EMERSON POINT CONSERVATION PRESERVE

5801 17th Street West
Palmetto, Florida

Location Map:

Civil Engineer:

ALLISON ENGINEERING
926 14th Street West
Bradenton, Florida 34205
(941) 708-5400

Architect:

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MEP Engineer:

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ARCHITECT / PLANNER P.A.
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PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn KB
checked JZ
revisions

sheet
TTL-1
of

MATERIAL SYMBOLS

- EARTH
- CONCRETE
- CONCRETE BLOCK
- BRICK
- STUCCO OR PLASTER
- WOOD (ROUGH FRAMING)
- WOOD (FINISH FRAMING)
- PLYWOOD (LARGE SCALE)
- GYPSUM BOARD (LARGE SCALE)
- INSULATION (BATT OR LOOSE FILL)
- INSULATION (RIGID)
- STEEL OR IRON

GRAPHIC SYMBOLS

- NORTH ARROW
- BUILDING SECTION — SECTION LETTER; SHEET ON WHICH SECTION IS DRAWN (JJ / A-1)
- WALL SECTION — SECTION LETTER; SHEET ON WHICH SECTION IS DRAWN (B / A-5)
- DETAIL — DETAIL NUMBER; SHEET ON WHICH DETAIL IS DRAWN (13 / A-4)
- INTERIOR ELEVATION — ELEVATION NUMBER; SHEET ON WHICH ELEVATION IS DRAWN (A-3)
- COLUMN CENTER LINE (1)
- ROOM NUMBER (101)
- DOOR NUMBER (1)
- WINDOW MARK (A)
- MATERIAL MARK — MATERIAL INDEX NUMBER; SIZE OR NUMBER REQ'D (13; 3 1/2")

CONSTRUCTION STANDARDS

EXISTING WALL (TO REMAIN)

EXISTING WALL (TO BE REMOVED)

#5 BAR IN CONCRETE FILLED CELL
(CONTINUOUS FROM FOOTING TO BEAM)

WOOD STUD WALL

UNLESS NOTED OTHERWISE

1/2" GYPSUM WALLBOARD APPLIED TO EACH FACE OF 2X4 WOOD STUDS AT 16" O.C. WITH DOUBLE TOP PLATES AND P.T. SOLE PLATE. STAGGER JOINTS 24" O.C. EACH SIDE.

METAL STUD WALL

UNLESS NOTED OTHERWISE

LOAD BEARING — 1/2 GYPSUM WALLBOARD ON 3 5/8", 20 GAGE METAL STUDS AT 24" O.C. STUDS ATTACHED TO EACH SIDE OF TOP AND BOTTOM TRACK W/SCREWS.

NON-LOAD BEARING — 1/2" GYPSUM WALLBOARD ON 3 5/8" METAL STUDS AT 24" O.C. SEE NOTES 1 & 2 BELOW FOR WALLS RATED FOR 1 HOUR.

1 HOUR RATED WALLS (INTERIOR)

(SEE DESCRIPTIONS BELOW)

1. GYPSUM WALLBOARD AND METAL STUDS: ONE LAYER 5/8" TYPE 'X' GYPSUM WALLBOARD OR VENEER BASE APPLIED PARALLEL TO EACH SIDE OF 3 5/8", 20 GAGE STEEL STUDS AT 24" O.C. AND ATTACHED TO STUDS AND RUNNER TRACK WITH GYPSUM BOARD SCREWS 12" O.C. STAGGER JOINTS 24" O.C. EACH SIDE. STUDS ATTACHED TO EACH SIDE OF TOP AND BOTTOM TRACK WITH SCREWS OR WELDED. (LOAD BEARING)
2. GYPSUM WALLBOARD AND METAL STUDS ONE LAYER 5/8" TYPE X GYPSUM WALLBOARD OR VENEER BASE APPLIED AT RIGHT ANGLES OR PARALLEL TO EACH SIDE OF 3 5/8" METAL STUDS 24" O.C. WITH 1" TYPE S GYPBOARD SCREWS 8" O.C. TO VERTICAL EDGES AND 12" O.C. TO TOP AND BOTTOM RUNNER AND INTERMEDIATE STUDS. STAGGER ALL VERTICAL AND HORIZONTAL JOINTS 24" O.C. EACH SIDE AND OPPOSITE (NON-LOAD BEARING)
3. GYPSUM WALLBOARD AND WOOD STUDS: ONE LAYER 5/8" TYE X GYPSUM WALLBOARD OR VENEER BASE APPLIED PARALLEL WITH OR AT RIGHT ANGLES TO EACH SIDE OF 2 X 4 WOOD STUDS SPACED AT 16" O.C. NAILS 7" O.C. WALLBOARD NAILED TO TOP AND BOTTOM PLATES AT 7" O.C. STAGGER JOINTS 24" EACH SIDE. (EITHER BEARING OR NON LOAD BEARING)

CONSTRUCTION TYPES

TYPES I, II SEE CONSTRUCTION DOCUMENTS FOR WALL ASSEMBLIES AND RATINGS.

WALL TYPES III, IV, DESCRIPTIONS 1 AND 2 SHALL BE USED, (AS REQUIRED) TYPES V, VI, MAY USE THEM

EXCEPTIONS:
WALL TYPE III, NON-LOAD BEARING PARTITION, DESCRIPTION 3 MAY BE USED.

WALL TYPE IV, FULLY SPRINKLERED, OR ONE STORY, DESCRIPTION 3 MAY BE USED.

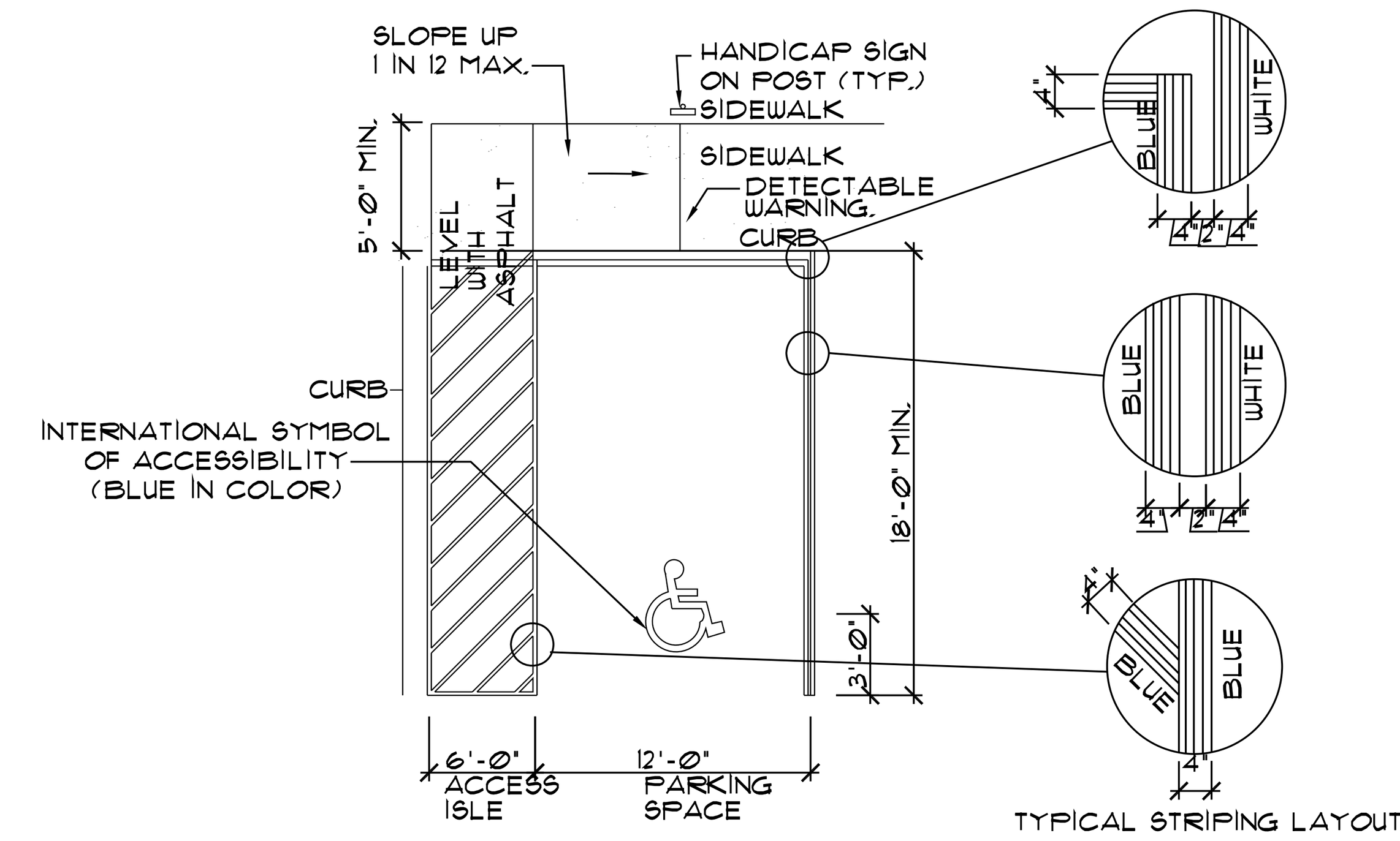
WALL TYPE V, DESCRIPTION 3 MAY BE USED.

ABBREVIATIONS

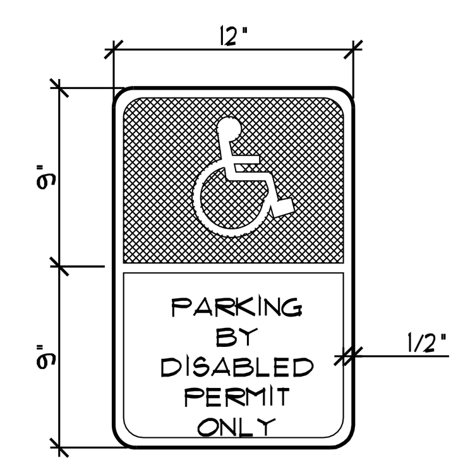
&	AND	K.O.	KNOCK-OUT
@	AT	LAV.	LAVATORY
A.B.	ANCHOR BOLT	LL	LIVE LOAD
A/C	AIR CONDITIONING	LT	LIGHT
ADJ.	ADJUSTABLE	MAX.	MAXIMUM
A.F.F.	ABOVE FINISH FLOOR	M.C.	MEDICINE CABINET
A.H.U.	AIR HANDLING UNIT	MECH.	MECHANICAL
ALUM.	ALUMINUM	MFG.	MANUFACTURE
AMP	AMPERE	M.H.	MAN-HOLE
ANOD.	ANODIZED	MIN.	MINIMUM
APPROX.	APPROXIMATE	M.O.	MASONRY OPENING
BD.	BOARD	M.R.	MOISTURE RESISTANT
BLDG.	BUILDING	MTD.	MOUNTED
BLK.	BLOCK	MTL.	METAL
BM	BEAM	M.T.	METAL THRESHOLD
BRG.	BEARING	N.I.C.	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NO. OR #	NUMBER
℄	CENTER LINE	NOM.	NOMINAL
C.J.	CONTROL JOINT	N.T.S.	NOT TO SCALE
CLG.	CEILING	O.A.	OVERALL
CLO.	CLOSET	O.C.	ON CENTER
CLR.	CLEAR	O.D.	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	O.P.	ORANGE PEEL
C.O.	CLEAN OUT	OPNG.	OPENING
COL.	COLUMN	O.H.	OVERHEAD
CONC.	CONCRETE	#	NUMBER OR POUND
COND.	CONDENSER	P.H.	TOILET PAPER HOLDER
CONST.	CONSTRUCTION	PL. OR ℙ	PLATE
CONT.	CONTINUOUS	PLAS. LAM	PLASTIC LAMINATE
CORR.	CORRUGATED	PLMG.	PLUMBING
C.T.	CERAMIC TILE	PLYWD.	PLYWOOD
CW	COLD WATER	PNL	PANEL
DBL	DOUBLE	PR.	PAIR
D.F.	DRINKING FOUNTAIN	PSF	POUNDS PER SQUARE FOOT
DIA. OR ⌀	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIM.	DIMENSION	P.T.	PRESSURE TREATED
DH	DOUBLE HUNG	Q.T.	QUARRY TILE
D.L.	DEAD LOAD	R	RADIUS
DN.	DOWN	R.D.	ROOF DRAIN
D.S.	DOWNSPOUT	REBAR.	REINFORCING
DWG.	DRAWING	REQ'D	REQUIRED
E.J.	EXPANSION JOINT	RM.	ROOM
ELEV/EL	ELEVATION	R.O.	ROUGH OPENING
ELEC.	ELECTRICAL	R.S.	ROUGH SAWN
E.L.U.	EMERGENCY LIGHTING UNIT	R/W	RIGHT OF WAY
EQ. OR =	EQUAL	RWL	RAIN WATER LEADER
EQUIP	EQUIPMENT	S.C.	SOLID CORE
E.W.	EACH WAY	S.D.	SOAP DISPENSER
E.W.C.	ELECTRIC WATER COOLER	S.F./SQ.FT.	SQUARE FOOT
EXIST.	EXISTING	S.H.	SINGLE HUNG
EXT.	EXTERIOR	SHT.	SHEET
F.A.P.	FIRE ALARM PANEL	SHWR	SHOWER
F.D.	FLOOR DRAIN	SIM.	SIMILAR
F.E.	FIRE EXTINGUISHER	SQ.	SQUARE
F.E.C.	FIRE EXTINGUISHER CABINET	S.S.	STAINLESS STEEL
FIN.	FINISH	STL.	STEEL
FLR.	FLOOR	STD.	STANDARD
FLUOR.	FLUORESCENT	STRUC.	STRUCTURAL
FND.	FOUNDATION	T.D.	TOWEL DISPENSER
F.O.B.	FACE OF BLOCK	T&G	TONGUE AND GROOVE
FT. OR '	FEET	TEMP.	TEMPERED
FTG.	FOOTING	TYP.	TYPICAL
GA.	GAUGE	U.N.O.	UNLESS NOTED OTHERWISE
GALV.	GALVANIZED	U.L.	UNDERWRITERS LABORATORY
G.B.	GRAB BAR	UR.	URINAL
GL.	GLASS	V	VOLT
GYP	GYPSUM	V.B.	VAPOR BARRIER
H.B.	HOSE BIB	VERT.	VERTICAL
H.C.	HOLLOW CORE	V.T.	VINYL TILE
H'DCP	HANDICAPPED	VTR	VENT THRU ROOF
H.M.	HOLLOW METAL	W	WATT
HORIZ.	HORIZONTAL	W/	WITH
HR	HOUR	W.C.	WATER CLOSET
HT.	HEIGHT	WD.	WOOD
HVAC	HEATING VENTILATING AIR CONDITIONING	W.H.	WATER HEATER
HW	HOT WATER	W.P.	WATERPROOF
ID	INSIDE DIAMETER	W.W.F.	WELDED WIRE FABRIC
IN or "	INCHES	YD	YARD
INSUL.	INSULATION		
INT.	INTERIOR		

HANDICAPPED STANDARDS

MEETS OR EXCEEDS THE FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION MANUAL, JANUARY 2007.

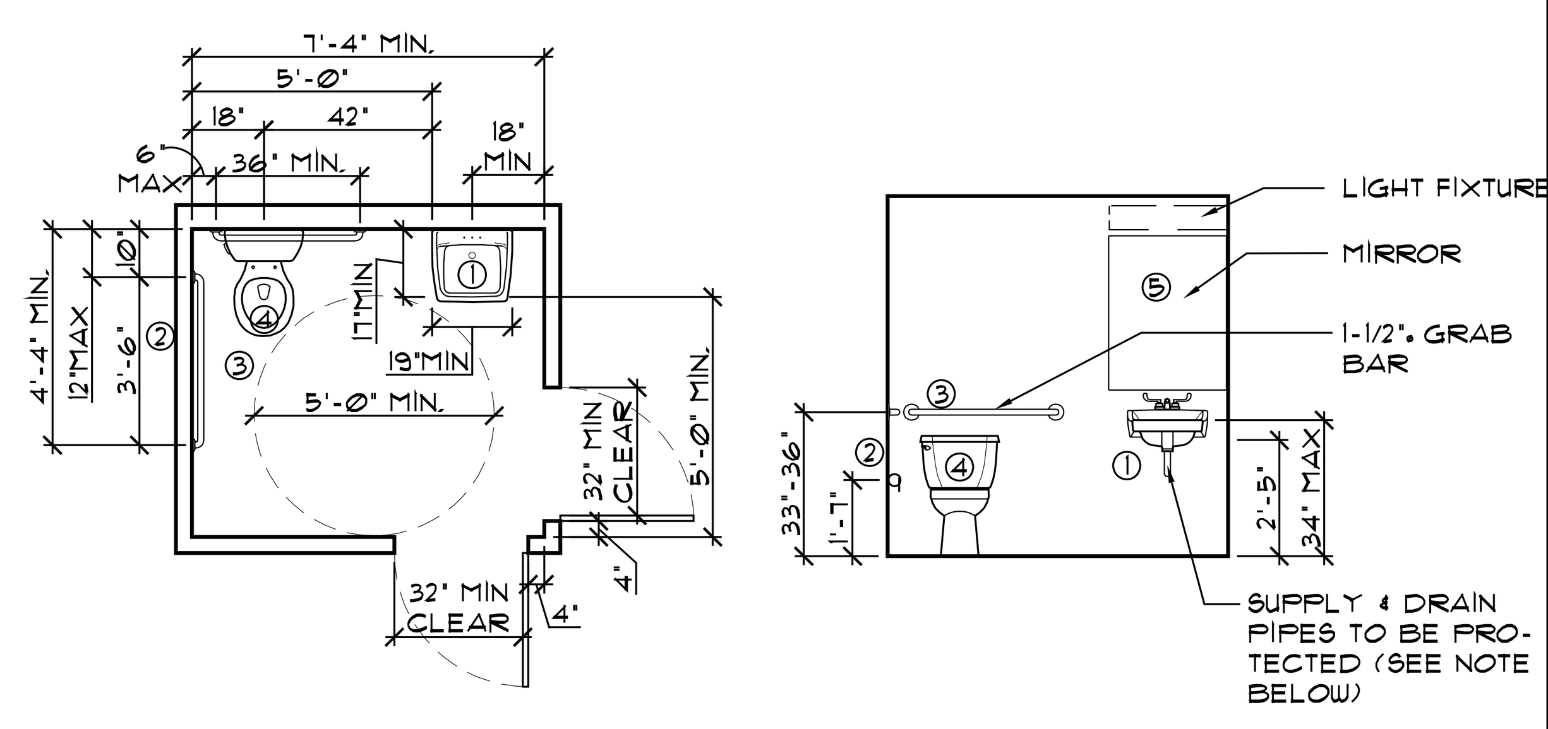


HANDICAPPED PARKING SPACE



1. ALL LETTERS ARE 1" SERIES "C"
2. TOP PORTION OF SIGN SHALL HAVE A REFLECTORIZED BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND & BORDER.
3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED WHITE BACKGROUND WITH BLACK OPAQUE LEGEND & BORDER
4. MOUNT SIGNS 7 FT. FROM PAVEMENT TO BOTTOM OF SIGN.

