTOR PRIOR TO ROUGHING IN.
3. CONNECT TRAP PRIMER TO NEAREST RECEPTACLE CIRCUIT SERVING THIS SPACE.



FLOOR PLAN - HVAC POWER

1/8" = 1'-0"

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PROFESSIONAL ENGINEER

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PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

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FLOOR PLAN - HVAC POWER

SHEET NUMBER:

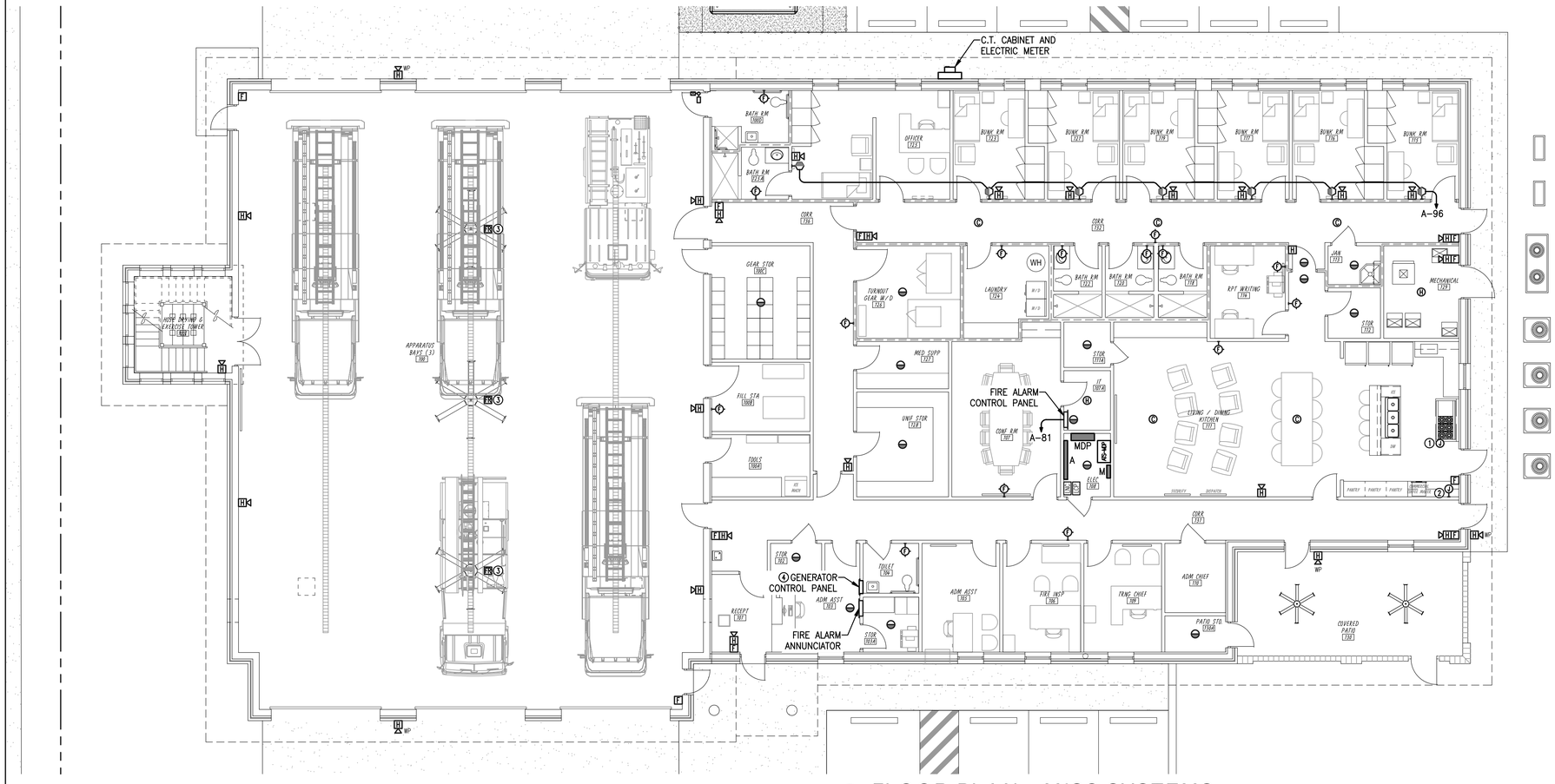
E3.1

***** KITCHEN HOOD CONNECTION NOTE *****

CONTRACTOR SHALL COORDINATE EXACT NUMBER AND LOCATION OF RELAYS FOR CONNECTION TO HOOD SYSTEM. CONTRACTOR SHALL ENSURE ALL ELECTRICAL AND CONTROL CONNECTIONS ARE COORDINATED WITH HOOD MANUFACTURER/INSTALLER. CONTRACTOR SHALL COORDINATE ALL FIRE ALARM SYSTEM REQUIREMENTS WITH HOOD MANUFACTURER/INSTALLER FOR SYSTEM SHUT DOWN REQUIREMENTS.

NOTES:

1. ALL ITEMS UNDER EXHAUST HOOD SHALL SHUT-DOWN UPON ACTUATION OF HOOD FIRE SUPPRESSION (ANSUL) SYSTEM VIA PRIMARY GAS SOLENOID VALVE. CONNECT TO FIRE ALARM SYSTEM TO SOUND ALARM UPON ACTIVATION OF HOOD ANSUL SYSTEM.
2. INSTALL 3/4" CONDUIT WITH PULLCORD TO HOOD FIRE SUPPRESSION SYSTEM FOR REMOTE PULL STATION. COORDINATE INSTALLATION LOCATION WITH HOOD PACKAGE INSTALLER PRIOR TO ROUGHING IN FOR LOCATION.
3. INSTALL FIRE ALARM SYSTEM RELAY SUCH THAT THE FAN SHUTS DOWN UPON SPRINKLER SYSTEM ACTIVATION.
4. 3/4" CONDUIT WITH MANUFACTURER RECOMMENDED CONTROL CABLES TO ATS-MDP.



FLOOR PLAN - MISC SYSTEMS

1/8" = 1'-0" 0 4' 8' 16'

DANIEL JOSEPH WHITE — LICENSE No. 73790 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	R.E.	R.E.	03/31/23
CONSTRUCTION DOCUMENTS	R.E.	R.E.	05/10/23
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Daniel J. White; FL. PE No.73790
Caleb W. Leonard; FL. PE No.91782

23023 Job No.

PROJECT:

PANAMA CITY BEACH FIRE STATION #32 HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

FLOOR PLAN - MISC SYSTEMS

SHEET NUMBER:

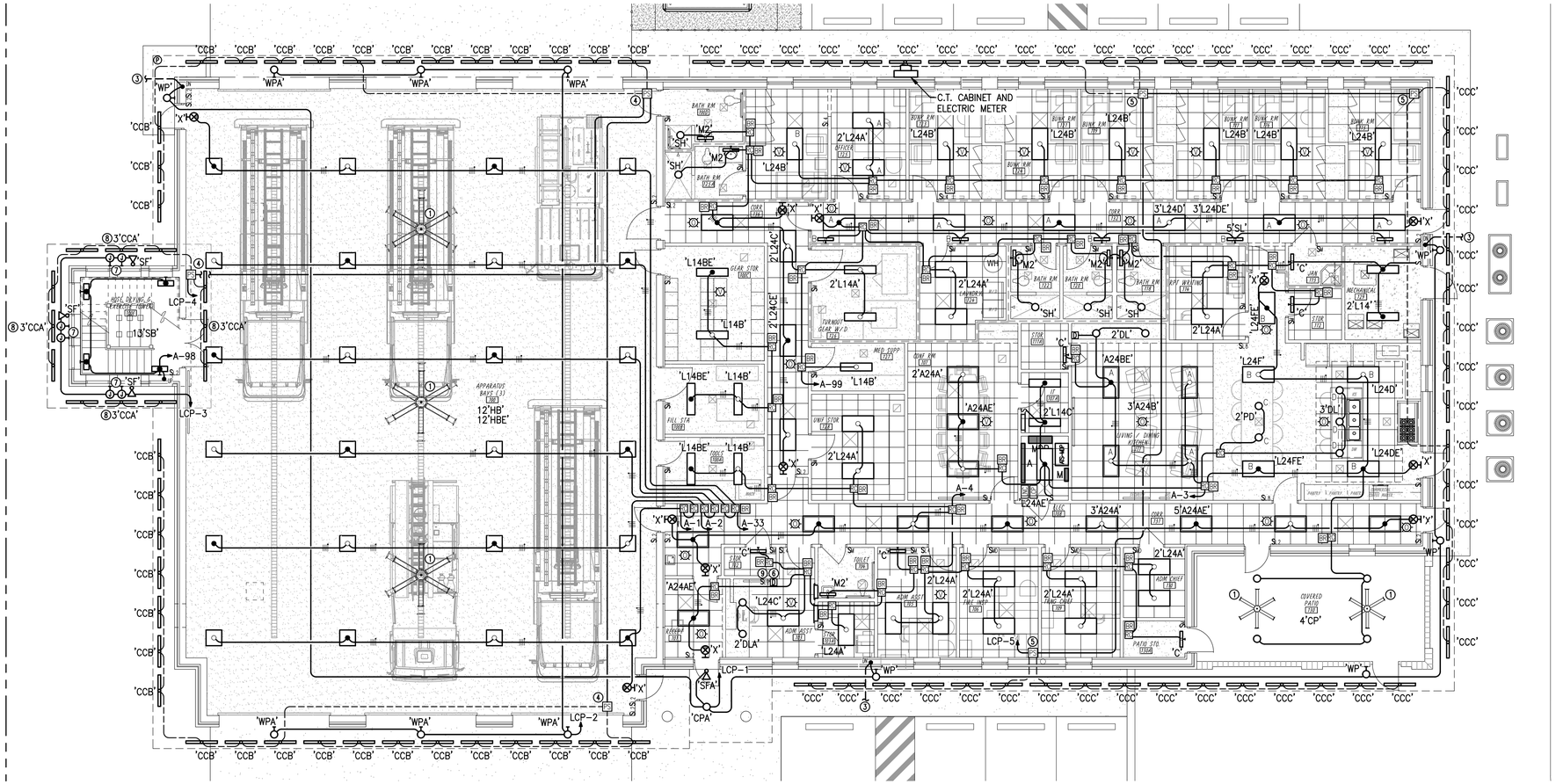
E4.1

***** LIGHTING LAYOUTS NOTE *****

ALL CEILING LAYOUTS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS. ANY CONFLICTS IDENTIFIED SHALL BE COORDINATED WITH THE ARCHITECT.

NOTES:

1. CEILING FAN BEING PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONNECTION TO BE MADE BY ELECTRICAL CONTRACTOR.
2. MOUNT PHOTOCELL AS HIGH AS POSSIBLE FACING NORTH.
3. EXTEND CIRCUIT TO EXTERIOR SITE LIGHTING FIXTURE FOR POWER AND CONTROL REQUIREMENTS. REFER TO SITE PLAN.
4. INSTALL LIGHTING FIXTURE DATA/POWER SUPPLY EQUAL TO COLORKINETICS CM-150 CA gen2. MOUNT DEVICE 10'-0" AFF TO BOTTOM FOR MAINTENANCE PURPOSES.
5. INSTALL LIGHTING FIXTURE DATA/POWER SUPPLY EQUAL TO COLORKINETICS CM-150 CA gen2. MOUNT DEVICE ABOVE ACCESSIBLE CEILING SPACE.
6. INSTALL FIXTURE 'CC' USER INTERFACE SWITCH/ADJUSTMENT CONTROL AT 48" AFF FOR CONTROL OF COLOR CHANGING SOFFIT FIXTURES. REFER TO LIGHTING CONTROL DETAILS FOR MORE INFORMATION.
7. INSTALL JUNCTION BOX FOR CONNECTION TO BACKLIT NUMERICAL SIGNAGE. COORDINATE INSTALLATION MOUNTING HEIGHT AND LOCATION PRIOR TO ROUGHING IN.
8. LIGHTING FIXTURES TO BE INSTALLED AT TOWER SOFFIT EAVE.
9. INSTALL MANUAL OVERRIDE SWITCH ADJACENT TO TOUCH SCREEN INTERFACE CONTROL STATION.



FLOOR PLAN - LIGHTING

1/8" = 1'-0"

0 4' 8' 16'

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BID DOCUMENTS	R.E.	R.E.	08/01/23

DANIEL JOSEPH WHITE LICENSE No. 73790 STATE OF FLORIDA PROFESSIONAL ENGINEER 08/01/23

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23023
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HUTCHISON BLVD

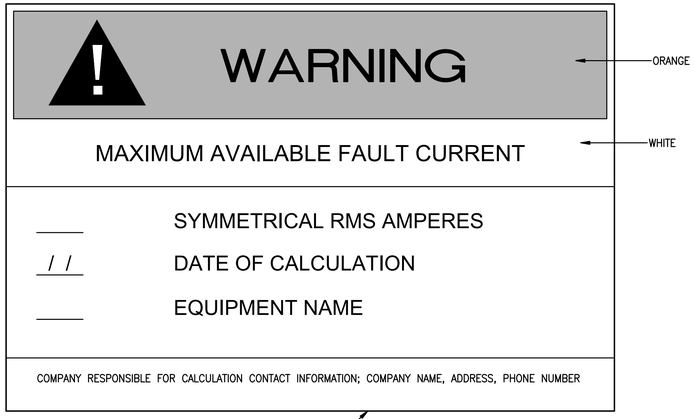
BAY COUNTY, FLORIDA

SHEET TITLE:

FLOOR PLAN - LIGHTING

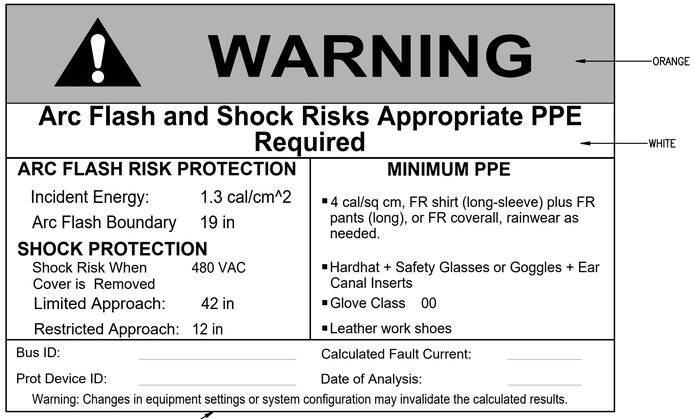
SHEET NUMBER:

E5.1



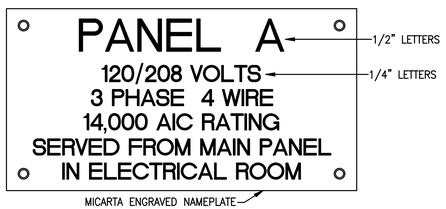
TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL

NOT TO SCALE



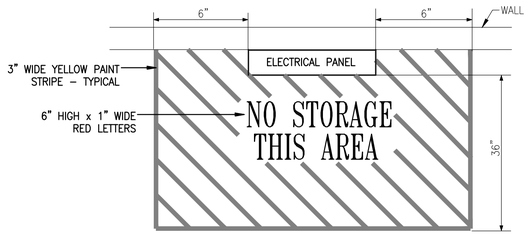
TYPICAL ARC FLASH HAZARD LABEL DETAIL

NOT TO SCALE



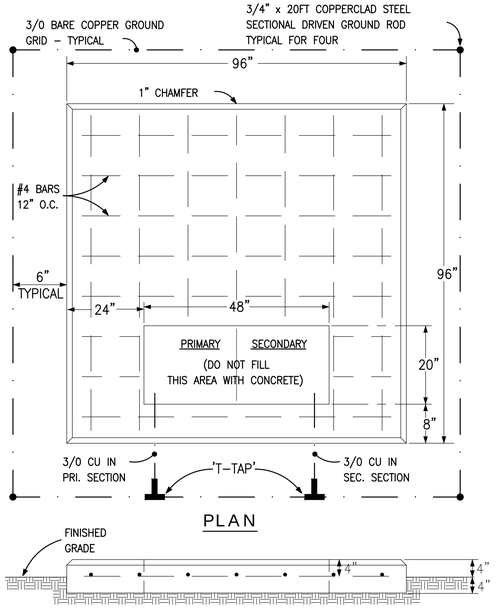
TYPICAL ELECTRICAL EQUIPMENT NAMEPLATE

NOT TO SCALE



TYPICAL FLOOR MARKING AT ELECTRICAL PANELS

NOT TO SCALE

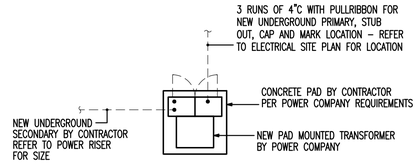


NOTES:

1. INSTALL WITH A MINIMUM CLEARANCE OF 15FT. FROM ALL BUILDINGS AND 5 FT. FROM ALL OBSTRUCTIONS.
2. CONCRETE SHALL HAVE A MINIMUM ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 3,000 LBS. PAD SHALL BE CURED 72 HOURS MIMNIMUM.
3. SECURE TRANSFORMER TO CONCRETE PAD WITH ANCHOR BOLTS PER MANUFACTURER'S SPECIFICATIONS.

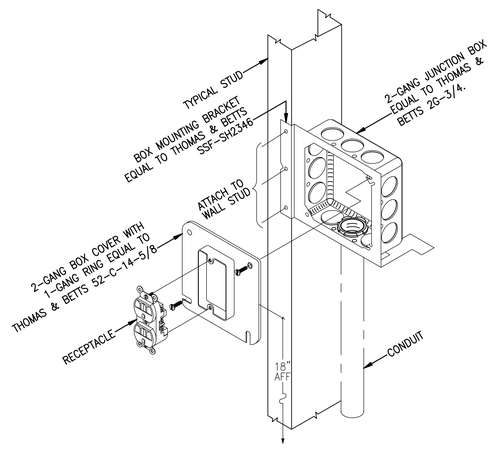
STANDARD PAD FOR 300 THRU 1000KVA 3PH
RADIAL OR LOOP FEED PAD MTD. TRANSFORMER

NOT TO SCALE



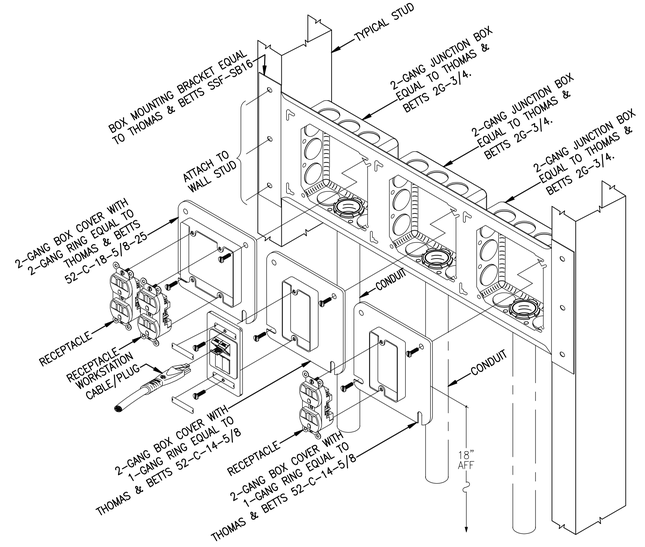
PAD MOUNTED TRANSFORMER

NO SCALE



TYPICAL POWER OUTLET INSTALLATION DETAIL

NOT TO SCALE



TYPICAL POWER/COMMUNICATIONS OUTLET INSTALLATION DETAIL

NOT TO SCALE

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HUTCHISON BLVD

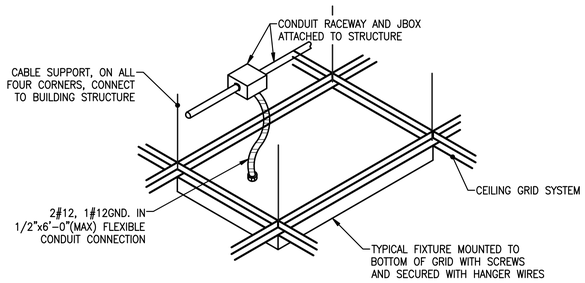
BAY COUNTY, FLORIDA

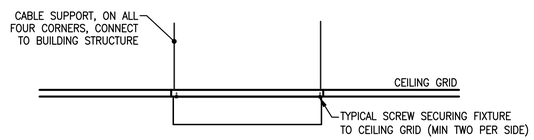
SHEET TITLE:

ELECTRICAL DETAILS

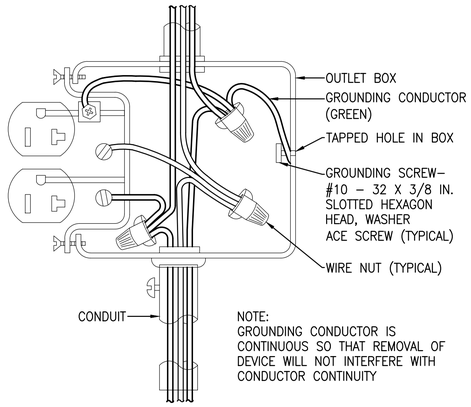
SHEET NUMBER:

E6.1

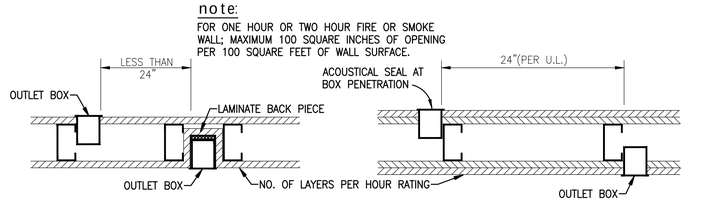




LAY-IN FIXTURE CABLE SUPPORT DETAIL
FIXTURE MOUNTED TO BOTTOM OF CEILING GRID
NOT TO SCALE

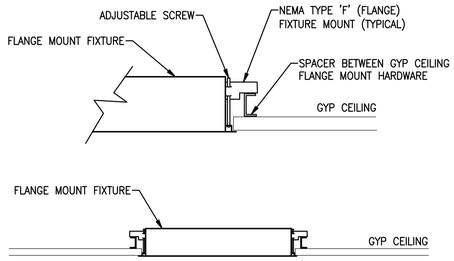


TYPICAL OUTLET WIRING DETAIL
NOT TO SCALE

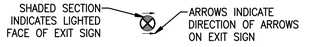


FIVE SIDED ELECTRICAL BOX
ADJACENT ELECTRICAL BOXES

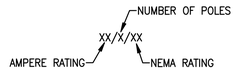
WALL DETAILS - ELECTRICAL BOX INSTALLATION
NOT TO SCALE



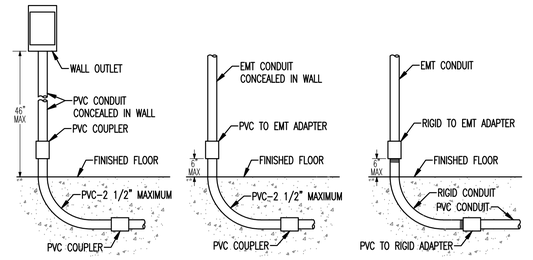
FLANGE MOUNT FIXTURE IN GYP BOARD CEILING
NOT TO SCALE



EXIT SIGN NOMENCLATURE
NOT TO SCALE

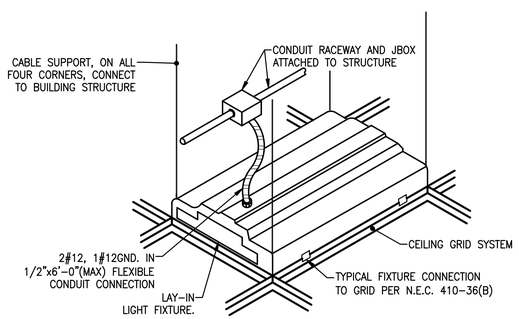


DISCONNECT SWITCH
DESCRIPTION NOMENCLATURE

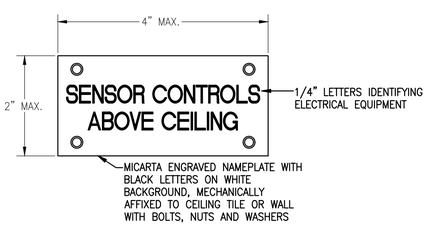


WITH OUTLET BOX
WITHOUT OUTLET BOX
EXPOSED OR FEEDER CONDUIT

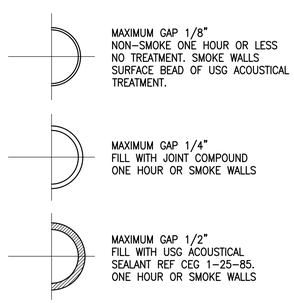
PVC STUB-UP DETAILS
NOT TO SCALE



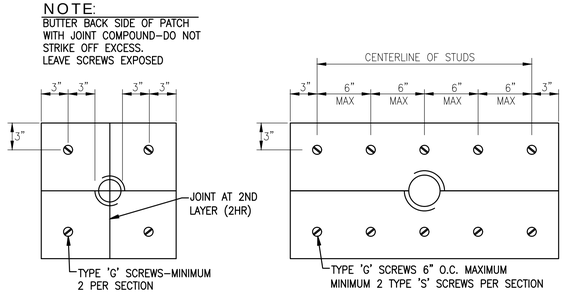
LAY-IN FIXTURE CABLE SUPPORT DETAIL
NOT TO SCALE



TYPICAL ELECTRICAL EQUIPMENT ABOVE CEILING NAMEPLATE
NOT TO SCALE



SMALL DIAMETER GAPS IN ONE HOUR WALLS



OPENINGS UP TO 3" DIA.
OPENINGS OVER 3" DIA.

WALL PENETRATIONS -APPLIES TO ALL CORRIDOR, SMOKE AND FIRE RATED WALLS
NOT TO SCALE

DANIEL JOSEPH WHITE
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No. 73790
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

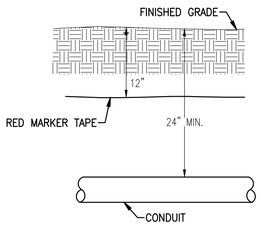
BAY COUNTY, FLORIDA

SHEET TITLE:

ELECTRICAL DETAILS

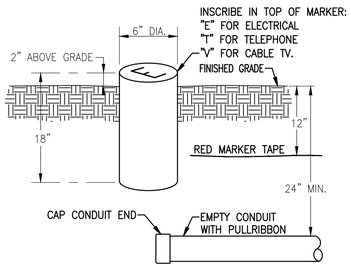
SHEET NUMBER:

E6.2



UNDERGROUND CONDUIT DETAIL

NOT TO SCALE



CONDUIT MARKER DETAIL

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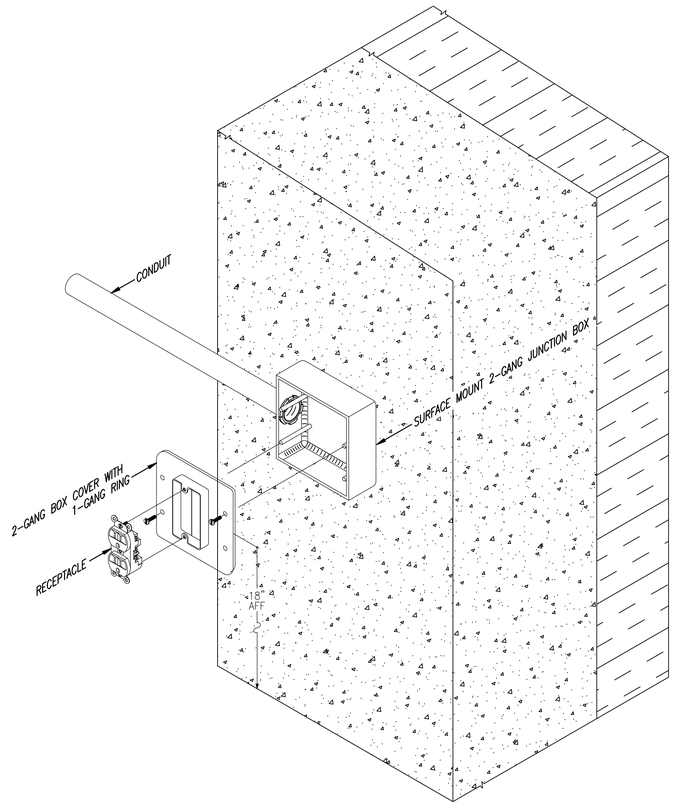
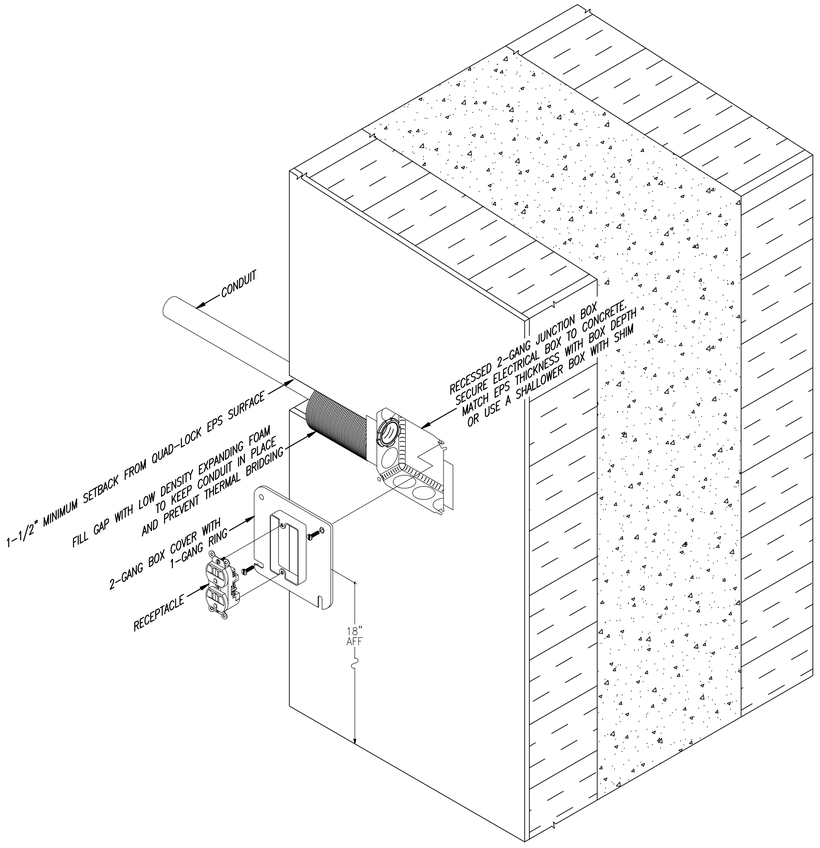