HANDICAPPED SIGN



TYPICAL RESTROOM LAYOUT — 1 — TYPICAL ELEVATION

HANDICAPPED LEGEND

1. WALL MOUNTED LAV. WITH BOTTOM OF LAV. APRON 29" A.A.F.
2. SURFACE MOUNTED ROLL TOILET PAPER HOLDER. (MOUNTED 19" TO ℄)
3. HORIZONTAL GRAB BAR 1-1/2" O.D. X 42" LONG (SIDE) X 36" LONG (REAR) 1-1/2" CLEARANCE FROM WALL, MOUNTED AT 33"-36" A.F.F. TO CENTER
4. WATER CLOSET (FLOOR MOUNTED) WITH THE SEAT 1'-7" A.F.F. (19" A.F.F.)
5. MIRROR 40" MAX. A.F.F. TO BOTTOM OF REFLECTIVE SURFACE.

SUPPLY AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED WITH : TRUEBRO HANDI LAV-GUARD MODEL 103 WHITE THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES OR SINKS.

HANDICAPPED TOILET LAYOUT

INDEX OF DRAWINGS

BUILDING CODE ANALYSIS

ZONING: RSF-1 REQUIRED SETBACKS TO PROPERTY LINES: (F) 40' (R) 25' (LS) 10' (RS) 10' SQ.FT.
CLASSIFICATION OF BUILDING BY OCCUPANCY: BUSINESS
CLASSIFICATION OF BUILDING BY CONSTRUCTION TYPE: V-B
SPRINKLERED: YES_____ NO xxxx THRESHOLD BUILDING: YES_____ NO xxxx
FLOOD ZONE: A-10 BFE: 10.0'
YEAR AND CODE IN EFFECT BY BUILDING DEPT.: 2007 FLORIDA BUILDING CODE
2007 EXISTING BUILDING FLORIDA BUILDING CODE
2007 FBC AND MECHANICAL & PLUMBING w/'09 REVISIONS
2005 NEC
2006 NFPA 101 LIFE SAFETY CODE

BUILDING HEIGHT & AREA / AREA MODIFICATION (TABLE 503)

ALLOWABLE BUILDING HEIGHT/NUMBER OF STORIES 40'/2 ACTUAL BUILDING HEIGHT/NUMBER OF STORIES 20'±/1
MAXIMUM ALLOWABLE FLOOR AREA 9,000 S.F. ACTUAL FLOOR AREA per FLOOR 976 S.F.
FLOOR AREA ENTIRE BUILDING 976 S.F. MODIFIED AREA, IF USED N/A S.F.
GENERAL OR OCCUPANCY AREA MODIFICATION, CALCULATIONS USED: N/A

FIRE RESISTANCE RATING OF BUILDING COMPONENTS AND PERCENTAGE OF OPENINGS (TABLES 601 AND 602)

HORIZONTAL SEPARATION FROM PROPERTY LINES AND/OR BUILDINGS:(F) 40'+ (R) 25'+ (LS) 10'+ (RS) 10'+ FEET
STRUCTURAL FRAME (INCLUDING COLUMNS, GIRDERS AND TRUSSES): 0 HR.
EXTERIOR BEARING WALL RATING REQUIREMENTS: 0 HR.
EXTERIOR NON-BEARING WALL RATING REQUIREMENTS: 0 HR
INTERIOR BEARING WALL RATING REQUIREMENTS: 0 HR.
INTERIOR NON- BEARING WALL RATING REQUIREMENTS: 0 HR
FLOOR CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS): 0 HR.
ROOF CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS): 0 HR.
EXIT ACCESS ENCLOSURES/CORRIDORS: N/A HR. EXIT ENCLOSURES/STAIRS: N/A HR.
PERCENTAGE OF ALLOWABLE OPENINGS (UNPROTECTED): (F) NO LIMIT (R) NO LIMIT (LS) 25% (RS) 25 %
(PROTECTED): (F) NO LIMIT (R) NO LIMIT (LS) 45% (RS) 45 %
PERCENTAGE OF PROVIDED OPENINGS (UNPROTECTED): (F) 10% (R) 0% (LS) 20% (RS) 20 %
(PROTECTED): (F) N/A (R) N/A (LS) N/A (RS) N/A %

DESIGN LOADS AND STRESSES

ROOF: LIVE LOAD: 20 PSF DEAD LOAD: 35 PSF ROOF SLOPE: 1.5 : 12 5 : 12
FLOOR LIVE LOAD: 100 PSF CORRIDORS LIVE LOAD: 100 PSF BALCONY AND DECK LIVE LOAD: 100 PSF
WIND LOAD: VELOCITY: 130 MPH WIND PRESSURE: * PSF WIND EXPOSURE CATEGORY: C
IMPORTANCE FACTOR: 1 ENCLOSURE CLASSIFICATION (OPEN, ENCLOSED): ENCLOSED
INTERNAL PRESSURE COEFFICIENT: .18± COMPONENTS & CLADDING, DESIGN WIND PRESSURE: * PSF
SOIL BEARING CAPACITY: 2,000 PSF NOTE: SOILS ANALYSIS IS REQUIRED.
* REFER TO DOOR SCHEDULE

MAXIMUM ALLOWABLE TRAVEL DISTANCE WITHIN ROOMS OR SPACES ALONG ROUTES OF EXIT ACCESS (1015.1) BUSINESS OCCUPANCY 200 FEET

fl. reg. 5926

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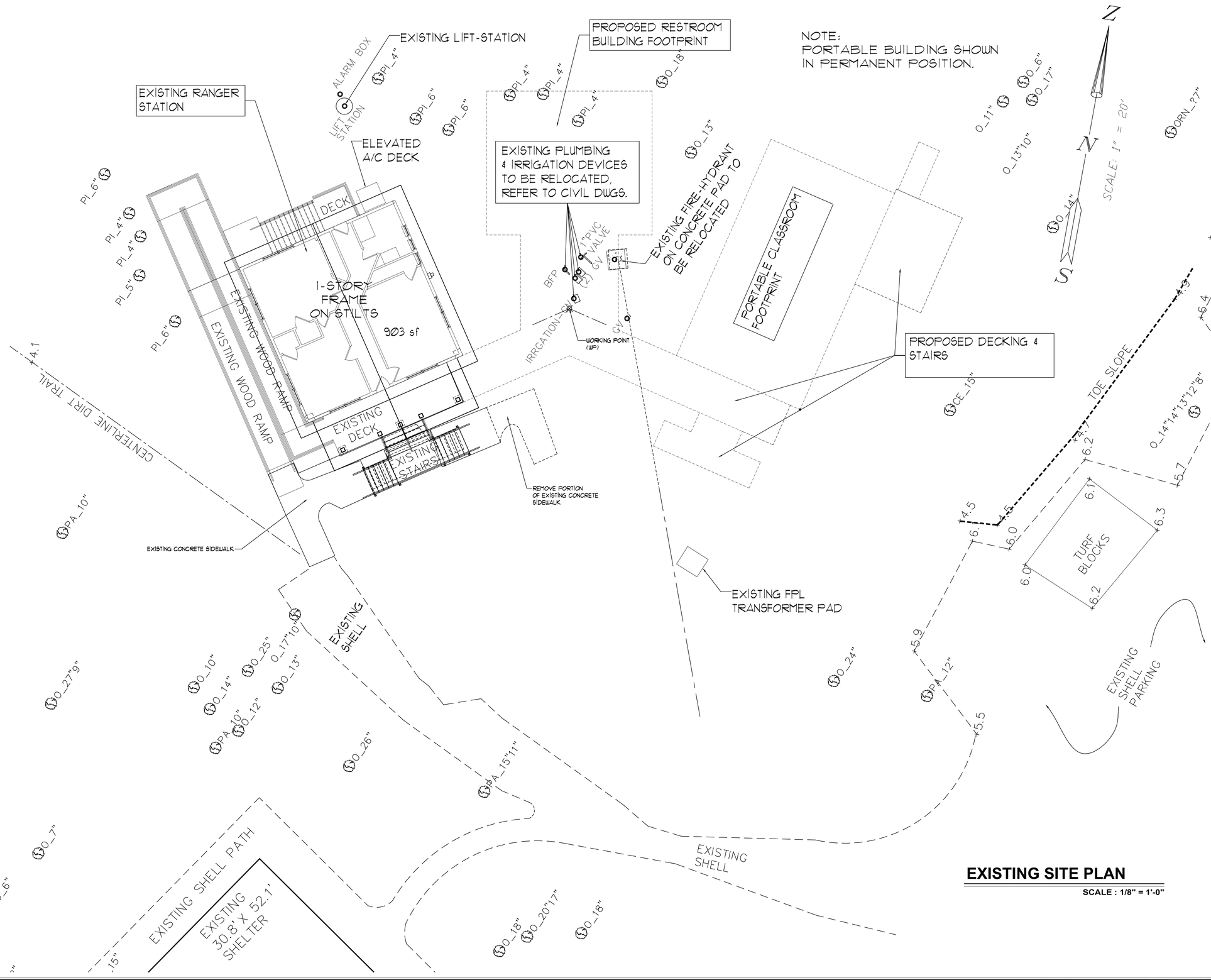

EXISTING SITE PLAN

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

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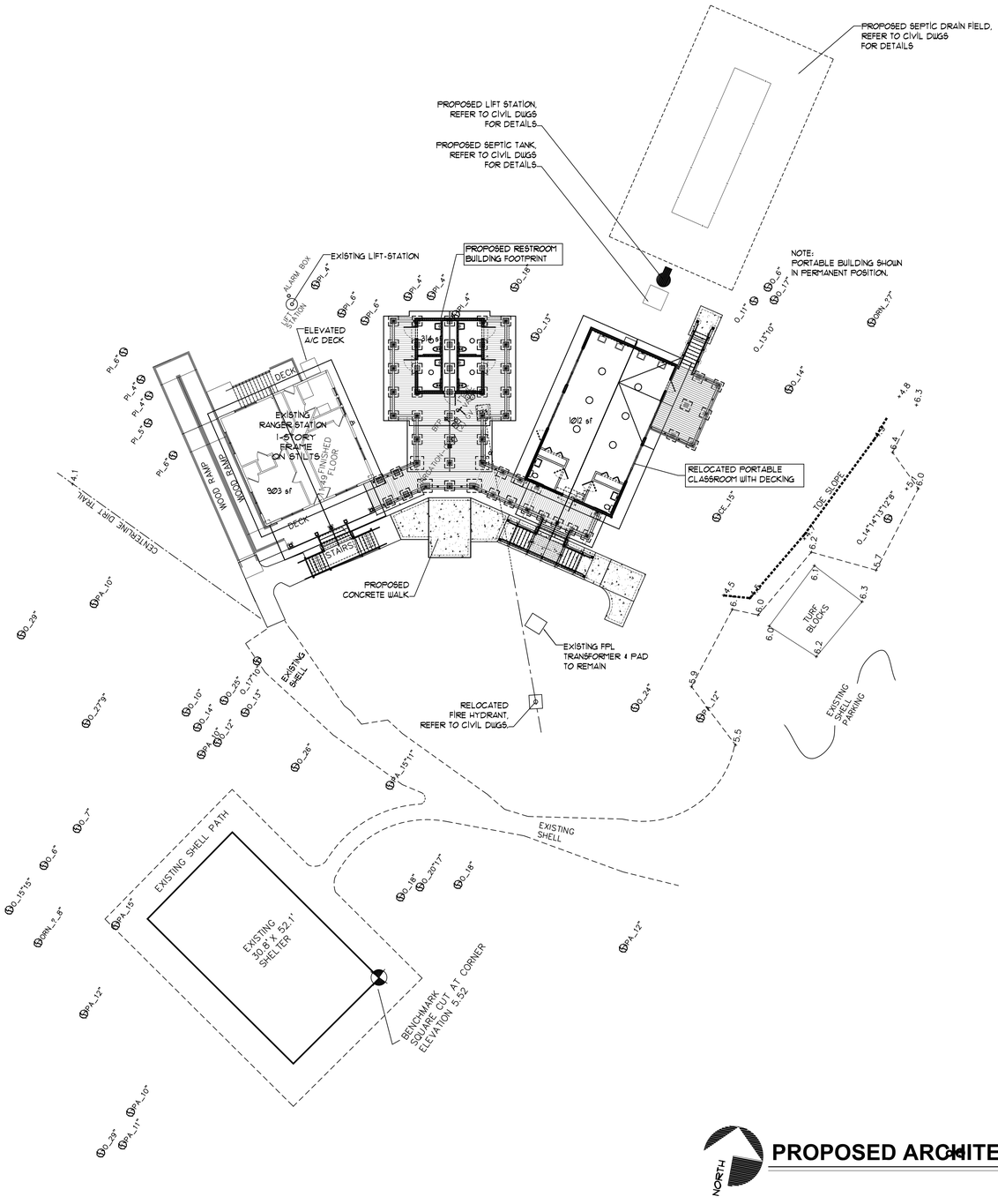

PROPOSED ARCHITECTURAL SITE PLAN

SCALE : 1/16" = 1'-0"

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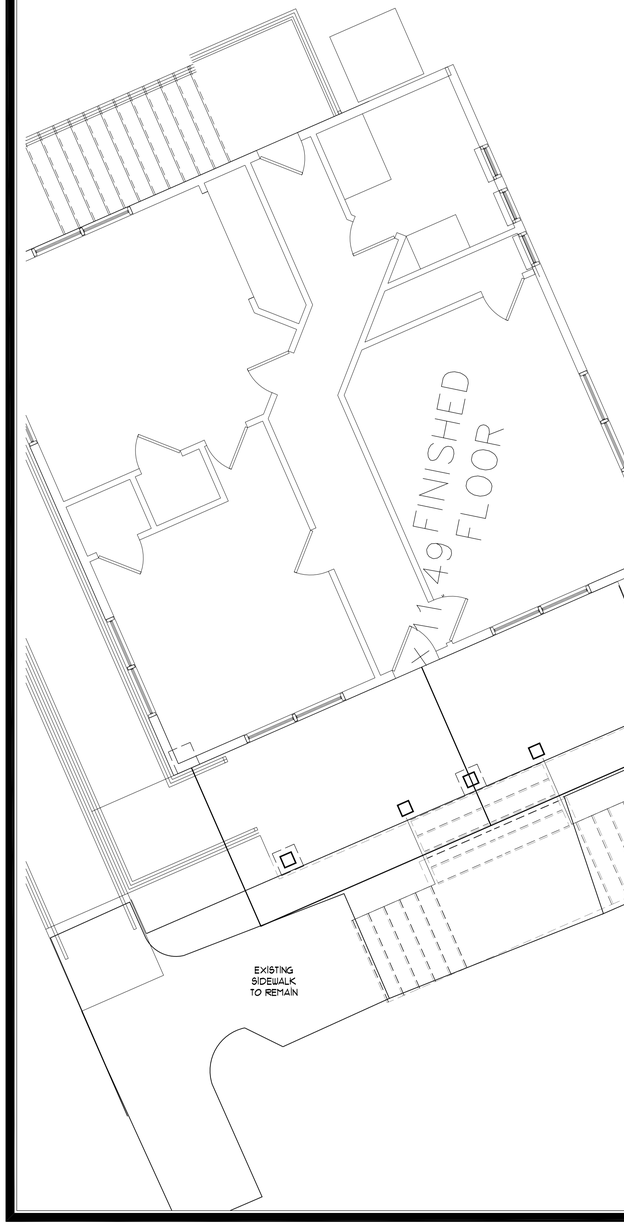

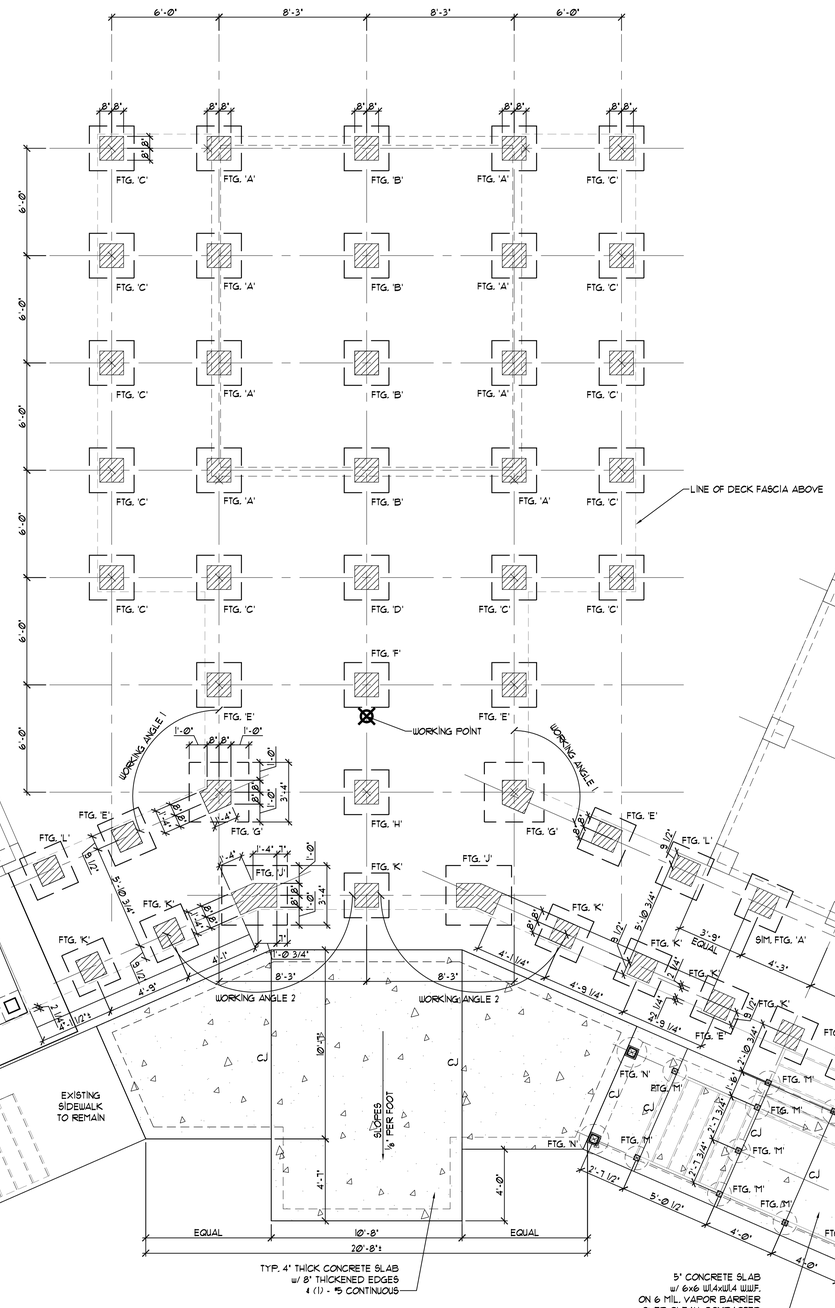

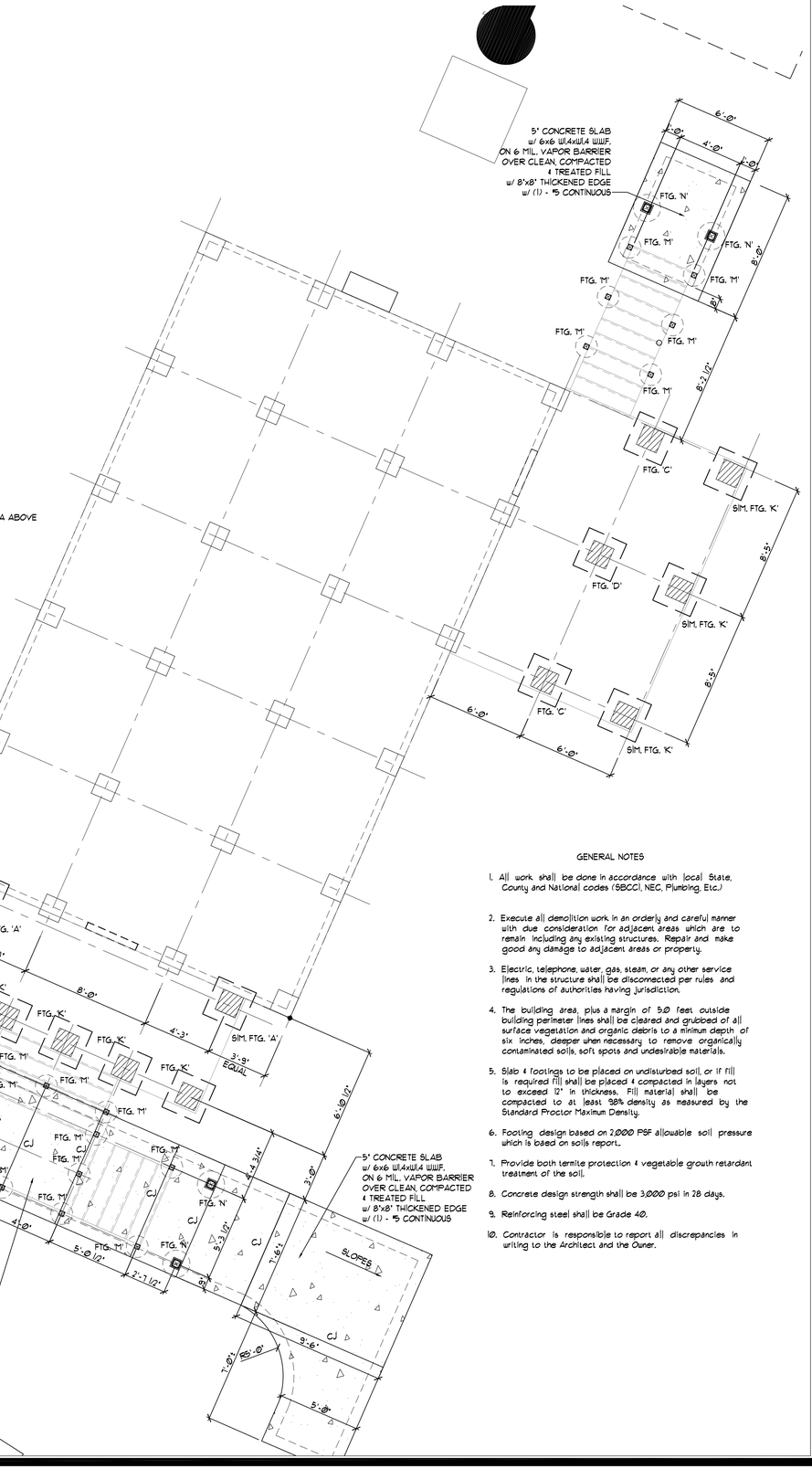

GENERAL NOTES

1. All work shall be done in accordance with local State, County and National codes (SBCCI, NEC, Plumbing, Etc.)
2. Execute all demolition work in an orderly and careful manner with due consideration for adjacent areas which are to remain including any existing structures. Repair and make good any damage to adjacent areas or property.
3. Electric, telephone, water, gas, steam, or any other service lines in the structure shall be disconnected per rules and regulations of authorities having jurisdiction.
4. The building area, plus a margin of 5.0 feet outside building perimeter lines shall be cleared and grubbed of all surface vegetation and organic debris to a minimum depth of six inches, deeper when necessary to remove organically contaminated soils, soft spots and undesirable materials.
5. Slab & footings to be placed on undisturbed soil, or if fill is required fill shall be placed & compacted in layers not to exceed 12" in thickness. Fill material shall be compacted to at least 98% density as measured by the Standard Proctor Maximum Density.
6. Footing design based on 2,000 PSF allowable soil pressure which is based on soils report.
7. Provide both termite protection & vegetable growth retardant treatment of the soil.
8. Concrete design strength shall be 3,000 psi in 28 days.
9. Reinforcing steel shall be Grade 40.
10. Contractor is responsible to report all discrepancies in writing to the Architect and the Owner.

NORTH

PROPOSED OVERALL FOUNDATION PLAN

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

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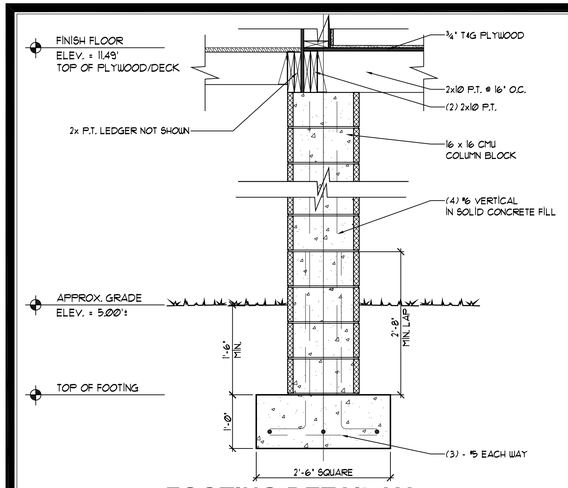
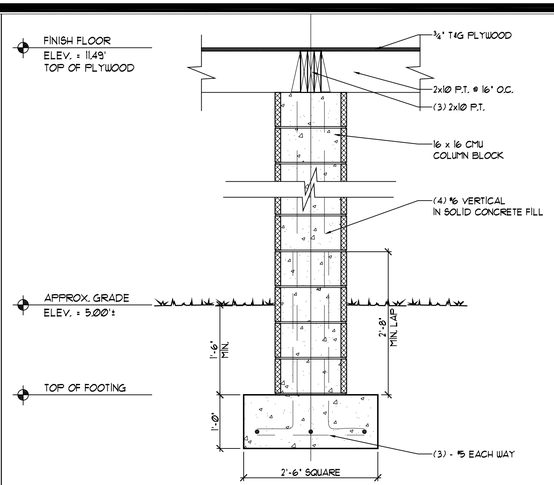


1 FOOTING DETAIL 'A'

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



2 FOOTING DETAIL 'B'

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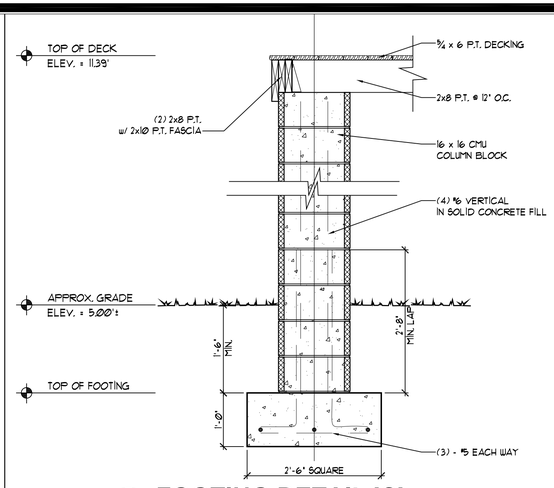
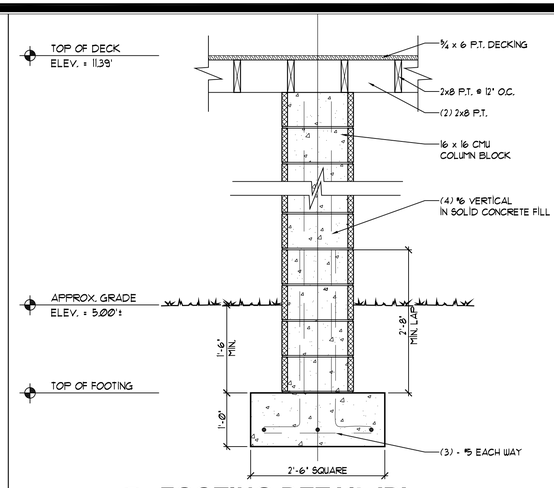


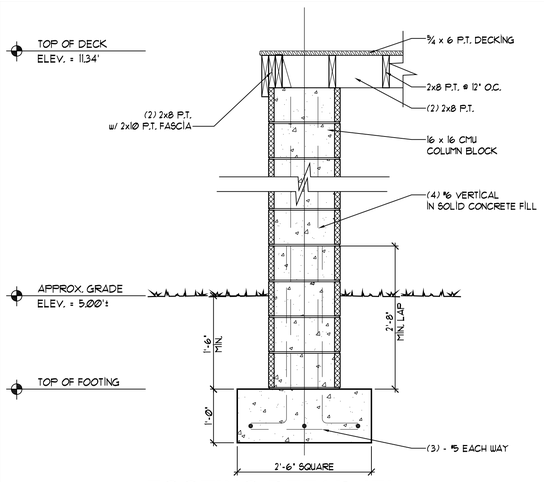
3 FOOTING DETAIL 'C'

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



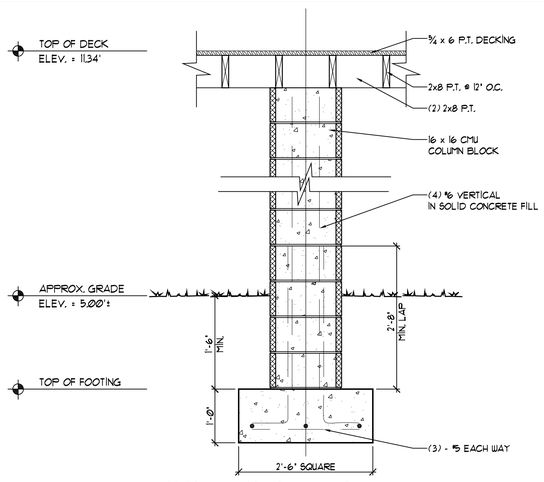
4 FOOTING DETAIL 'D'

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



5 FOOTING DETAIL 'E'

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



6 FOOTING DETAIL 'F'

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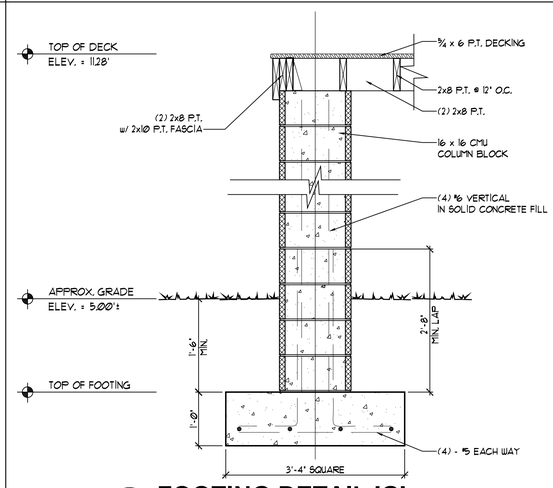
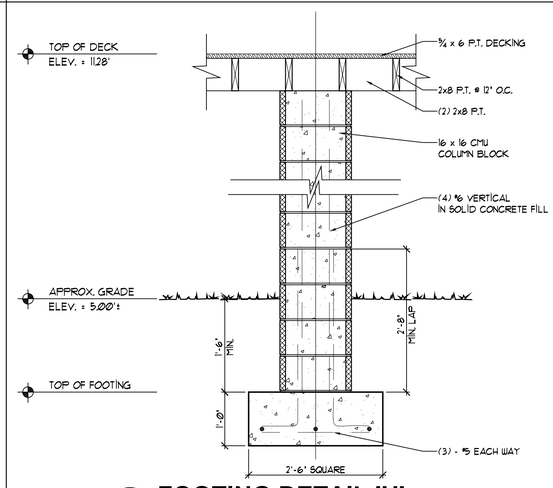


7 FOOTING DETAIL 'G'

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



8 FOOTING DETAIL 'H'

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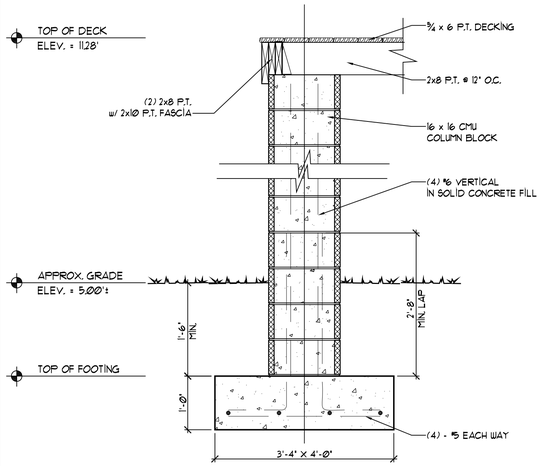
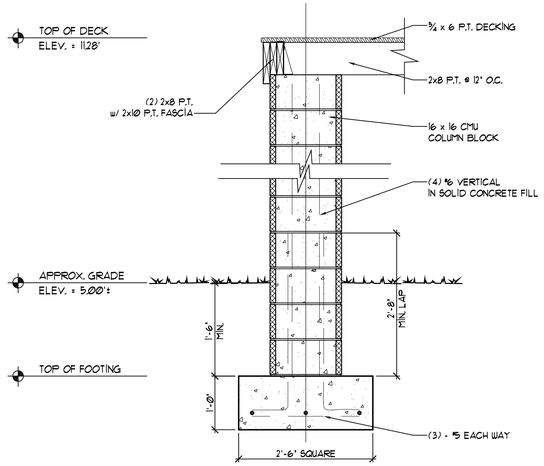


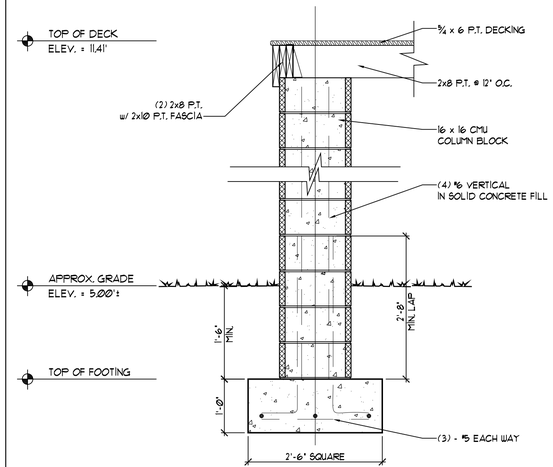
9 FOOTING DETAIL 'J'