TYPICAL ICF WALL SURFACE POWER OUTLET INSTALLATION DETAIL

NOT TO SCALE



TYPICAL ICF WALL RECESSED POWER OUTLET INSTALLATION DETAIL

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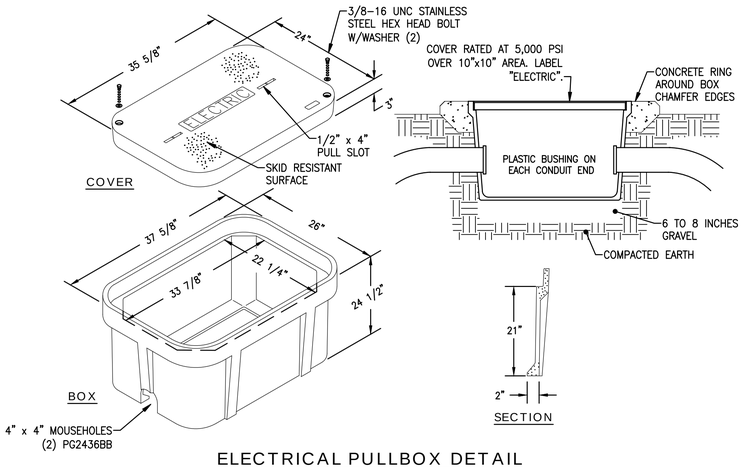
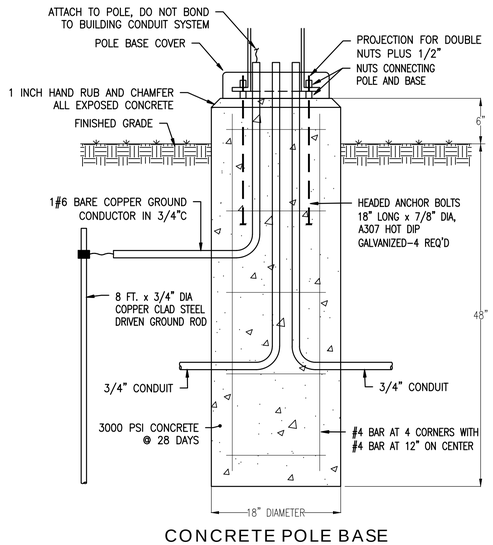


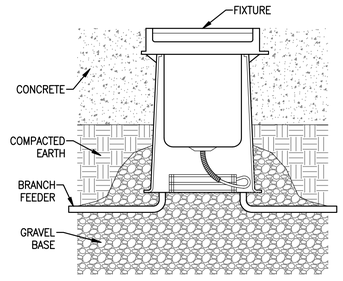
ELECTRICAL PULLBOX DETAIL

NOT TO SCALE



CONCRETE POLE BASE FOR FIXTURE 'PL'

NOT TO SCALE



FIXTURE 'FP' MOUNTING DETAIL

NO SCALE

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05/10/23

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FIRE STATION #32
HUTCHISON BLVD

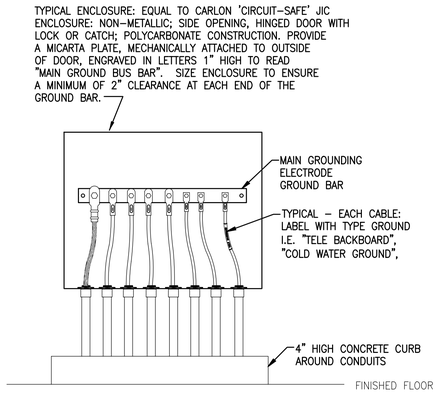
BAY COUNTY, FLORIDA

SHEET TITLE:

ELECTRICAL DETAILS

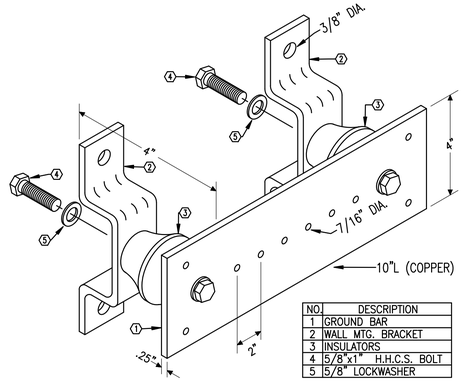
SHEET NUMBER:

E6.3



GROUNDING SYSTEM TYPICAL ENCLOSURE

NOT TO SCALE



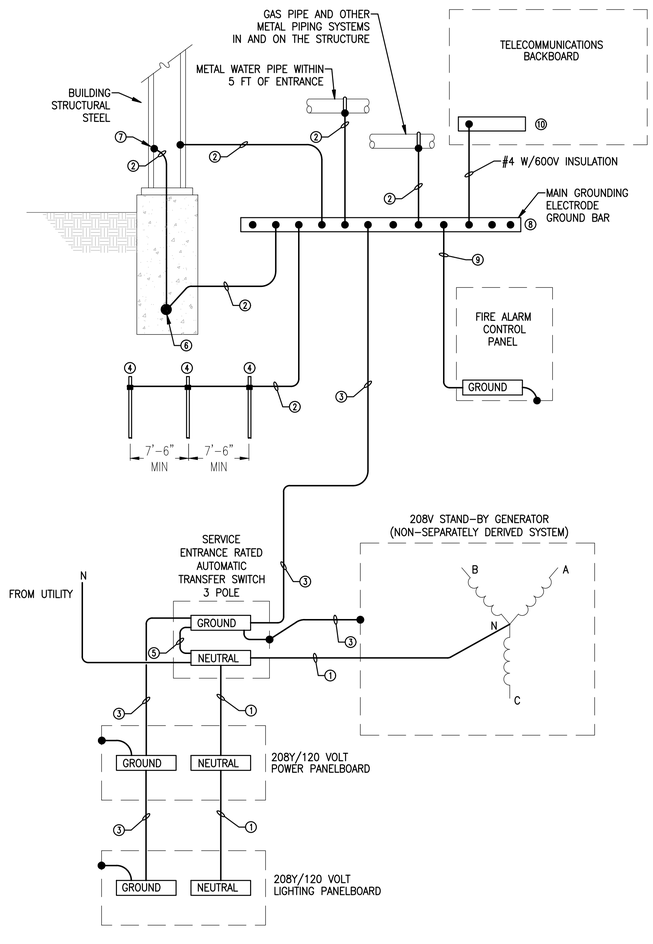
NO.	DESCRIPTION
1	GROUND BAR
2	WALL MTG. BRACKET
3	INSULATORS
4	5/8"x1" H.H.C.S. BOLT
5	5/8" LOCKWASHER

GROUND BAR NOTES:

1. INSTALL ONE BAR AT EACH COMMUNICATIONS ROOM.
2. ROUTE 1#4 BARE CU IN 1"CONDUIT FROM GROUND BAR TO BUILDING ELECTRICAL SERVICE ENTRANCE GROUND.
3. CONNECT BARS WITH 1#6 BARE CU IN 1" CONDUIT.

INSULATED GROUNDING BAR DETAIL

NOT TO SCALE



208Y/120V GROUNDING SYSTEM DIAGRAM

NOT TO SCALE

KEY NOTES:

① INSTALL GROUNDED (NEUTRAL) CONDUCTOR SAME SIZE AS THE LARGEST PHASE CONDUCTOR IF THE LINE-TO-NEUTRAL LOAD EXCEEDS 5% OF THE CONNECTED LOAD. IF NEUTRAL LOAD IS SMALLER, INSTALL THE NEC MINIMUM GROUNDED CONDUCTOR.

② NSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE, BUT NOT SMALLER THAN NO 4.

③ INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250.122 USING THE FEEDER OVERCURRENT DEVICE SIZE.

④ 10 FOOT MINIMUM X 3/4" DIAMETER COPPER CLAD STEEL SECTIONAL DRIVEN GROUND ROD.

⑤ NSTALL BONDING JUMPER WIRE THAT IS SIZED BASED ON NEC TABLE 250-66 OR 250.28(D)(1) USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE PHASE CONDUCTOR SIZE.

⑥ NSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION PER NEC ARTICLE 250.52 (A) (3).

⑦ BOND EACH PERIMETER STRUCTURAL STEEL COLUMN TO THE CONCRETE-ENCASED MAIN GROUNDING ELECTRODE. USE COMPRESSION CONNECTORS THAT MEET IEEE 837 REQUIREMENTS OR USE EXOTHERMIC WELDS.

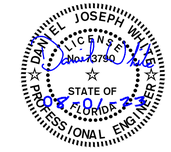
⑧ INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND ELECTRODE CONDUCTOR USING IRREVERSIBLE CONNECTORS OR EXOTHERMIC WELDS. MAKE OTHER CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL EACH CONNECTION TO THE GROUND BAR.

⑨ FIRE ALARM CONTROL PANEL GROUND - #6 COPPER CONDUCTOR.

⑩ INSTALL A COPPER GROUNDING BAR IN EACH TELECOMMUNICATIONS ROOM. CONNECT TO THE "MAIN GROUNDING ELECTRODE GROUND BAR" USING 600V INSULATED #4 COPPER CABLE AND COMPRESSION SPADE LUGS.

GENERAL NOTES

1. BOND HOT AND COLD WATER PIPING SYSTEMS.
2. CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.
3. INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
4. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE.
5. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.



REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	R.E.	R.E.	03/31/23
CONSTRUCTION DOCUMENTS	R.E.	R.E.	05/10/23
BID DOCUMENTS	R.E.	R.E.	08/01/23

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Daniel J. White; FL. PE No.73790
Caleb W. Leonard; FL. PE No.91782
23023 Job No.

PROJECT:

PANAMA CITY BEACH FIRE STATION #32 HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

GROUNDING DETAILS

SHEET NUMBER:

E6.4

BASE BID LIGHTING FIXTURE SCHEDULE

Project: 22023 - Panama City Beach Fire Station #32

Note: Per electrical specifications, alternate fixtures shall be submitted to the engineer for prior approval a minimum of (10) ten business days prior to bid date. Any alternate fixtures not submitted for prior approval will not be reviewed.

Luminaire Designation	Manufacturer	Catalog Number	Connected Voltage	Luminaire Load (va)	Lamping Source	Color Rendering Index (CRI)	Kelvin Temperature	Mounting	Comments	Prior Approved Equals
A24A	ARON LIGHTING	EDGET-1-X-RTB-2'X4'-300-B1-40K8-UNV-DM-W	120V	35 VA	LED	>80	4000K	LAY-IN GRID	CONFERENCE ROOM; CORRIDOR FOR OFFICES	Visioneering Corp., Xico Lighting
A24AE	ARON LIGHTING	EDGET-1-X-RTB-2'X4'-300-B1-40K8-UNV-DM-E10W-W	120V	35 VA	LED	>80	4000K	LAY-IN GRID	INTEGRAL BATTERY BACK-UP; CORRIDOR FOR OFFICES	Visioneering Corp., Xico Lighting
A24B	ARON LIGHTING	EDGET-1-X-RTB-2'X4'-300-B1-35K8-UNV-DM-W	120V	35 VA	LED	>80	3500K	LAY-IN GRID	DAYROOM	Visioneering Corp., Xico Lighting
A24BE	ARON LIGHTING	EDGET-1-X-RTB-2'X4'-300-B1-35K8-UNV-DM-E10W-W	120V	35 VA	LED	>80	3500K	LAY-IN GRID	DAYROOM; INTEGRAL BATTERY BACK-UP	Visioneering Corp., Xico Lighting
C	HE WILLIAMS	75R-2-L25-840-45AMB-DRV-UNV	120V	19 VA	LED	>80	4000K	WALL MOUNT ABOVE DOOR 7'-6" AFF	CLOSET	Metalux, Lithonia Lighting
CP	GARDCO	SVPG-A01-840-5RD-SUR-UNV-WH	120V	21 VA	LED	>70	4000K	CEILING SURFACE	PORCH	McGraw-Edison, Eclipse Lighting Inc.
CPA	GARDCO	SVPG-A01-840-5RD-SUR-UNV-WH	120V	21 VA	LED	>70	4000K	CEILING PENDANT 14'-0" AFF TO BOTTOM	MAIN ENTRANCE	NLS Lighting LLC, Lithonia Lighting
DL	3G LIGHTING	3G-DL33RF-10-S80-35K-60D-UNV-DIM-WT-WI-SH-SF60	120V	11 VA	LED	>80	3500K	CEILING RECESSED		Senso Lighting, Troy-CSL Lighting
DLA	3G LIGHTING	3G-DL33RF-10-S80-40K-60D-UNV-DIM-WT-WI-SH-SF60	120V	11 VA	LED	>80	4000K	CEILING RECESSED		Senso Lighting, Troy-CSL Lighting
FP	WE-EF	ETC130-GB LED ASC-VN 185-2677 + 185-0322 (BACKBOX)	120 V	18 VA	LED	>80	4000K	FLUSH IN CONCRETE	FLUSH IN CONCRETE FLAG POLE FIXTURE; PROVIDE WITH PRE-INSTALL TION BLOCKOUT BOX.	Lignan Lighting, Hydrel Lighting
HB	HE WILLIAMS	GP2-L200-840-W-GP2-SMK-DRV-UNV	120V	157 VA	LED	>80	4000K	CEILING SURFACE		Visioneering Corp., Lithonia Lighting
HBE	HE WILLIAMS	GP2-L200-840-W-EM/12W-GP2-SMK-DRV-UNV	120V	157 VA	LED	>80	4000K	CEILING SURFACE		Visioneering Corp., Lithonia Lighting
L14	BEGHELLI	BS100LED-4-SA-LO-WT40-120-277V-CH-SS	120V	50 VA	LED	>80	4000K	CHAIN HUNG 9'-0" AFF	INTEGRAL EMERGENCY BATTERY	Metalux, Lithonia Lighting
L14A	HE WILLIAMS	50F-S14-L45/840-F-AF12125-DIM-UNV	120V	34 VA	LED	>80	4000K	CEILING RECESSED		Visioneering Corp., Lithonia Lighting
L14B	HE WILLIAMS	50F-S14-L65/840-F-AF12125-DIM-UNV	120V	56 VA	LED	>80	4000K	CEILING RECESSED		Visioneering Corp., Healthcare Lighting
L14BE	HE WILLIAMS	50F-S14-L65/840-F-AF12125-EM/10W-DIM-UNV	120V	56 VA	LED	>80	4000K	CEILING RECESSED	INTEGRAL EMERGENCY BATTERY	Visioneering Corp., Healthcare Lighting
L14C	HE WILLIAMS	50G-S14-L65/840-F-AF12125-EM/10W-DIM-UNV	120V	56 VA	LED	>80	4000K	LAY-IN GRID	INTEGRAL EMERGENCY BATTERY	Visioneering Corp., Healthcare Lighting
L24A	DAY-BRITE	2-FPZP48L-840-4-DS-UNV-DIM	120V	37 VA	LED	>80	4000K	LAY-IN GRID	OFFICES	Metalux, Lithonia Lighting
L24AE	DAY-BRITE	2-FPZP60L-840-4-DS-UNV-DIM-BSL10LST	120V	47 VA	LED	>80	4000K	LAY-IN GRID	ELECTRICAL ROOM; INTEGRAL EMERGENCY	Metalux, Lithonia Lighting
L24B	DAY-BRITE	2-FPZP48L-835-4-DS-UNV-DIM	120V	37 VA	LED	>80	3500K	LAY-IN GRID	BUNK ROOMS / SLEEPING QUARTERS	Metalux, Lithonia Lighting
L24C	DAY-BRITE	2-FPZP30L-840-4-DS-UNV-DIM	120V	23 VA	LED	>80	4000K	LAY-IN GRID	CONFERENCE ROOM; CORRIDOR FOR OFFICES	Metalux, Lithonia Lighting
L24CE	DAY-BRITE	2-FPZP30L-840-4-DS-UNV-DIM-BSL10ST	120V	23 VA	LED	>80	4000K	LAY-IN GRID	INTEGRAL BATTERY BACK-UP; CORRIDOR FOR OFFICES	Metalux, Lithonia Lighting
L24D	DAY-BRITE	2-FPZP30L-835-4-DS-UNV-DIM	120V	23 VA	LED	>80	3500K	LAY-IN GRID	KITCHEN; CORRIDOR FOR BUNK ROOMS	Metalux, Lithonia Lighting
L24DE	DAY-BRITE	2-FPZP30L-835-4-DS-UNV-DIM-BSL10ST	120V	23 VA	LED	>80	3500K	LAY-IN GRID	INTEGRAL BATTERY BACK-UP; KITCHEN; CORRIDOR FOR BUNK ROOMS	Metalux, Lithonia Lighting
L24F	DAY-BRITE	2-FPZP30L-835-4-DS-UNV-DIM-FMA24	120V	23 VA	LED	>80	3500K	CEILING FLANGED	DINING	Metalux, Lithonia Lighting
L24FE	DAY-BRITE	2-FPZP30L-835-4-DS-UNV-DIM-BSL10ST-FMA24	120V	23 VA	LED	>80	3500K	CEILING FLANGED	DINING; INTEGRAL BATTERY BACK-UP	Metalux, Lithonia Lighting
M2	HE WILLIAMS	SLF-2-L13-830-HIA-DRV-UNV	120V	11 VA	LED	>80	3500K	WALL MOUNT ABOVE VAINTY MIRROR	RESTROOMS	Metalux, Lithonia Lighting
PD	HE WILLIAMS	4CR-L5-835-(FINISH)-DIM1-UNV-R-W-CS	120V	7 VA	LED	>80	3500K	PENDANT, BOTTOM 7'-6" AFF	ABOVE DINING TABLE	Senso Lighting, Lithonia Lighting
PL2	GARDCO	GL18-2-50LA-4835-NW-UNV-(FINISH)-	120V	50 VA	LED	>70	4000K	POLE MOUNT 20'-0" AFG	TYPE II DISTRIBUTION; EQUAL SUBMISSIONS WILL NOT BE ACCEPTED.	
PL4	GARDCO	GL18-4-105LA-4870-NW-UNV-(FINISH)	120V	105 VA	LED	>70	4000K	POLE MOUNT 20'-0" AFG	TYPE IV DISTRIBUTION; EQUAL SUBMISSIONS WILL NOT BE ACCEPTED.	
POLE FOR 'PL2', 'PL4'	VALMONT POLES	R2208-40606T4	N/A	N/A	N/A	N/A	N/A	CONCRETE ANCHOR BASE	25FT. ROUND TAPERED ALUMINUM POLE; 160MPH WITH 1.3 GUST FACTOR MINIMUM. WIND RATING WITH 1.2 SQ.FT. EPA FIXTURE. EQUAL SUBMISSIONS WILL NOT BE ACCEPTED.	
SB	HE WILLIAMS	WMAUD-4 - L40/840UL40/840D/AF-EM 10W-OCC120-DRVUDRVD-UNV	120V	65 VA	LED	>80	4000K	BACK WALL 7'-6" AFF	INTEGRAL BATTERY BACK-UP; INTEGRAL SENSOR; LOCATE AT EACH LANDING	Metalux, Eclipse Lighting Inc.
SF	B-K LIGHTING	SN-24"-A-MM-LED-E72-MFL-WHW-12-C-PC-TRE20	120V	3VA	LED	>70	4000K	WALL MOUNT 31'-4" AFG	CITY/STATION SEAL ON TOWER ILLUMINATION; ARM MOUNTED.	WAC Lighting Hydrel
SFA	B-K LIGHTING	SN-24"-A-MM-LED-E72-NSP-WHW-12-C-PC-TRE20	120V	3VA	LED	>70	4000K	WALL MOUNT 10'-0" AFF	CITY SEAL OVER DOOR ILLUMINATION; ARM MOUNTED.	WAC Lighting, Hydrel
SH	3G LIGHTING	3G-DL33RF-10-S80-35K-60D-UNV-DIM-WT-WI-SH-SF60-WL	120V	11 VA	LED	>80	3500K	CEILING RECESSED	NON CONDUCTIVE LENS	Senso Lighting, Lithonia Lighting
SL	CHLORIDE	SDI-HL-C-(FINISH)-AM	120V	8 VA	LED		AMBER	RECESSED WALL 2'-0" AFF	BUNK ROOM CORRIDOR NIGHT (STEP) LIGHTING	New Star, Kemall Manufacturing
WP	GARDCO	121-16L-200-NW-G4-2-UNV-BK	120V	12 VA	LED	>70	4000K	WALL MOUNT 8'-0" AFG		NLS Lighting LLC, Lithonia Lighting
WPA	GARDCO	121-16L-700-NW-G4-4-UNV-BK	120V	38 VA	LED	>70	4000K	WALL MOUNT 15'-0" AFG	EXTERIOR ABOVE FIRE TRUCK DOORS	NLS Lighting LLC, Lithonia Lighting
X	CHLORIDE	ER55LD-3-R	120V	3.08	LED	N/A	N/A	BACK WALL 7'-6" AFF		Sure-Lites, ABB Products Inc.

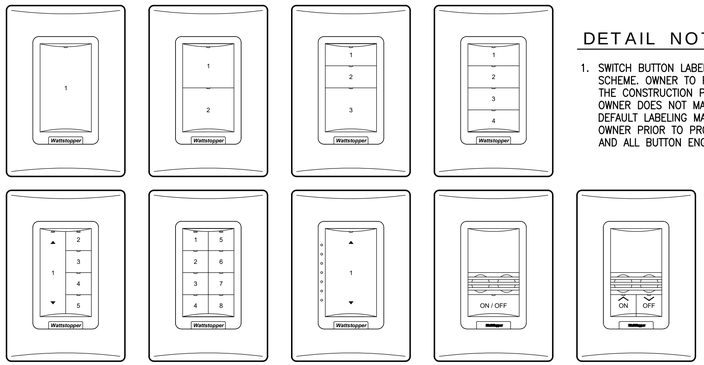
ADDITIVE ALTERNATE LIGHTING FIXTURE SCHEDULE

Note: Per electrical specifications, alternate fixtures shall be submitted to the engineer for prior approval a minimum of (10) ten business days prior to bid date. Any alternate fixtures not submitted for prior approval will not be reviewed.

Luminaire Designation	Manufacturer	Catalog Number	Connected Voltage	Luminaire Load (va)	Lamping Source	Color Rendering Index (CRI)	Kelvin Temperature	Mounting	Comments	Prior Approved Equals
CCA ADDITIVE ALTERNATE #1	COLOR KINETICS	VAYA TUBE (316-100029-01) POWER SUPPLY (309-000014-01)	24VDC	13.6	LED RGBW	N/A	N/A	SOFFIT SURFACE JUST BEHIND FASCIA	EXTERIOR SOFFITS; PROVIDE ALL NECESSARY APPURTENANCES AND CONTROLS FOR A COMPLETE FINISHED INSTALLATION. ADDITIVE ALTERNATE #1 MUST BE ACCEPTED BEFORE ADDITIVE #2 OR #3 CAN BE UTILIZED.	Lumini/Senso, Lunnepulse
CCB ADDITIVE ALTERNATE #2	COLOR KINETICS	VAYA TUBE (316-100029-01) POWER SUPPLY (309-000014-01)	24VDC	13.6	LED RGBW	N/A	N/A	SOFFIT SURFACE JUST BEHIND FASCIA	EXTERIOR SOFFITS; PROVIDE ALL NECESSARY APPURTENANCES FOR A COMPLETE FINISHED INSTALLATION. ADDITIVE ALTERNATE #1 MUST BE ACCEPTED BEFORE ADDITIVE #2 OR #3 CAN BE UTILIZED.	Lumini/Senso, Lunnepulse
CCC ADDITIVE ALTERNATE #3	COLOR KINETICS	VAYA TUBE (316-100029-01) POWER SUPPLY (309-000014-01)	24VDC	13.6	LED RGBW	N/A	N/A	SOFFIT SURFACE JUST BEHIND FASCIA	EXTERIOR SOFFITS; PROVIDE ALL NECESSARY APPURTENANCES FOR A COMPLETE FINISHED INSTALLATION. ADDITIVE ALTERNATE #1 MUST BE ACCEPTED BEFORE ADDITIVE #2 OR #3 CAN BE UTILIZED.	Lumini/Senso, Lunnepulse

SWITCH FUNCTION / CONTROL MATRIX

Room #	Low Voltage Switch Button Qty. (Switch Model #)	Zone of Control	Switch Button Number and Correlated Function (Button labels are recommendations and shall be designated by owner during installation)																Additional Notes
			Button #1		Button #2		Button #3		Button #4		Button #5		Button #6		Button #7		Button #8		
			Function	Label	Function	Label	Function	Label	Function	Label	Function	Label	Function	Label	Function	Label	Function	Label	
101	2		ON	ON	OFF	OFF													
101C	2		ON	ON	OFF	OFF													
103	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
105	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
107	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
111	8	A	ON	ON	RAISE	RAISE					OFF	OFF	LOWER	LOWER					
111		B	ON				ON	ON	RAISE	RAISE					OFF	OFF	LOWER	LOWER	
111	8	C	ON	ON	RAISE	RAISE					OFF	OFF	LOWER	LOWER					
111		D	ON				ON	ON	RAISE	RAISE					OFF	OFF	LOWER	LOWER	
115	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
116	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
117	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
119	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
121	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
123	4		ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
125	4	A	ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
125	4	B	ON	ON	OFF	OFF	RAISE	RAISE	LOWER	LOWER									
131	2		ON	ON	OFF	OFF													
132	2		ON	ON	OFF	OFF													
133	2		ON	ON	OFF	OFF													
100A, 100B, 125A, 102, 103A, 104, 111A, 112-114, 118, 120, 122, 124, 100D, 126-128	1 (LMDW-101)		ON/OFF	ON/OFF															
106, 109-110, 130A	2 (LMDW-102)		ON RAISE	On^	OFF/LOWER	OFF^													



TYPICAL SWITCH BUTTON ARRANGEMENTS

NOT TO SCALE

DETAIL NOTES

1. SWITCH BUTTON LABELING INDICATES A DEFAULT SCHEME. OWNER TO PROVIDE ACTUAL LABELING DURING THE CONSTRUCTION PHASE OF THIS PROJECT. IF THE OWNER DOES NOT MAKE ANY DECISION, THEN THE DEFAULT LABELING MAY BE UTILIZED. VERIFY WITH OWNER PRIOR TO PROCEEDING WITH ORDERING OF ANY AND ALL BUTTON ENGRAVING.

LIGHTING CONTROL GENERAL NOTES

A. THE DIAGRAMS ARE NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR ESTIMATED DEVICE QUANTITIES AND LOCATIONS.

C. THE LOCAL DEVICE INTERCONNECTIONS FOR ALL LIGHTING CONTROL DEVICES SHALL BE OF THE TOPOLOGY FREE TYPE.

D. COLORS FOR ALL DEVICES AND DEVICE COVERS SHALL BE SELECTED BY THE ARCHITECT.

E. ALL DATA LINE SWITCHES SHALL INCLUDE CUSTOM ENGRAVED LABEL INDICATING FUNCTION OF SWITCH. COORDINATE EXACT LABEL DESCRIPTIONS WITH OWNER PRIOR TO INSTALLATION.

F. PROVIDE ADDITIONAL POWER AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

G. THE DIAGRAMS REPRESENT A TYPICAL SYSTEM AND ARE NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

H. E.C. SHALL COORDINATE FIELD PROGRAMMING OF LIGHTING CONTROL SYSTEM WITH SYSTEM PROGRAMMER, SPECIFYING ENGINEER, AND OWNER TO ENSURE PROPER OPERATION AND TIME SCHEDULES.

I. ALL EMERGENCY AND EXIT LIGHTING CIRCUITS SHALL BE CONNECTED TO CONTINUOUS POWER SOURCE AHEAD OF RELAY PANEL OR INDIVIDUAL RELAY COMPONENTS.

J. INSTALL ALL CEILING SENSORS MINIMUM OF 6FT CLEAR OF DUCT REGISTERS.

K. THE LIGHTING CONTROL AND EMERGENCY LIGHTING SYSTEMS SHALL BE CAPABLE OF BEING ACCESSED VIA THE LOCAL AREA NETWORK AND REMOTELY VIA AUTHORIZED PERSONNEL ONLY.

L. PROGRAMMER / COMMISSIONING AGENT SHALL BE CERTIFIED BY THE EQUIPMENT MANUFACTURER ON THE SYSTEM INSTALLED.

M. THE MANUFACTURER CERTIFIED TECHNICIAN WILL MEET ONSITE WITH THE ELECTRICAL CONTRACTORS TO COORDINATE INSTALLATION DETAILS, REVIEW BEST PRACTICES, AND DISCUSS PROJECT SPECIFIC CHALLENGES; PRIOR TO THE INSTALLATION BEING STARTED, ENABLING THE CONTRACTORS TO WORK WITH THE TECHNICIAN TO PREPARE AND MAKE CHANGES UP FRONT.

N. THE MANUFACTURER'S LIGHTING SYSTEMS TEAM SHALL WORK ONSITE AFTER FIXTURE AND CONTROLS INSTALLATION IS COMPLETED. THE MANUFACTURER'S AGENT IS TO VERIFY THE PROJECT IS REVIEWED AND CHECKED FOR PROPER WIRING, INSTALLATION AND FUNCTIONALITY OF THE SYSTEM AS A WHOLE. ANY PROBLEMS SHALL BE ADDRESSED AND RESOLVED WITH THE ONSITE CONTRACTORS.

O. MANUFACTURER'S TECHNICIANS SHALL MAP OUT THE FIXTURE LOCATIONS AND ADDRESSES WITHIN THE LIGHTING CONTROL SOFTWARE. ASTRONOMIC TIMECLOCK EVENTS, SCENES, AND SCHEDULES ARE PROGRAMMED ACCORDING TO A PRE-DEFINED SCRIPT. THESE EVENTS, SCENES, AND SCHEDULES ARE TESTED AND FINALIZED FOR FINAL APPROVAL BY THE PROJECT'S OWNERSHIP.

P. MANUFACTURER'S TECHNICIANS SHALL PROVIDE TRAINING FOR SYSTEM USERS AND THE SYSTEM MAINTENANCE TEAM. THE DETAILS OF THE TECHNOLOGY SHALL BE COVERED FROM A MAINTENANCE AND TROUBLESHOOTING POINT OF VIEW. THIS COVERS THE LIGHTING CONTROL SYSTEM AND ITS CORE FUNCTIONALITY, WITH A FOCUS ON HOW TO EDIT EXISTING SCENES AND ASTRONOMIC LIGHTING EVENTS.

Q. THE MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE IN-DEPTH TRAINING TO THE END USER ON MANAGING THE SPECIFIC CONTROL SYSTEM, GIVING THEM THE TOOLS AND KNOWLEDGE TO OPERATE THEIR SYSTEM.