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



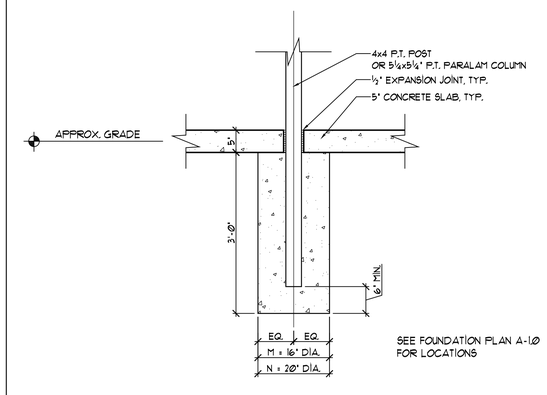
10 FOOTING DETAIL 'K'

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



11 FOOTING DETAIL 'L'

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



12 FOOTING DETAIL 'M' & 'N'

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

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465 fl. reg. 5926

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn KB/SC
checked JZ
revisions

sheet
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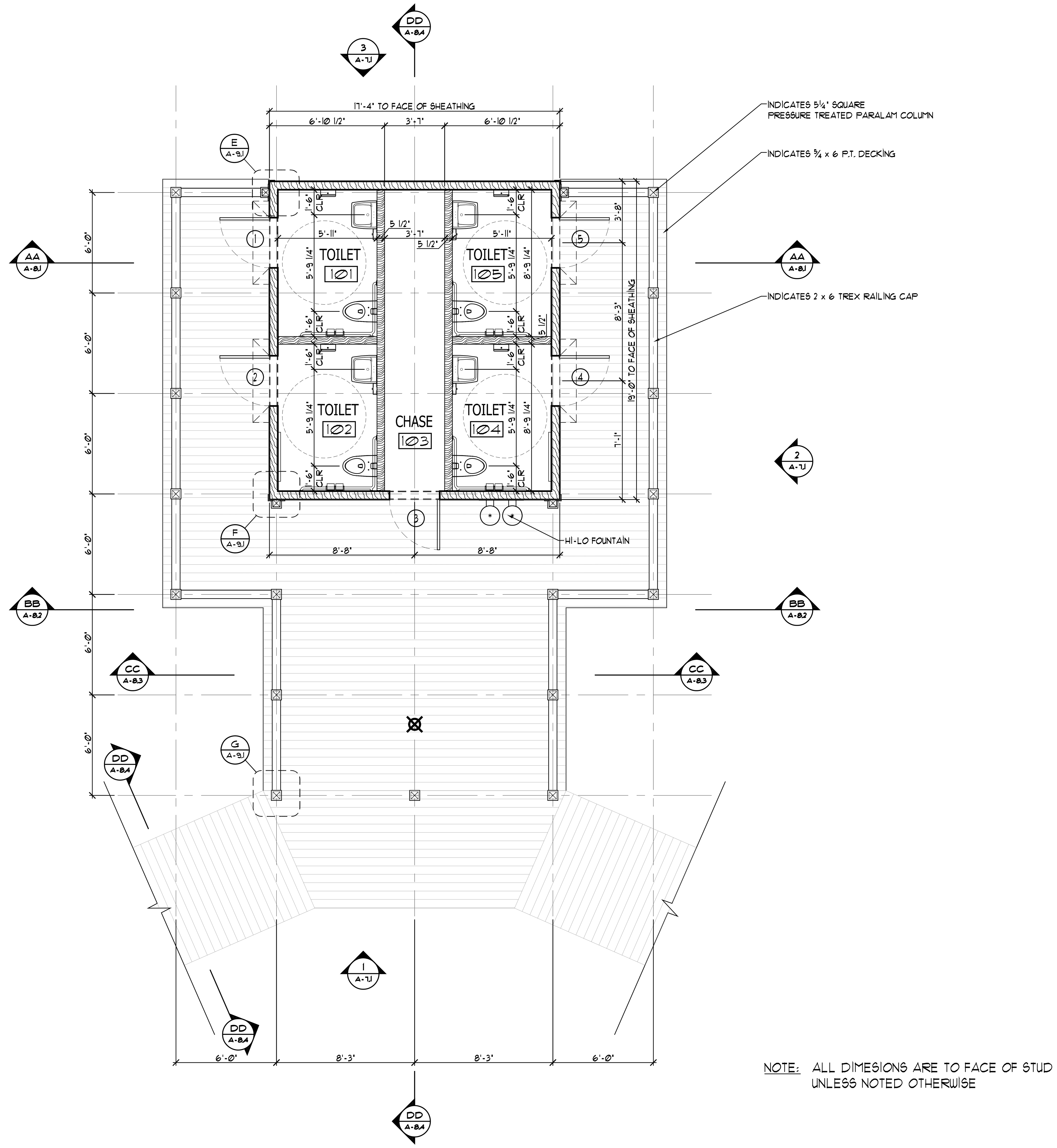

NOTE: ALL DIMESIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE

PROPOSED FLOOR PLAN

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

RESTROOM BUILDING

fl. reg. 5926

JERRY N. ZOLLER AIA
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914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

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5801 17th STREET WEST
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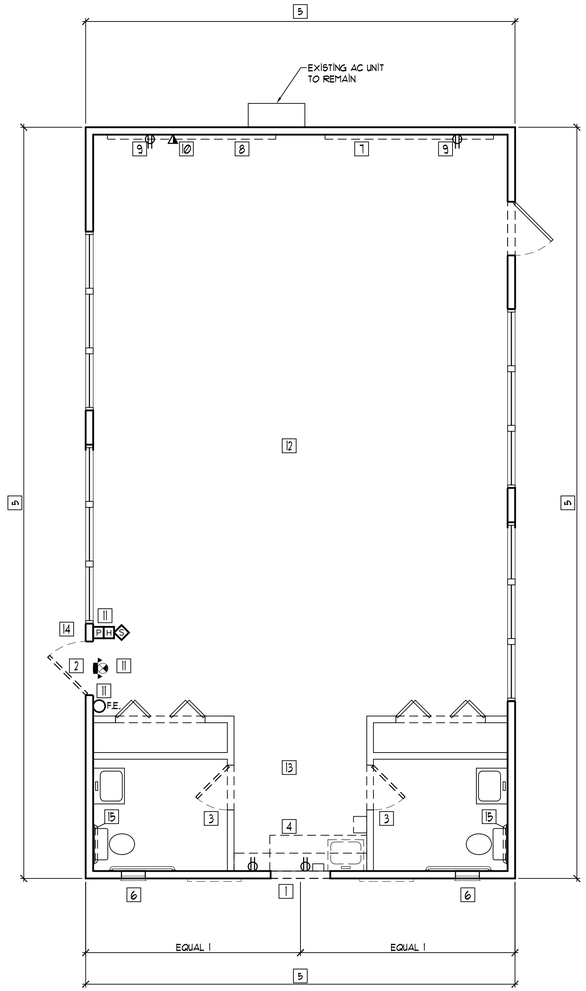


1 EXISTING FLOOR PLAN W/DEMOLITION

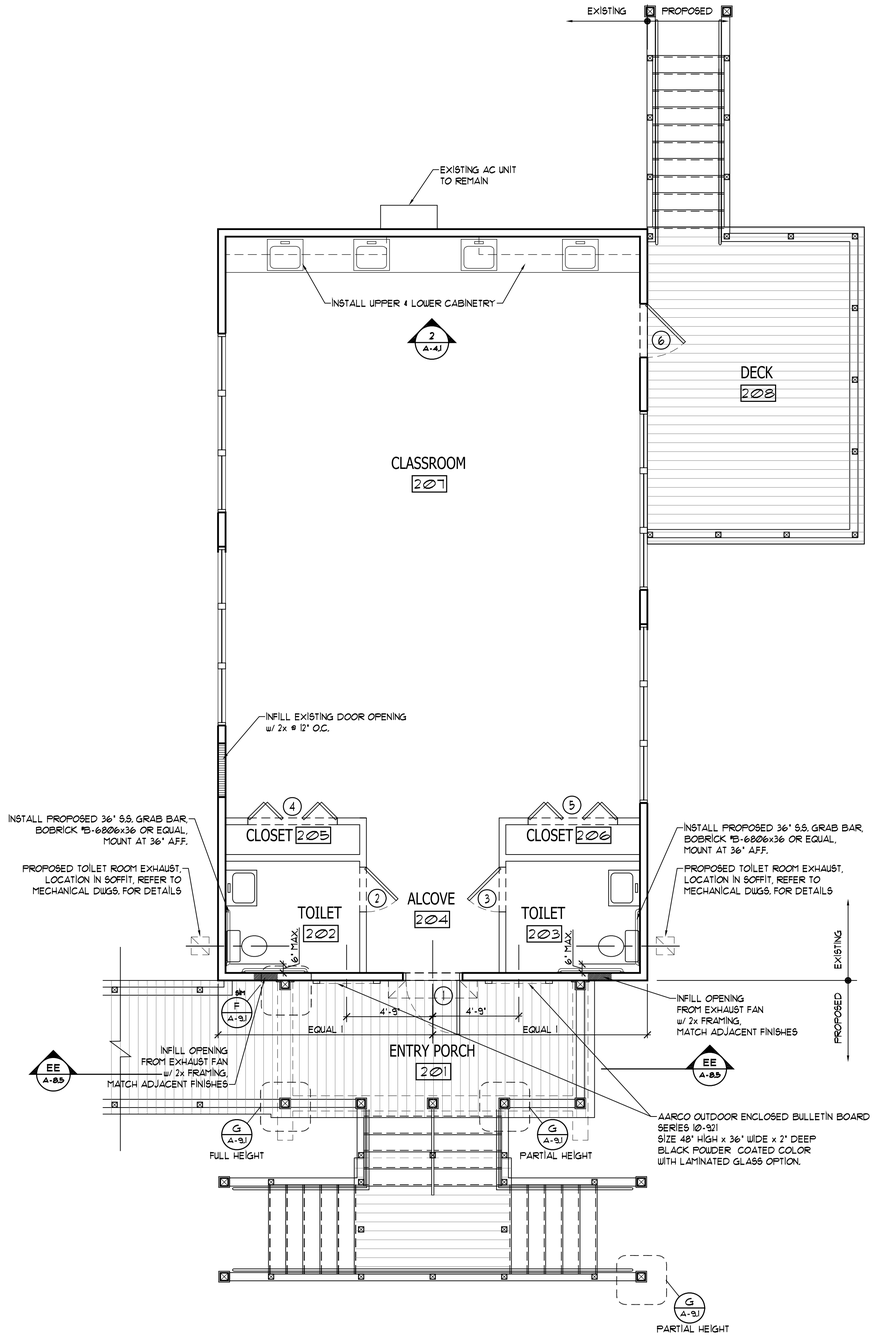
SCALE : 1/4" = 1'-0"

DEMOLITION TAG LEGEND :

1. REMOVE PORTION OF EXISTING WALL FOR PROPOSED DOOR.
2. REMOVE EXISTING DOOR & FRAME, INFILL OPENING w/ 2x FRAMING @ 12" O.C., REPAIR WALLS AS REQUIRED AND MATCH ADJACENT FINISHES.
3. REVERSE DOOR SWING OR REPLACE DOOR w/ OUTSWING.
4. REMOVE EXISTING CABINETRY, PLUMBING DEVICES, ELECTRICAL DEVICES, SOAP DISPENSER & PAPER TOWEL DISPENSER. CAP PLUMBING LINES BELOW FINISHED FLOOR / IN WALL / ABOVE CEILING. REPAIR WALL(S) AS REQUIRED AND MATCH ADJACENT FINISHES.
5. REMOVE EXISTING VINYL SIDING.
6. REMOVE EXISTING TOILET ROOM EXHAUST FAN(S). REPAIR WALL(S) AS REQUIRED AND MATCH ADJACENT FINISHES.
7. REMOVE EXISTING WRITE-ON BOARD. SAVE FOR OWNER'S REUSE.
8. REMOVE EXISTING BULLETIN BOARD. SAVE FOR OWNER'S REUSE.
9. REMOVE/RELOCATE EXISTING DUPLEX(ES) ABOVE PROPOSED CABINETRY. REPAIR WALL(S) AS REQUIRED AND MATCH ADJACENT FINISHES.
10. REMOVE EXISTING PHONE/DATA OUTLET. REPAIR WALL(S) AS REQUIRED AND MATCH ADJACENT FINISHES.
11. REMOVE/RELOCATE EXISTING DEVICES (EXIT, ELU COMBO, PULL STATION, HORN-STROBE, FIRE EXTINGUISHER & WALL BRACKET). REPAIR WALL(S) AS REQUIRED AND MATCH ADJACENT FINISHES.
12. REMOVE EXISTING CARPETING FROM CLASSROOM/CLOSETS & PREPARE SURFACES FOR PROPOSED WOOD FLOORING.
13. REMOVE EXISTING VINYL FLOORING FROM ALCOVE & PREPARE SURFACES FOR PROPOSED WOOD FLOORING.
14. REMOVE EXISTING EXTERIOR LIGHT FIXTURE.
15. REMOVE EXISTING STAINLESS STEEL GRAB BAR.

DEMOLITION WALL LEGEND :

- EXISTING WALL TO BE DEMOLISHED
- EXISTING WINDOW & FRAME TO BE REMOVED
- EXISTING INTERIOR WALL TO REMAIN
- EXISTING EXTERIOR WALL TO REMAIN



2 PROPOSED FLOOR PLAN

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

PORTABLE CLASSROOM

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465 fl. reg. 5926

PROPOSED BUILDING FOR:
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5801 17th STREET WEST PALMETTO, FLORIDA

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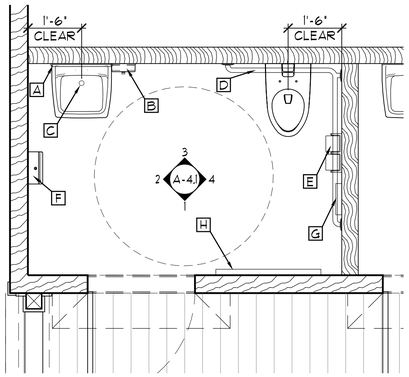


TOILET #101 & #102

TOILET #104 & #105 MIRROR IMAGE SCALE : 1/2" = 1'-0"

TOILET ACCESSORIES

MARK	DESCRIPTION	MANUF.	MODEL #	MOUNTING HEIGHT	REMARKS
A	MIRROR	BOBRICK	B-1556 2436	40" AFF TO BOTTOM	S.S.
B	SOAP DISPENSER	BOBRICK	B-2111	40" AFF TO TOP	
C	PIPE INSULATION	TRUBRO	-	AT ALL LAVATORIES	WHITE
D	GRAB BAR	BOBRICK	B-68137	36" A.F.F.	
E	TISSUE DISPENSER	BOBRICK	B-6867	24" TO CENTER OF UNIT AND 36" TO FRONT EDGE FROM WALL	-
F	PAPER TOWEL DISPENSER	BOBRICK	B-262	60 1/2" TO TOP OF UNIT	-
G	SANITARY NAPKIN DISPOSAL	BOBRICK	B-254	33" AFF TO TOP	2 TOTAL TO BE LOCATED TOILET ROOMS #101 & #104
H	WALL MOUNT BABY CHANGING STATION UNISEX TOILET 116 ONLY	KOALA BEAR KARE	KB110-SSWM	44" AFF TO TOP	

ROOM FINISH SCHEDULE

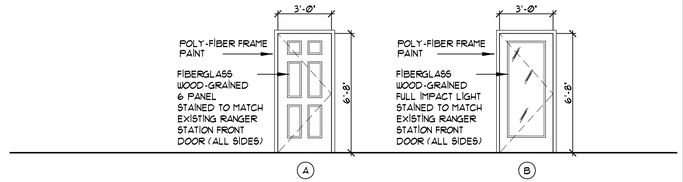
	MARK	ROOM NAME	FLOOR: EXISTING TO REMAIN	FLOOR: WOOD LAMINATE	FLOOR: TILE OVER TILE BACKER BOARD	FLOOR: VCT	FLOOR: WOOD DECK	BASE: NONE	BASE: PAINT EXISTING	BASE: TILE - 6" SANITARY COVE	BASE: WOOD - 6" COLONIAL	WALLS: TILE OVER TILE BACKER BOARD	WALLS: PAINT EXISTING	CEILING: EXISTING TO REMAIN	CEILING: 5/8" GYP. WALL BOARD, KNOCK DOWN FINISH & PAINTED	CEILING: 2x6 T&G - V-GROOVE CYPRESS	CEILING: 1x6 T&G - BEAD / V-GROOVE CYPRESS	CEILING: OPEN TO STRUCTURE	CLG. HGT.	REMARKS
RESTROOM BUILDING	101	TOILET		●						●		●			●				8'-0"	
	102	TOILET		●						●		●			●				8'-0"	
	103	WEST PORCH					●	●									●		10' ±	
	104	SOUTH PORCH					●	●								●			VARIES	
	105	CHASE				●		●										●	- -	
	106	EAST PORCH					●	●									●		10' ±	
	107	TOILET		●						●		●			●				8'-0"	
	108	TOILET		●						●		●			●				8'-0"	
	109	- - -																		
	110	- - -																		
EXISTING PORTABLE CLASSROOM	201	ENTRY PORCH					●	●								●			VARIES	
	202	TOILET	●						●				●	●					8'-0" ±	
	203	TOILET	●						●				●	●					8'-0" ±	
	204	ALCOVE		●					●				●	●					8'-4" ±	
	205	CLOSET		●					●				●	●					8'-0" ±	
	206	CLOSET		●					●				●	●					8'-0" ±	
	207	CLASSROOM		●					●				●	●					8'-4" ±	
	208	DECK					●	●											-	
	209	- - -																		
	210	- - -																		

FINISH SCHEDULE NOTES :
1. PROVIDE SOLID FIRE BLOCKING AT ALL VERT. & HORZ. TRANSITIONS.
2. INSULATE ALL INTERIOR WALLS w/ SOUND ATTENUATION BATTS (FULL DEPTH OF WALL).
3. DRYWALL TO RECEIVE KNOCK DOWN FINISH, AND PAINT.
4. WOOD LAMINATE FLOORING SHALL BE BY KONECTO, PRESTIGE COLLECTION, WITH STYLE TO BE SELECTED BY OWNER.
5. VERIFY ALL FINISHES WITH OWNER PRIOR TO CONSTRUCTION.