DANIEL JOSEPH WHITE LICENSE NO. 73790 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/04/23
95% DOCUMENTS	R.E.	R.E.	03/31/23
CONSTRUCTION DOCUMENTS	R.E.	R.E.	05/10/23
BID DOCUMENTS	R.E.	R.E.	08/01/23

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Daniel J. White; FL. PE No.73790
Caleb W. Leonard; FL. PE No.91782

23023 Job No.

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

LIGHTING CONTROLS AND FIXTURE SCHEDULES

SHEET NUMBER:

E6.5

Lighting Space and Zones				Lighting Controls Sequence of Operations																Low Voltage Switch Matrix (Button Labels to be designated by owner during installation)								
		ZONE OF CONTROL		CONTROL SCENARIOS																CONNECT TO NETWORKED ROOM CONTROLLER OR LIGHTING CONTROL PANEL								
Space Type	Room Number	Description	Designator	Manual On	Manual Off	Dimming	Multi-Level Control	Timeclock On	Timeclock Off	Dispatch Event 'On'	Dispatch Event 'Off'	Raise Lighting Levels to 100% over 30 seconds	Resume Normal operation after 2-minutes	Occupancy Sensor On	Vacancy Sensor Off	Photo Sensor 'On'	Fire Alarm System Override to 'On'	Security System Override to 'On'	SL1 (1-Button)	SL2 (2-Button)	SL3 (3-Button)	SL4 (4-Button)	SL5 (5-Button)	SL8 (8-Button)	SMD (Vacancy 'Off')	SM (Vacancy 'Off')	Remarks
BUNK ROOMS	TYPICAL			X	X	X				X		X	X		X		X	X				X					Refer to Dispatch Event Sequence of Operations.
BAY	TYPICAL			X	X					X			X				X	X		X							Refer to Dispatch Event Sequence of Operations.
BATH ROOM	TYPICAL			X	X										X		X	X								X	
CORRIDOR	101, 131, 133			X	X					X		X	X	X	X		X	X		X							Refer to Dispatch Event Sequence of Operations.
CORRIDOR	132	NORMAL LIGHTS	A	X	X			X	X	X		X	X	X	X		X	X		X							Refer to Dispatch Event Sequence of Operations.
		STEP LIGHTS	B	X	X			X	X					X	X												
OFFICER	125	OFFICE	A	X	X	X				X		X	X		X		X	X				X					Refer to Dispatch Event Sequence of Operations.
		BUNK	B	X	X	X				X		X	X		X		X	X				X					
ENCLOSED OFFICE	103, 105			X	X	X									X		X	X				X					
ENCLOSED OFFICE	TYPICAL			X	X	X									X		X	X							X		
STORAGE	TYPICAL			X	X												X	X								X	
TOWER	TYPICAL			X	X									X	X		X	X		X							
LIVING/DINING/KITCHEN	TYPICAL	LIVING AREA	A	X	X	X	X			X		X	X		X		X	X						X			Refer to Dispatch Event Sequence of Operations.
	TYPICAL	KITCHEN/DINING	B																								
	TYPICAL	TABLE	C														X	X									
	TYPICAL	BAR	D															X									
GEAR STORAGE	TYPICAL			X	X										X		X	X		X							
EXTERIOR LIGHTING ABOVE ROLL UP DOORS	TYPICAL			X	X					X				X	X		X	X		X							Refer to Dispatch Event Sequence of Operations.
PATIO	TYPICAL			X	X												X	X		X							
DECORATIVE SOFFIT LIGHTING	TYPICAL							X	X							X											Touch screen user interface; See details.
PARKING AREA LIGHTING	n/a							X	X							X	X	X									
BUILDING EXTERIOR SECURITY LIGHTING	n/a							X	X							X	X	X									

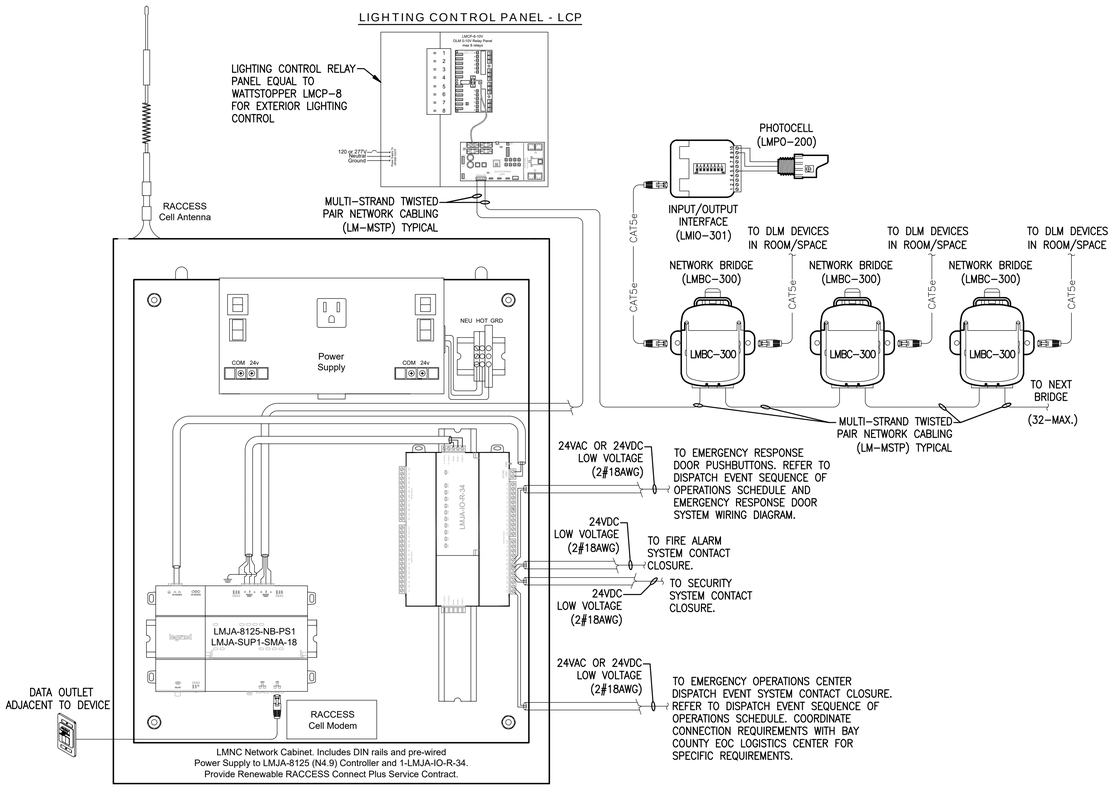
Dispatch Event Sequence of Operations								
	CONTROL SCENARIOS							
Event Type	Manual Activation	Automatic Activation	Raise Lighting Levels to 100% level over 30-seconds	Activate Apparatus Bay Lighting to 100% level	Open All Bay Doors	Close All Bay Doors within 4-minutes after 'Time-To-Close' function initialization	Resume Normal operation after 2-minutes	Remarks
Dispatch Event Notification via EOC network		X	X	X	X	X		Coordinate contact requirements with Bay Cty. EOC
Dispatch Event Notification via Push-Button	X		X	X	X	X		
Lighting Controls Dispatch Event Sequence	X	X	X	X			X	
Door Timer Activation	X	X				X		Door Timer override via "STOP" pushbutton control.
Traffic Light Activation (FUTURE)	X	X					X	

LIGHTING CONTROL PANEL

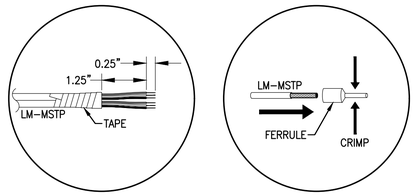
PANEL LCP

VOLTAGE: 120V **SUPPLY CIRCUIT:** A-39 **MOUNTING:** SURFACE
PANEL: WATTSTOPPER - LENC8S-LMCP8 **AIC RATING:** 14,000 MINIMUM
NEMA RATING 1 **OPTIONS:** **LOCATION** ELEC RM. 109

RELAY	LOAD (VA)	LINE FEED	SERVING	VOLTAGE	VOLTAGE	SERVING	LINE FEED	LOAD (VA)	RELAY
1	433	A-95	EXTERIOR FIXTURES (WP, PL4, PL2, FG)	120V	120V	EXTERIOR FIXTURES (WPA)	A-95	228	2
3	1200	A-97	SIGN AND SIGN LIGHT	120V	120V	COLOR CHANGING-TOWER, BAY)	A-100	960	4
5	960	A-101	COLOR CHANGING- LOWER ROOF	120V	120V	SPARE			6
7			SPARE	120V	120V	SPARE			8

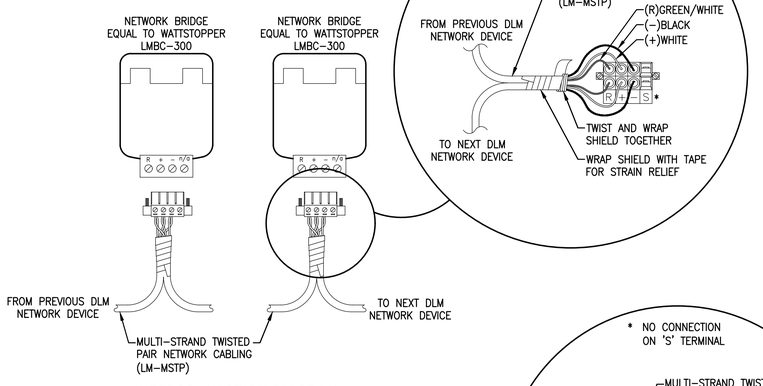


OVERALL LIGHTING CONTROL RISER
NOT TO SCALE

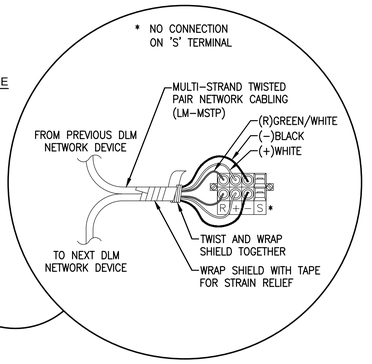


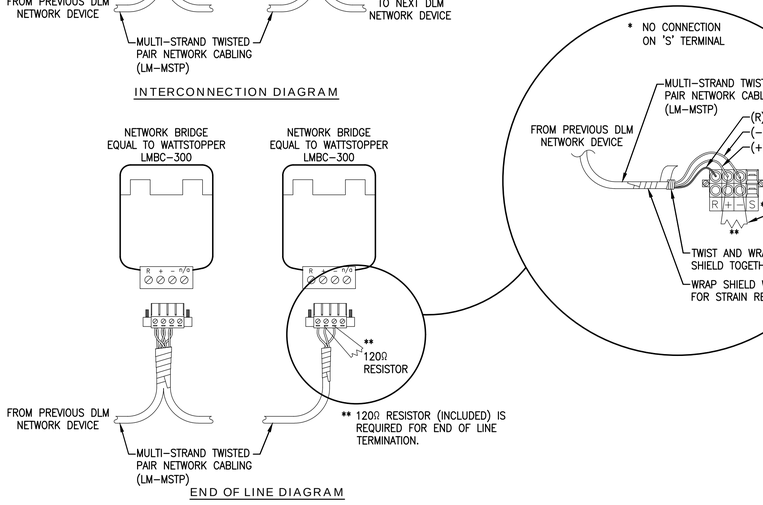
INSULATION STRIP GUIDE

INSULATED WIRE FERRULE

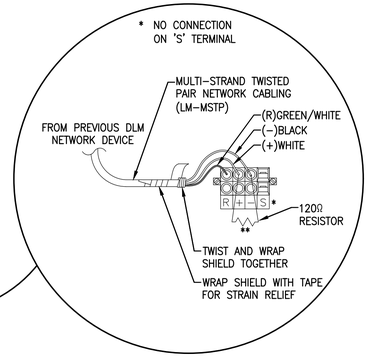


INTERCONNECTION DIAGRAM





END OF LINE DIAGRAM



TYPICAL BRIDGE DEVICE CONNECTION DETAILS
NOT TO SCALE

DANIEL JOSEPH WHITE LICENSE No. 73790 STATE OF FLORIDA PROFESSIONAL ENGINEER

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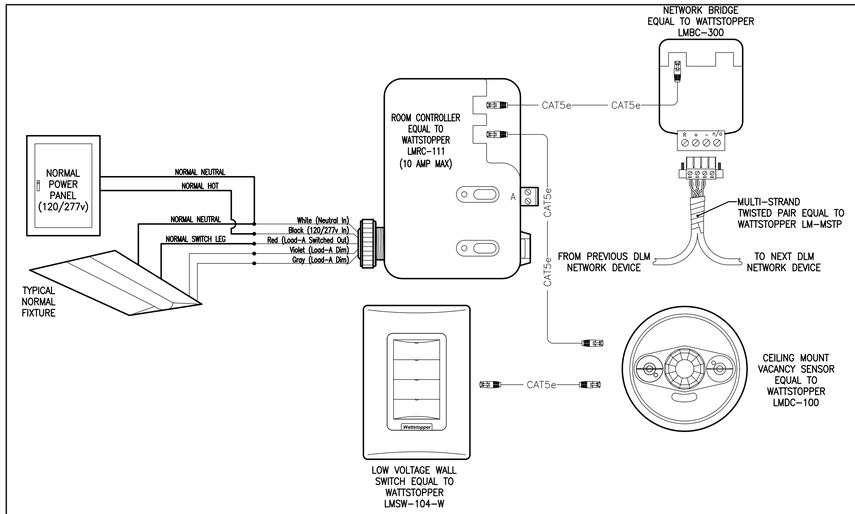
23023 Job No.

PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD
BAY COUNTY, FLORIDA

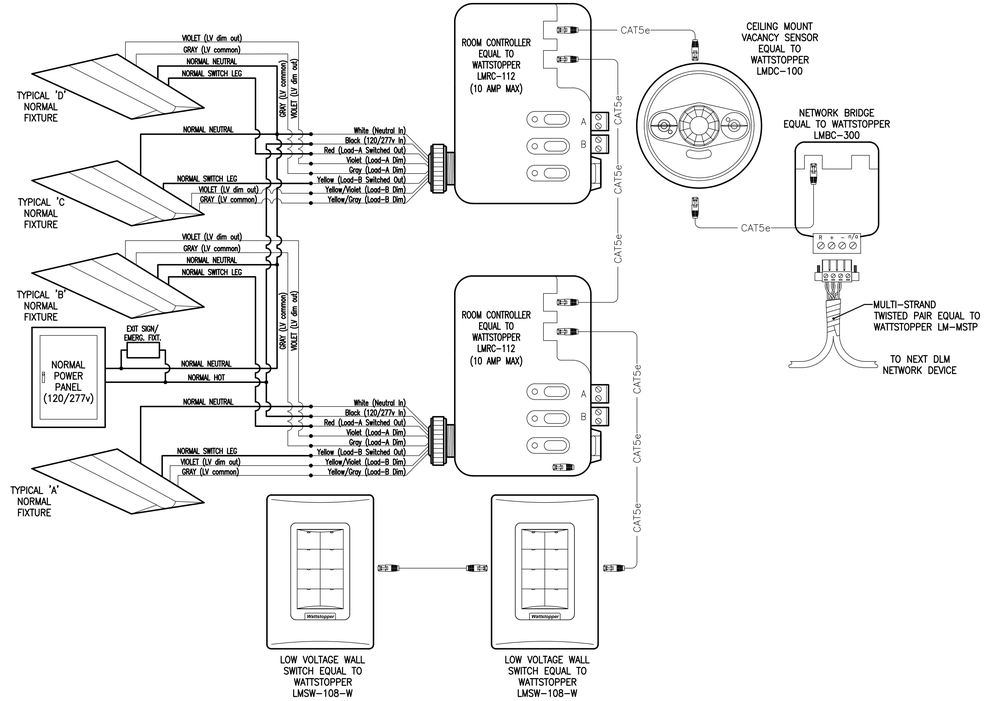
SHEET TITLE:
LIGHTING CONTROLS DETAILS

SHEET NUMBER:
E6.6



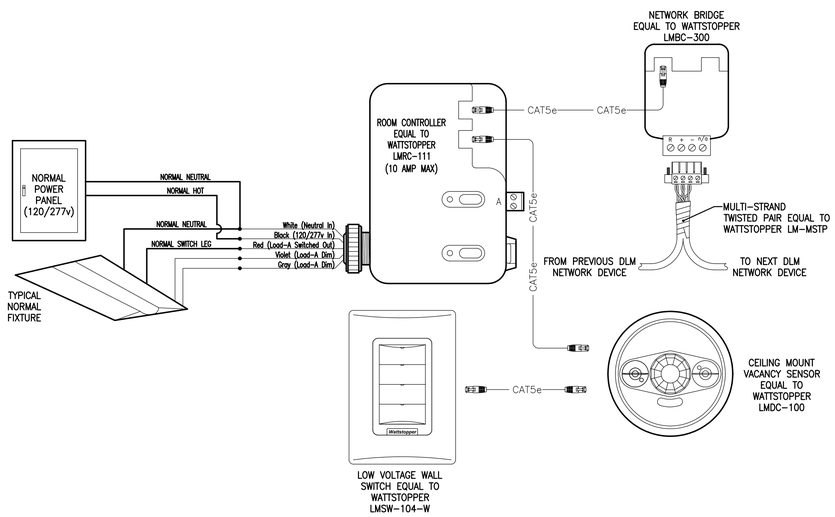
TYPICAL BUNK ROOM AREA
LIGHTING (SWITCHING) CONTROL
WITH VACANCY SENSOR AND SWITCH INPUT

NOT TO SCALE



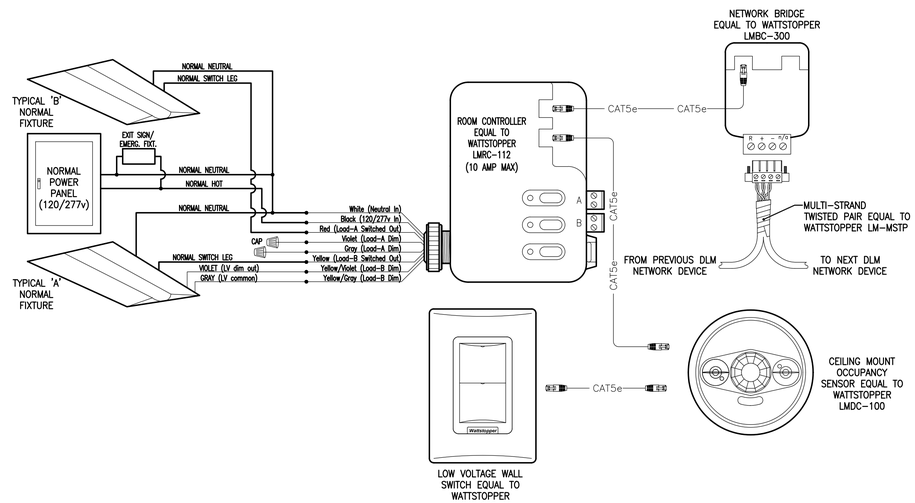
LIVING/DINING/KITCHEN AREA
NORMAL LIGHTING (SWITCHING) CONTROL
WITH VACANCY SENSOR, AND SWITCH INPUT

NOT TO SCALE



103 AND 105 OFFICE AREA
LIGHTING (SWITCHING) CONTROL
WITH VACANCY SENSOR AND SWITCH INPUT

NOT TO SCALE



CORRIDOR 132
LIGHTING (SWITCHING) CONTROL
WITH OCCUPANCY SENSOR AND SWITCH INPUT

NOT TO SCALE

DANIEL JOSEPH WHITE
LICENSE
No. 73790
STATE OF
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PROFESSIONAL ENGINEER

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FIRE STATION #32
HUTCHISON BLVD

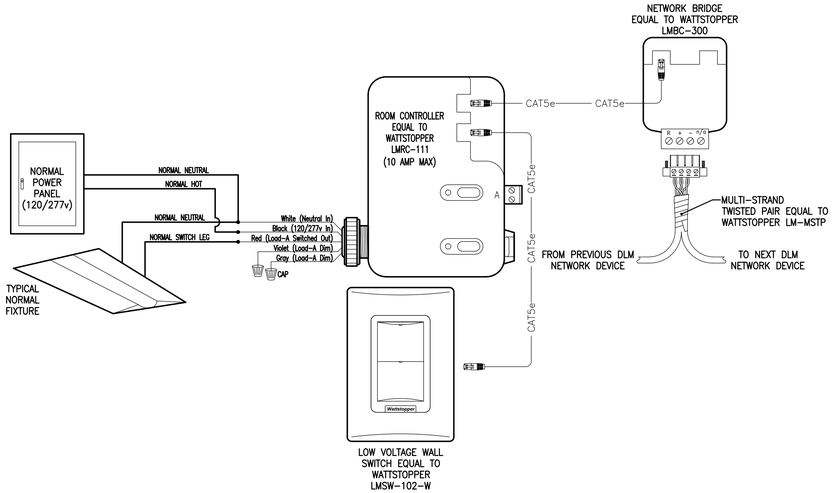
BAY COUNTY, FLORIDA

SHEET TITLE:

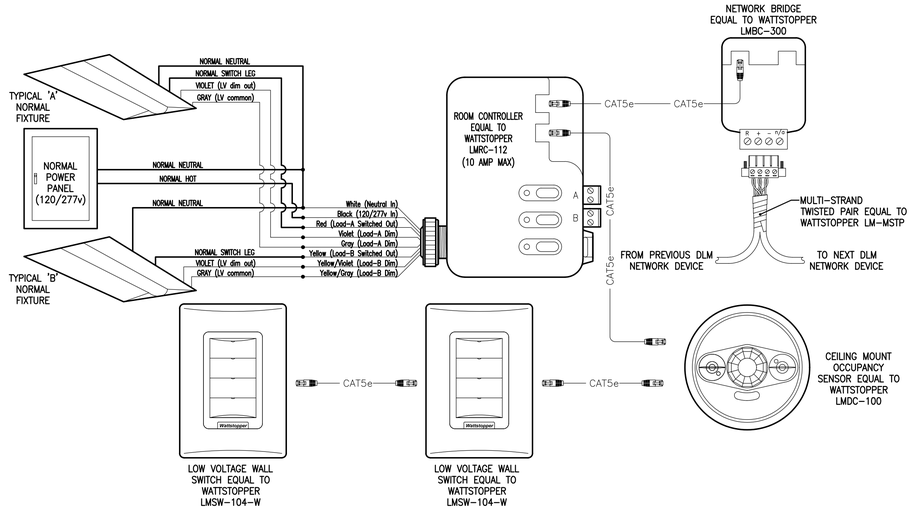
LIGHTING CONTROLS DETAILS

SHEET NUMBER:

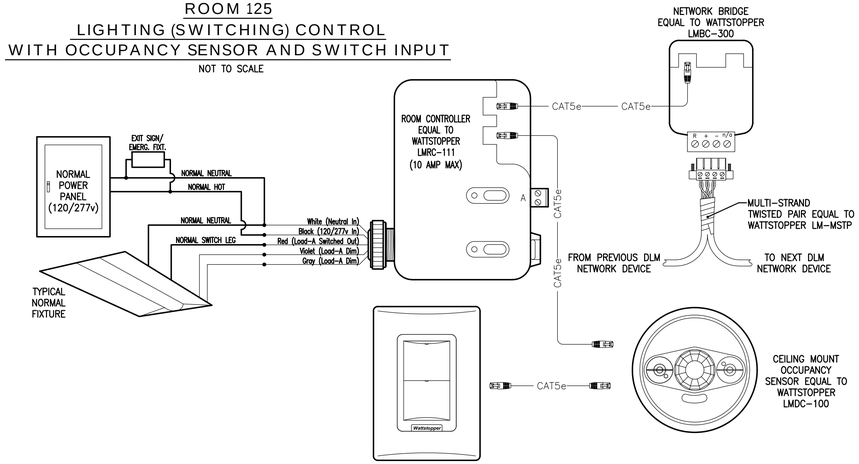
E6.7



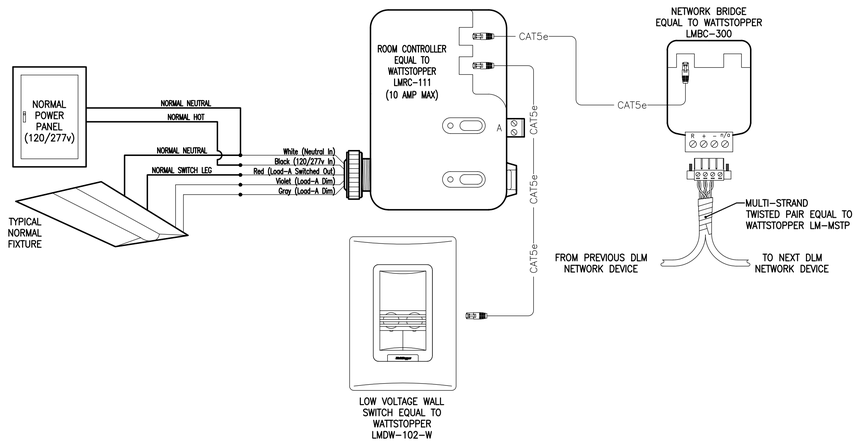
TYPICAL PATIO
LIGHTING CONTROL WITH SWITCH INPUT
NOT TO SCALE



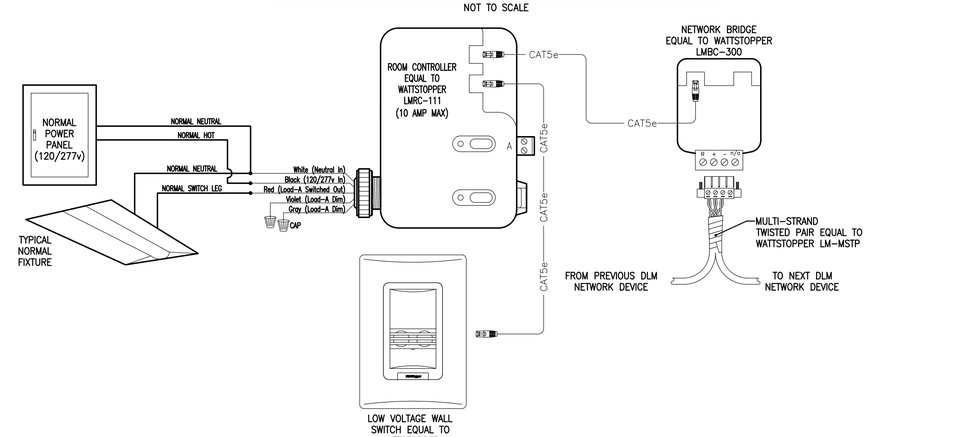
ROOM 125
LIGHTING (SWITCHING) CONTROL
WITH OCCUPANCY SENSOR AND SWITCH INPUT
NOT TO SCALE



CORRIDOR 101, 131 & 133 LIGHTING
(SWITCHING) CONTROL
WITH OCCUPANCY SENSOR AND SWITCH INPUT
NOT TO SCALE



TYPICAL OFFICE AREA
LIGHTING (SWITCHING / DIMMING) CONTROL
WITH VACANCY SENSOR AND SWITCH INPUT
NOT TO SCALE



TYPICAL BATHROOM AND STORAGE AREA
LIGHTING (SWITCHING) CONTROL WITH
VACANCY SENSOR AND SWITCH INPUT
NOT TO SCALE

DANIEL JOSEPH WHITE
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05/10/23

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23023
Job No.

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PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

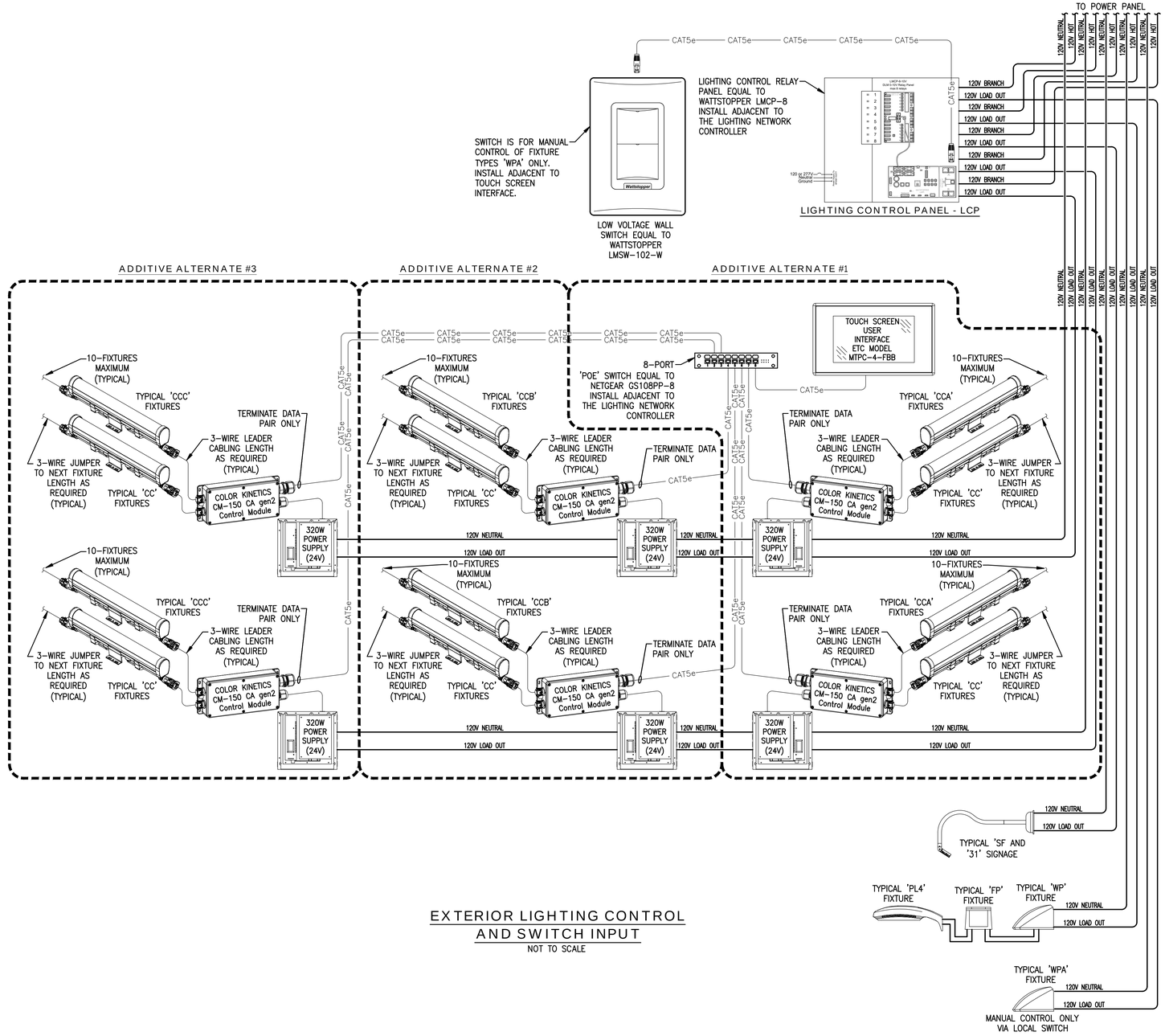
BAY COUNTY, FLORIDA

SHEET TITLE:

LIGHTING CONTROLS DETAILS

SHEET NUMBER:

E6.8



EXTERIOR LIGHTING CONTROL AND SWITCH INPUT

NOT TO SCALE

DANIEL JOSEPH WHITE
LICENSE
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FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

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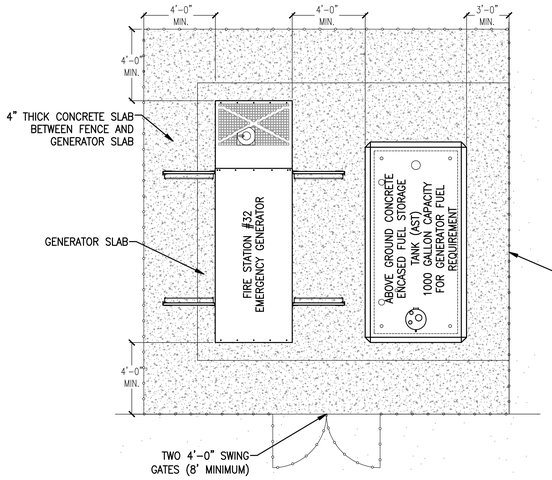
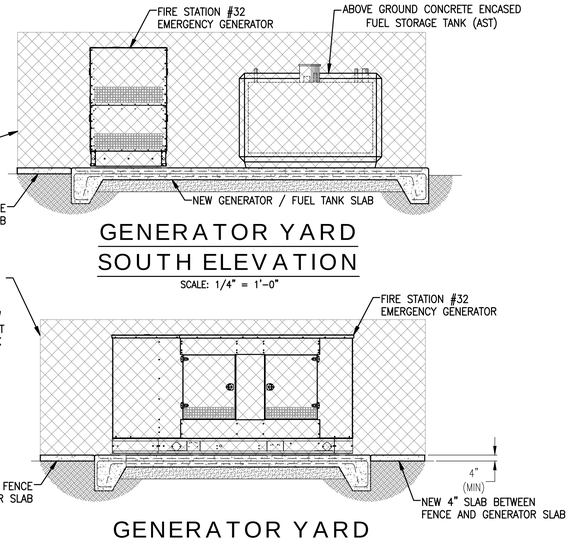
SHEET NUMBER:

E6.9



GENERATOR YARD PLAN VIEW

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

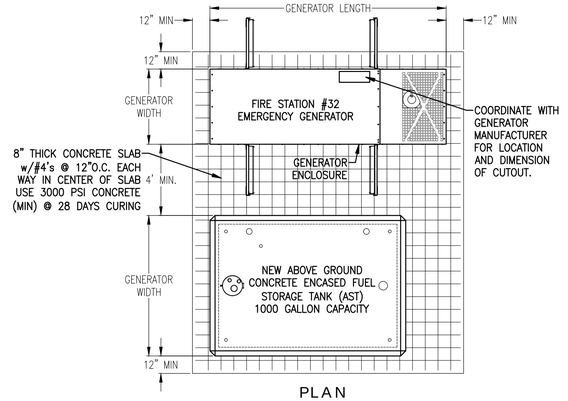


GENERATOR YARD SOUTH ELEVATION

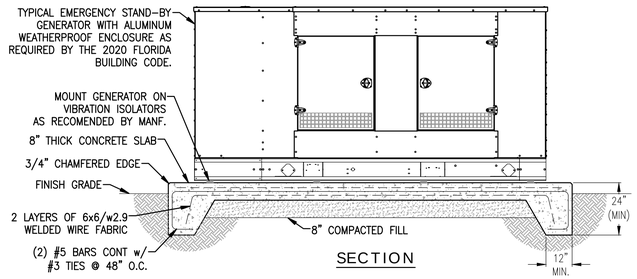
SCALE: 1/4" = 1'-0"

GENERATOR YARD WEST ELEVATION

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



PLAN



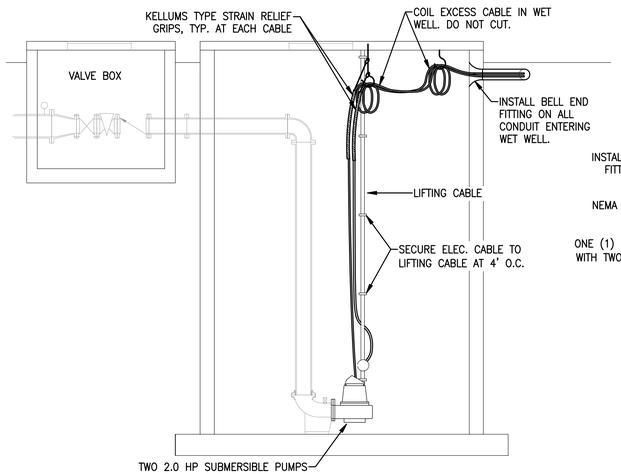
SECTION

GENERATOR PAD MOUNTING DETAIL

NOT TO SCALE

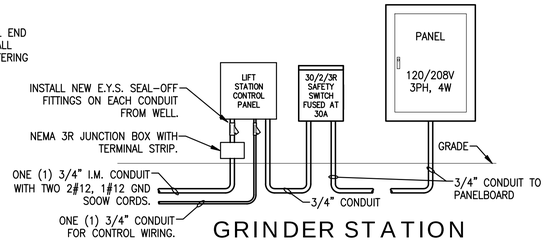
GENERATOR MOUNTING NOTES:

1. INSTALL WITH A MINIMUM CLEARANCE OF 3FT. FROM ALL BUILDINGS AND 4 FT. FROM ALL OBSTRUCTIONS.
2. CONCRETE SHALL HAVE A MINIMUM ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 LBS. PAD SHALL NOT BE CURED LESS THAN 72 HOURS.
3. SECURE GENERATOR TO CONCRETE PAD WITH ANCHOR BOLTS PER MANUFACTURER'S SPECIFICATIONS.



GRINDER STATION CONNECTION DETAIL

NOT TO SCALE



GRINDER STATION SINGLE LINE POWER RISER

NOT TO SCALE

NOTES:

① INSTALL SURGE PROTECTIVE DEVICE IN BREAKER POSITION NEAREST TO NEUTRAL BAR WITH 3#6, 1#10 GND IN 3/4"C; LEAD LENGTH CANNOT EXCEED UL 1449 4TH EDITION TEST OF 14" – REFER TO SPECS. PROVIDE INTERNAL 60A. FUSING.

② INSTALL SURGE PROTECTIVE DEVICE IN BREAKER POSITION NEAREST TO NEUTRAL BAR WITH 3#10, 1#10 GND IN 3/4"C; LEAD LENGTH CANNOT EXCEED UL 1449 4TH EDITION TEST OF 14" – REFER TO SPECS. PROVIDE INTERNAL 30A. FUSING.

③ 1" CONDUIT FOR GENERATOR CONTROLS WIRING BETWEEN GENERATOR AND ATS PER MANUFACTURER'S REQUIREMENTS.

④ REFER TO GROUNDING DETAILS FOR COMPLETE GROUNDING REQUIREMENTS.

⑤ 3/4" CONDUIT WITH MANUFACTURER RECOMMENDED CONTROL CABLES TO GENERATOR REMOTE ANNUNCIATOR PANEL.

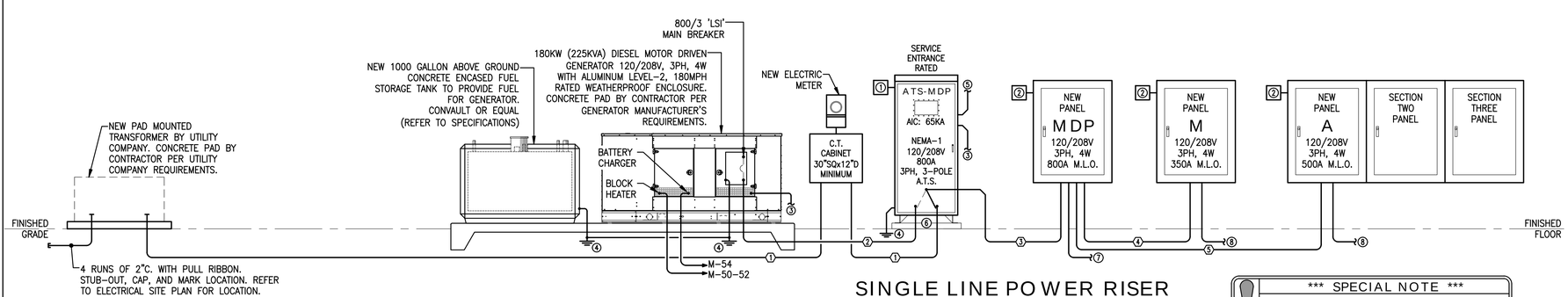
⑥ PROVIDE 4" CONCRETE HOUSEKEEPING PAD.

⑦ INSTALL 2–2" EMPTY CONDUITS WITH PULLRIBBONS 36" PAST FOOTER AND BACK TO PANEL AS INDICATED; FOR FUTURE USE. STUB-OUT, CAP AND MARK LOCATION. REFER TO FLOOR PLAN FOR LOCATION.

⑧ INSTALL 3–1" EMPTY CONDUITS WITH PULLRIBBONS 36" PAST FOOTER AND BACK TO PANEL AS INDICATED; FOR FUTURE USE. STUB-OUT, CAP AND MARK LOCATION. REFER TO FLOOR PLAN FOR LOCATION.

FEEDER SCHEDULE (FIRE STATION BUILDING)

DESIGNATION	EQUIPMENT SOURCE	EQUIPMENT TERMINATION	BREAKER TRIP	BREAKER POLE	CONDUCTOR / CONDUIT SIZE RUNS	CONDUIT	CONDUCTORS QTY.	CONDUCTORS SIZE	CONDUCTORS GND	CONDUCTORS MATERIAL
1	UTILITY XFMR	ATS-MDP	800	3	3	2-1/2"	4	#300kcmil	-	CU
2	GENSET	ATS	800	3	3	2-1/2"	4	#300kcmil	#1/0	CU
3	ATS-MDP	MDP	800	3	3	2-1/2"	4	#300kcmil	#1/0	CU
4	MDP	M	350	3	2	2"	4	#2/0	#3	CU
5	MDP	A	500	3	2	2-1/2"	4	#250kcmil	#2	CU



SINGLE LINE POWER RISER FIRE STATION #32 MAIN BUILDING

NOT TO SCALE

*** SPECIAL NOTE ***
PROVIDE 'LSI' TRIP UNITS FOR BREAKERS GREATER THAN OR EQUAL TO 200A.

DANIEL JOSEPH WHITE LICENSE No. 73790 STATE OF FLORIDA PROFESSIONAL ENGINEER
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23023 Job No.

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PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

SINGLE LINE POWER RISER

SHEET NUMBER:

E7.1

MAIN DISTRIBUTION PANEL (FIRE STATION BUILDING)

MDP

SYSTEM 208/120V 3Φ 4W
RATING 800A M.L.O. 22,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	PANEL-A	500	**3	139565	85700	3**	350	PANEL-M	2
3	----	-	-	-	-	-	-	----	4
5	----	-	-	-	-	-	-	----	6
7	SPARE	125	3	0	0	3	60	SPARE	8
9	----	-	-	-	-	-	-	----	10
11	----	-	-	-	-	-	-	----	12
13	SPACE ONLY (60A FRAME)	-	3	-	0	3	30	SURGE PROTECTIVE DEVICE (TYPE-2)	14
15	----	-	-	-	-	-	-	----	16
17	----	-	-	-	-	-	-	----	18

TOTAL CONNECTED LOAD = 225265 VA / 360 = 625.7 A

NOTES:
* PROVIDE 'LSI' TRIP UNIT MAIN BREAKER AT 'ATS-MDP'
** PROVIDE 'LSI' TRIP UNIT.

LTS/REC PANEL (FIRE STATION BUILDING)

A

SYSTEM 208/120V 3Φ 4W
RATING 500A M.L.O. 22,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS; THREE EQUAL SECTIONS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	LTG - APPARATUS BAY - 100	20	1	1256	1256	1	20	LTS - APPARATUS BAY - 100	2
3	LTS - 107-108, 111, 114A, 130	20	1	759	1255	1	20	LTS - 100A-100C, 101-106, 109-110, 130, 130A	4
5	REC - APPARATUS BAY - 100	20	1	900	1260	1	20	REC - APPARATUS BAY - 100	6
7	REC - APPARATUS BAY - 100 - CORD REEL	20	1	360	360	1	20	REC - APPARATUS BAY - 100 - CORD REEL	8
9	REC - APPARATUS BAY - 100 - CORD REEL	20	1	360	360	1	20	REC - APPARATUS BAY - 100 - CORD REEL	10
11	REC - APPARATUS BAY - 100 - CORD REEL	20	1	360	360	1	20	REC - APPARATUS BAY - 100 - CORD REEL	12
13	REC - APPARATUS BAY - 100	20	1	1260	1080	1	20	REC - APPARATUS BAY - 100	14
15	REC - RECEPT - 101	20	1	1080	600	1	20	REC - EWC	16
17	REC - ADMIN ASST - 103	20	1	900	1200	1	20	REC - ADMIN ASST - 103 - COMPUTER	18
19	REC - STORAGE - 103A - COPIER	20	1	1200	960	1	20	REC - STORAGE - 103A	20
21	REC - ADMIN ASST - 105 - COMPUTER	20	1	600	1400	1	20	REC - TOILET - 104	22
23	REC - ADMIN ASST - 105	20	1	1080	1200	1	20	REC - OFFICES - 106 & 109 - COMPUTER	24
25	REC - OFFICES - 106 & 109	20	1	1440	-	1	20	SPARE	26
27	REC - ADM CHIEF 110, PATIO STO. 130A	20	1	1080	-	1	20	SPARE	28
29	REC - CORR 131, PATIO 130	20	1	900	1260	1	20	REC - TOOLS -100A	30
31	REC - KITCHEN - 111 - COFFEE MAKER	20	1	1500	1260	1	20	REC - KITCHEN -111	32
33	LTG - APPARATUS BAY - 100	20	1	1256	1000	1	20	REC - KITCHEN -111 - DISHWASHER	34
35	REC - KITCHEN - 111	20	1	1200	1000	1	20	REC - KITCHEN - 111 - DISPOSAL	36
37	REC - KITCHEN - 111	20	1	1200	1200	1	20	REC - KITCHEN - 111 - ICE MAKER	38
39	REC - ELEC 109, LIGHTING CONTROLS	20	1	1000	1200	1	20	REC - KITCHEN - 111	40
41	REC - KITCHEN - 111	20	1	1200	1500	1	20	REC - KITCHEN - 111 - MICROWAVE	42
43	REC - KITCHEN - 111 - REFRIG	20	1	1000	1000	1	20	REC - KITCHEN - 111 - REFRIG	44
45	REC - KITCHEN - 111 - REFRIG	20	1	1000	1080	1	20	REC - LIVING / DINING - 111	46
47	REC - LIVING / DINING - 111	20	1	900	900	1	20	REC - LIVING / DINING - 111	48
49	REC - MECH - 129	20	1	1260	720	1	20	REC - RPT OFFICE - 114	50
51	REC - RPT OFFICE - 114 - COPIER	20	1	1200	1200	1	20	REC - RPT OFFICE - 114 - COMPUTER	52
53	REC - RPT OFFICE - 114 - CHARGER	20	1	720	1400	1	20	REC - BATH RM - 118	54
55	REC - BATH RM - 120	20	1	1400	1400	1	20	REC - BATH RM - 122	56
57	REC - LAUNDRY - 124, 126	20	1	1260	5000	2	30	REC - LAUNDRY - 124 - DRYER	58
59	REC - LAUNDRY - 124 - WASHER	20	1	1200	-	-	-	----	60
61	REC - TURNOUT - 126 - WASHER (#HE-65)	20	2	1831	13520	2	70	REC - TURNOUT - 126 - DRYING CABINET (#TS-93)	62
63	----	-	-	-	-	-	-	----	64
65	REC - FILL STATION - 100B - COMPRESSOR	80	3	22000	960	1	20	REC - UNIFORM STORAGE - 128	66
67	----	--	-	--	900	1	20	REC - CONFERENCE - 107	68
69	----	--	-	--	1260	1	20	REC - CONFERENCE - 107	70
71	REC - IT - 107A - SERVER	30	2	2800	2800	2	30	REC - IT - 107A - SERVER	72
73	----	-	-	-	-	-	-	----	74
75	REC - IT - 107A	20	1	600	600	1	20	REC - IT - 107A	76
77	REC - IT - 107A	20	1	600	600	1	20	REC - IT - 107A	78
79	REC - IT - 107A	20	1	600	600	1	20	REC - IT - 107A	80
81	FIRE ALARM CONTROL PANEL	20	*1	600	1080	1	20	REC - GEAR STORAGE - 100C	82
83	REC - BATH RM - 125A	20	1	1400	1400	1	20	REC - BATH RM - 100D	84
85	REC - OFFICER - 125	20	1	900	900	1	20	REC - OFFICER - 125	86
87	REC - OFFICER - 125 - COMPUTER	20	1	600	900	1	20	REC - BUNK RM - 123	88
89	REC - BUNK RM - 121	20	1	900	900	1	20	REC - BUNK RM - 119	90
91	REC - BUNK RM - 117	20	1	900	900	1	20	REC - BUNK RM - 116	92
93	REC - BUNK RM - 115	20	1	900	1260	1	20	REC - ICE MACHINE - TOOLS 100A	94
95	LTS - EXTERIOR - WALL, FLAG POLE	20	1	433	50	1	20	RESIDENTIAL SMOKE DETECTORS	96
97	LTS - EXTERIOR SIGN AND LIGHT	20	1	1200	845	1	20	LTS - TOWER INTERIOR	98
99	LTS - 128A, 112-100D, 127,129,132,133	20	1	1264	960	1	20	LTS - TOWER AND BAY COLOR CHANGING	100
101	LTS - LOWER ROOF COLOR CHANGING	20	1	960	5000	2	30	REC - LAUNDRY - 124 - DRYER	102
103	REC - LAUNDRY - 124 - WASHER	20	1	1200	-	-	-	----	104
105	REC - MED SUPPLY - 127	20	1	1200	-	1	20	SPARE	106
107	SPARE	20	1	-	-	1	20	SPARE	108
109	SPARE	20	1	-	-	1	20	SPARE	110
111	SPARE	20	1	-	-	1	20	SPARE	112
113	SPACE ONLY	-	-	-	-	-	--	SPACE ONLY	114
115	SPACE ONLY	-	-	-	0	3	30	SURGE PROTECTIVE DEVICE (TYPE-2)	116
117	SPACE ONLY	-	-	-	-	-	-	----	118
119	SPACE ONLY	-	-	-	-	-	-	----	120

TOTAL CONNECTED LOAD = 139565 VA / 360 = 387.7 A

NOTES:
* PROVIDE "RED" BREAKER CAPABLE OF BEING LOCKED IN THE "ON" POSITION.

HVAC POWER PANEL (FIRE STATION BUILDING)

M

SYSTEM 208/120V 3Φ 4W
RATING 350A M.L.O. 22,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	FAN (CF-1) - APPARATUS BAY - 100	30	1	1920	1920	1	30	FAN (CF-2) - APPARATUS BAY - 100	2
3	FAN (CF-3) - APPARATUS BAY - 100		1	1920	214	1	20	FAN (CF-4,5) - COVERED PATIO - 133	4
5	ROLL-UP DOOR - APPARATUS BAY - 100	30	2	800	800	2	30	ROLL-UP DOOR - APPARATUS BAY - 100	6
7	----	-	-	-	-	-	-	----	8
9	ROLL-UP DOOR (3/4HP) - APPARATUS BAY-100	20	2	800	800	2	20	ROLL-UP DOOR (3/4HP) - APPARATUS BAY-100	10
11	----	-	-	-	-	-	-	----	12
13	ROLL-UP DOOR (3/4HP) - APPARATUS BAY-100	20	2	800	800	2	20	ROLL-UP DOOR (3/4HP) - APPARATUS BAY-100	14
15	----	-	-	-	-	-	-	----	16
17	OAU-1	70	3	20125	2378	3	15	OACU-1	18
19	----	-	-	-	-	-	-	----	20
21	----	-	-	-	-	-	-	----	22
23	AHU-1	25	2	3462	3462	2	25	AHU-2	24
25	----	-	-	-	-	-	-	----	26
27	AHU-3	25	2	3462	3774	2	25	AHU-4	28
29	----	-	-	-	-	-	-	----	30
31	HP-1	20	2	2005	2823	2	25	HP-2	32
33	----	-	-	-	-	-	-	----	34
35	HP-3	25	2	2823	3066	2	30	HP-4	36
37	----	-	-	-	-	-	-	----	38
39	(EF-1) EXHAUST FAN, IRH 1-4	20	1	1000	792	1	20	(EF-2) EXHAUST FAN - APPARATUS BAY - 100	40
41	(EF-3) EXHAUST FAN - APPARATUS BAY - 100	20	1	792	1656	1	20	(EF-4) EXHAUST FAN - KITCHEN/DINING 111	42
43	(EF-5) EXH, (SF-1)- CORRIDOR 132	20	1	1584	1664	2	15	WM-1.1, MHP-1	44
45	DH-1, TP, CP-1,GWH-1,IWH-1	20	1	270	-	-	-	----	46
47	(SF-2) SUPPLY FAN - KITCHEN/DINING 111	20	1	1656	336	1	20	(EF-7) EXHAUST FAN - APPARATUS BAY - 100	48
49	HOSE DRYING HOIST MOTOR	20	1	1200	2400	2	30	GENERATOR BLOCK HEATER	50
51	HOSE DRYING HOIST MOTOR	20	1	1200	-	-	-	----	52
53	HOSE DRYING HOIST MOTOR	20	1	1200	500	1	20	GENERATOR BATTERY CHARGER	54
55	HOSE DRYING HOIST MOTOR	20	1	1200	5200	2	40	WM-2.1, MHP-2	56
57	HOSE DRYING HOIST MOTOR	20	1	1200	-	-	-	----	58
59	HOSE DRYING HOIST MOTOR	20	1	1200	0	2	30	SPARE	60
61	SPARE	20	1	-	-	-	-	----	62
63	SPARE	20	1	-	2496	2	30	GRINDER STATION (2HP MAX)	64
65	SPARE	20	1	-	-	-	-	----	66
67	SPARE	20	1	-	-	1	20	SPARE	68
69	SPARE	20	1	-	-	1	20	SPARE	70
71	SPARE	20	1	-	-	1	20	SPARE	72
73	SPACE ONLY	-	-	-	-	-	-	SPACE ONLY	74
75	SPACE ONLY	-	-	-	-	-	-	SPACE ONLY	76
77	SPACE ONLY	-	-	-	-	-	-	SPACE ONLY	78
79	SPACE ONLY	-	-	-	0	3	30	SURGE PROTECTIVE DEVICE (TYPE-2)	80
81	SPACE ONLY	-	-	-	-	-	-	----	82
83	SPACE ONLY	-	-	-	-	-	-	----	84

TOTAL CONNECTED LOAD = 85700 VA / 360 = 238.1 A

NOTES:
*

MECHANICAL EQUIPMENT SCHEDULE

(VERIFY ALL EQUIPMENT CIRCUIT REQUIREMENTS WITH MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGH-IN)

EQUIPMENT DESIGNATION	DESCRIPTION	CFM	VOLT	Φ	ELECTRICAL LOAD: MOTOR(S) FLA QTY	MOTOR(S) FLA LARGEST	MOTOR(S) FLA REMAINING	ELECTRIC HEAT KW	OTHER VA	TOTAL VA CONNECTED	PROTECTION MCA	PROTECTION MOCP	SPECIFIED TRIP	SPECIFIED POLE	SETS	CONDUCTOR / CONDUIT SIZE: CONDUCTORS QTY.	CONDUCTORS SIZE	CONDUCTORS GND	CONDUIT	DISC.	REMARKS
OAU-1	OUTSIDE AIR UNIT	1175	208	3	1	17		14		20125	61	70	70	3	1	4	#4	#8	1-1/4"	100/3/1	Single Point Connection
OACU-1	CONDENSING UNIT		208	3	1	6.6				2378	7.4	15	15	3	1	4	#12	#12	3/4"	30/3/3R	
AHU-1	AIR HANDLING UNIT	665	208	1	1	2.8		2.88		3462	21	25	25	2	1	3	#10	#10	3/4"	30/2/1	Single Point Connection; Integral air purification
AHU-2	AIR HANDLING UNIT	965	208	1	1	2.8		2.88		3462	21	25	25	2	1	3	#10	#10	3/4"	30/2/1	Single Point Connection; Integral air purification
AHU-3	AIR HANDLING UNIT	965	208	1	1	2.8		2.88		3462	21	25	25	2	1	3	#10	#10	3/4"	30/2/1	Single Point Connection; Integral air purification
AHU-4	AIR HANDLING UNIT	1100	208	1	1	4.3		2.88		3774	23	25	25	2	1	3	#10	#10	3/4"	30/2/1	Single Point Connection; Integral air purification
AHU-5	AIR HANDLING UNIT	795	208	1	1	2.8		5.76		6342	38	45	45	2	1	3	#8	#10	3/4"	60/2/1	Single Point Connection; Integral air purification
DH-1	DEHUMIDIFIER	155	120	1					324	324	2.8	15	15	1	1	2	#12	#12	3/4"	RECEPT	
HP-1	HEAT PUMP		208	1	1	9.64				2005	12	20	20	2	1	3	#12	#12	3/4"	30/2/3R	
HP-2	HEAT PUMP		208	1	1	13.57				2823	17	25	25	2	1	3	#10	#10	3/4"	30/2/3R	
HP-3	HEAT PUMP		208	1	1	13.57				2823	17	25	25	2	1	3	#10	#10	3/4"	30/2/3R	
HP-4	HEAT PUMP		208	1	1	14.74				3066	18	30	30	2	1	3	#10	#10	3/4"	30/2/3R	
HP-5	HEAT PUMP		208	1	1	10.9				2267	14	25	25	2	1	3	#10	#10	3/4"	30/2/3R	
EF-1	EXHAUST FAN	130	120	1	1					65	0.542	15	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Integral Disconnect
EF-2	EXHAUST FAN	1770	120	1	1	6.6				792	8.3	15	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Integral Disconnect
EF-3	EXHAUST FAN	1770	120	1	1	6.6				792	8.3	15	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Integral Disconnect
EF-4	EXHAUST FAN	1310	120	1	1	13.8				1656	17.25	30	30	1	1	2	#10	#10	3/4"	MOTORSWITCH	Interlocked with Kitchen Hood
EF-5	EXHAUST FAN	435	120	1	1	6.6				792	8.3	15	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Integral Disconnect, Interlocked with OAU-1
EF-6	EXHAUST FAN	420	120	1	1	3.8				456	3.8	15	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Integral Disconnect
EF-7	EXHAUST FAN	640	120	1	1	2.8				336	2.8	15	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Interlocked with IRH-1,2,3,4
EF-8	EXHAUST FAN	80	120	1	1	1.3				156	1.5	20	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Interlocked with AHU-5
SF-1	SUPPLY FAN	350	120	1	1	6.6				792	8.3	15	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	Interlocked with Turn-Out Dryer
SF-2	SUPPLY FAN	1310	120	1	1	13.8				1656	17.25	30	30	1	1	2	#10	#10	3/4"	MOTORSWITCH	Interlocked with Kitchen Hood
CF-1	BIG ASS FAN		120	1	1	16				1920	16	30	30	1	1	2	#10	#10	3/4"	MOTORSWITCH	
CF-2	BIG ASS FAN		120	1	1	16				1920	16	30	30	1	1	2	#10	#10	3/4"	MOTORSWITCH	
CF-3	BIG ASS FAN		120	1	1	16				1920	16	30	30	1	1	2	#10	#10	3/4"	MOTORSWITCH	
CF-4	CEILING FAN		120	1	1	0.9				108	1	20	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	
CF-4	CEILING FAN		120	1	1	0.9				108	1	20	20	1	1	2	#12	#12	3/4"	MOTORSWITCH	
IRH-1	INFRARED GAS HEATER		120	1					48	48	0.5	15	15	1	1	2	#12	#12	3/4"	MOTORSWITCH	
IRH-2	INFRARED GAS HEATER		120	1					48	48	0.5	15	15	1	1	2	#12	#12	3/4"	MOTORSWITCH	
IRH-3	INFRARED GAS HEATER		120	1					48	48	0.5	15	15	1	1	2	#12	#12	3/4"	MOTORSWITCH	
IRH-4	INFRARED GAS HEATER		120	1					48	48	0.5	15	15	1	1	2	#12	#12	3/4"	MOTORSWITCH	
WM-1.1 MHP-1	MINI SPLIT SYSTEM	399	208	1	1	8				1664	12	15	15	2	1	3	#12	#12	3/4"	30/2/3R	Indoor Unit (WM) Powered from the Outdoor Unit (MHP-1)
WM-2.1 MHP-2	MINI SPLIT SYSTEM	920	208	1	1	25				5200	24	40	40	2	1	3	#8	#10	3/4"	60/2/3R	Indoor Unit (WM) Powered from the Outdoor Unit (MHP-2)
TP	TRAP PRIMER		120	1					50	50	0.4	15	15	1	1	2	#12	#12	3/4"	RECEPT	
CP-1	RECIRCULATION PUMP		120	1					120	120	1	15	15	1	1	2	#12	#12	3/4"	RECEPT	
IWH-1	GAS INSTANT WATER HEATER		120	1					50	50	0.4	15	15	1	1	2	#12	#12	3/4"	MOTORSWITCH	
GWH-1	GAS WATER HEATER		120	1					50	50	0.4	15	15	1	1	2	#12	#12	3/4"	MOTORSWITCH	

DANIEL JOSEPH WHITE LICENSE No. 73790 STATE OF FLORIDA PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/04/23
95% DOCUMENTS	R.E.	R.E.	03/31/23
CONSTRUCTION DOCUMENTS	R.E.	R.E.	05/10/23
BID DOCUMENTS	R.E.	R.E.	08/01/23

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PANAMA CITY BEACH, FL
PHONE: (850) 236-9832
Commission Number: 22833

CONSULTANTS:

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Christopher A. Garick; FL. PE No.53924
Thomas A. Alexander; FL. PE No.73172
Daniel J. White; FL. PE No.73790
Caleb W. Leonard; FL. PE No.91782

23023 Job No.

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

SCHEDULES

SHEET NUMBER:

E7.2

FIRE ALARM RISER GENERAL NOTES

A. THIS DIAGRAM IS NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR DEVICE QUANTITIES AND LOCATIONS.

B. THE RISER REPRESENTS A TYPICAL SYSTEM AND IS NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

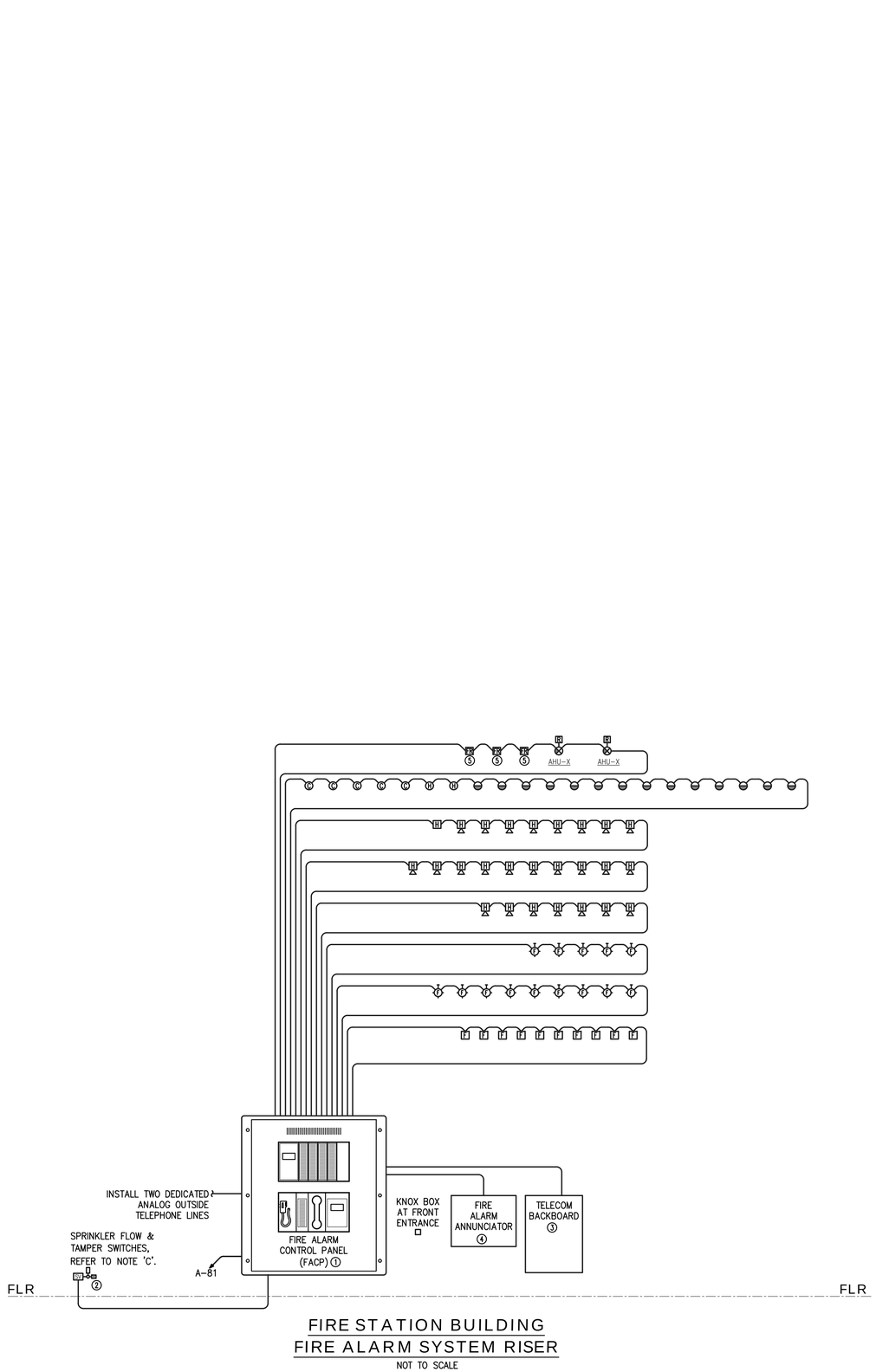
C. SEE FIRE PROTECTION INSTALLER FOR LOCATIONS AND QUANTITIES OF FLOW AND TAMPER SWITCHES.