DOOR SCHEDULE

	MARK	SIZE W	SIZE H	SIZE T	TYPE	DOOR MATERIAL	DOOR FINISH	JAMB MATERIAL	JAMB FINISH	REMARKS
RESTROOM BUILDING	(101)	3'-0"	6'-8"	1 3/4"	A	FIBERGLASS	STAIN	POLY-FIBER	PAINT	W/ CLOSER
	102	3'-0"	6'-8"	1 3/4"	A	FIBERGLASS	STAIN	POLY-FIBER	PAINT	W/ CLOSER
	103	3'-0"	6'-8"	1 3/4"	A	FIBERGLASS	STAIN	POLY-FIBER	PAINT	W/ CLOSER
	104	3'-0"	6'-8"	1 3/4"	A	FIBERGLASS	STAIN	POLY-FIBER	PAINT	W/ CLOSER
	105	3'-0"	6'-8"	1 3/4"	A	FIBERGLASS	STAIN	POLY-FIBER	PAINT	W/ CLOSER
	106	-	-	-	-	-	-	-	-	-
	107	-	-	-	-	-	-	-	-	-
	108	-	-	-	-	-	-	-	-	-
	109	-	-	-	-	-	-	-	-	-
	110	-	-	-	-	-	-	-	-	-
EXISTING PORTABLE CLASSROOM	201	3'-0"	6'-8"	1 3/4"	B	FIBERGLASS	STAIN	POLY-FIBER	PAINT	W/ CLOSER
	202	3'-0"	6'-8"	1 3/4"	-	WOOD	STAIN	WOOD	PAINT	REVERSE SWING OR REPLACE, ADD CLOSER
	203	3'-0"	6'-8"	1 3/4"	-	WOOD	STAIN	WOOD	PAINT	REVERSE SWING OR REPLACE, ADD CLOSER
	204	3'-0"	6'-8"	1 3/4"	-	-	-	-	-	EXISTING
	205	3'-0"	6'-8"	1 3/4"	-	-	-	-	-	EXISTING
	206	3'-0"	6'-8"	1 3/4"	-	-	-	-	-	EXISTING
	207	-	-	-	-	-	-	-	-	-
	208	-	-	-	-	-	-	-	-	-
	209	-	-	-	-	-	-	-	-	-
	210	-	-	-	-	-	-	-	-	-

NOTES:
1. PROVIDE ADA APPROVED LEVER TYPE HARDWARE ON ALL DOORS UNLESS NOTED OTHERWISE.
2. PROVIDE SECURITY DEVICE AT LATCH SIDE OF HEAD FRAME AT ALL EXTERIOR DOORS. VERIFY WITH OWNER IF ANY OTHER DOORS NEED SECURITY DEVICES.
3. PROVIDE KNURLED KNOB AT CHASE/MECHANICAL/ELECTRICAL ROOMS, ETC., TYPICAL.



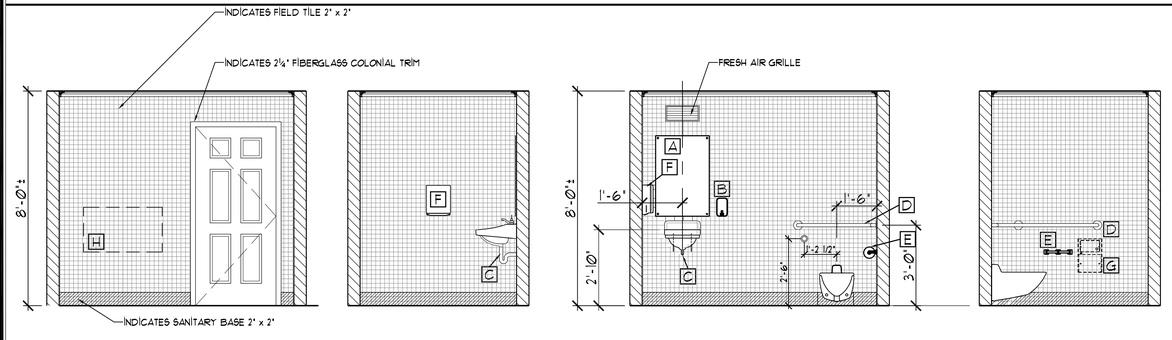
PLASTPRO
SIX PANEL WOOD GRAIN
w/ 1 1/4" POLY FIBER FRAME
w/ PEMKO R1059MR SILL
OFFSET MODULAR THRESHOLD ASSEMBLY
2007 FLORIDA BLDG CODE
LOCATION ZONE 5
130 MPH & +30.4/-40.7 PSF
LARGE MISSILE TEST APPROVED
SUBMIT SHOP DRAWINGS, SIGNED & SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA

FLORIDA PRODUCT NUMBER: FL#19771
APPROVED 06/09/2009
DESIGN PRESSURE +100 PSF

PLASTPRO
WOOD GRAIN w/ FULL IMPACT LIGHT
w/ POLY FIBER FRAME (VERIFY JAMB THICKNESS)
w/ PEMKO R1059MR SILL
OFFSET MODULAR THRESHOLD ASSEMBLY
2007 FLORIDA BLDG CODE
LOCATION ZONE 5
130 MPH & +30.4/-40.7 PSF
LARGE MISSILE TEST APPROVED
SUBMIT SHOP DRAWINGS, SIGNED & SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA

FLORIDA APPROVED PRODUCT NUMBER: FL #12059.0
APPROVED 04/07/2009
DESIGN PRESSURE 150.0 PSF

DOOR TYPES

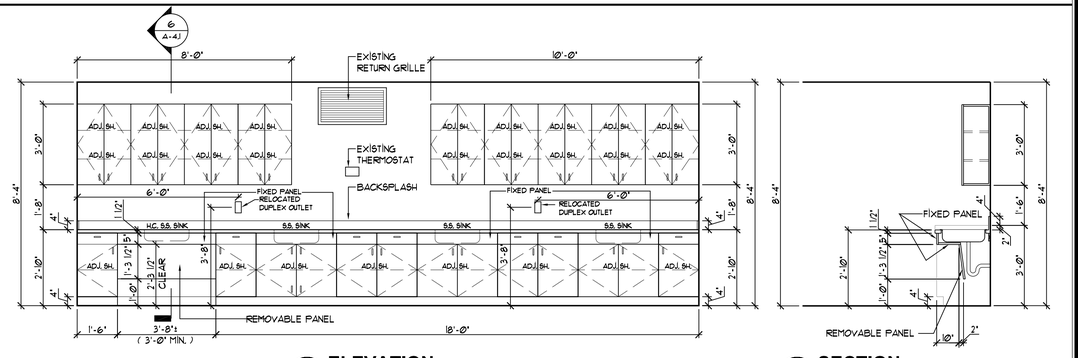


1 ELEVATION 2 ELEVATION 3 ELEVATION 4 ELEVATION

TOILET #101 & #102

TOILET #104 & #105 MIRROR IMAGE SCALE : 3/8" = 1'-0"

TILE LEGEND	
LOCATION	DALTILE
FLOOR	UNGLAZED PORCELIAN 1"x1" BLEND BEACH DK04
BASE	GLAZED PORCELIAN 2"x2" MB-5A CITYLINE KOHL 6471
FIELD	GLAZED PORCELIAN 2"x2" ALMOND 6465
ACCENT '1'	OMITTED
ACCENT '2'	OMITTED



5 ELEVATION 6 SECTION

CLASSROOM #207

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

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465
fl. reg. 5926

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
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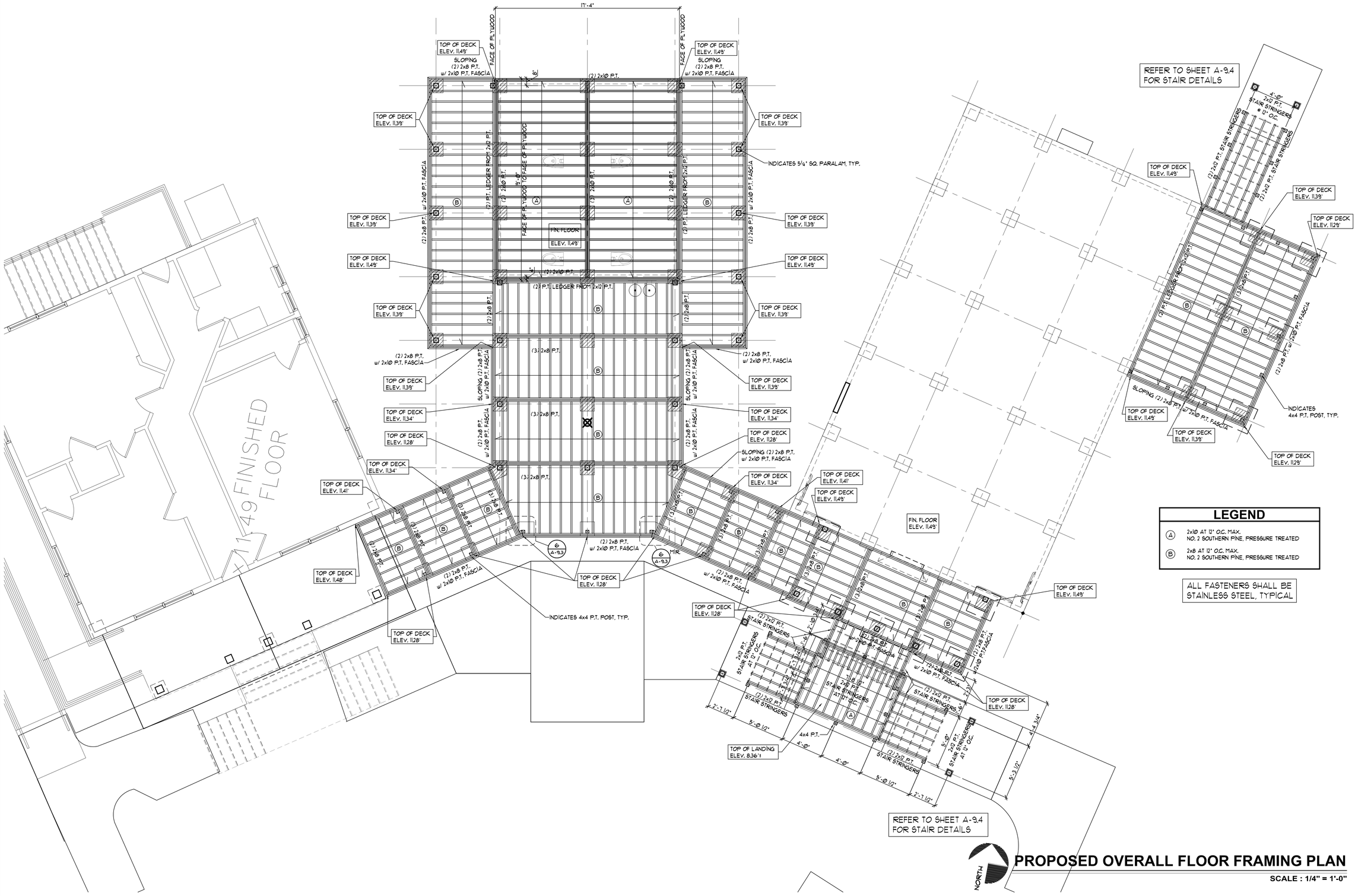

LEGEND

- (A) 2x10 AT 12" O.C. MAX. NO. 2 SOUTHERN PINE, PRESSURE TREATED
- (B) 2x8 AT 12" O.C. MAX. NO. 2 SOUTHERN PINE, PRESSURE TREATED

ALL FASTENERS SHALL BE STAINLESS STEEL, TYPICAL

NORTH

PROPOSED OVERALL FLOOR FRAMING PLAN

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

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
AN COMPANY
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465
fl. reg. 5926

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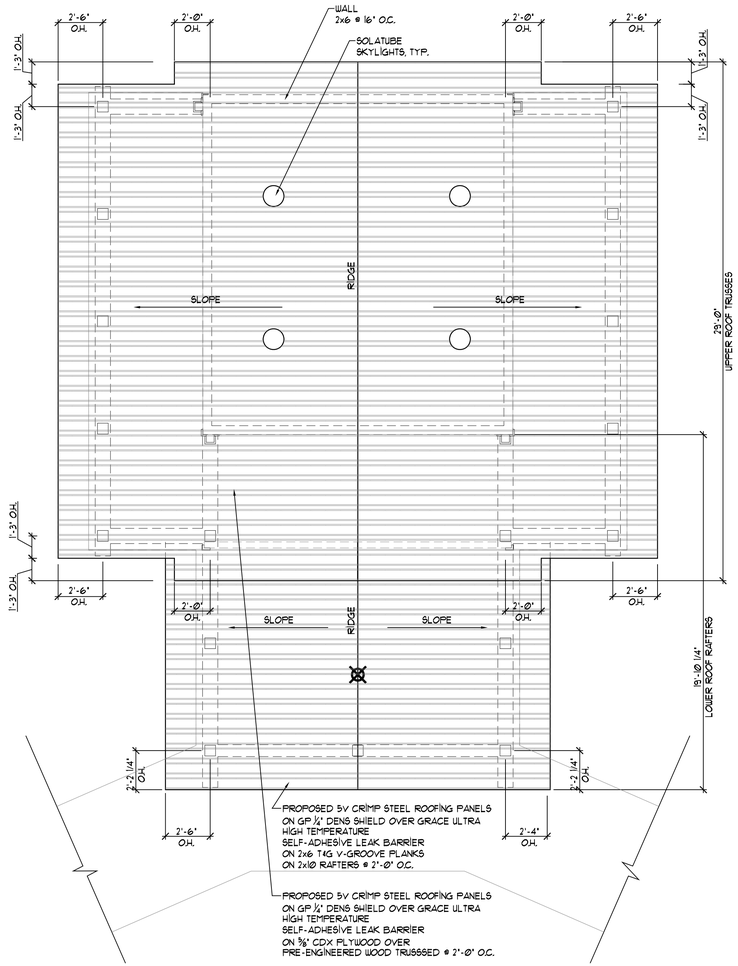
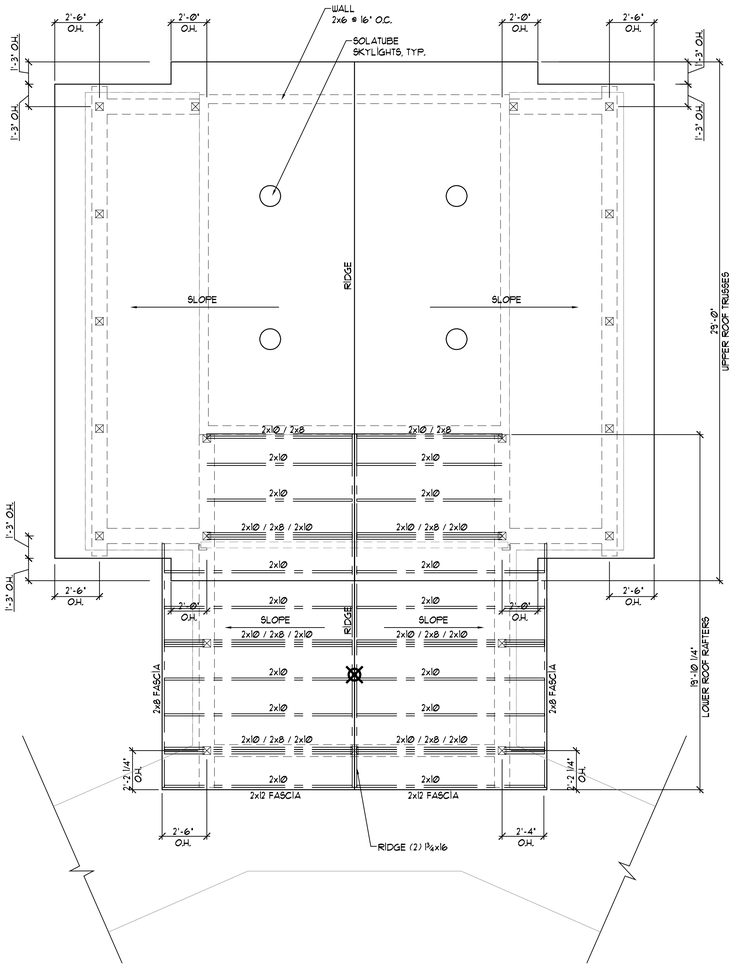


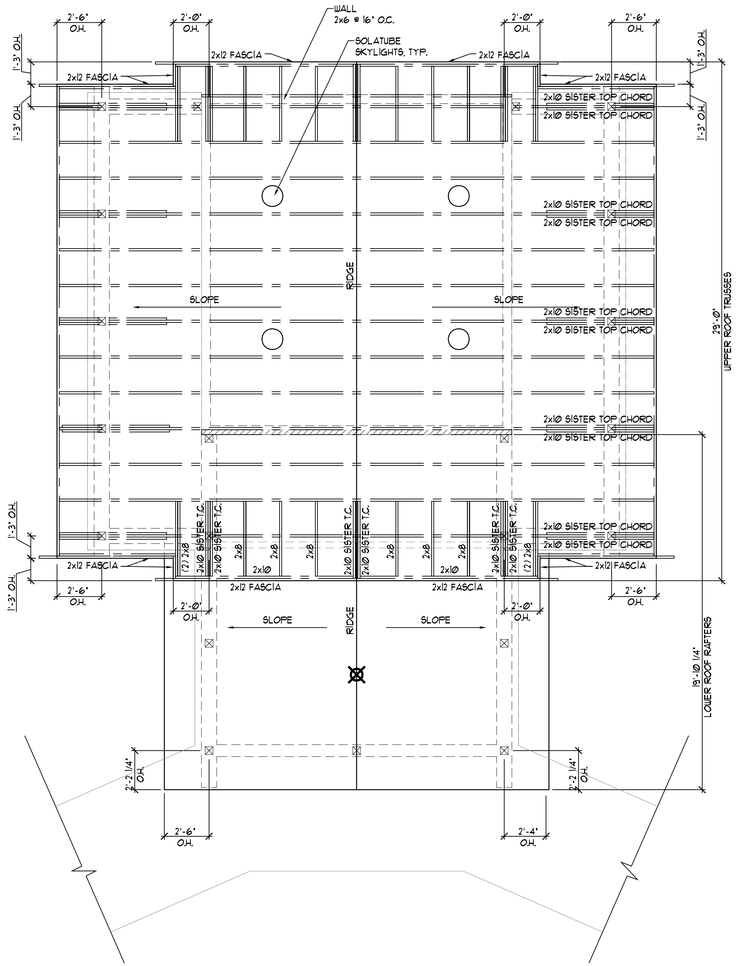
PROPOSED ROOF PLAN

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



PROPOSED LOWER ROOF FRAMING PLAN

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



PROPOSED UPPER ROOF FRAMING PLAN

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

Dan's Custom Sheet Metal
5700 Washington Street
Naples, FL 34109
5V Crimp Panel
N.O.A No. : 08--110.09
Expiration Date: 05/08/13
Approval Date: 03/27/08
or
EQUAL AS APPROVED BY ARCHITECT.