D. PROVIDE ADDITIONAL MONITOR AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

E. FIRE ALARM SYSTEM SHALL HAVE U/L/ APPROVED DIGITAL ALARM DIALER/COMMUNICATOR TO SEND ALARM SIGNAL TO LOCAL FIRE DEPARTMENT MONITORING SERVICE.

NOTES:

1. FIRE ALARM CONTROL PANEL.
2. BUILDING SPRINKLER FLOW AND TAMPER SWITCH. VERIFY EXACT LOCATION WITH SPRINKLER CONTRACTOR.
3. TELECOMMUNICATIONS BACKBOARD. CONNECT FIRE ALARM CONTROL PANEL FOR OUTSIDE COMMUNICATIONS LINE CAPABILITY.
4. INSTALL FIRE ALARM ANNUNCIATOR PANEL IN THE RECEPTION AREA TO MEET LIFE SAFETY CODE REQUIREMENT FOR "CONSTANTLY MONITORED LOCATION".
5. INSTALL FIRE ALARM SYSTEM RELAY SUCH THAT THE FAN SHUTS DOWN UPON SPRINKLER SYSTEM ACTIVATION.



FIRE STATION BUILDING
FIRE ALARM SYSTEM RISER
NOT TO SCALE

DANIEL JOSEPH WHITE LICENSE No. 73790 STATE OF FLORIDA PROFESSIONAL ENGINEER
05/10/23

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE
1	CONFORMED PER ADDENDA	R.E.	R.E.	12/23/22

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	R.E.	R.E.	03/31/23
CONSTRUCTION DOCUMENTS	R.E.	R.E.	05/10/23
BID DOCUMENTS	R.E.	R.E.	08/01/23

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Christopher A. Garick; FL. PE No.53924
Thomas A. Alexander; FL. PE No.73172
Daniel J. White; FL. PE No.73790
Caleb W. Leonard; FL. PE No.91782
23023 Job No.

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

FIRE ALARM RISER

SHEET NUMBER:

E7.3

EMERGENCY RESPONSE DISPATCH EVENT GENERAL NOTES

A. THIS DIAGRAM IS NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR DEVICE QUANTITIES AND LOCATIONS.

B. THE DIAGRAMS REPRESENT A TYPICAL SYSTEM AND ARE NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

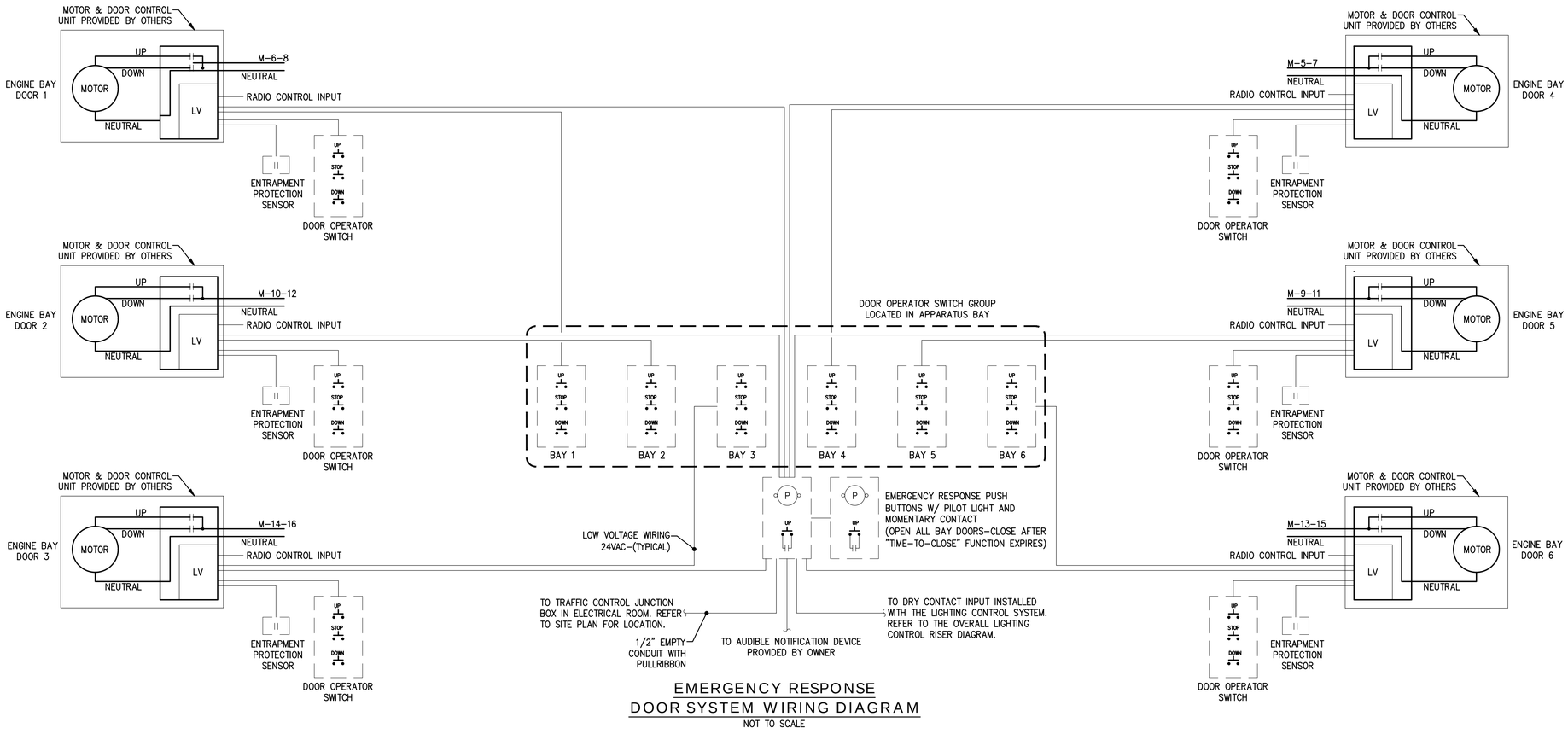
C. PROVIDE ADDITIONAL POWER AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

D. BAY DOORS TO CLOSE WITHIN 4-MINUTES OF 'TIME-TO-CLOSE' FUNCTION INITIALIZATION UNLESS A 'STOP' FUNCTION IS ACTIVATED TO MAINTAIN AN 'OPEN-DOOR' CONDITION. 'TIME-TO-CLOSE' FUNCTION SHALL BE COORDINATED WITH THE FIRE CHIEF FOR LENGTH OF TIME TILL 'DOOR-CLOSE' OPERATION BEGINS.

E. UPON ACTIVATION OF DISPATCH EVENT PUSH BUTTON, ALL BAY DOORS SHOULD OPEN. ALL BAY DOORS SHALL CLOSE AFTER 'TIME-TO-CLOSE' ACTIVATION HAS EXPIRED UNLESS OVERRIDDEN WITH A 'STOP' FUNCTION REQUEST TO MAINTAIN AN OPEN DOOR.

F. LIGHTING FIXTURES CONTROLLED VIA A 'DISPATCH EVENT' OR AN DISPATCH EVENT PUSH BUTTON, SHALL BE FORCED "ON" UNTIL PROGRAMMED 'TIME-TO-CLOSE' FUNCTION HAS EXPIRED, AND THEN RESUME NORMAL OPERATION. REFER TO SEQUENCE OF OPERATION FOR LIGHTING CONTROL PROGRAM INFORMATION.

G. VERIFY EACH DEVICE'S WIRING REQUIREMENTS WITH MANUFACTURER.



EMERGENCY RESPONSE DOOR SYSTEM WIRING DIAGRAM

NOT TO SCALE

DANIEL JOSEPH WHITE LICENSE No. 73790 STATE OF FLORIDA PROFESSIONAL ENGINEER 05/10/23

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS	R.E.	R.E.	03/31/23
CONSTRUCTION DOCUMENTS	R.E.	R.E.	05/10/23
BID DOCUMENTS	R.E.	R.E.	08/01/23

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23023
Job No.

PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

ROLL-UP DOOR CONTROL RISER

SHEET NUMBER:

E7.4

TELECOM / SECURITY / AUDIO VISUAL SYSTEM LEGEND

DEVICE SYMBOL	SYMBOL SUBSCRIPT - TYPE 'x'	DESCRIPTION	CAT 6 UTP (QTY)	CAT 6 STP (QTY)	RG-6 COAX (QTY)	18AWG/2COND (QTY)	JACK/MODULE TYPE	JACK/MODULE COLOR	MOUNTING HEIGHT AFF (UNO)
	BUILDING SUPPORT SYSTEM DEVICES								
x	DDC	DIRECT DIGITAL CONTROLS NETWORK OUTLET	(2)	-	-	-	RJ-45	VIOLET	COORDINATE W/CONTRACTOR
	ELEC	ELECTRICAL OUTLET	(2)	-	-	-	RJ-45	BLUE	COORDINATE W/CONTRACTOR
	WALL MOUNT PHONE DEVICES								
	-	WALL MOUNT PHONE OUTLET	(1)	-	-	-	RJ-45	GREEN	48"
	NETWORK DEVICES								
x	-	DATA/VOICE OUTLET	(2)	-	-	-	RJ-45	GREEN	18"
	WAP	WIRELESS ACCESS POINT DATA OUTLET	(2)	-	-	-	RJ-45	GREEN	IN CEILING
	AW	DATA/VOICE OUTLET LOCATED ABOVE WORK SURFACE	(2)	-	-	-	RJ-45	GREEN	SEE DETAIL
WAP	-	CEILING MOUNTED WIRELESS ACCESS POINT DATA OUTLET, SEE DETAILS & NOTES	(2)	-	-	-	RJ-45	GREEN	SEE DETAIL
	-	FLOOR BOX - DATA/VOICE OUTLET	(2)	-	-	-	RJ-45	GREEN	SEE DETAIL
	BUILDING SYSTEM DEVICES								
	-	TV/DISPLAY OUTLET	-	(1)	(1)	-	RJ-45 / F-CONN	MATCH FACEPLATE	90"
	RACEWAY & SUPPORTING INFRASTRUCTURE								
	-	CABLE TRAY - 18"X2"	-	-	-	-	-	-	SEE PLAN
	RACEWAY & SUPPORTING INFRASTRUCTURE - SITE								
	-	UNDERGROUND CONDUIT	-	-	-	-	-	-	SEE SITE; DETAILS
	-	HAND HOLE	-	-	-	-	-	-	SEE SITE; DETAILS
	INTERCOM SYSTEM								
IC	-	INTERCOM CALL STATION - EXTERIOR	-	-	-	-	-	-	48"
PB	-	HELP PUSH BUTTON STATION	-	-	-	-	-	-	48"; SEE DETAIL
	PAGING SYSTEM								
S	-	CEILING MOUNTED SPEAKER - INTERIOR	-	-	-	(1)	-	-	SEE DETAIL
S x	-	WALL MOUNTED SPEAKER - INTERIOR	-	-	-	(1)	-	-	8'-0"
	BAY	WALL MOUNTED HORN TYPE SPEAKER - INTERIOR	-	-	-	(1)	-	-	15'-0"
	EXT	WALL MOUNTED SPEAKER - EXTERIOR	-	-	-	(1)	-	-	15'-0"
	CAMERA SURVEILLANCE SYSTEM (CCTV) - ROUGH-IN ONLY								
CAM	-	WALL MOUNTED CAMERA - INTERIOR	-	-	-	-	-	-	IN CEILING
CAM EXT	-	WALL MOUNTED CAMERA - EXTERIOR	-	-	-	-	-	-	SEE DETAIL
	ACCESS CONTROL SYSTEM (ACS) - ROUGH-IN ONLY								
CR	-	CARD READER	-	-	-	-	-	-	SEE DETAIL
DR	-	REMOTE DOOR RELEASE	-	-	-	-	-	-	SEE DETAIL

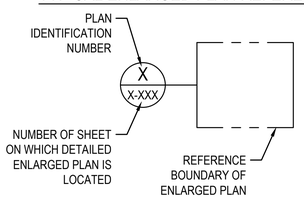
TELECOM ABBREVIATIONS:

AW	ABOVE WORK-SURFACE
AFF	ABOVE FINISH FLOOR
ADA	AMERICANS WITH DISABILITIES ACT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWG	AMERICAN WIRE GAUGE
AA	APPROVING AUTHORITY
ARCH	ARCHITECTURAL
AHJ	AUTHORITY HAVING JURISDICTION
BBC	BONDING BACKBONE CONDUCTOR
BAS	BUILDING AUTOMATION SYSTEM
CT	CABLE TRAY
CAT 3	CATEGORY 3
CAT 5E	CATEGORY 5 ENHANCED
CAT 6	CATEGORY 6
CAT 6A	CATEGORY 6 AUGMENTED
CO	COMMUNICATIONS OUTLET
CATV	COMMUNITY ANTENNA TELEVISION
COND	CONDUCTOR
C	CONDUIT
CP	CONSOLIDATION POINT
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED
OTR	OWNER'S TECHNICAL REPRESENTATIVE
DDC	DIRECT DIGITAL CONTROLS
DEMARC	DEMARCATION
ELEC	ELECTRICAL
EMI	ELECTROMAGNETIC INTERFERENCE
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRICAL METALLIC TUBING
FCC	FEDERAL COMMUNICATIONS COMMISSION
FO	FIBER OPTIC
HH	HANDHOLE
IAW	IN ACCORDANCE WITH
LAN	LOCAL AREA NETWORK
MTR	MAIN TELECOMMUNICATIONS ROOM
MH	MAINTENANCE HOLE
MAX	MAXIMUM
um	MICRON / MICROMETER
MIN	MINIMUM
MUTOA	MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY
MM	MULTIMODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEC	NATIONAL ELECTRICAL CODE
NESC	NATIONAL ELECTRICAL SAFETY CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OSP	OUTSIDE PLANT
PR	PAIR
PP	PATCH PANEL
PVC	POLYVINYL CHLORIDE
PB	PULL BOX
PBB	PRIMARY BONDING BUSBAR
PBX	PRIVATE BRANCH EXCHANGE
RMU	RACK MOUNTED UNIT
RM	ROOM
R/I	ROUGH-IN
ScTP	SCREENED TWISTED-PAIR
SBB	SECONDARY BONDING BUSBAR
SVTC	SECURED VIDEO TELECONFERENCE
STP	SHIELDED TWISTED-PAIR
SM	SINGLEMODE
SF	SURFACE MOUNT
STR	STRANDS
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TEBC	TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR
TBC	TELECOMMUNICATIONS BONDING CONDUCTOR
TER	TELECOMMUNICATIONS EQUIPMENT ROOM
TR	TELECOMMUNICATIONS ROOM
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES INC
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED-PAIR
UNO	UNLESS NOTED OTHERWISE
VTC	VIDEO TELECONFERENCE
VoIP	VOICE OVER INTERNET PROTOCOL

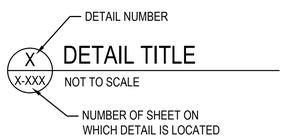
SYSTEMS ANNOTATION LEGEND

- 1 — SHEET NOTE
- LEADER
- 1 — DIAGRAM NOTE
- DIAGRAM LEADER
- CONDUIT TURNING DOWN
- CONDUIT TURNING UP
- CONDUIT STUB

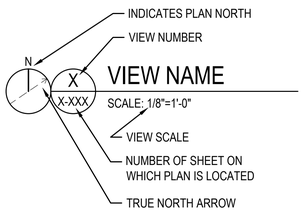
TYPICAL ENLARGED PLAN REFERENCE



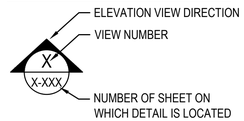
TYPICAL DETAIL TITLE



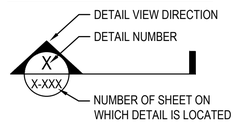
TYPICAL VIEW TITLE



TYPICAL ELEVATION SYMBOL



TYPICAL SECTION SYMBOL



REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI JOSHUA A LOGAN BICSI ID # 160273 Expires 12-31-24 RCDD

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

TELECOM LEGEND & NOTES

SHEET NUMBER:

T0.1

TELECOMMUNICATIONS GENERAL NOTES - FACILITY INFRASTRUCTURE:

THE TELECOMMUNICATIONS DRAWINGS PROVIDED ARE DIAGRAMMATIC AND SHOW THE GENERAL LOCATION OF ALL REQUIRED DEVICES; SUCH AS OUTLETS, RACEWAYS, EQUIPMENT, AND APPURTENANCES. THEY DO NOT SHOW ALL NECESSARY OFFSETS, JUNCTION BOXES, CABLE/LADDER TRAY TRANSITIONS, CONDUIT SLEEVES/PENETRATIONS, AND ADJUSTMENTS NECESSARY BY COORDINATION WITH OTHER TRADES IN THE FIELD.

TELECOMMUNICATION CONTRACTOR'S SCOPE OF WORK: TELECOMMUNICATION'S CONTRACTOR SHALL BE RESPONSIBLE FOR ENTIRE STRUCTURED CABLING SYSTEM ELEMENTS DEFINED IN THIS SCOPE OF WORK. THIS INCLUDES A COMPLETE INSTALLATION OF ALL PASSIVE INFRASTRUCTURE ELEMENTS SUCH AS OUTLETS, JACKS, CABLING, CABINETS, RACKS. BACKBOARDS, LADDER TRAY (LIMITED TO TELECOM ROOMS), TELECOM EQUIPMENT ROOM/CABINET BONDING, TERMINATIONS, TESTING, LABELING, WARRANTIES, AND ALL REQUIRED CLOSE-OUT DOCUMENTS. THE TELECOMMUNICATIONS CONTRACTOR SHALL UNDERSTAND THE FULL INTENT OF THE DRAWINGS AND SPECIFICATIONS PRIOR TO BID, AND WILL INCLUDE IN SCOPE OF WORK ALL REQUIREMENTS NECESSARY TO ENSURE A FULLY FUNCTIONAL SYSTEM.

COORDINATION: WITH OTHER TRADES EXAMINE AND REVIEW THE DOCUMENTS OF ALL DIVISIONS IN ORDER TO COORDINATE THE INSTALLATION OF WORK. USE DIMENSIONED DRAWINGS TO VERIFY THE SPACE NECESSARY FOR LOCATING OUTLETS, RACEWAYS, AND EQUIPMENT. USE FIELD MEASUREMENTS TO VERIFY DIMENSIONS WHERE AREAS ARE CONGESTED, AND EXACT LOCATION IS CRITICAL TO ENSURE PROPER INSTALLATION. COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO; VERIFYING THE LOCATION AND SIZE OF OPENINGS/PENETRATIONS IN FLOORS, WALLS, PARTITIONS, CEILINGS, AND ROOFS WITH THE INSTALLING TRADES; ALLOCATION OF SPACE WITH OTHER TRADES, INSTALLING WORK IN CHASES, SHAFTS, CEILING INTERSTITIAL SPACES, AND EQUIPMENT SPACES; AND THE PHASING OF INSTALLATION WORK WITH THAT OF OTHER TRADES.

INSTALLATION SHALL CONFORM WITH NFPA 70 "NATIONAL ELECTRICAL CODE," ANSI/TIA, AND ELECTRICAL SPECIFICATIONS (UNO).

CABLING INSTALLATION: ALL CABLING ROUTED IN SLAB, BELOW VAPOR BARRIER OR BELOW GRADE, SHALL BE U.L. LISTED FOR WET LOCATIONS THAT COMPLIES WITH NFPA 70 (NEC): PART V, 725.3(L), 110.11, 300.5(B), 300.6, AND 310.10(G). DO NOT USE PLENUM OR RISER RATED CABLE, AND UNLISTED CABLES IN SUCH AN ENVIRONMENT. FOR IN-FLOOR CONDUIT SYSTEMS, PROVIDE HOME RUNS BACK TO THE TR SERVING THAT AREA.

USE A FILL RATIO OF 40 PERCENT FOR CONDUIT SIZING. DO NOT INSTALL MORE THAN FOUR, FOUR-PAIR CABLES IN A 1 INCH (27 MM) CONDUIT.

PROVIDE PULL STRING IN ALL EMPTY CONDUITS AND INNERDUCT. PULL STRING TO BE RATED FOR 200LBS IN ALL CONDUITS.

TELECOMMUNICATIONS FACEPLATES SHALL MATCH ELECTRICAL SWITCH AND RECEPTACLE PLATE FINISHES. PROVIDE COVER PLATES FOR ALL UNUSED J-BOX LOCATIONS.

LABEL ALL CABLES WITHIN 4 INCHES OF EACH TERMINATION. PROVIDE 12 INCHES SERVICE LOOP AT THE WORK AREA END OF EACH HORIZONTAL CABLE.

INSTALL VELCRO CABLE TIES TO ALL CABLE BUNDLES IN CABLE TRAY, NON-CONTINUOUS SUPPORTS, RACK WIRE MANAGEMENT, D-RINGS AND OTHER SUPPORT MEANS. BUNDLE ALL DIFFERENTIATING NETWORK CABLING SEPARATELY.

BALANCED TWISTED-PAIR CABLING SHALL BE SEPARATED FROM FLUORESCENT LAMPS AND ASSOCIATED FIXTURES BY A MINIMUM OF 5 IN.

NON-CONTINUOUS CABLE SUPPORTS (WHEN SPECIFIED): SUPPORTS MUST NOT EXCEED 20 CABLES OR 50 PERCENT OF THE FILL CAPACITY, WHICHEVER IS LESS; INTERVALS NOT TO EXCEED 5 FT.

CABLING INSTALLATION IN CABLE TRAYS:
A MINIMUM OF 12 IN ACCESS HEADROOM SHALL BE PROVIDED AND MAINTAINED ABOVE A CABLE TRAY SYSTEM OR CABLE RUNWAY.

A MINIMUM OF 3 IN CLEAR VERTICAL SPACE SHALL BE AVAILABLE ABOVE ACCESSIBLE CEILING, BELOW THE CABLE TRAY.

THE MAXIMUM FILL OF ANY CABLE TRAY SHALL NOT EXCEED 25% (UNO), ALLOWING FACILITY USERS AN ADDITIONAL 25% SPARE CAPACITY. THE MAXIMUM FILL DEPTH OF ANY CABLE TRAY SHALL NOT EXCEED 6 IN.

MAIN TELECOM ROOM (MTR) / TELECOM ROOMS (TRs):
CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO ENSURE TELECOM ROOMS ARE DIMENSIONALLY CONSTRUCTED AS DESIGNED. THIS INCLUDES USING FIELD MEASUREMENTS TO VERIFY ROOM DIMENSIONS, CONDUIT LOCATIONS (PRIOR TO CONCRETE POUR), WALL PENETRATIONS, AND DEVICE PLACEMENT.

INSTALL BACKBOARDS IN ACCORDANCE WITH TIA-569-D. BACKBOARDS MUST BE FIRE-RETARDANT TREATED WOOD, BEARING THE MANUFACTURER'S STAMP. IF PAINTED, THE MANUFACTURER'S FIRE RATED STAMP MUST REMAIN VISIBLE.

INSTALL FLOOR MOUNTED EQUIPMENT RACKS / CABINETS LOCATED AT OR NEAR THE CENTER OF THE TELECOMMUNICATION ROOM. MAINTAIN A MINIMUM OF 36 INCHES SPACE BOTH IN FRONT AND IN BACK OF THE RACK, MEASURED FROM THE EQUIPMENT, AND A MINIMUM SIDE CLEARANCE OF 24 INCHES ON AT LEAST ONE END OF THE RACK OR ROW OF ADJACENT RACKS IS REQUIRED. PROVIDE 25% SPARE CAPACITY WITHIN EACH UTILIZED RACK.

FURNITURE/MILLWORK:
ENSURE THAT THE CABLE IS PROTECTED AT ALL TRANSITION POINTS, AND THAT METALLIC SEPARATION IS PROVIDED BETWEEN TELECOMMUNICATION AND POWER WIRING IN THE UTILITY COLUMNS AND SYSTEMS FURNITURE TRACK IN ACCORDANCE WITH TIA-569-D AND NFPA 70.

ELECTRICAL GENERAL NOTES - FACILITY INFRASTRUCTURE:

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INTERIOR ROUGH-IN AND SUPPORT SYSTEM NECESSARY FOR THE COMPLETE STRUCTURED CABLING SYSTEM DEFINED IN THIS SCOPE OF WORK. THIS INCLUDES A COMPLETE INSTALLATION OF ALL REQUIRED PATHWAYS INCLUDING: CABLE TRAY (EXCLUDES TRAY IN MTR/TR), CONDUIT, BACK BOXES, JUNCTION BOXES, FLOOR BOXES, BLOCKING, GROUNDING CONDUCTORS AND BUSBARS, FIRESTOPPING, POWER, AND ANY OTHER NECESSARY APPURTENANCES.

THE ELECTRICAL CONTRACTOR SHALL UNDERSTAND THE FULL INTENT OF THE DRAWINGS AND SPECIFICATIONS PRIOR TO BID, AND WILL INCLUDE IN SCOPE OF WORK ALL REQUIREMENTS NECESSARY TO SUPPORT THE TELECOMMUNICATIONS SYSTEM TO COORDINATE AND ENSURE A FULLY FUNCTIONAL SYSTEM.

COORDINATION WITH OTHER TRADES:
EXAMINE AND REVIEW THE DOCUMENTS OF ALL DIVISIONS IN ORDER TO COORDINATE THE INSTALLATION OF WORK. USE DIMENSIONED DRAWINGS TO VERIFY THE SPACE NECESSARY FOR LOCATING OUTLETS, RACEWAYS, AND EQUIPMENT. USE FIELD MEASUREMENTS TO VERIFY DIMENSIONS WHERE AREAS ARE CONGESTED, AND EXACT LOCATION IS CRITICAL TO ENSURE PROPER INSTALLATION. COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, VERIFYING THE LOCATION AND SIZE OF OPENINGS/PENETRATIONS IN FLOORS, WALLS, PARTITIONS, CEILINGS, AND ROOFS WITH THE INSTALLING TRADES; ALLOCATION OF SPACE WITH OTHER TRADES, INSTALLING WORK IN CHASES, SHAFTS, CEILING INTERSTITIAL SPACES, AND EQUIPMENT SPACES; AND THE PHASING OF INSTALLATION WORK WITH THAT OF OTHER TRADES.

INSTALLATION SHALL CONFORM WITH NFPA 70 "NATIONAL ELECTRICAL CODE," ANSI/TIA, AND ELECTRICAL SPECIFICATIONS (UNO).

CONDUIT:
INSTALL ELECTRICAL METALLIC TUBING (EMT) CONDUIT FROM THE CABLE BACKBONE DISTRIBUTION SYSTEM, WHETHER CABLE TRAY OR ENCLOSED DUCT, TO EACH OUTLET (UNO).

PROVIDE A MINIMUM OF 1 INCH EMT CONDUIT FOR STANDARD OUTLETS. WHEN CABLE TRAY OR ENCLOSED DUCT IS NOT USED, INSTALL INDIVIDUAL CONDUITS FROM THE MTR/TR TO EACH OUTLET.

CONDUITS HAVE BEEN SIZED BASED ON THE NFPA, AS WELL AS ANSI/TIA 569. WHERE INSTALLATIONS VARY, INCREASE CONDUITS SIZES ACCORDING TO MAXIMUM NUMBER OF CABLES BASED ON ALLOWABLE FILL RATIO OF 40%.

FOR IN-SLAB, BELOW VAPOR BARRIER OR BELOW GRADE CONDUIT SYSTEMS, PROVIDE HOME RUNS BACK TO THE MTR/TR SERVING THAT AREA.

METALLIC PATHWAYS 3 FT OR GREATER IN LENGTH SHALL COMPLY WITH THE BONDING REQUIREMENTS OF ANSI/TIA-607.

FOR CONDUITS WITH AN INTERNAL DIAMETER OF 2 IN OR LESS, THE INSIDE RADIUS OF A BEND IN CONDUIT SHALL BE AT LEAST 6 TIMES THE INTERNAL DIAMETER. FOR CONDUITS WITH AN INTERNAL DIAMETER OF MORE THAN 2 IN, THE INSIDE RADIUS OF A BEND IN CONDUIT SHALL BE AT LEAST 10 TIMES THE INTERNAL DIAMETER. BENDS IN THE CONDUIT SHALL NOT CONTAIN ANY KINKS OR OTHER DISCONTINUITIES THAT MAY HAVE A DETRIMENTAL EFFECT ON THE CABLE SHEATH DURING CABLE PULLING OPERATIONS.

CONDUITS SHALL BE REAMED TO ELIMINATE SHARP EDGES. METALLIC CONDUIT SHALL BE TERMINATED WITH AN INSULATED BUSHING.

DO NOT USE FLEXIBLE METAL CONDUIT FOR TELECOMMUNICATIONS WIRING EXCEPT WHEN INSTALLING ACCESS FLOOR BOXES IN AN ACCESS FLOOR, WHERE THE ACCESS FLOOR BOX MAY BE RELOCATED WITHIN A SPECIFIED SERVICE AREA. IN THIS CASE THE LENGTH OF THE FLEXIBLE METAL CONDUIT MUST NOT EXCEED A LENGTH OF 20 FEET (6 M) FOR EACH RUN PER TIA-569-D.

ALL PENETRATIONS SHALL BE SEALED WITH AN APPROVED SEALANT OR U.L. LISTED PENETRATION DEVICE THAT WILL MAINTAIN THE FIRE, SMOKE AND WATERPROOF OR OTHER APPLICABLE RATINGS OF THE TYPE OF CONSTRUCTION BEING PENETRATED. SEE ARCHITECTURAL DRAWINGS FOR PENETRATION REQUIREMENTS.

UNLESS NOTED OTHERWISE, ALL CONDUITS SHALL BE INSTALLED CONCEALED UNDER FLOOR SLABS, ABOVE THE CEILING AND WITHIN THE FINISHED WALLS. ALL OUTLET BOXES SHALL BE INSTALLED FLUSH MOUNTED WITHIN FINISHED WALLS, CEILINGS OR FLOORS. SURFACE MOUNTED RACEWAY AND OUTLET BOXES SHALL NOT BE PERMITTED ON FINISHED WALLS, CEILINGS OR FLOORS EXCEPT AS INDICATED ON THE DRAWINGS.

WHEN SURFACE MOUNT RACEWAYS ARE INDICATED, PROVIDE RACEWAY TO EMT TRANSITIONAL ADAPTER AT ALL ACCESSIBLE CEILINGS. ABOVE ACCESSIBLE CEILING, ROUTE EMT TO SERVING CABLE TRAY OR SERVING MTR/TR.

PULL ROPE SHALL BE INSTALLED IN ALL CONDUITS. PULL ROPE SHALL HAVE A MINIMUM 200LB TENSILE STRENGTH FOR ALL TELECOMMUNICATIONS CONDUITS.

WORK AREA OUTLETS:
INSTALL DOUBLE GANG ELECTRICAL BOXES, MINIMUM STANDARD SIZE 4-11/16 INCHES SQUARE AND 2-1/8 INCHES DEEP WITH APPROPRIATELY SIZED PLASTER RING FOR CONNECTION OF SINGLE GANG OR DOUBLE GANG FACEPLATE.

INSTALL OUTLET BOX FOR RECESS MOUNTING WITH THE FACEPLATE FLUSH WITH THE WALL SURFACE, AT THE SAME HEIGHT AS THE ELECTRICAL OUTLETS.

DO NOT PUT OUTLET BOXES IN SAME STUD CAVITY WHERE BOXES ARE ON EACH SIDE OF STC RATED WALLS.

POWER:
INSTALL A QUADRUPLEX ELECTRICAL OUTLET WITHIN 6 INCHES OF ALL WORK AREA OUTLETS TO SERVE TELECOMMUNICATIONS LOADS ASSOCIATED WITH THAT OUTLET.

TELECOM GROUNDING / BONDING:
INSTALL ALL REQUIRED TELECOM GROUNDING / BONDING PER ANSI/TIA 607, ELECTRICAL SPECIFICATIONS, TELECOM GROUNDING DETAILS / NOTES (UNO).

BLOCKING AND SUPPORT HARDWARE:
INSTALL ALL MOUNTS AND SUPPORT HARDWARE FOR TELECOM SYSTEMS; INCLUDING, UNISTRUT, ALL- THREAD OR THREADED RODS, BLOCKING, SUPPORT CABLES, ETC.

CABLE TRAYS:
THE MAXIMUM FILL OF ANY CABLE TRAY SHALL NOT EXCEED 50%. THE MAXIMUM FILL DEPTH OF ANY CABLE TRAY SHALL NOT EXCEED 6 IN.

THE SPAN FOR CABLE SUPPORT SYSTEMS SHALL BE DETERMINED IN ACCORDANCE WITH THE MANUFACTURER'S MAXIMUM RECOMMENDED LOAD CAPACITY FOR A GIVEN SPAN. THESE SYSTEMS MAY BE SUPPORTED BY THREE BASIC METHODS:
1. CANTILEVER BRACKETS FROM A WALL;
2. TRAPEZE OR INDIVIDUAL ROD SUPPORTS FROM ABOVE;
3. OR FROM BELOW.

CABLE TRAY SUPPORTS SHALL BE LOCATED WHERE PRACTICAL SO THAT CONNECTIONS BETWEEN SECTIONS OF THE TRAY FALL BETWEEN THE SUPPORT POINT AND ONE-QUARTER THE DISTANCE OF THE SPAN. A SUPPORT SHALL BE PLACED WITHIN 24 IN ON EACH SIDE OF ANY CONNECTION TO A BEND, TEE, OR CROSS.

A MINIMUM OF 12 IN ACCESS HEADROOM SHALL BE PROVIDED AND MAINTAINED ABOVE A CABLE TRAY SYSTEM OR CABLE RUNWAY.

INSTALL CABLE TRAY WITH SWEEPING RADIAL TURNS. DO NOT INSTALL WITH HARD 90° TURNS.

BOND CABLE TRAY PER ANSI/TIA 607, AND GROUNDING DETAILS / NOTES.

PULL BOXES:
PULL BOXES SHALL BE READILY ACCESSIBLE. PULL BOXES SHALL NOT BE PLACED IN A FIXED FALSE CEILING SPACE UNLESS IMMEDIATELY ABOVE A SUITABLY MARKED ACCESS PANEL.

A PULL BOX SHALL BE PLACED IN A CONDUIT RUN WHERE:
- THE LENGTH IS OVER 100 FT;
- THERE ARE MORE THAN TWO 90º BENDS, OR EQUIVALENT;
- OR THERE IS A REVERSE (U-SHAPED) BEND IN THE RUN.

PULL BOXES SHALL BE PLACED IN A STRAIGHT SECTION OF CONDUIT. THEY SHALL NOT BE USED IN LIEU OF A BEND. THE CORRESPONDING CONDUIT ENDS SHALL BE ALIGNED WITH EACH OTHER.

WHERE A PULL BOX IS REQUIRED WITH CONDUITS SMALLER THAN 1-1/4", AN OUTLET BOX MAY BE USED AS A PULL BOX.

IF THE PULL BOX IS COMPRISED OF METALLIC COMPONENTS, IT SHALL BE BONDED TO GROUND.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
JOSHUA A LOGAN
BICSI ID # 160273
Exp: 07-01-24
RCDD

REVISIONS

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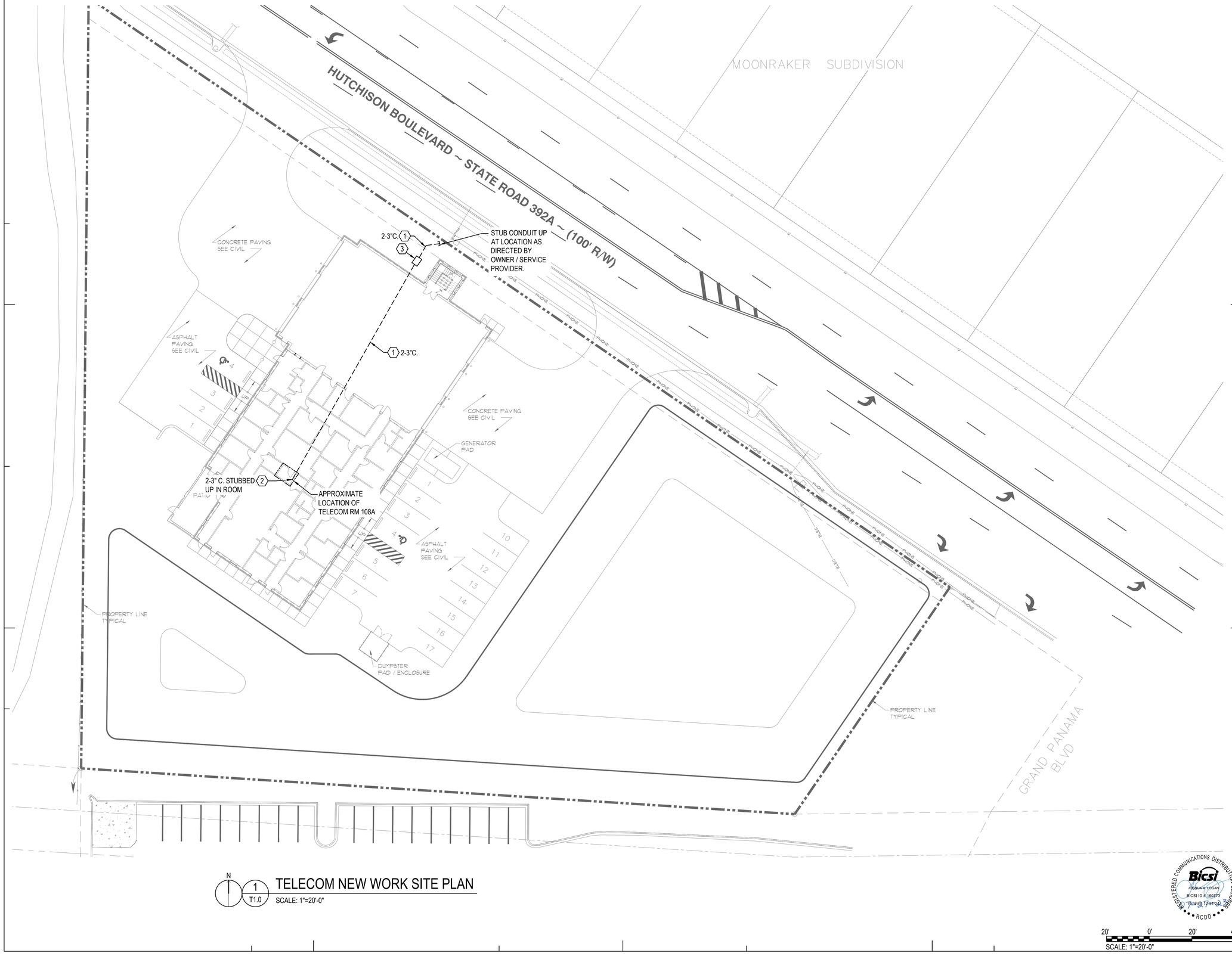
PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
TELECOM NOTES

SHEET NUMBER:
T0.2



1 T1.0 TELECOM NEW WORK SITE PLAN

GENERAL NOTES:

1. REFER TO LEGEND AND NOTES, SHEETS T0.1 AND T0.2 FOR ADDITIONAL INFORMATION.
2. FOR SITE DETAILS, REFER TO SHEET T1.1.
3. FOR ADDITIONAL DETAILS, REFER TO SHEETS T2.1 - T2.3.
4. FOR SINGLE LINE DIAGRAM, REFER TO SHEETS T3.1 AND T3.2.

KEY NOTES:

1. UG DUCTBANK W/QUANTITY AND SIZE OF CONDUIT INDICATED. REFER TO SITE DETAILS AND SPECIFICATIONS.
2. TURN CONDUITS UP THRU SLAB @ 4" AFF. REFER TO SITE DETAILS AND SPECIFICATIONS. REFER TO ENLARGED TELECOM PLANS FOR EXACT LOCATIONS OF CONDUIT STUBS THRU SLAB.
3. TELECOM HANDHOLE, REFER TO SITE DETAILS AND SPECIFICATIONS.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

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PROJECT:

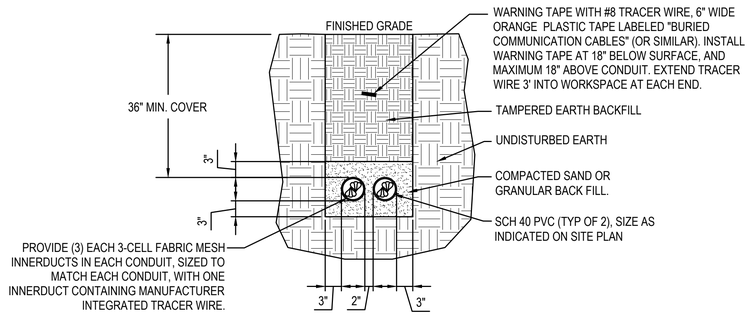
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
TELECOM SITE PLAN

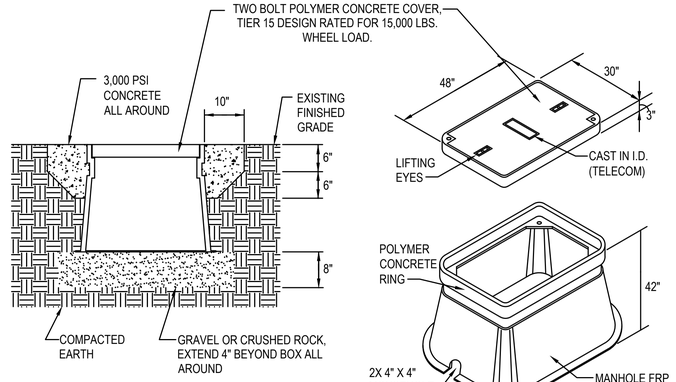
REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
JOSHUA A LOGAN
BICSI ID # 160273
Expires 12-31-24
RCDD

SHEET NUMBER:
T1.0



1 2-WAY UNDERGROUND TELECOM DUCTBANK

NOT TO SCALE



INSTALLATION DETAIL

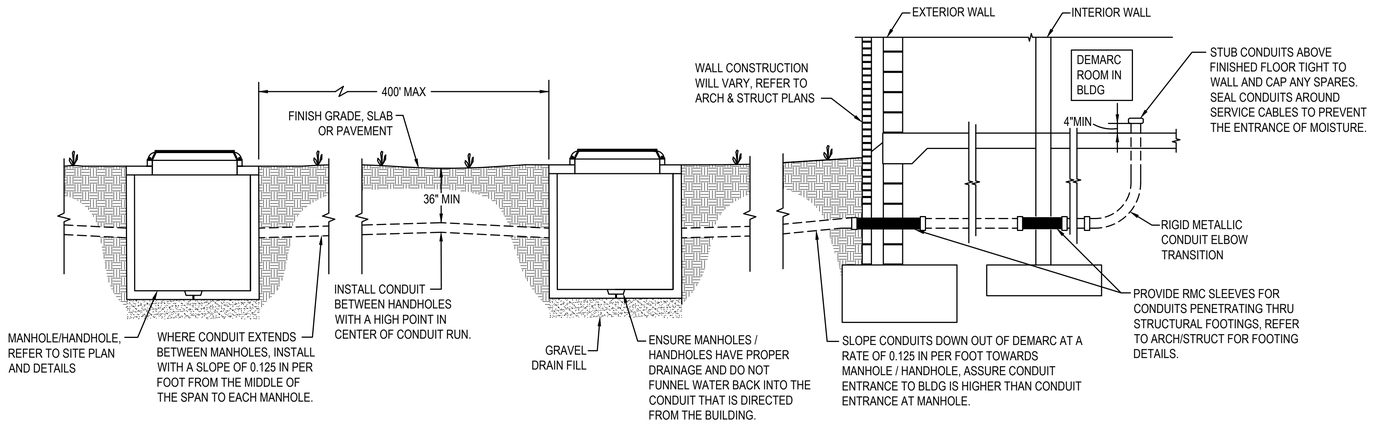
CONSTRUCTION DETAIL

NOTE:

1. ENCLOSURE (BOX) SHALL BE TIER 15 TYPE BOX, HUBBELL P/N B12304836A WITH TIER 15 COVER WITH (2) BOLTS, HUBBELL P/N C12304803A, (LOGO=TELECOM). INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THESE REQUIREMENTS.
2. TERMINATE CONDUITS ENTERING BOX WITH BUSHING. CONSTRUCT CONDUITS TO ENTER BOX FROM SIDE WITH MINIMUM 2% DOWNWARD SLOPE, ALLOWING CONDUITS TO DRAIN INTO BOX.
3. LABEL ALL CABLES INSIDE BOX WITH STAINLESS STEEL OR POLYETHYLENE TAGS INDICATING SOURCE AND DESTINATION.

2 TYPICAL HANDHOLE DETAIL

NOT TO SCALE



3 UNDERGROUND CONDUIT SLOPE PROFILE DETAIL

NOT TO SCALE

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EXPIRY 12-31-23
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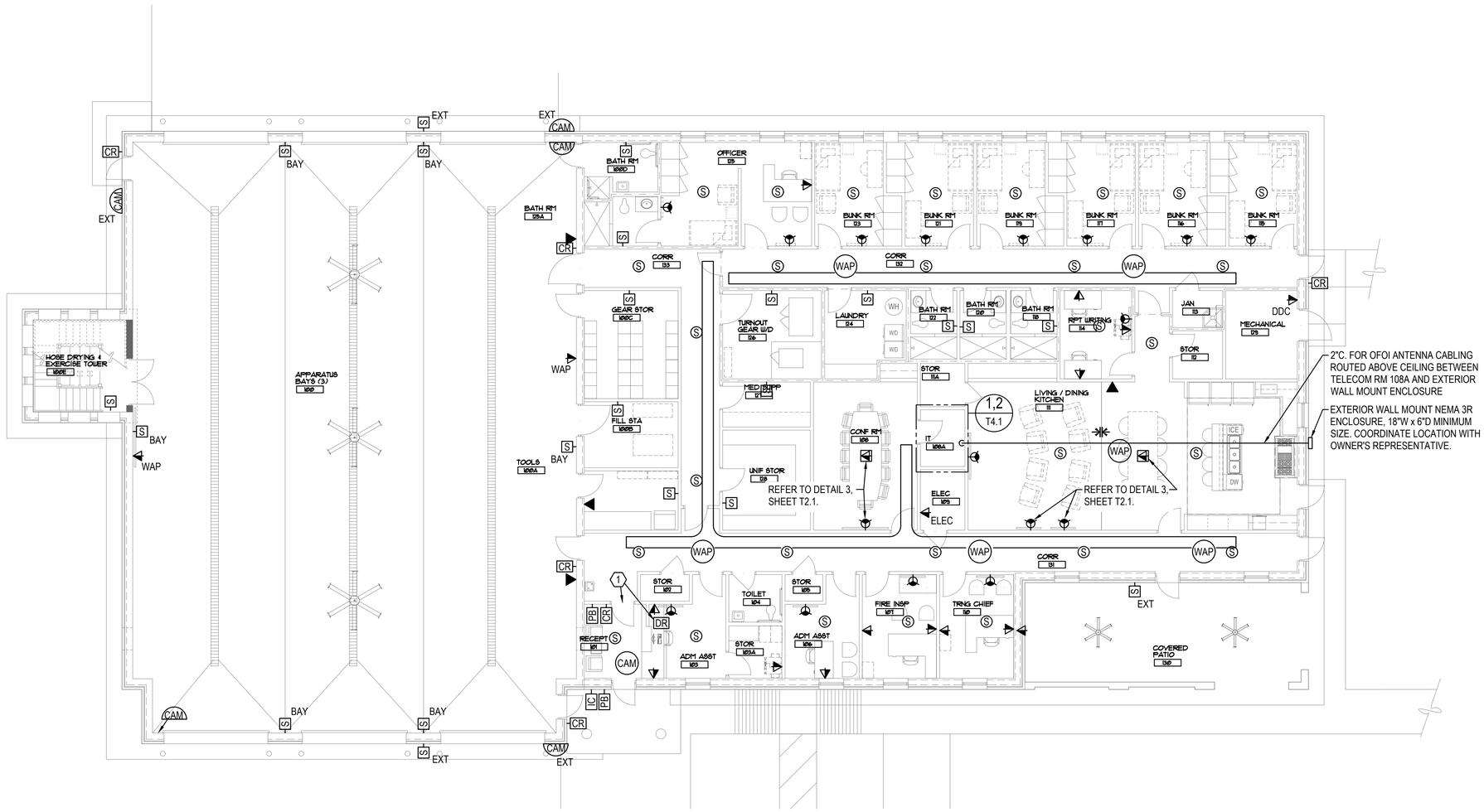
SHEET TITLE:

TELECOM SITE DETAILS

SHEET NUMBER:

T1.1



N

1 T1.2

TELECOM NEW WORK FLOOR PLAN

SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. REFER TO LEGEND AND NOTES, SHEETS T0.1 AND T0.2 FOR ADDITIONAL INFORMATION.
2. FOR SITE PLAN AND DETAILS, REFER TO SHEETS T1.0 AND T1.1.
3. FOR ADDITIONAL DETAILS, REFER TO SHEETS T2.1 - T2.3.
4. FOR SINGLE LINE DIAGRAM, REFER TO SHEETS T3.1 AND T3.2.
5. PROVIDE SLEEVES FOR ALL CABLING PASSING THROUGH RATED PARTITIONS.
6. ENSURE PAGING CABLING IS NOT EXPOSED.

SHEET NOTES:

1. FROM DOOR RELEASE JUNCTION BOX, ROUTE 3/4" CONDUIT TO ACCESS CONTROL WIRING JUNCTION BOX ABOVE SECURE SIDE OF DOOR 101A.

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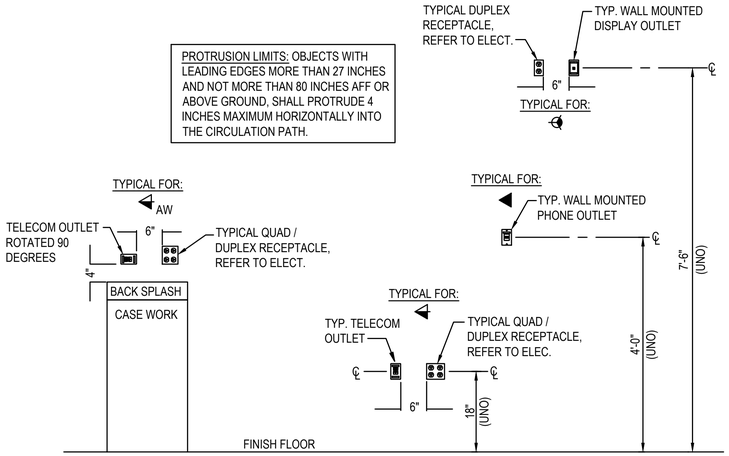
BICSI
JOSHUA A LOGAN
BICSI ID # 160273
RCDD

8' 0' 8' 16'
SCALE: 1/8"=1'-0"

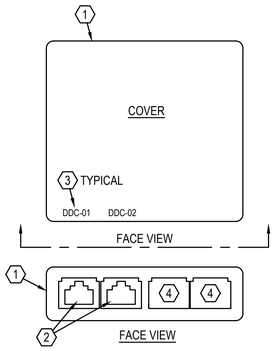
SHEET NUMBER:

T1.2



1 TYPICAL DEVICE MOUNTING DETAIL

NOT TO SCALE



KEY NOTES

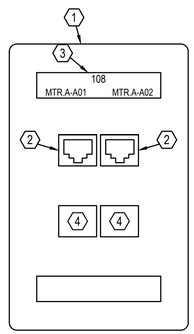
1. COMMUNICATIONS SURFACE MOUNT OUTLET BOX.
2. SNAP-IN COUPLER; 8P8C, CATEGORY 6 RJ-45 MODULAR JACK.
3. NETWORK OUTLET IDENTIFIER ON LASER PRINTED INSERT UNDER FACTORY PLASTIC COVER.
4. PROVIDE SNAP-IN BLANK COUPLER; COLOR TO MATCH SURFACE BOX COLOR.

TYPICAL FOR:

DDC
(ELEC)
(WAP)

4 SURFACE MOUNT 'BISCUIT' OUTLET

NOT TO SCALE



KEY NOTES:

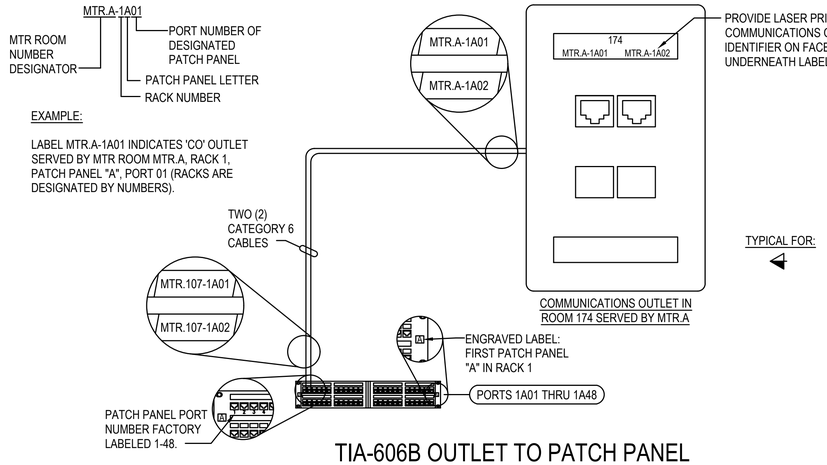
1. COMMUNICATIONS OUTLET FACEPLATE
2. SNAP-IN COUPLER; 8P8C, UNSHIELDED TWISTED PAIR (UTP), RJ-45 MODULAR JACK.
3. COMMUNICATIONS OUTLET IDENTIFIER ON LASER PRINTED INSERT UNDER FACTORY PLASTIC COVER.
4. SNAP-IN BLANK MODULE, COLOR TO MATCH FACEPLATE COLOR.

TYPICAL FOR:

6 VOICE / DATA NETWORK (2-PORT) FACEPLATE DETAIL

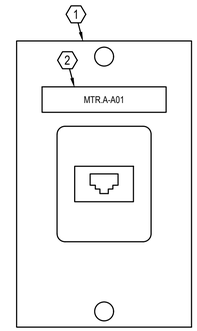
NOT TO SCALE

ANSI/TIA 606B IDENTIFICATION NOMENCLATURE



2 TIA-606B OUTLET TO PATCH PANEL LABELING NOMENCLATURE (TYPICAL)

NOT TO SCALE



KEY NOTES:

1. STAINLESS STEEL WALL PLATE, SINGLE GANG, SINGLE JACK, WITH LUGS FOR WALL PHONE MOUNTING. PROVIDE WITH 8P8C, UNSHIELDED TWISTED PAIR (UTP), RJ-45 MODULAR JACK ASSEMBLY.
2. COMMUNICATIONS OUTLET IDENTIFIER ON LASER PRINTED INSERT UNDER FACTORY PLASTIC COVER.

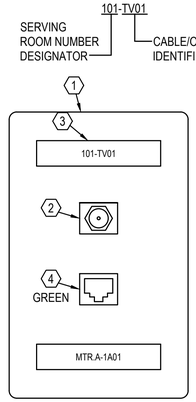
TYPICAL FOR:

(48" AFF TO DEVICE CENTER)

5 WALL PHONE DETAIL - FACEPLATE

NOT TO SCALE

TV OUTLET IDENTIFICATION NOMENCLATURE



KEY NOTES:

1. COMMUNICATIONS OUTLET FACEPLATE.
2. SNAP-IN MODULE WITH ONE 'F'-TYPE COAXIAL CONNECTOR.
3. TV OUTLET IDENTIFIER ON LASER PRINTED INSERT UNDER FACTORY PLASTIC COVER.
4. SNAP-IN COUPLER; 8P8C, SHIELDED TWISTED PAIR (STP), RJ-45 MODULAR JACK; COLORED NETWORK INDICATED.

TYPICAL FOR:

7 COAXIAL & CAT 6 (CATV) OUTLET DETAIL - FACEPLATE

NOT TO SCALE

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BICSI ID # 160275
EXPIRES 12-31-24
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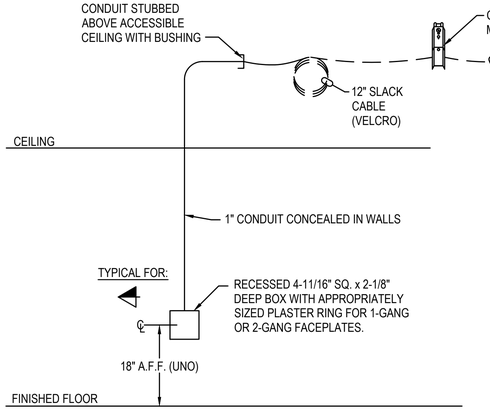
SHEET TITLE:

TELECOM DETAILS

SHEET NUMBER:

T2.1

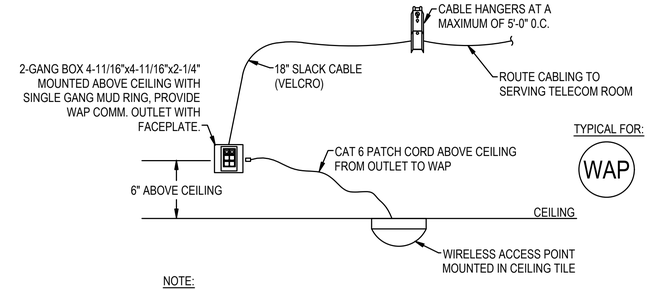


NOTES:

1. TELECOM OUTLET MOUNTING HEIGHT MAY VARY AT LOCATIONS OF FIXED CABINETS OR CASEWORK. LOCATE AND MOUNT OUTLETS AS DIRECTED BY THE TECHNICAL REPRESENTATIVE.
2. DO NOT INSTALL MORE THAN FOUR 4-PAIR CABLES IN A 1" CONDUIT.

1 TELECOM OUTLET MOUNTING DETAIL - DEVICE CONDUIT AND CABLE HANGERS

NOT TO SCALE

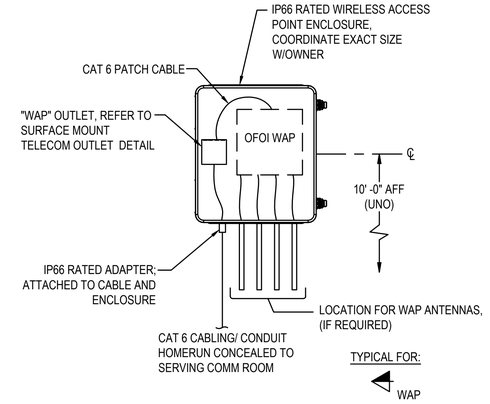


NOTE:

MARK EACH LOCATION OF WAP ON AS-BUILTS IN ARCHITECTURAL REFLECTED CEILING PLANS.