NOTE : NO ROOFING FASTENERS SHALL PENETRATE THE 2x6 T&G V-GROOVE PLANKS AT THE VAULTED RAFTERS.

ROOF RAFTERS

1. FRAMING LAYOUT DIAGRAMMATIC ONLY.
2. EXTERIOR & INTERIOR ROOF SLOPE SHALL BE 2 TO 12.
3. OVERHANG AT 2x10 RAFTERS SHALL BE AS NOTED ON FRAMING PLAN.
4. 2x10, NO. 2 SYP RAFTERS AT 24" O.C., TYPICAL.
5. 2x10 RAFTERS SHALL HAVE SIMPSON H14 ANCHORS TO BUILT-UP BEAM(S) AND SIMPSON HUS210 w/SLD AT 10 DEGREES TO RIDGE.
   2x10/2x8/2x10 RAFTERS SHALL HAVE SIMPSON H6 ANCHORS AT EACH SIDE TO BUILT-UP BEAM(S) AND SIMPSON HHUS210-3 w/SLD 10 DEGREES TO RIDGE.
6. ALL FASTENERS SHALL BE STAINLESS STEEL, TYPICAL
7. THERE ARE NO UPLIFTS OVER 1,000 LBS AND NO GRAVITY LOADS OVER 5,000 LBS..

ATTACHMENT OF ROOF SHEATHING

2x6 T&G V-GROOVE PLANKS ANCHORED W/ (2) 3" STAINLESS STEEL DECK SCREWS @ EACH PLANK TO EACH RAFTER .

PRE-ENGINEERED WOOD TRUSSES

1. FRAMING LAYOUT DIAGRAMMATIC ONLY.
2. EXTERIOR ROOF SLOPE SHALL BE 5 TO 12
3. OVERHANGS AT TRUSSES SHALL BE AS NOTED ON FRAMING PLAN.
4. TRUSSES SHALL BE TOP CHORD BEARING.
5. ALL TRUSS TOP CHORDS & OUTLOOKERS SHALL BE 2x8.
6. UNIFORM LOADS: ROOF DEAD LOAD 40 PSF
   (ALLOW 15 PSF DEAD LOAD TO RESIST UPLIFT FROM WIND LOADS.)
   ROOF LIVE LOAD 20 PSF
   ROOF TOTAL LOAD 60 PSF
7. PRE-ENGINEERED WOOD TRUSSES AT 2'-0" O/C, TYPICAL. TRUSS MANUFACTURERS SHALL SUBMIT SHOP DRAWINGS FOR THE COMPLETE ROOF SYSTEM, SIGNED & SEALED BY STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA TO THE ARCHITECT FOR REVIEW, INCLUDING TRUSS ENGINEERING, TRUSS LAYOUT AND PERMANENT TRUSS BRACING.
8. GENERAL CONTRACTOR TO PROVIDE AND INSTALL TRUSS ANCHORS EQUAL TO SIMPSON STRONG TIE CONNECTORS, H14 WITH MAXIMUM ALLOWABLE UPLIFT LOAD FROM UNLESS OTHERWISE NOTED. INSTALL PER MANUFACTURERS RECOMMENDATIONS. TRUSS ENGINEERING WHICH EXCEEDS THIS UPLIFT LOAD REQUIRES UPGRADING OF TRUSS ANCHORS PRIOR TO INSTALLATION OF CONCRETE TIE BEAMS. TRUSS ANCHORS MUST MEET OR EXCEED LOADS IMPOSED BY TRUSS MANUFACTURERS ENGINEERING. GENERAL CONTRACTOR SHALL SUBMIT TRUSS ANCHOR SCHEDULE TO ARCHITECT FOR REVIEW WITH REQUIRED TRUSS DRAWINGS. TRUSS TO TRUSS CONNECTIONS ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER.
9. THERE ARE NO UPLIFTS OVER 1,000 LBS AND NO GRAVITY LOADS OVER 5,000 LBS..

ATTACHMENT OF ROOF SHEATHING

5/8" CDX PLYWOOD ROOF SHEATHING
NAILED W/ 8d @ 6" O.C. EXCEPT 4" O.C.
AT GABLE ENDS X 48" WIDTH

RESTROOM BUILDING

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465
fl. reg. 5926

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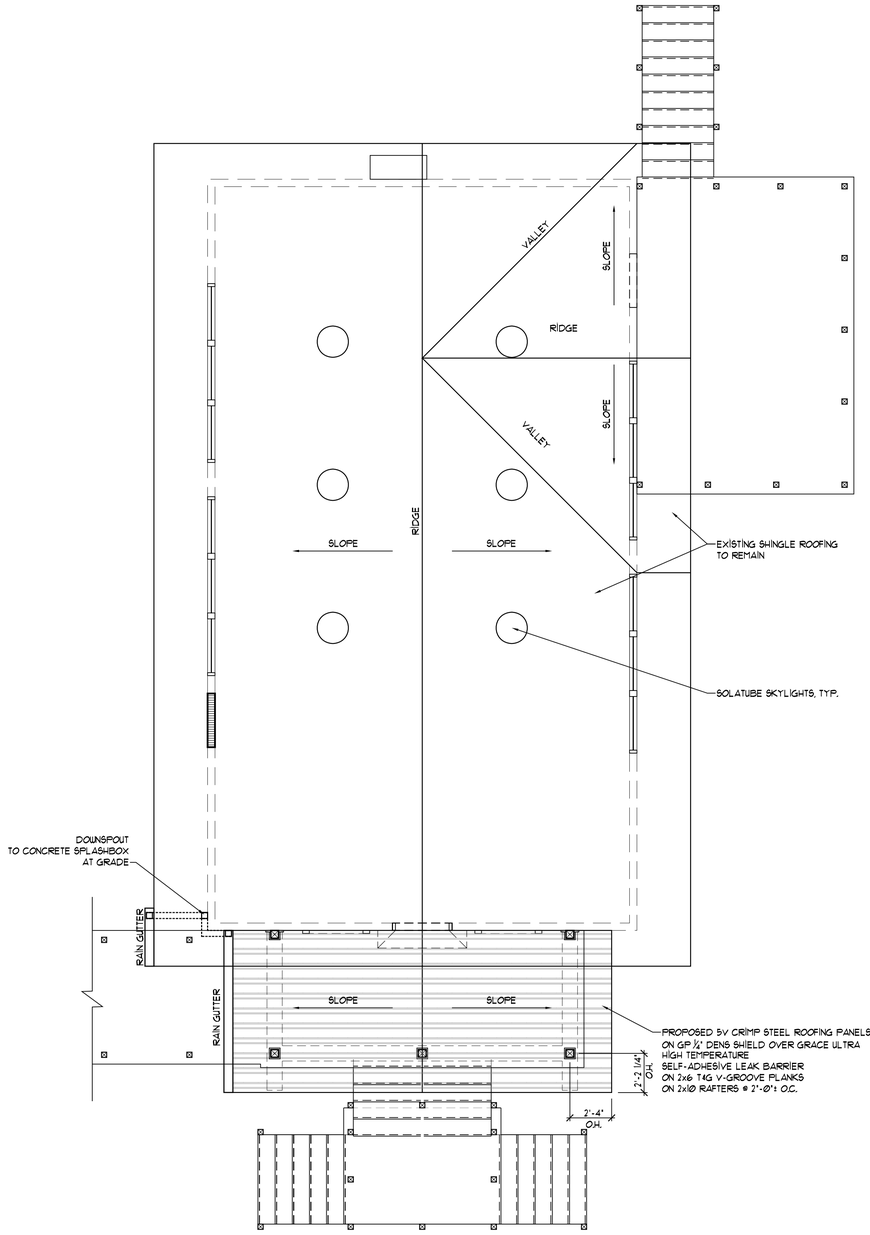


1 **PROPOSED ROOF PLAN**

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

ROOF RAFTERS

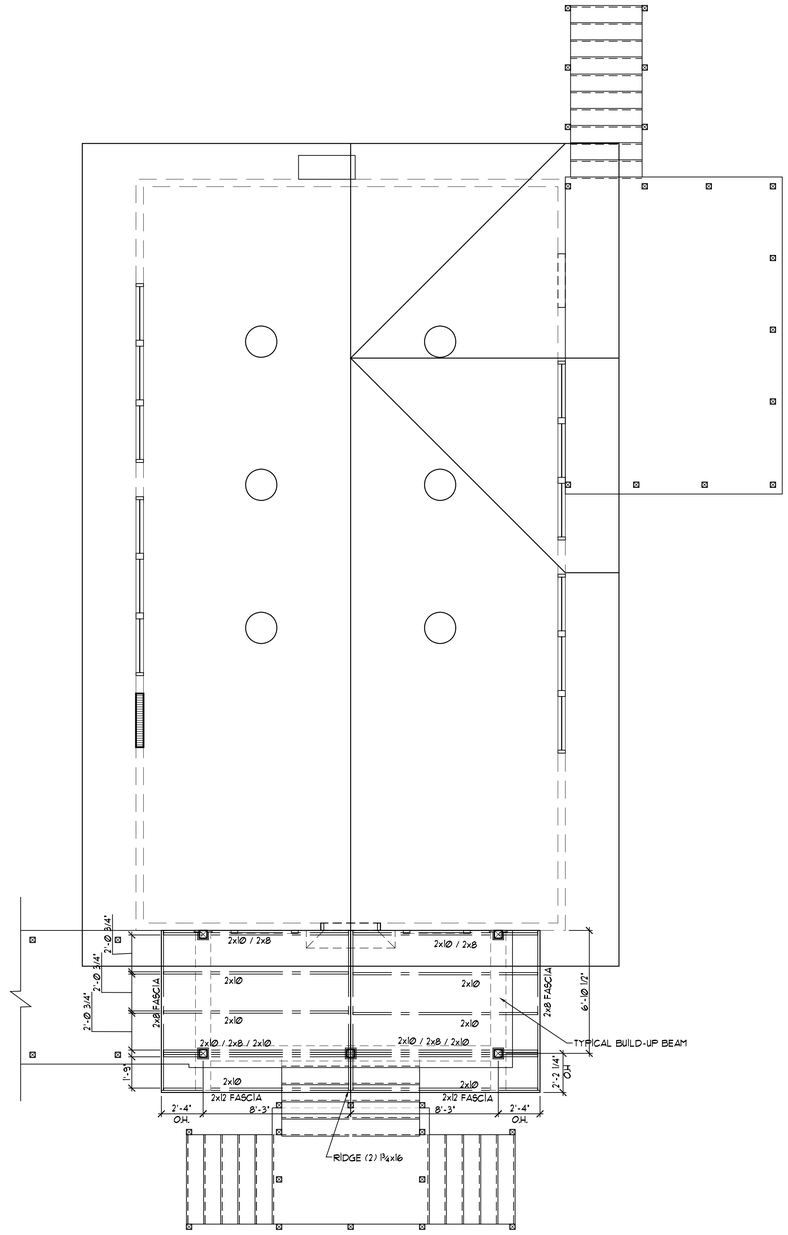
1. FRAMING LAYOUT DIAGRAMMATIC ONLY.
2. EXTERIOR & INTERIOR ROOF SLOPE SHALL BE 2 TO 12.
3. OVERHANG AT 2x10 RAFTERS SHALL BE AS NOTED ON FRAMING PLAN.
4. 2x10, NO. 2 SYP RAFTERS AT 24" O.C., TYPICAL.
5. 2x10 RAFTERS SHALL HAVE SIMPSON H14 ANCHORS TO BUILT-UP BEAM(S) AND SIMPSON HUS210 W/SLD AT 10 DEGREES TO RIDGE.
   2x10/2x8/2x10 RAFTERS SHALL HAVE SIMPSON H6 ANCHORS AT EACH SIDE TO BUILT-UP BEAM(S) AND SIMPSON HHUS210-3 W/SLD AT 10 DEGREES TO RIDGE..
6. INSTALL SOLID 2x8 WOOD BLOCKING BETWEEN OUTLOOKERS RAFTERS, TYPICAL.
7. ALL FASTENERS SHALL BE STAINLESS STEEL, TYPICAL.
8. THERE ARE NO UPLIFTS OVER 1,000 LBS AND NO GRAVITY LOADS OVER 5,000 LBS..

ATTACHMENT OF ROOF SHEATHING

2x6 T&G V-GROOVE PLANKS ANCHORED W/ (2) STAINLESS SQUARE DRIVE STEEL DECK SCREWS @ EACH PLANK, PREDRILL EACH FASTENER, TO EACH RAFTER .

Dan's Custom Sheet Metal
5700 Washington Street
Naples, FL 34109
5V Crimp Panel
N.O.A No. : 08--110.09
Expiration Date: 05/08/13
Approval Date: 03/27/08
or
EQUAL AS APPROVED BY ARCHITECT.

NOTE : NO ROOFING FASTENERS SHALL PENETRATE THE 2x6 T&G V-GROOVE PLANKS AT THE VAULTED RAFTERS.