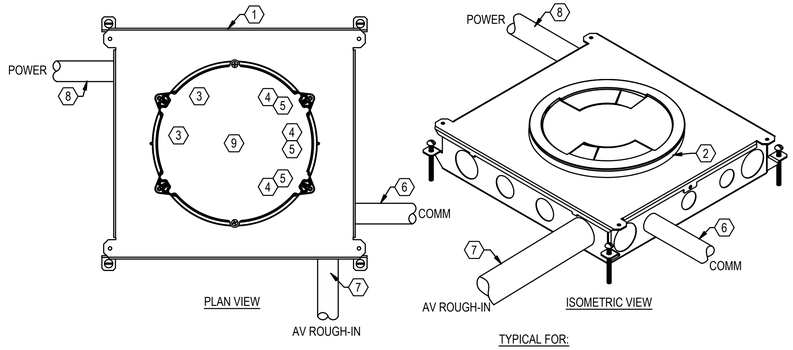
2 WIRELESS ACCESS POINT (WAP) MOUNTING DETAIL

NOT TO SCALE



3 WIRELESS ACCESS POINT EXTERIOR ENCLOSURE - WALL MOUNT DETAIL

NOT TO SCALE

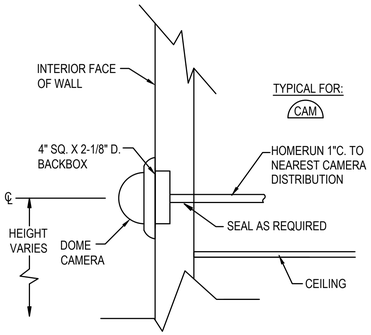


KEY NOTES:

1. MULTI-SERVICE MULTIMEDIA FLOORBOX, EQUAL TO LEGRAND WIREMOLD RESOURCE SERIES RFB6E (6) SIX COMPARTMENT SHALLOW STAMPED STEEL COMBINATION FLOOR BOX. INSTALL FLOOR BOX IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. SET BOTTOM OF BOX ON TOP OF VAPOR BARRIER, LEVEL, WITH TOP OF BOX TO BE FLUSH WITH SLAB.
2. FLUSH STYLE DIE CAST ALUMINUM COVER ASSEMBLY; COORDINATE FINISH COLOR WITH TECHNICAL REPRESENTATIVE, AND FLOORING.
3. INTERNAL DUPLEX RECEPTACLE PLATE WITH TWO 120 VAC OUTLET RECEPTACLES, EQUAL TO LEGRAND WIREMOLD RFB6DP. REFER TO ELECTRICAL PLANS FOR CIRCUITING REQUIREMENTS.
4. COMMUNICATIONS DEVICE PLATES AS REQUIRED FOR SYSTEM DEVICES, EQUAL TO LEGRAND WIREMOLD RFB6GFI.
5. CATEGORY 6 OUTLET, COUPLERS & JACKS INSTALLED BY ASSOCIATED SYSTEMS CONTRACTOR. REFER TO FLOOR PLANS FOR OUTLET/DEVICE TYPES.
6. 1" SCHEDULE 40 PVC CONDUIT BELOW SLAB:
   - 6.1. FOR NEW FACILITIES: HOMERUN UNDER SLAB CONDUIT TO SERVING TELECOM ROOM, CONVERT TO RGS WHEN ROUTING THRU SLAB AND STUB CONDUIT AT 4" ABOVE SLAB WITH BUSHING AND BOND TO TELECOM ROOM'S BUSBAR. SEAL STUBBED CONDUITS, FLOORBOX AND ALL CONNECTING CONDUITS AFTER CABLE INSTALLATION.
   - 6.2. FOR RENOVATED FACILITIES: ROUTE UNDER SLAB CONDUIT TO NEAREST WALL, CONVERT TO RGS WHEN ROUTING THRU SLAB, THEN EMT ABOVE SLAB. ROUTE CONDUIT AND STUB TO LOCATION(S) INDICATED. SEAL FLOORBOX AND ALL CONNECTING CONDUITS AFTER CABLE INSTALLATION.
7. 1-1/4" CONDUIT, RUN SCHEDULE 40 PVC (BELOW SLAB) TO NEAREST WALL, CONVERT TO RGS CONDUIT WHEN ROUTING THRU SLAB, THEN EMT ABOVE SLAB. ROUTE AND STUB CONDUIT TO SERVING AV EQUIPMENT LOCATION (UNO). SEAL FLOORBOX AND ALL CONNECTING CONDUITS AFTER CABLE INSTALLATION.
8. POWER CONDUIT WITH WATERTIGHT FITTINGS, SEE ELECTRICAL PLANS AND SPECIFICATIONS.
9. ADDITIONAL BLANK PLATES, GFI PLATES, AND DUPLEX RECEPTACLE PLATES FOR FURTHER DATA/POWER REQUIREMENTS. SEE FLOOR PLANS.

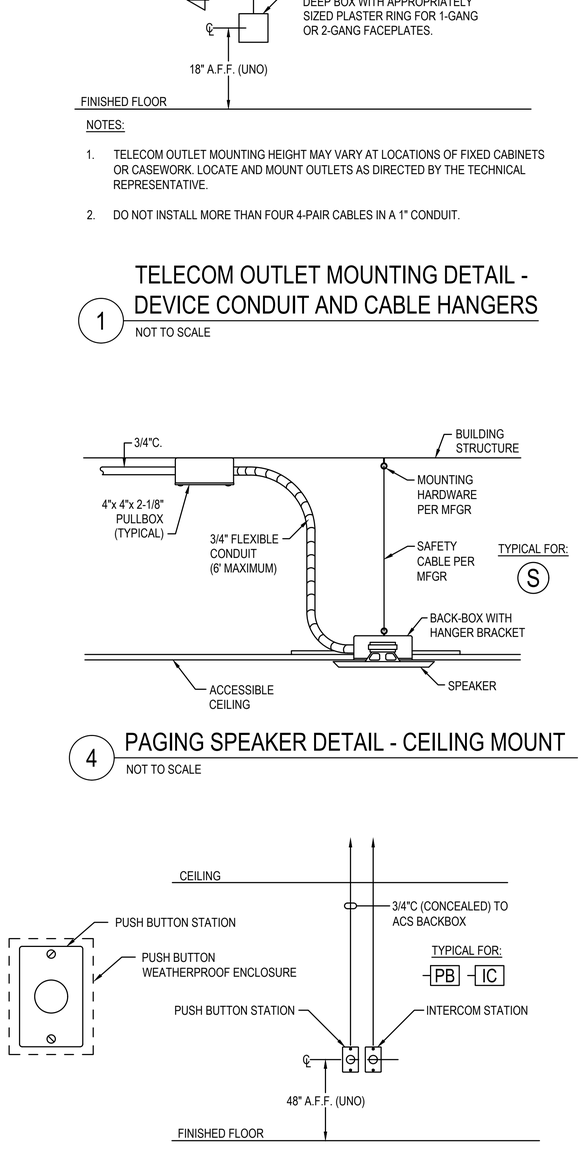
7 FLOOR BOX - AV / COMM / POWER

NOT TO SCALE



5 INTERIOR CAMERA MOUNTING DETAIL - WALL MOUNT

NOT TO SCALE

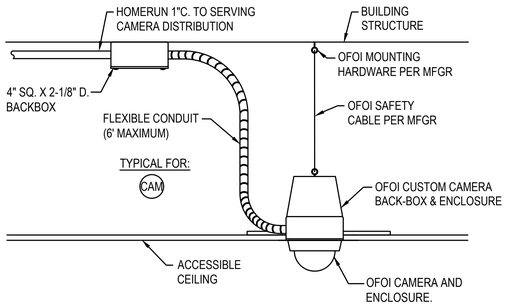


6 HELP PUSHBUTTON STATION DETAIL

NOT TO SCALE

4 PAGING SPEAKER DETAIL - CEILING MOUNT

NOT TO SCALE



8 INTERIOR CAMERA MOUNTING DETAIL - CEILING MOUNT

NOT TO SCALE

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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Expires 12-31-24
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FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:

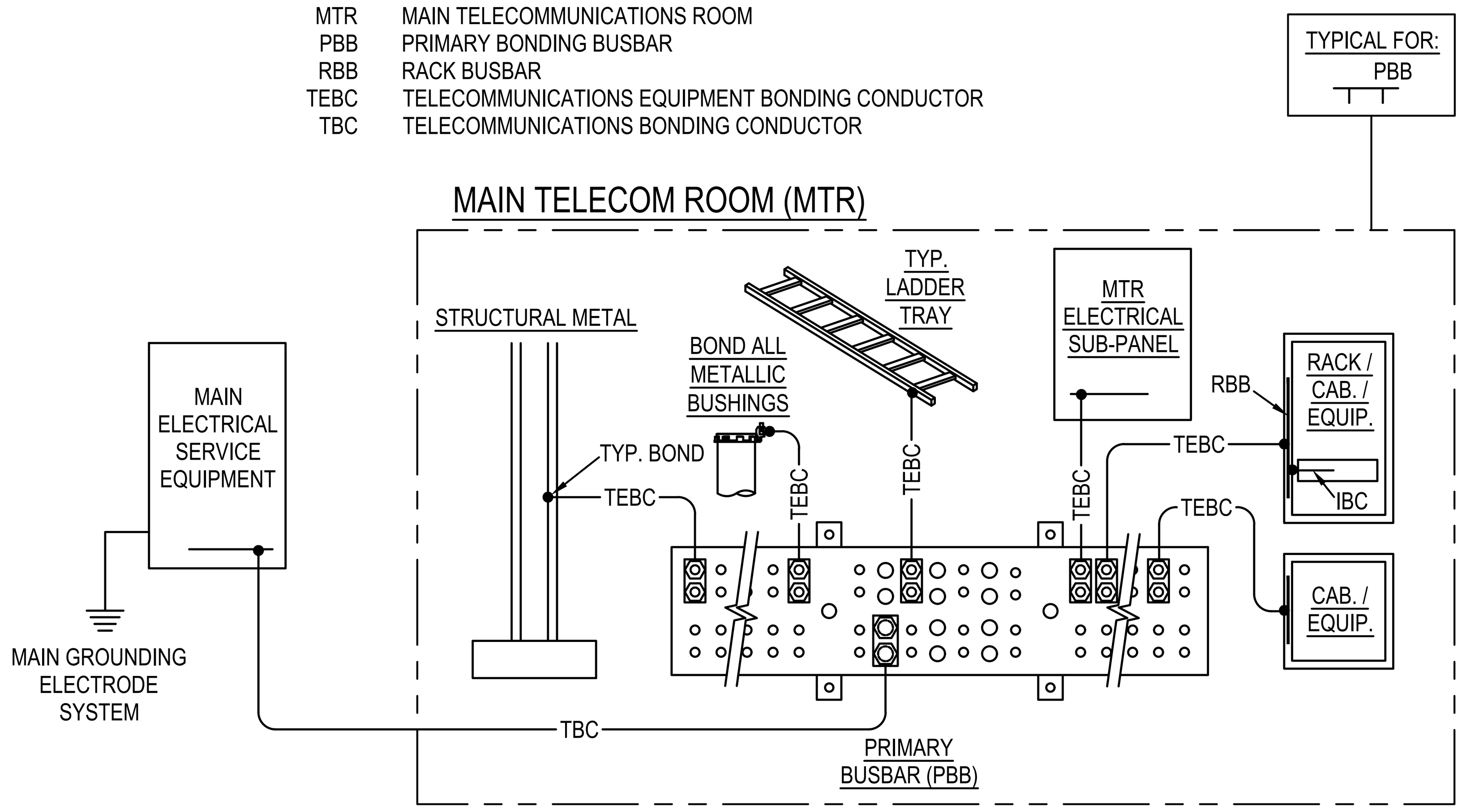
TELECOM DETAILS

SHEET NUMBER:

T2.2

TELECOM GROUNDING LEGEND:

CTBC	CABLE TRAY BONDING CONDUCTOR
IBC	INDIVIDUAL BONDING CONDUCTOR
MTR	MAIN TELECOMMUNICATIONS ROOM
PBB	PRIMARY BONDING BUSBAR
RBB	RACK BUSBAR
TEBC	TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR
TBC	TELECOMMUNICATIONS BONDING CONDUCTOR



BONDING CONDUCTOR SIZING CRITERIA	
TBC LINEAR LENGTH (FEET)	TBC CONDUCTOR SIZE (AWG)
LESS THAN 13	6
14 - 20	4
21 - 26	3
27 - 33	2
34 - 41	1
42 - 52	1/0
53 - 66	2/0
67 - 84	3/0
85 - 105	4/0
106 - 125	250 kcmil
126 - 150	300 kcmil
151 - 175	350 kcmil
176 - 250	500 kcmil
251 - 300	600 kcmil
GREATER THAN 301	750 kcmil
INFO BASED ON ANSI/TIA-607-C	

TELECOM GROUNDING NOTES:

1. PROVIDE TELECOMMUNICATIONS COPPER GROUNDING BUSBARS SUITABLE FOR INDOOR INSTALLATION IN ACCORDANCE WITH TIA-607. BUSBARS MUST BE MADE OF COPPER, OR COPPER ALLOYS HAVING A MINIMUM OF 95% CONDUCTIVITY WHEN ANNEALED AS SPECIFIED BY THE INTERNATIONAL ANNEALED COPPER STANDARD (IACS) AND LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

2. ALL BUSBARS MUST BE PRE-DRILLED, PROVIDED WITH HOLES FOR USE WITH STANDARD SIZED LUGS; BUSBARS MUST BE CLEANED, WITH AN ANTI-OXIDANT APPLIED PRIOR TO FASTENING CONNECTORS.

3. FROM PBB BUSBAR LOCATION, RUN CONDUCTOR TO BUILDING SERVICE GROUND IN EMT CONDUIT.

4. ALL BONDING CONDUCTORS SHALL HAVE A GREEN JACKET. WHERE BARE CONDUCTORS ARE SPECIFIED, THEY SHALL BE SUPPORTED BY STANDOFF INSULATORS AT INTERVALS NO GREATER THAN 2 FT OR BE CONTAINED IN ELECTRICAL NONMETALLIC TUBING (ENT). BARE BONDING CONDUCTORS SHALL NOT BE IN CONTACT WITH METALLIC SURFACES OR OTHER CONDUCTORS THAT ARE NOT PART OF THE TELECOMMUNICATIONS BONDING SYSTEM.

5. BOND EACH CONDUIT AND CONDUIT SUPPORT STRUTS IN MTR WITH 6 AWG BONDING CONDUCTOR.

6. PRIMARY BUSBAR - PBB (AKA TMGB): HAVE DIMENSIONS OF 6.35 MM (0.25 IN) THICK X 100 MM (4 IN) WIDE AND SIZED IN ACCORDANCE WITH THE IMMEDIATE APPLICATION REQUIREMENTS AND WITH CONSIDERATION OF FUTURE GROWTH.

7. BONDS TO THE PBB: WHEN THE OUTSIDE PLANT CABLES IN THE TELECOMMUNICATIONS ENTRANCE ROOM OR SPACE INCORPORATE A CABLE SHIELD ISOLATION GAP, THE CABLE SHIELD ON THE BUILDING SIDE OF THE GAP SHALL BE BONDED TO THE PBB. ALL METALLIC PATHWAYS FOR TELECOMMUNICATIONS CABLING LOCATED WITHIN THE SAME ROOM OR SPACE AS THE PBB SHALL BE BONDED TO THE PBB. HOWEVER FOR METALLIC PATHWAYS CONTAINING BONDING CONDUCTORS WHERE THE PATHWAY IS BONDED TO THE BONDING CONDUCTOR, NO ADDITIONAL BOND TO THE PBB IS REQUIRED.

8. CONNECTIONS TO THE PBB: THE CONNECTIONS OF THE TBC TO THE PBB SHALL UTILIZE EXOTHERMIC WELDING, LISTED COMPRESSION TWO-HOLE LUGS, OR LISTED EXOTHERMIC TWO-HOLE LUGS. THE CONNECTION OF CONDUCTORS FOR BONDING TELECOMMUNICATIONS EQUIPMENT AND TELECOMMUNICATIONS PATHWAYS TO THE PBB SHALL UTILIZE EXOTHERMIC WELDING, LISTED COMPRESSION TWO-HOLE LUGS, OR LISTED EXOTHERMIC TWO-HOLE LUGS.

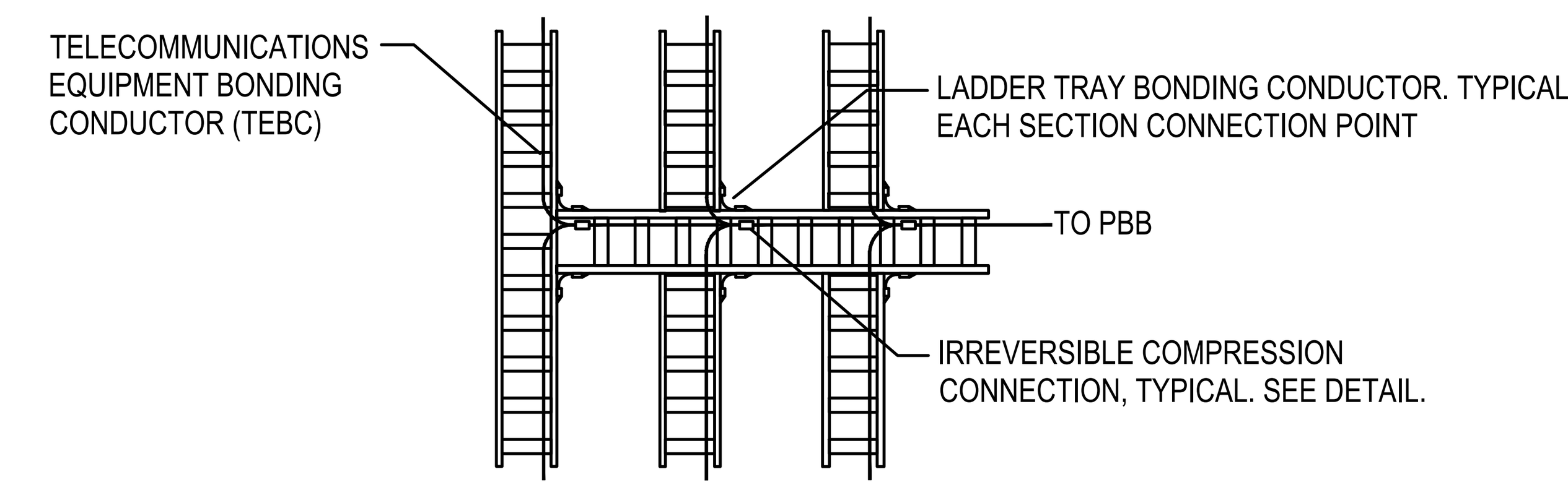
9. RACK BONDING BUSBAR (RBB): SHALL HAVE A MINIMUM CROSS-SECTIONAL AREA EQUAL TO A 6 AWG WIRE, AND BE LISTED. EQUIPMENT CONTAINING METALLIC PARTS AND PATCH PANELS FOR SHIELDED CABLING IN CABINETS AND RACKS SHALL BE BONDED TO THE TELECOMMUNICATIONS BONDING SYSTEM IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS. WHERE INSTRUCTIONS ARE NOT GIVEN, ALL BONDING CONDUCTORS THAT CONNECT THESE INSTALLED PRODUCTS SHALL BE A MINIMUM SIZED CONDUCTOR OF 12 AWG. BOND ALL RACKS WITH 4 AWG CONDUCTOR; ROUTE CONDUCTOR ALONG RACK REAR AND IN CABLE RUNWAY TO GROUNDING BUSBAR.

10. CABLE TRAY / METALLIC PATHWAYS: ALL METALLIC TELECOMMUNICATIONS PATHWAYS SHALL BE BONDED TO THE PBB. ADDITIONALLY, CABLE TRAY SECTIONS SHALL BE BONDED TOGETHER, AND TO THE PBB. BOND TRAYS TOGETHER BY CONNECTOR PLATES OF AN IDENTICAL TYPE AS THE CABLE TRAY SECTIONS. PROVIDE NO. 2 AWG BARE COPPER WIRE THROUGHOUT CABLE TRAY SYSTEM, AND BOND TO EACH SECTION, EXCEPT USE NO. 1/0 ALUMINUM WIRE IF CABLE TRAY IS ALUMINUM. TERMINATE CABLE TRAYS 10 INCHES FROM BOTH SIDES OF SMOKE AND FIRE PARTITIONS. INSTALL CONDUCTORS RUN THROUGH SMOKE AND FIRE PARTITIONS IN 103 MM 4 INCH RIGID STEEL CONDUITS WITH GROUNDING BUSHINGS, EXTENDING 305 MM 12 INCHES BEYOND EACH SIDE OF PARTITIONS. SEAL CONDUIT ON BOTH ENDS TO MAINTAIN SMOKE AND FIRE RATINGS OF PARTITIONS.

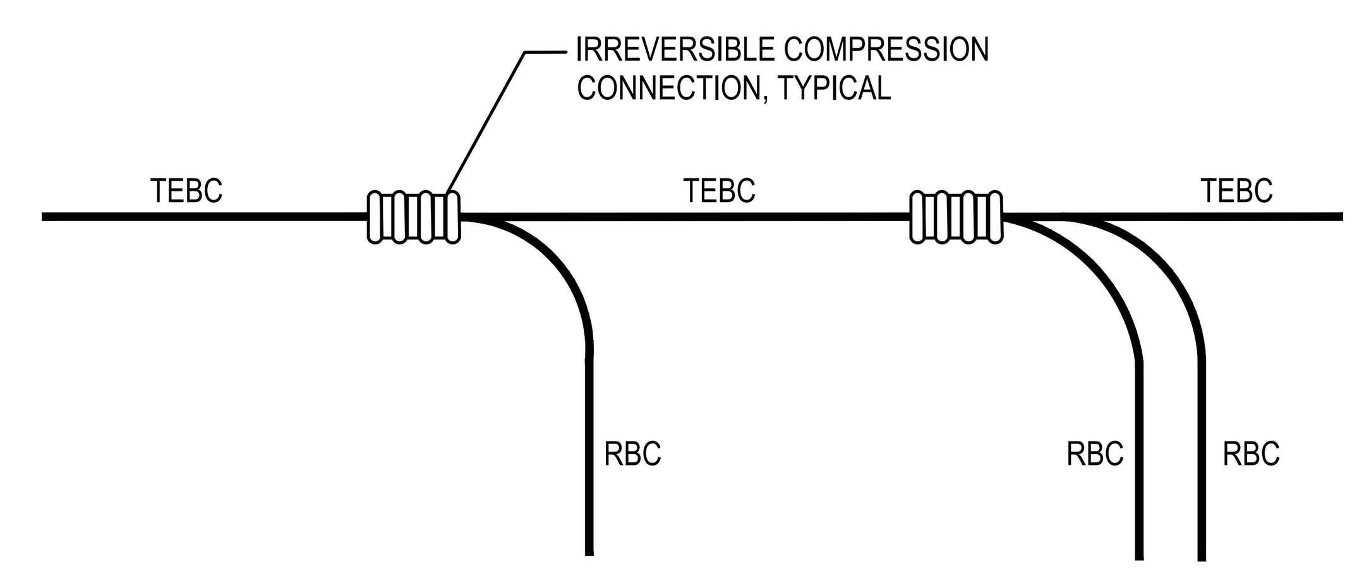
11. BUILDING STRUCTURAL METAL: WHERE STRUCTURAL METAL IS ACCESSIBLE AND IN THE SAME ROOM AS THE PBB, THE PBB SHALL BE BONDED TO STRUCTURAL METAL USING A MINIMUM SIZED CONDUCTOR OF 6 AWG.

12. RUN CONDUCTOR FROM BUSBAR LOCATION TO BUILDING SERVICE GROUND IN EMT CONDUIT. PROVIDE INSULATED GROUNDING BUSHING - AT CONDUIT ENDS AND GROUND PER NEC. GROUNDING TO BUILDING STRUCTURE, CONDUITS, UTILITY PIPING, OR ELECTRICAL SUBPANELS IN LIEU OF BONDING TO BUILDING MAIN ELECTRICAL SERVICE GROUND IS NOT ACCEPTABLE.

1 TELECOM GROUNDING / BONDING DETAIL
NOT TO SCALE



2 LADDER TRAY GROUNDING / BONDING CONNECTION DETAIL
NOT TO SCALE



3 IRREVERSIBLE COMPRESSION CONNECTION DETAIL
NOT TO SCALE

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/03/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

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PROJECT:
PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

SHEET TITLE:
TELECOM DETAILS

SHEET NUMBER:
T2.3

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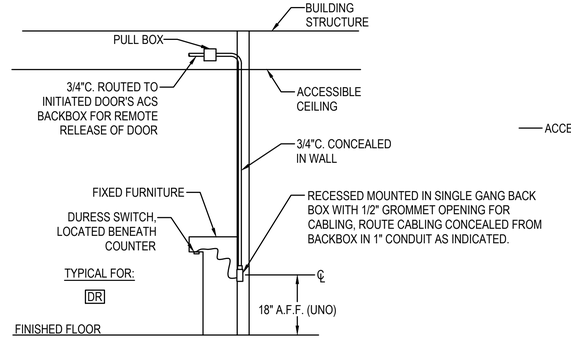
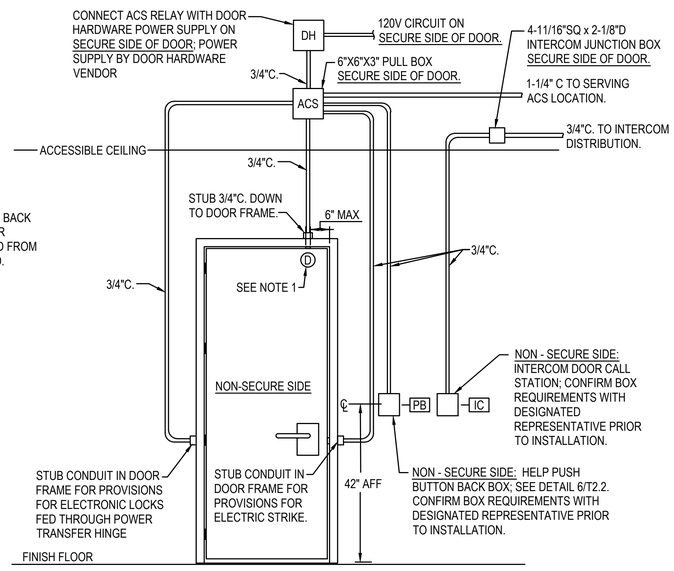


NOTES:

1. DEVICE MOUNTING HEIGHT MAY VARY AT LOCATIONS OF FIXED CABINETS OR CASEWORK. LOCATE AND MOUNT DEVICES COORDINATE WITH FURNITURE LOCATION AND/OR WORKSTATION CONFIGURATION AS DIRECTED BY THE TECHNICAL REPRESENTATIVE.

1 DOOR RELEASE MOUNTING DETAIL - FIXED FURNITURE

NOT TO SCALE

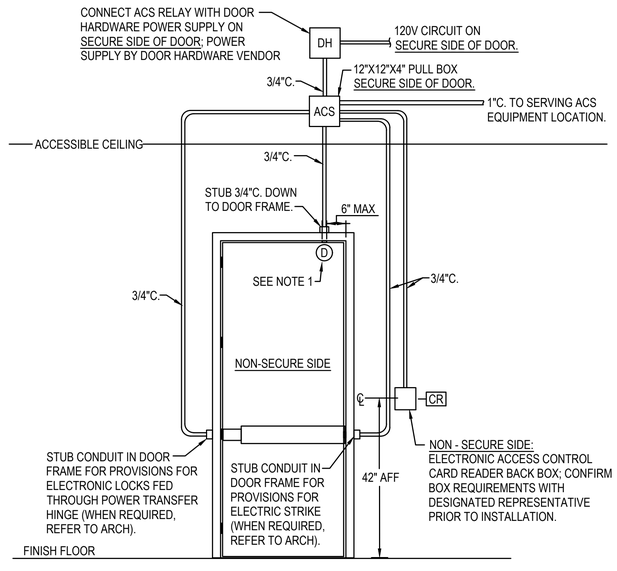


NOTES:

1. ACS DOOR POSITION SWITCH (NOT SHOWN ON PLANS FOR CLARITY).
2. ALL NOTED CONDUIT IS CONCEALED (WHERE ALLOWABLE BY SECURITY OFFICER).
3. AS A MINIMUM, PROVIDE PULLBOX EVERY 100' OF INTERIOR CONDUIT RUNS.

2 SECURITY DOOR ROUGH-IN DETAIL SINGLE DOOR - "CR", "IC"

NOT TO SCALE

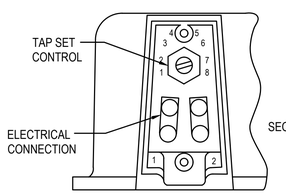


NOTES:

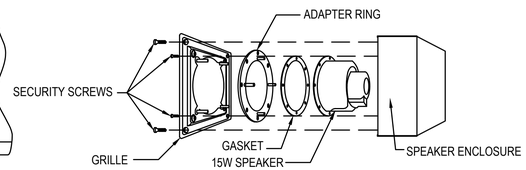
1. ACS DOOR/CONTACT POSITION SWITCH (NOT SHOWN ON PLANS FOR CLARITY).
2. ALL NOTED CONDUIT IS CONCEALED.
3. ALL NOTED ACCESSIBLE PULL BOXES AND BACK BOXES (THIS DETAIL) ARE LOCATED ON SECURE SIDE OF DOOR.
4. AS A MINIMUM, PROVIDE PULLBOX EVERY 100' OF INTERIOR CONDUIT RUNS.

3 SECURITY DOOR ROUGH-IN DETAIL SINGLE DOOR

NOT TO SCALE



TAP SETTINGS ELEVATION:



SPEAKER MOUNT DETAIL:

TAP SET	70V WATTS
1	0.9
2	1.8
3	3.6
4	7.5
5	15
6	*
7	*
8	*

IMPORTANT: * DO NOT USE THESE POSITIONS

TAP SETTINGS:

TYPICAL FOR:

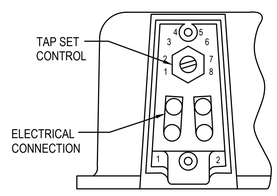
S

NOTES:

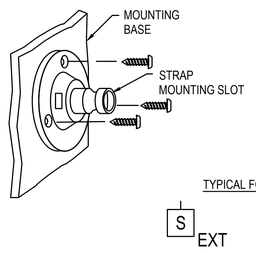
1. CONNECT THE 70V "HOT" LEAD TO THE #1 TERMINAL AND SYSTEM COMMON LEAD TO THE #2 TERMINAL. FOLLOW THIS PATTERN ON ALL SIMILAR SPEAKERS TO ENSURE PROPER PHASING.
2. ADJUST THE TAP SELECTOR SWITCH TO THE DESIRED WATTAGE USING THE CHART PROVIDED

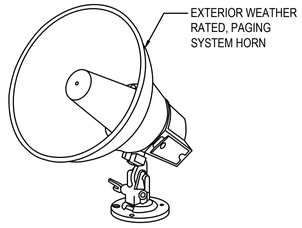
4 FLANGE-MOUNTED,15W, HORN LOUDSPEAKER DETAIL

NOT TO SCALE



TAP SETTINGS ELEVATION:





TAP SET	70V WATTS
1	0.9
2	1.8
3	3.6
4	7.5
5	15
6	*
7	*
8	*

IMPORTANT: * DO NOT USE THESE POSITIONS

TAP SETTINGS:

NOTES:

1. CONNECT THE 70V "HOT" LEAD TO THE #1 TERMINAL AND SYSTEM COMMON LEAD TO THE #2 TERMINAL. FOLLOW THIS PATTERN ON ALL SIMILAR SPEAKERS TO ENSURE PROPER PHASING.
2. ADJUST THE TAP SELECTOR SWITCH TO THE DESIRED WATTAGE USING THE CHART PROVIDED

5 15-WATT HORN LOUDSPEAKERS

NOT TO SCALE

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

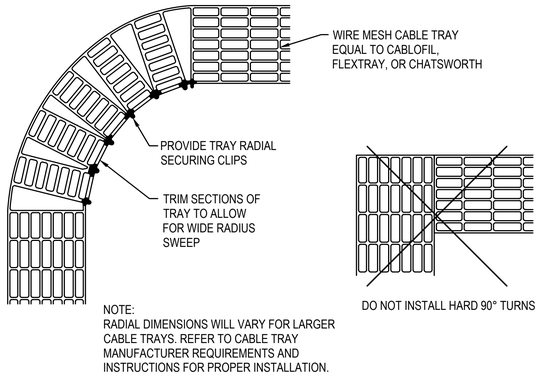
BAY COUNTY, FLORIDA

SHEET TITLE:

SECURITY / PAGING DETAILS

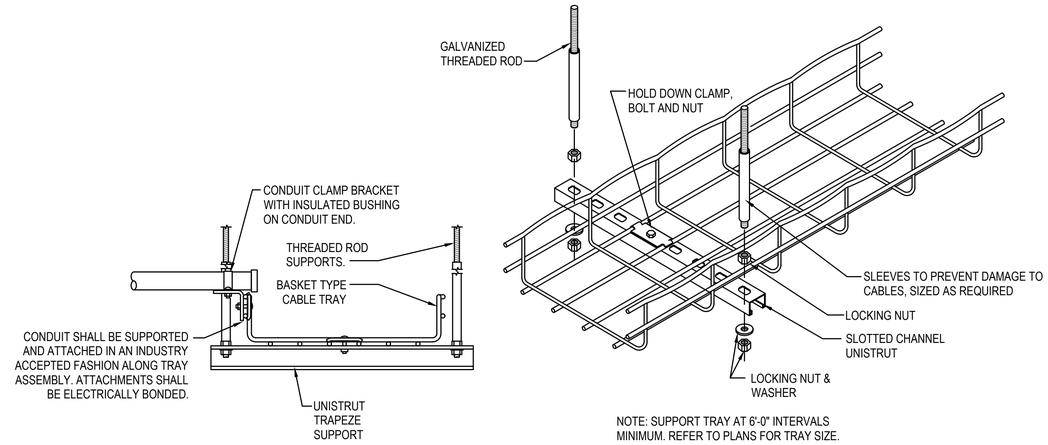
SHEET NUMBER:

T2.4



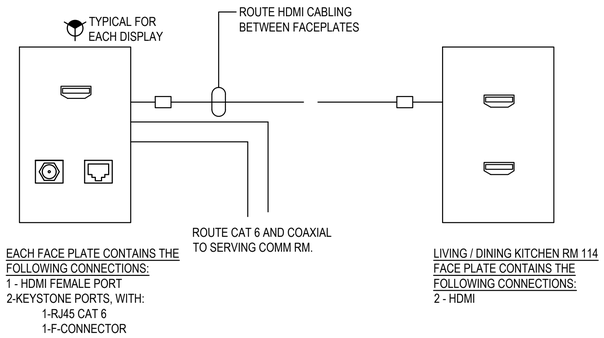
1 CABLE TRAY SWEEPING BEND DETAIL

NOT TO SCALE



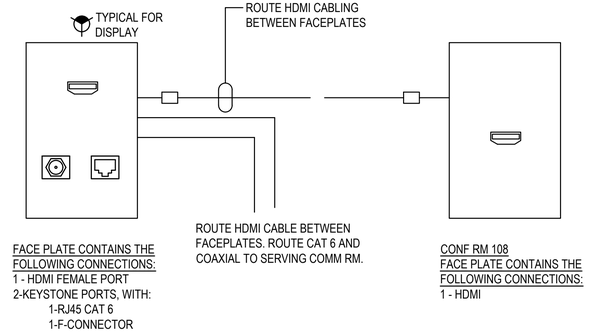
2 CABLE TRAY SUPPORT DETAIL

NOT TO SCALE



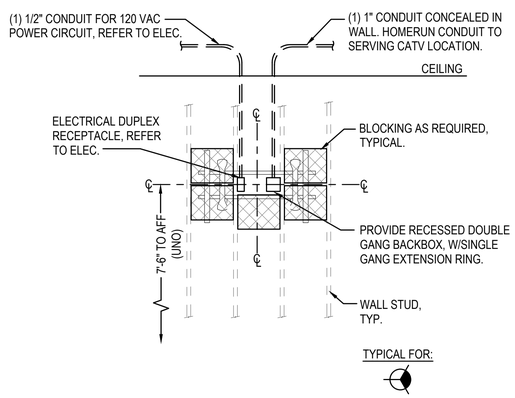
3 TYPICAL AV FACE PLATE / DEVICE WIRING DETAIL LIVING / DINING KITCHEN 111

NOT TO SCALE



4 TYPICAL AV FACE PLATE / DEVICE WIRING DETAIL CONF RM 108

NOT TO SCALE



5 WALL MOUNT TV OUTLET ROUGH-IN DETAIL

NOT TO SCALE

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PANAMA CITY BEACH
FIRE STATION #32
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BAY COUNTY, FLORIDA

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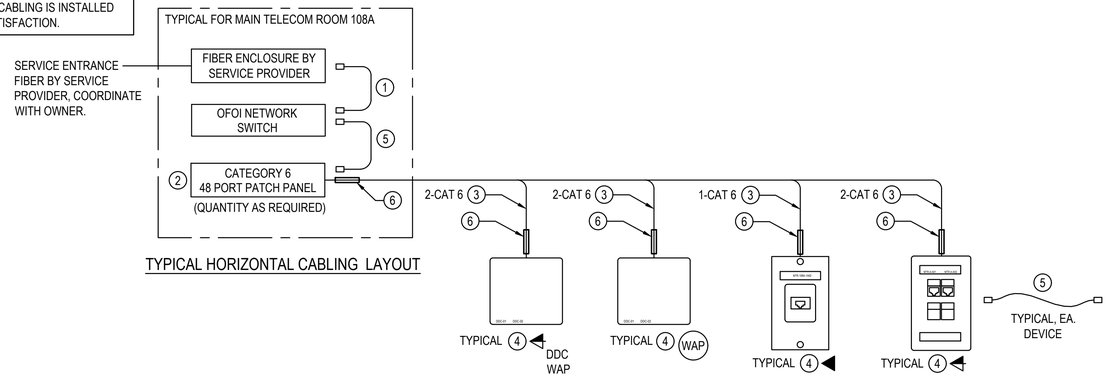
SHEET TITLE:
TELECOM DETAILS

SHEET NUMBER:
T2.5

NOTE: CONTRACTOR TO FACILITATE COORDINATION WITH OWNER PRIOR TO COMMENCING ANY WORK TO ENSURE NEW SERVICE ENTRANCE CABLING IS INSTALLED TO THE OWNER'S SATISFACTION.



TYPICAL HORIZONTAL CABLING LAYOUT

1 DATA / VOICE SINGLE LINE DIAGRAM

NOT TO SCALE

◯ TELECOM SINGLE LINE DIAGRAM NOTES:

1. FIBER OPTIC PATCH CORD; DUAL STRAND, DIELECTRIC, PRE-MANUFACTURED, FACTORY TERMINATED AND TESTED. PROVIDE QUANTITY AS REQUIRED, PLUS 10% SPARE. PATCH CORD TYPE, MODULE, AND COLOR TO MATCH SERVING DEVICES. CONFIRM ALL PATCH CORD REQUIREMENTS WITH TECHNICAL REPRESENTATIVE (UNO).
2. CATEGORY 6 HORIZONTAL PATCH PANEL WITH 8P8C UTP (UNSHIELDED TWISTED PAIR) MODULAR JACKS, COLOR TO MATCH FACEPLATE JACK; PROVIDE WITH REAR CABLE MANAGERS. LABEL JACKS ACCORDING TO OWNER'S TECHNICAL REPRESENTATIVE'S REQUIREMENTS OR ADHERE TO TIA 606 LABELING STANDARDS. PROVIDE INDICATED PORT QUANTITY.
3. CATEGORY 6 HORIZONTAL WIRING; UTP (UNSHIELDED TWISTED PAIR), 4-PAIR, 23 AWG, PLENUM RATED (IF REQUIRED) PER NFPA, MAXIMUM INSTALLED LENGTH 90 METERS (295'), TERMINATED TO T568A PINOUT ARRANGEMENT.
4. DATA / VOICE OUTLET WITH CATEGORY 6 8P8C UTP (UNSHIELDED TWISTED PAIR) MODULAR JACKS FOR DATA/VOICE CONNECTIONS, TERMINATED TO T568A PINOUT ARRANGEMENT.
5. CATEGORY 6 PATCH CORDS WITH UTP (UNSHIELDED TWISTED PAIR) 8P8C MODULAR PLUG, PRE-MANUFACTURED WITH NO BOOT, FACTORY TERMINATED AND TESTED TO T568A PINOUT ARRANGEMENT. COLOR TO MATCH SYSTEM JACK. PROVIDE QUANTITY OF PATCH CORDS AS REQUIRED PLUS 10% SPARE.
6. DEVICE DESTINATION CABLE LABELING, PER ANSI/TIA LABELING STANDARDS.

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BID DOCUMENTS			08/01/23

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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

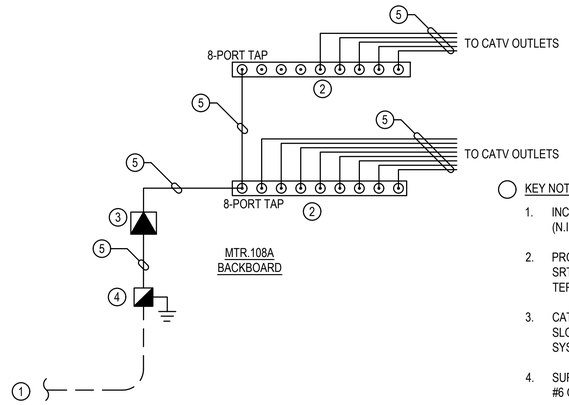
BAY COUNTY, FLORIDA

SHEET TITLE:
TELECOM SINGLE LINE DIAGRAMS

SHEET NUMBER:
T3.1

TV SYSTEM GENERAL NOTES:

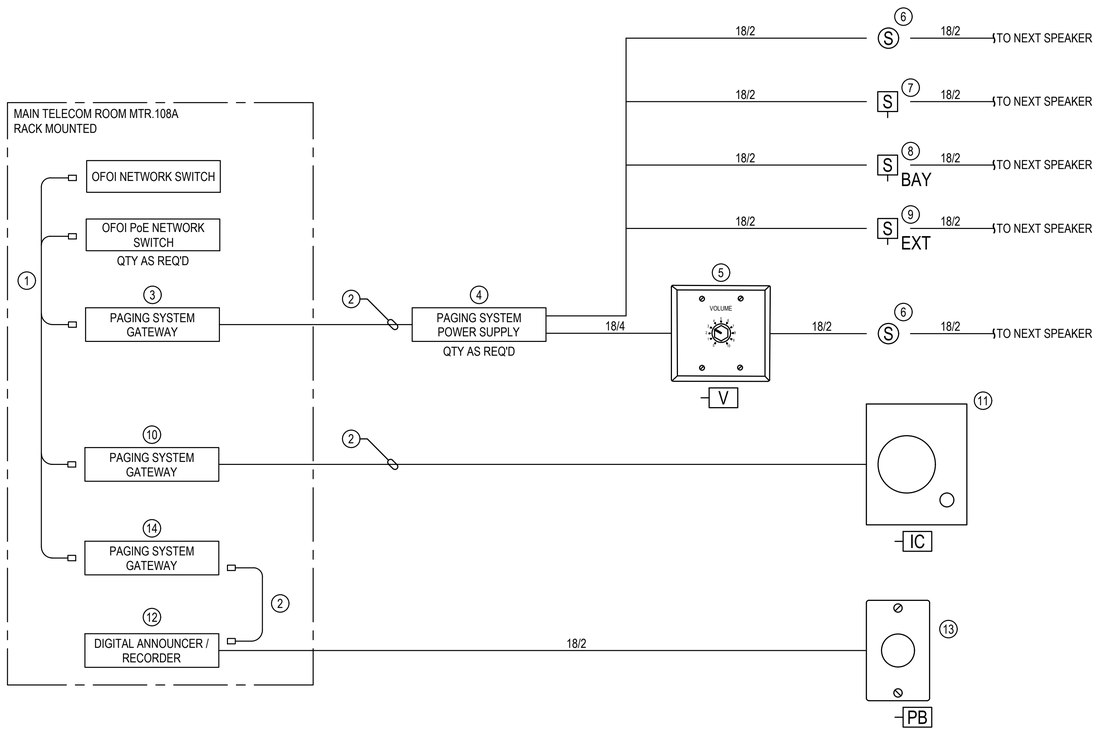
1. CABLE SHALL BE CONTINUOUS BETWEEN DEVICES. INTERMEDIATE SPLICES OR COUPLINGS ARE NOT ALLOWABLE.
2. ALL COAXIAL CONNECTORS SHALL BE 'F' COMPRESSION TYPE, FOR RG-6 AND RG-11, SPECIFICALLY SIZED FOR EACH CONNECTOR TYPE.
3. PROVIDE EQUALIZERS AS REQUIRED TO COMPENSATE FOR CABLE SLOPE ADJUSTMENT FOR BACKBONE CABLE FEEDS.
4. TERMINATE ALL UNUSED SPLITTER PORTS WITH 75 OHM TERMINATING RESISTORS.
5. MOUNT ALL DISTRIBUTION AMPLIFIERS WITH LONG SIDE (HEAT SINKS) IN THE DIRECTION OF VERTICAL, NOT HORIZONTAL, FOR PROPER HEAT DISPLACEMENT.
6. PROVIDE SPLITTERS/TAPS WITH RESISTIVE NETWORK CIRCUIT BOARDS IN LIEU OF FERRITE BEADS.
7. PROVIDE PROFESSIONAL GRADE FACTORY JUMPERS, RG-6 COAX WITH SCREW-ON ENDS, QUANTITY EQUAL TO NUMBERS OF TV OUTLETS SHOWN ON PLANS, PLUS 25% SPARE, LENGTH AS REQUIRED.
8. ALL INPUT CABLES SHALL NOT BE BUNDLED WITH OUTPUT CABLES. PHYSICAL SEPARATION BETWEEN INPUT AND OUTPUT CABLES SHALL BE MAINTAINED.
9. PROVIDE PLENUM RATED CABLING PER NFPA.
10. REFER TO FLOOR PLANS FOR ACTUAL DEVICE COUNTS.



KEY NOTES:

1. INCOMING SERVICE ENTRY BY CATV SERVICE PROVIDER (N.I.C.). COORDINATE FEED.
2. PROFESSIONAL GRADE TAP, 8 OUTPUT, BLONDER-TONGUE SRT-8A OR EQUAL. MOUNT ON BACKBOARD. INSTALL TERMINATORS ON ALL UNUSED PORTS.
3. CATV DISTRIBUTION AMPLIFIER, VARIABLE GAIN AND SLOPE. MOUNT IN BACKBOARD, HOOK-UP, AND TUNE TO SYSTEM SETTINGS/VERIFY PROPER OPERATION.
4. SURGE PROTECTOR. MOUNT ON BACKBOARD AND ROUTE #6 GROUND TO GROUNDING BUSBAR.
5. RG-6 COAX TV CABLE, RUN CONTINUOUS WITH NO SPLICES OR COUPLERS.

1 CATV SINGLE LINE DIAGRAM
NOT TO SCALE



2 PAGING & INTERCOM SYSTEM SINGLE LINE DIAGRAM
NOT TO SCALE

PAGING AND INTERCOM SYSTEM SINGLE LINE DIAGRAM NOTES:

1. CATEGORY 6 PATCH CORDS WITH UTP (UNSHIELDED TWISTED PAIR) 8P8C MODULAR PLUG, PRE-MANUFACTURED WITH NO BOOT, FACTORY TERMINATED AND TESTED TO T568A PINOUT ARRANGEMENT. COLOR TO MATCH SYSTEM JACK. PROVIDE QUANTITY OF PATCH CORDS AS REQUIRED PLUS 10% SPARE.
2. CATEGORY 6 HORIZONTAL WIRING; UTP (UNSHIELDED TWISTED PAIR), 4-PAIR, 23 AWG, PLENUM RATED (IF REQUIRED) PER NFPA, MAXIMUM INSTALLED LENGTH 90 METERS (295'), TERMINATED TO T568A PINOUT ARRANGEMENT.
3. PAGING SYSTEM IP MULTI-ZONE SIP GATEWAY. PATCH INTO PoE NETWORK SWITCH.
4. PAGING SYSTEM 70V POWER SUPPLY / AMP, SIZE AS REQUIRED.
5. VOLUME CONTROL FOR LOCAL PAGING SPEAKER.
6. CEILING MOUNTED 70V PAGING SYSTEM SPEAKER TAPPED AT 0.5 WATTS EACH.
7. WALL MOUNTED 70V PAGING SYSTEM SPEAKER TAPPED AT 3.6 WATTS EACH.
8. WALL MOUNTED 70V PAGING SYSTEM HORN TYPE SPEAKER TAPPED AT 15 WATTS.
9. WEATHER RATED WALL MOUNTED 70V PAGING SYSTEM EXTERIOR SPEAKER TAPPED AT 15 WATTS.
10. PAGING SYSTEM IP BI-DIRECTIONAL GATEWAY. PATCH INTO PoE NETWORK SWITCH.
11. IP WEATHER RATED INTERCOM STATION.
12. PROVIDE DIGITAL ANNOUNCER / RECORDER W/ BACKGROUND MUSIC INPUT.
13. PUSH-FOR-HELP CUSTOM EMERGENCY PUSH BUTTON W/ WEATHER PROOF ENCLOSURE.
14. PAGING SYSTEM IP SINGLE ZONE SIP GATEWAY. PATCH INTO PoE NETWORK SWITCH.

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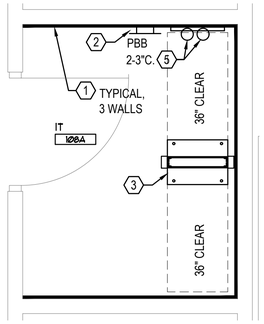
CATV & PAGING SINGLE LINE DIAGRAMS

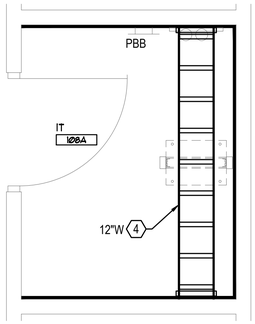
SHEET NUMBER:
T3.2



FIRE STATION MAIN TELECOM ROOM (MTR.108A) - ENLARGED EQUIPMENT PLAN

N 1 T4.1

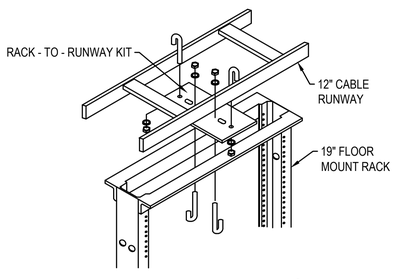
SCALE: 1/2"=1'-0"

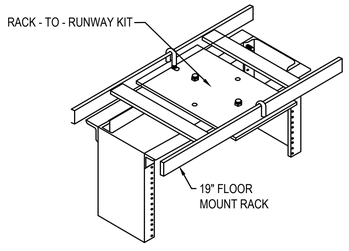


FIRE STATION MAIN TELECOM ROOM (MTR.108A) - OVERHEAD TRAY PLAN

N 2 T4.1

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





CABLE RUNWAY MOUNTING HEIGHT NOTE
BOTTOM OF CABLE RUNWAY MUST BE MOUNTED AT EXACTLY 7'-0" ABOVE THE FINISHED FLOOR TO ALLOW INSTALLATION OF 7'-0" HIGH RACKS (UNLESS NOTED OTHERWISE).

GENERAL CABLE RUNWAY NOTE
PROVIDE ALL FACTORY COMPONENTS MATCHING CABLE RUNWAY SPECIFIED FOR THE FOLLOWING:

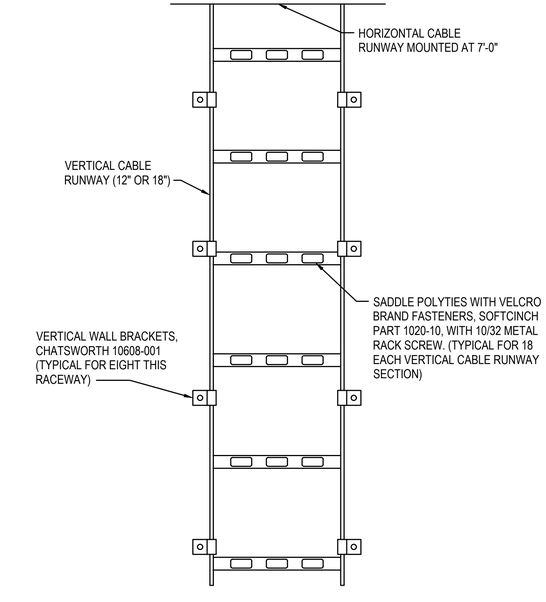
BUTT-SPLICE KITS
TRIANGULAR WALL SUPPORTS
RADIUS BENDS
CABLE RUNWAY RADIUS DROPS
JUNCTION SPLICE KITS
ALL-THREAD SUPPORT BRACKETS
FOOT-MOUNTS
WALL-ANGLE SUPPORTS

INSTALL ALL CABLE RUNWAY AND RELATED FITTING AND ACCESSORIES ACCORDING TO THE MANUFACTURERS PRINTED INSRUCTIONS, UNLESS OTHERWISE NOTED.

TYPICAL RUNWAY TO RACK SUPPORT DETAIL

3

NOT TO SCALE



TYPICAL VERTICAL CABLE RUNWAY DETAIL

4

NOT TO SCALE

GENERAL NOTES:

1. REFER TO LEGEND AND NOTES, SHEETS T0.1 AND T0.2 FOR ADDITIONAL INFORMATION.
2. FOR SITE PLAN AND SITE DETAILS, REFER TO SHEETS T1.0 AND T1.1.
3. FOR ADDITIONAL DETAILS, REFER TO SHEETS T2.1 - T2.3.
4. FOR SINGLE LINE DIAGRAM, REFER TO SHEETS T3.1 AND T3.2.

KEY NOTES:

1. PLYWOOD BACKBOARD, 8'-0" WIDE X LENGTH AS SHOWN, MOUNTED ON WALLS INDICATED; MOUNT WITH BOTTOM AT 6" ABOVE FINISH FLOOR, COUNTERSINK ALL SCREWS. ROUGH ALL ELECTRICAL OUTLETS IN BACKBOARD FOR FLUSH MOUNT INSTALLATION OF FACEPLATES. BACKBOARDS SHALL BE 5/8" THICK A-C GRADE FIRE-RATED PLYWOOD, WITH "A" SIDE OUT, BEARING THE MANUFACTURER'S STAMP, WITH FIRE-RETARDANT BATTLESHIP GRAY PAINT.
2. PRIMARY BONDING BUSBAR (PBB), REFER TO TELECOM GROUNDING / BONDING DETAILS, SHEET T2.3.
3. 2-POST EQUIPMENT RACK, REFER TO RACK ELEVATION, SHEET T5.1.
4. CABLE RUNWAY (WIDTH INDICATED). PROVIDE BUTT-SPLICE KIT TO BUTT-SPLICE SECTIONS, WALL ANGLE SUPPORT KITS, CEILING SUPPORT BRACKETS, AND JUNCTION SPLICE KITS OF CABLE RUNWAY. INSTALL ALL CABLE RUNWAY, FITTINGS, AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
5. COMMUNICATIONS SERVICE/BACKBONE CABLING CONDUIT. REFER TO T1.0 FOR SIZE/QUANTITY.

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95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

JRA ARCHITECTS
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PROJECT:

PANAMA CITY BEACH
FIRE STATION #32
HUTCHISON BLVD

BAY COUNTY, FLORIDA

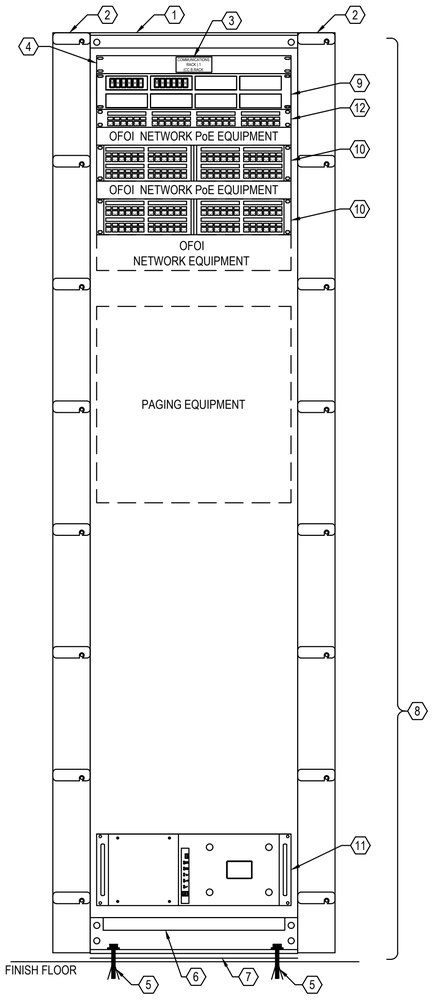
REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
JOSHUA A LOGAN
BICSI ID # 160273
Expires 12-31-24
RCDD

2' 0' 2' 4'

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

SHEET TITLE:
ENLARGED FLOOR PLANS
MAIN TELECOM ROOM

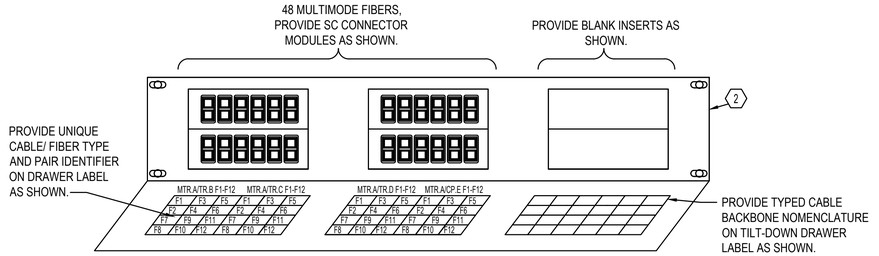
SHEET NUMBER:
T4.1



1 RACK ELEVATIONS
NOT TO SCALE

KEY NOTES:

1. 7' TALL x 19" WIDE FLOOR-STANDING WITH UNIVERSAL 5/8", 5/8", 1/2" ALTERNATING HOLE PATTERN, AND BLACK BAKED ENAMEL FINISH. PROVIDE WITH GROUND TERMINAL BLOCK.
2. DOUBLE SIDED NARROW VERTICAL RACK CABLING SECTION, SIZE 3.65" x 7'-0", COLOR BLACK.
3. IDENTIFICATION TAG AT TOP OF RACK.
4. ONE RACK SPACE BLANK FILLER PLATE, COLOR BLACK.
5. CONCRETE FLOOR RACK MOUNTING KIT.
6. RACK BASE DUST COVER, BLACK ENAMEL FINISH.
7. RACK ISOLATION KIT.
8. NYLON CABLE STANDOFF BRACKET, MOUNT ON BACK LEFT SIDE OF ALL RACKS AT 12" ON CENTER FOR ROUTING GROUNDING CONDUCTORS AND POWER EXTENSION CORDS UP AND DOWN RACKS. VELCRO STRAP EACH CONDUCTOR AND CORD INDIVIDUALLY ON STANDOFF. (NOT SHOWN ON ELEVATIONS)
9. BACKBONE FIBER DRAWER, RACK MOUNT BY SERVICE PROVIDER.
10. CATEGORY 6 HORIZONTAL WIRING PATCH PANEL.
11. RACK-MOUNTABLE 2200VA UPS W/120V, 1Ø, OUTPUT. COORDINATE REQUIRED NEMA RECEPTACLE WITH OWNER PRIOR TO INSTALLATION.
12. CATEGORY 6 HORIZONTAL WIRING PATCH PANEL FOR WIRELESS ACCESS POINT (WAP).



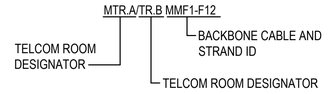
TYPICAL FIBER BACKBONE CABLE CODING
FOR PATCH PANEL SERVING EACH TELECOMMUNICATIONS ROOM

CAUTION:
FIBER OPTIC CABLE
MTR.A/TR.B F1-F24

PROVIDE SELF-LAMINATING WRITE-ON FIBER OPTIC CABLE MARKER RIGID (NON-ADHESIVE) TAG, PANDUIT PST-FO, WITH SELF-ADHESIVE LAMINATING LABLES (LASER PRINTED).

TYPICAL FIBER OPTIC CABLING TAG DETAIL
NOT TO SCALE

FIBER OPTIC BACKBONE NOMENCLATURE



BACKBONE CABLE LABELING

LABEL ALL BACKBONE CABLES WITHIN 12" OF CABLE BREAKOUT POINT WITH PERMANENT MYLAR WRAP WRITE-ON MARKERS.

NAME FORMULA = ROOM NUMBER/ ROOM NUMBER, CABLE TYPE (F = FIBER) AND STRAND COUNT (STRANDS 1-12). EACH PANEL WILL CONTAIN A SPREADSHEET DETAILING WHAT STRAND OF CABLE CONNECTS TO WHAT PORT NUMBER.

GENERAL NOTES:

1. REFER TO LEGEND AND NOTES, SHEETS T0.1 AND T0.2 FOR ADDITIONAL INFORMATION.
2. FOR SITE PLAN AND DETAILS, REFER TO SHEETS T1.0.
3. FOR ADDITIONAL DETAILS, REFER TO SHEETS T2.1 - T2.3.
4. FOR SINGLE LINE DIAGRAM, REFER TO SHEETS T3.1 AND T3.2.

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE

PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN			03/09/23
95% DOCUMENTS			03/31/23
CONSTRUCTION DOCUMENTS			05/10/23
BID DOCUMENTS			08/01/23

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SHEET TITLE:
TELECOM RACK ELEVATIONS

SHEET NUMBER:
T5.1