2 **PROPOSED ROOF FRAMING PLAN**

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

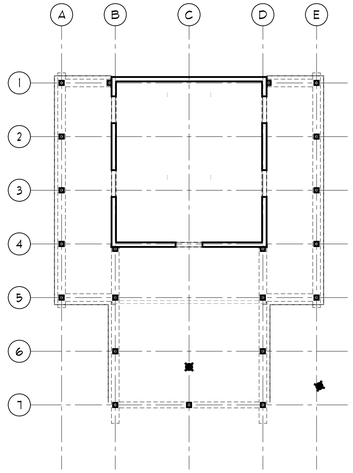
PORTABLE CLASSROOM

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465 fl. reg. 5926

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn KB
checked JJ
revisions

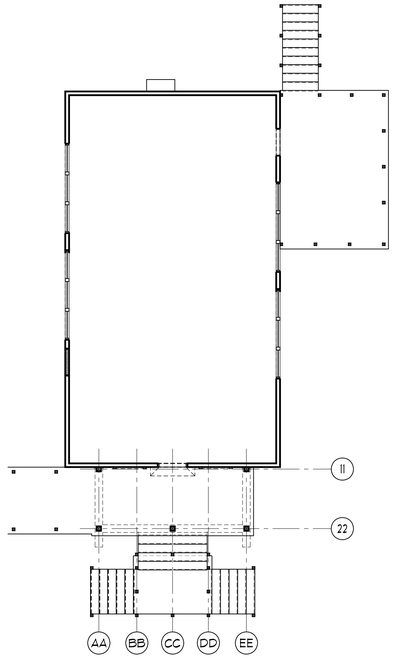
sheet
A-6.2
of



NORTH

RESTROOM KEY PLAN

NO SCALE

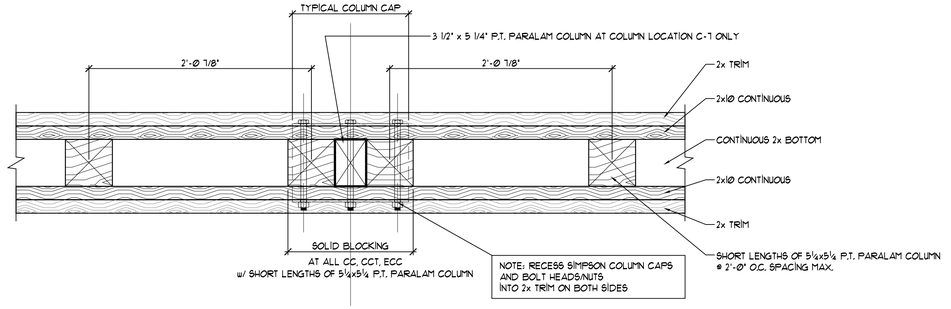


NORTH

CLASSROOM KEY PLAN

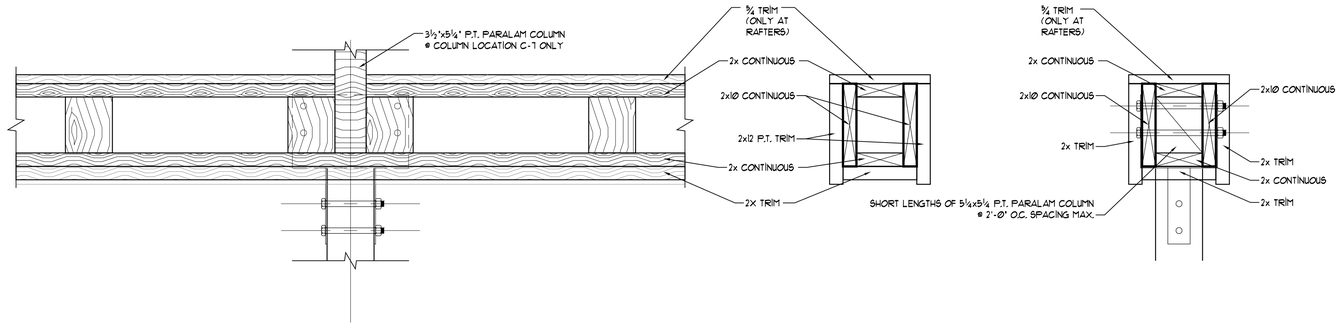
NO SCALE

BUILT-UP BEAM DETAILS



1 PLAN / SECTION

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



2 ELEVATION / SECTION

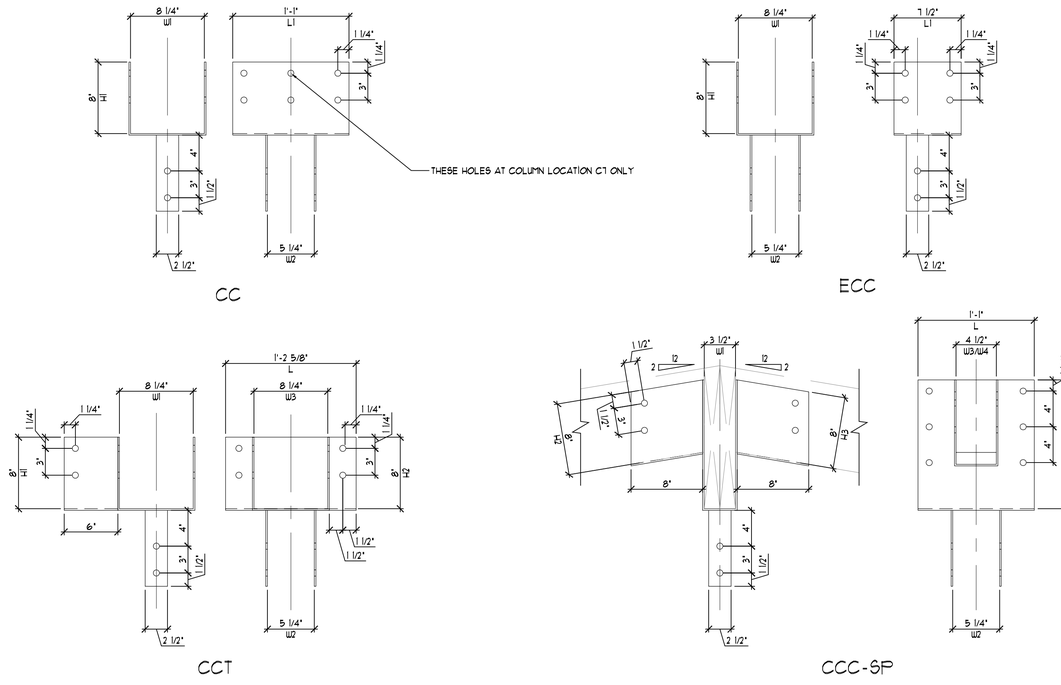
SCALE : 1-1/2" = 1'-0"

3 SECTION BETWEEN COL.

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

4 SECTION AT COLUMN

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



CONNECTION DETAILS

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

RESTROOM CONNECTIONS:

COLUMN LOCATION	COLUMN BASE MODEL	BASE BOLTS QTY.	BASE BOLTS DIA.	COLUMN CAP MODEL	CAP BOLTS QTY.	CAP BOLTS DIA.
A-1	CB66 x W1/W2 x 5¼"	2	⅝"	CCT	2	⅝"
A-2		2	⅝"	CC	4	⅝"
A-3		2	⅝"	CC	4	⅝"
A-4		2	⅝"	CC	4	⅝"
A-5		2	⅝"	CCT	6	⅝"
B-1		2	⅝"	ECC	4	⅝"
B-4		2	⅝"	ECC	4	⅝"
B-5		2	⅝"	CCT	6	⅝"
B-6		2	⅝"	CC	4	⅝"
B-7		2	⅝"	CCT	6	⅝"
C-7		2	⅝"	CC-SP	Ø	⅝"
D-1		2	⅝"	ECC	4	⅝"
D-4		2	⅝"	ECC	4	⅝"
D-5		2	⅝"	CCT	6	⅝"
D-6		2	⅝"	CC	4	⅝"
D-7		2	⅝"	CCT	6	⅝"
E-1		2	⅝"	CCT	6	⅝"
E-2		2	⅝"	CC	4	⅝"
E-3		2	⅝"	CC	4	⅝"
E-4		2	⅝"	CC	4	⅝"
E-5	↓	2	⅝"	CCT	6	⅝"

ALL COLUMN BASES & CAPS SHALL BE STAINLESS STEEL BY SIMPSON

CLASSROOM CONNECTIONS:

COLUMN LOCATION	COLUMN BASE MODEL	BASE BOLTS QTY.	BASE BOLTS DIA.	COLUMN CAP MODEL	CAP BOLTS QTY.	CAP BOLTS DIA.
AA-11	CB66 x W1/W2 x 5¼"	2	⅝"	ECC	4	⅝"
AA-22		2	⅝"	CCT	6	⅝"
BB-22		2	⅝"	-	-	⅝"
CC-11		2	⅝"	CC-SP	Ø	⅝"
DD-22		2	⅝"	-	-	⅝"
EE-11		2	⅝"	ECC	4	⅝"
EE-22	↓	2	⅝"	CCT	6	⅝"

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465 fl. reg. 5926

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST
PALMETTO, FLORIDA

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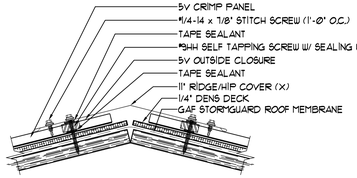
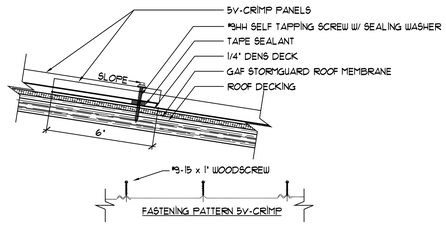


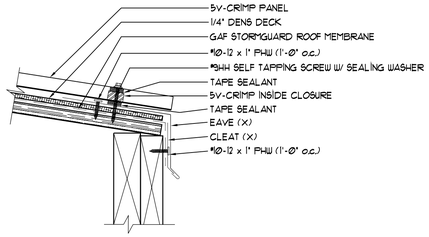
1 RIDGE DETAIL

SCALE : 3" = 1'-0"



2 END LAP DETAIL

SCALE : 3" = 1'-0"

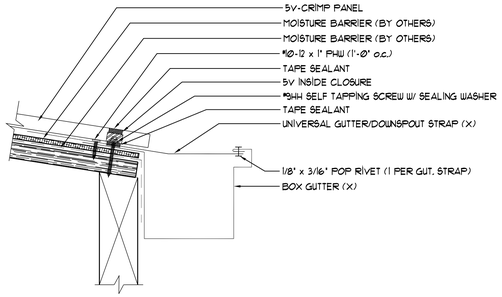


3 EAVE DETAIL

SCALE : 3" = 1'-0"

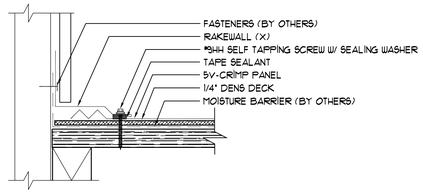
5-V CRIMP ROOFING NOTES:

1. METAL ROOFING PANELS SHALL COMPLY WITH NOA# 06-0921.07 EXPIRATION DATE: 11/30/11.
2. AVAILABLE THROUGH THOMPSON'S ARCHITECTURAL METALS, 5015 E. HILLSBOROUGH AVE., TAMPA FL. (813)248-3456 OR APPROVED EQUAL.



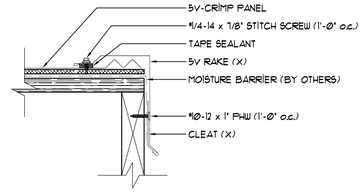
4 GUTTER DETAIL

SCALE : 3" = 1'-0"



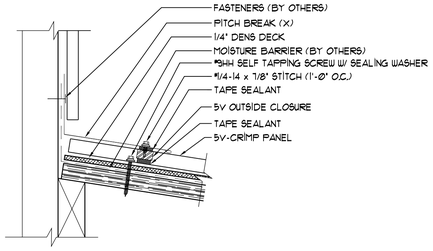
5 RAKE WALL DETAIL

SCALE : 3" = 1'-0"



6 RAKE DETAIL

SCALE : 3" = 1'-0"



6 END WALL DETAIL @ CURB

SCALE : 3" = 1'-0"

METAL ROOFING DETAILS

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PALMETTO, FLORIDA

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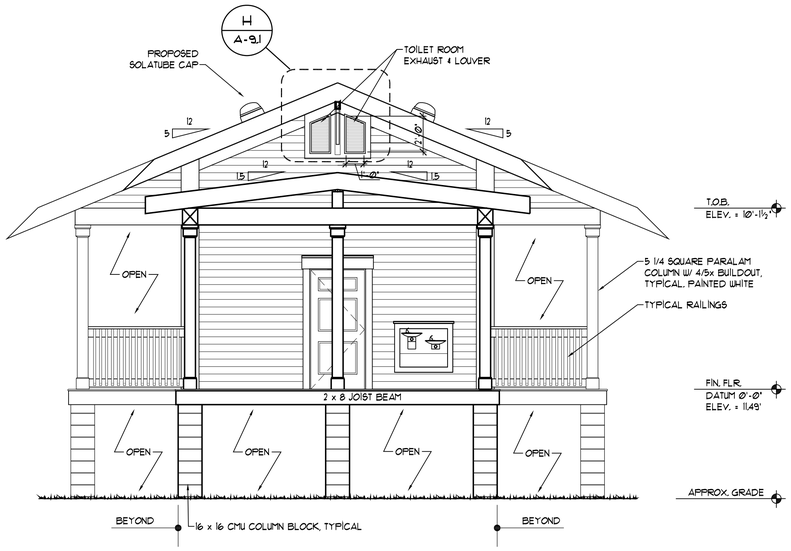
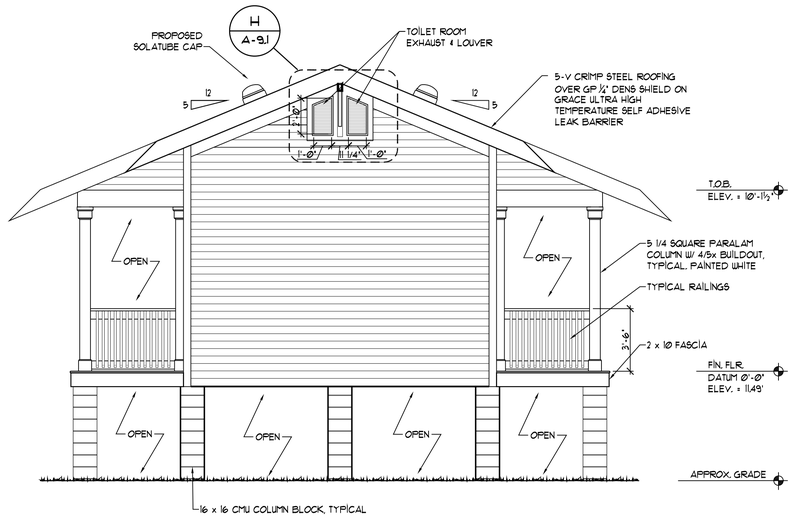


1 FRONT ELEVATION

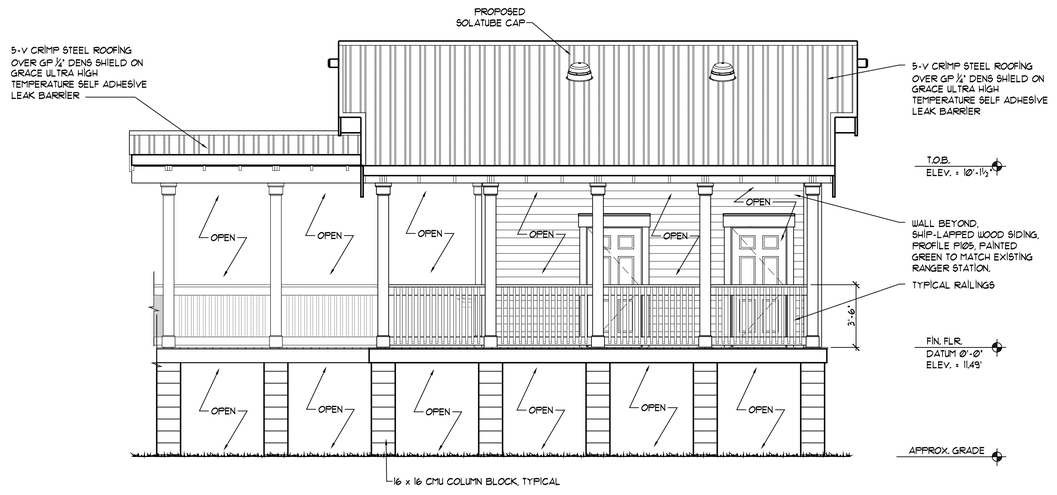
SCALE : 1/4" = 1'-0"



2 REAR ELEVATION

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

RESTROOMS



3 RIGHT SIDE ELEVATION

LEFT SIDE - MIRROR IMAGE SCALE : 1/4" = 1'-0"

RESTROOM BUILDING EXTERIOR ELEVATIONS

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

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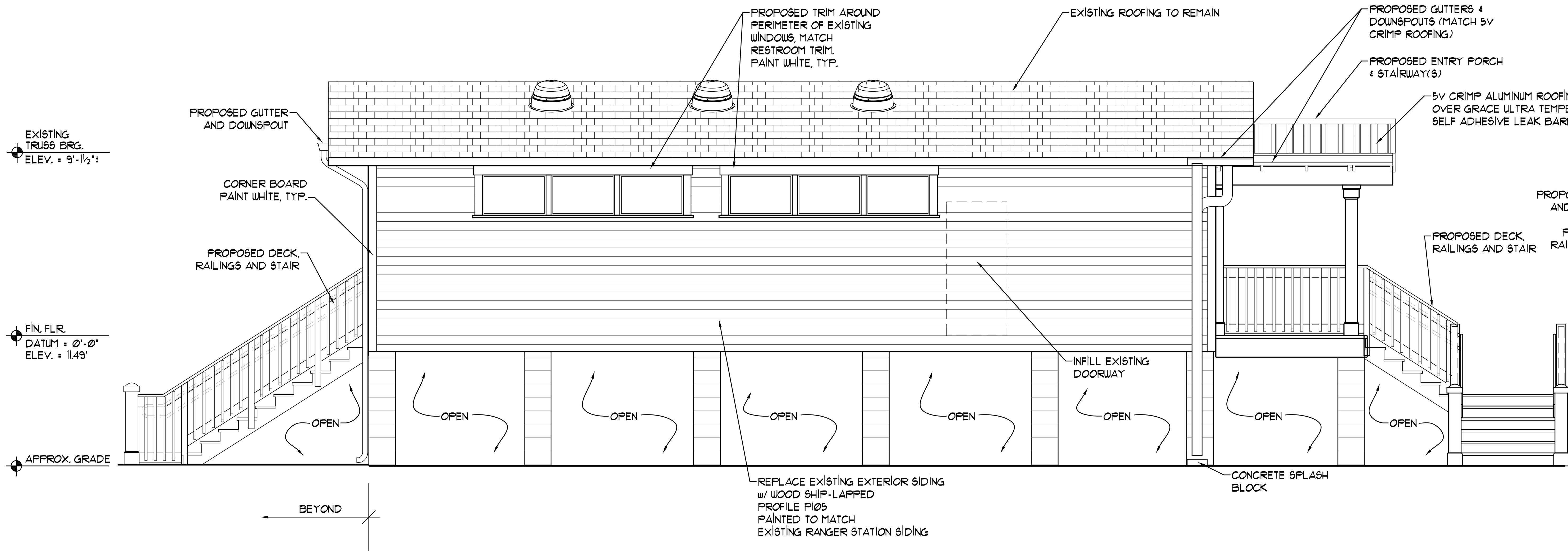
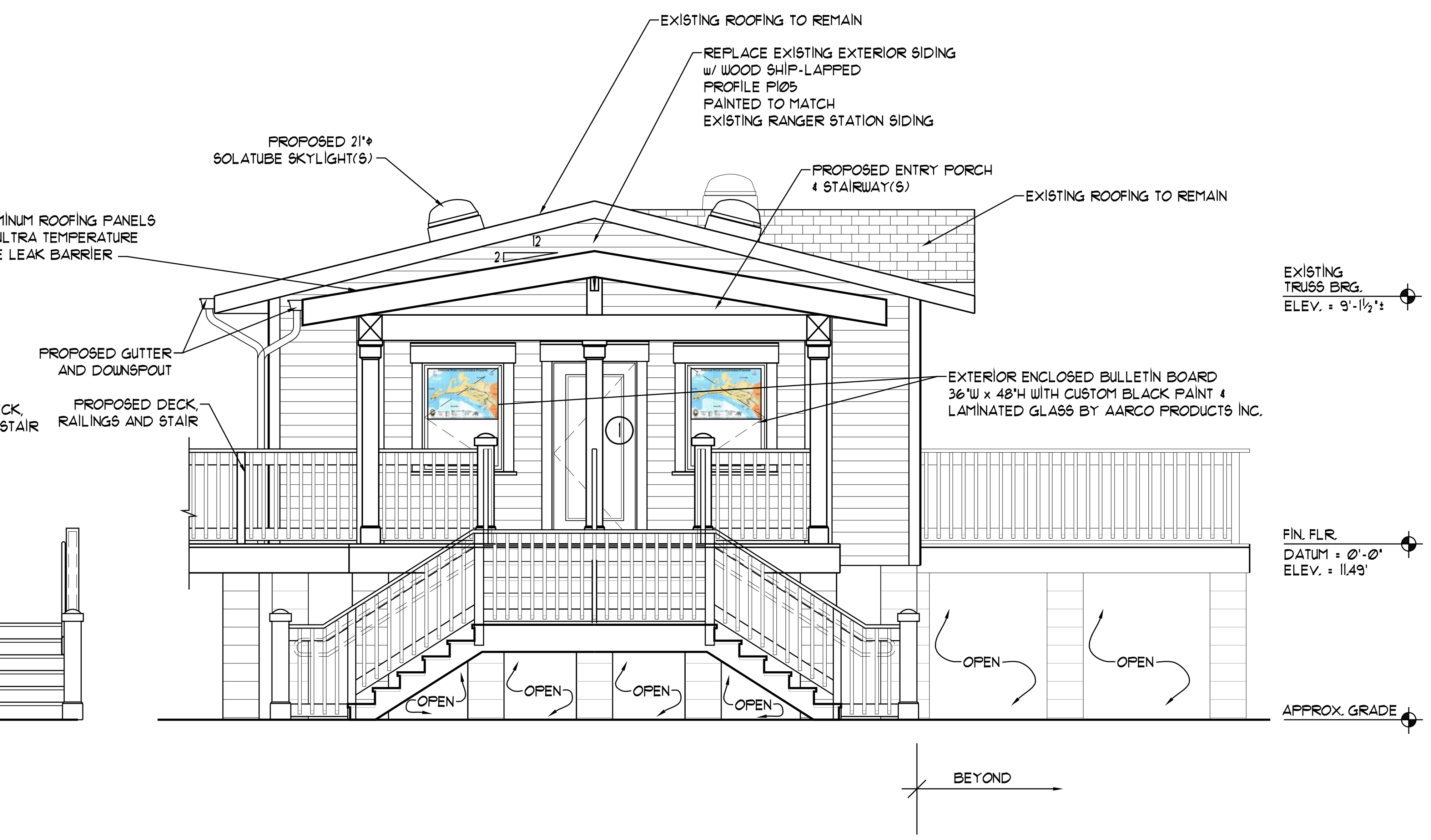
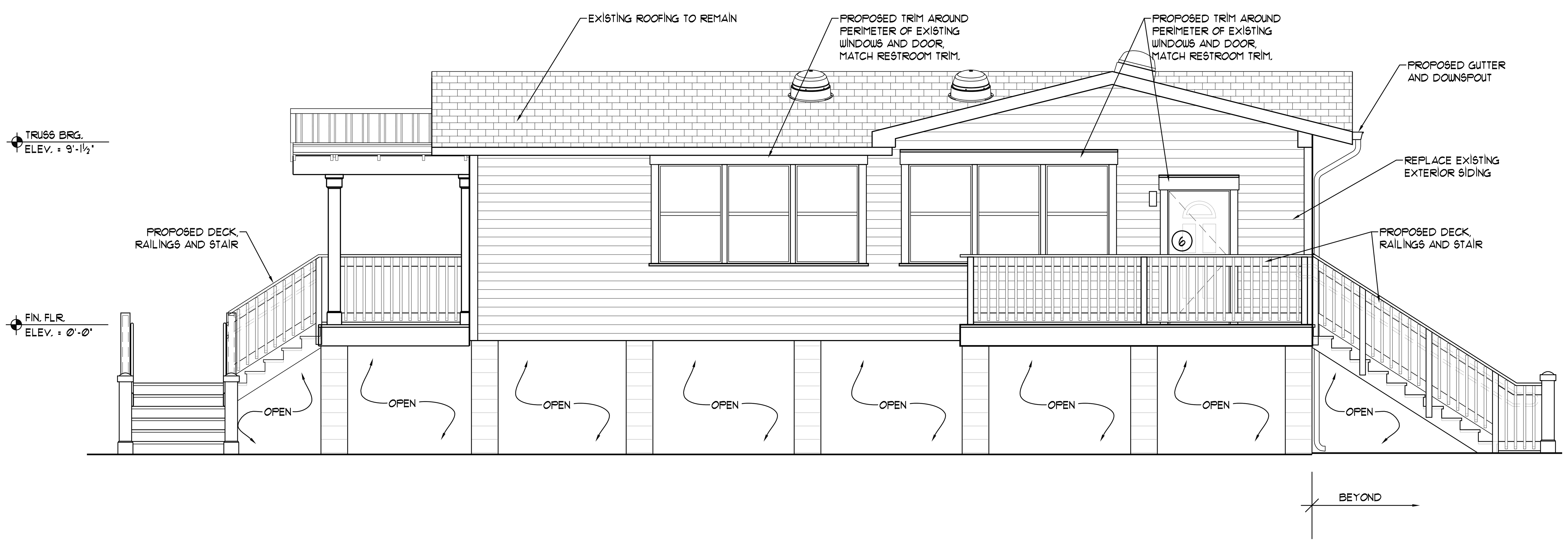


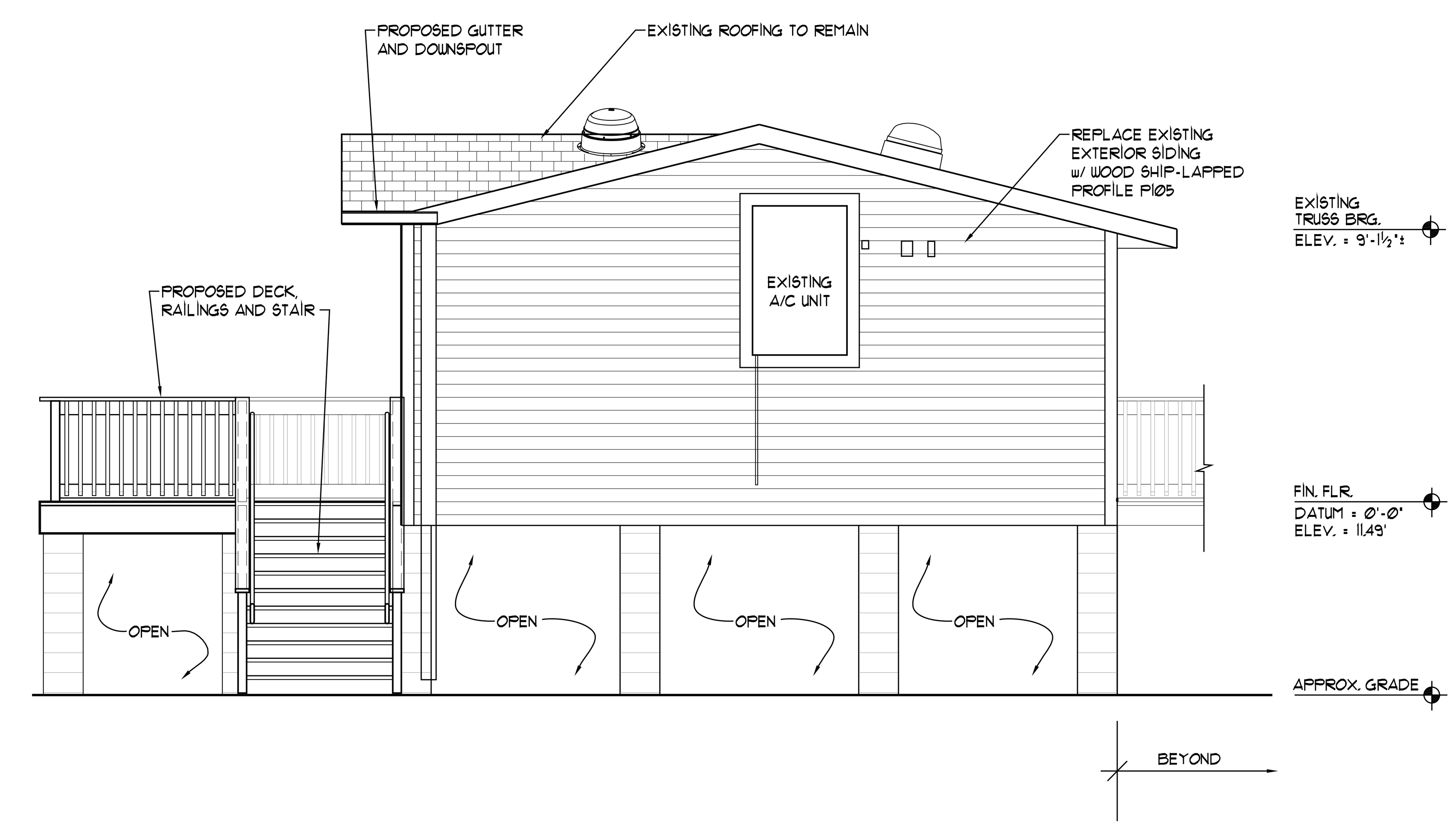
1 **WEST ELEVATION**
SCALE : 1/4" = 1'-0"



2 **SOUTH ELEVATION**
SCALE : 1/4" = 1'-0"



3 **EAST ELEVATION**
SCALE : 1/4" = 1'-0"



4 **NORTH ELEVATION**
SCALE : 1/4" = 1'-0"

CLASSROOM ELEVATIONS

fl. reg. 5926
JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

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INSULATION SHALL BE A CLOSED CELL SPRAY FOAM INSULATION, MINIMUM R-19 VALUE. THE INSULATION SHALL BE PROVIDED WITH A FIRE PROTECTION, MINIMUM 15 MINUTE THERMAL BARRIER, VIA FIREFREE 88 PRODUCT.

APPROVED INSULATION MANUFACTURERS:
DEMILEC
CERTAINTEED

SUPPLIER:
SERVICE PARTNERS (TAMPA OFFICE)
JOE LUDVIGSEN 877-626-8400

INSTALLERS:
M4M INSULATION (HILLSBOROUGH) 813-886-3354
JANSEN & SONS (SARASOTA) 941-484-0301

5-V CRIMP ALUMINUM ROOFING PANELS
OVER GP ½" DENS SHIELD ON
GRACE ULTRA HIGH TEMPERATURE
SELF ADHESIVE LEAK BARRIER
ON ⅝" CDX PLYWOOD
ON PRE-ENGINEERED TRUSSES @ 24" O.C.

14"ø SOLATUBE SKYLIGHT, TYP.

12
5

ATTIC SPACE

A
A-9.1

C
A-9.1

SIMPSON H2.5

SIMPSON H2.5

SIMPSON H2.5

SIMPSON H2.5

SIMPSON H14

OPEN

2x8 @ 16" O.C.

2x8 @ 16" O.C.

CEILING
8'-0" A.F.F.

FIBEROCK AQUA-TOUGH
INTERIOR PANELS

2x6 FRAMING @ 16" O.C.

PORCELAIN TILE ON 1/2" FIBEROCK AQUA-TOUGH
TILE BACKER BOARD OVER 5/8" CDX PLYWOOD

1x6 V-GROOVE T&G

¾ x 10 BAND

SHIP LAPPED WOOD SIDING PROFILE P105
OVER TYVEK-D WEATHER BARRIER
ON ⅜" CDX PLYWOOD
OVER 2x6 P.T. FRAMING @ 16" O.C.
PROVIDE SIMPSON H6
@ EACH STUD TO TOP PLATES
& @ EACH STUD TO BAND JOIST @ BOTTOM,
TYPICAL

TRUSS BEARING
10'-1½" A.F.F.

SIMPSON H14

5¼" PARALLAM COLUMN
w/ ¾x TRIM WRAP

TYPICAL RAILING
REFER TO A-9.3 FOR DETAILS

3'-6"

WEST
PORCH
103

TOILET
102

CHASE
105

TOILET
107

EAST
PORCH
106

B
A-9.1

D
A-9.1

SLOPES PER PLANS

SLOPES PER PLANS

2x8 P.T. JOIST @ 12" O.C.
w/ SIMPSON HU52B @ EACH END
EXCEPT SIMPSON HUC28-2 @ DECK CORNERS

2x10 P.T. JOIST @ 16" O.C.
w/ SIMPSON HU210 @ EACH END
EXCEPT SIMPSON HUC210-2 AT BUILDING CORNERS

2x10 P.T. JOIST @ 16" O.C.
w/ SIMPSON HU210 @ EACH END
EXCEPT SIMPSON HUC210-2 AT BUILDING CORNERS

2x8 P.T. JOIST @ 12" O.C.
w/ SIMPSON HU52B @ EACH END
EXCEPT SIMPSON HUC28-2 @ DECK CORNERS

PORCELAIN TILE ON
DURAROCK CEMENT & BACKERBOARD
OVER MODIFIED BITUMINOUS MEMBRANE
(EXTEND 6" UP WALLS)
ON ¾" T & G PLYWOOD P.T.

FINISH FLOOR
DATUM = 0'-0"
ELEV. = 11.49'

(2) 2x10 P.T.
w/ (2) SIMPSON HETA12

(3) 2x10 P.T. BEAM
w/ (2) SIMPSON HETA12

(2) 2x10 P.T.
w/ (2) SIMPSON HETA12

(2) FROM 2x12 P.T. LEDGER
BOLTED TO (2) 2x10 P.T. RIM JOIST
& BEARING ON CMU, TYP.

(2) 2x8 P.T. w/ (2) HETA12
& 2x10 P.T. FASCIA

STAINLESS STEEL COLUMN BASE
SIMPSON CB66 x W / W2 + 5¼", TYP.

OPEN

OPEN

OPEN

OPEN

TYPICAL 16x16 CMU
COLUMN BLOCK
REFER TO FOUNDATION DWG
FOR DETAILS

APPROX. GRADE
ELEV. = 5.0'±

REFER TO FOUNDATION PLAN
FOR DETAILS

AA BUILDING SECTION

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

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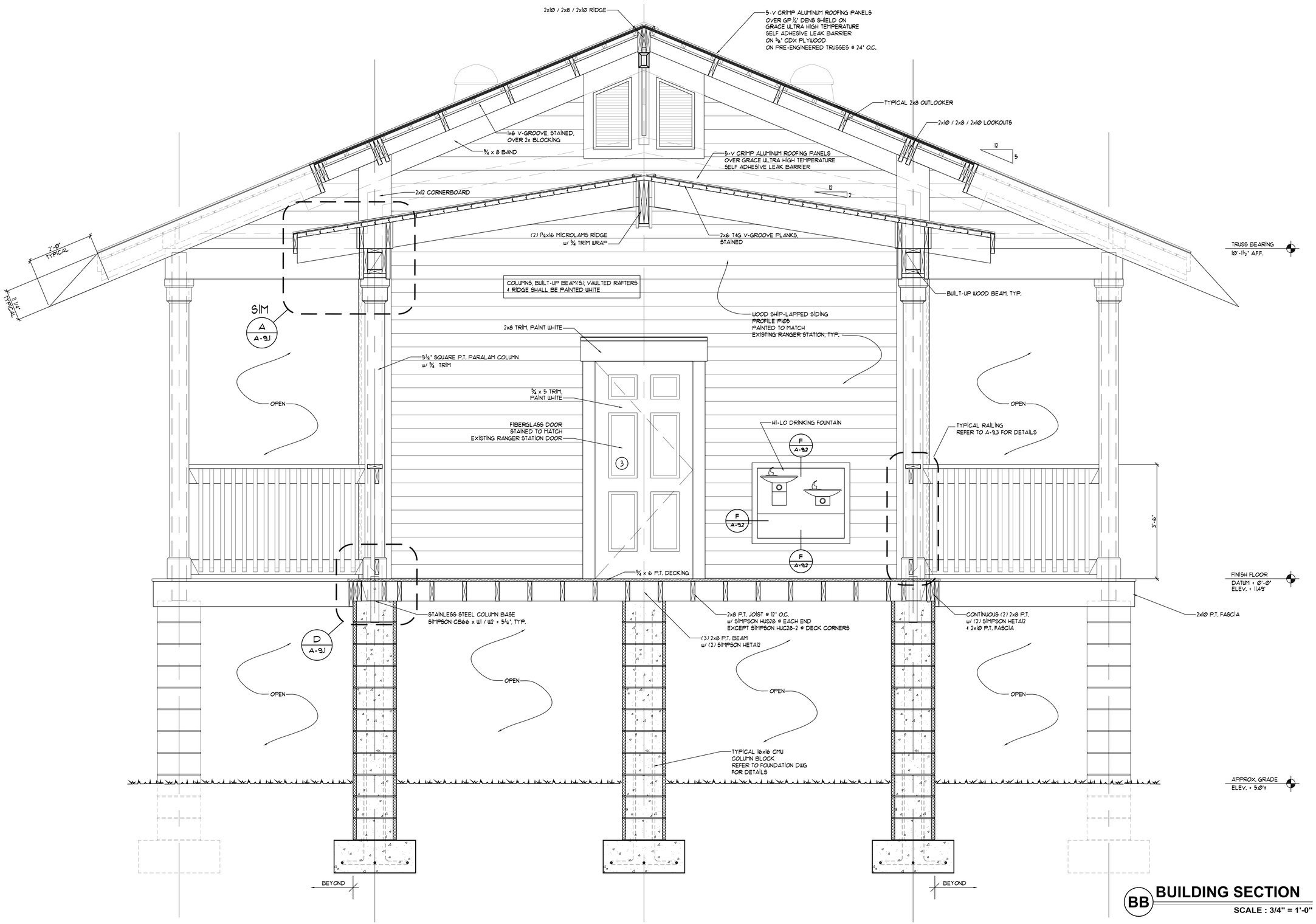

BB **BUILDING SECTION**

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

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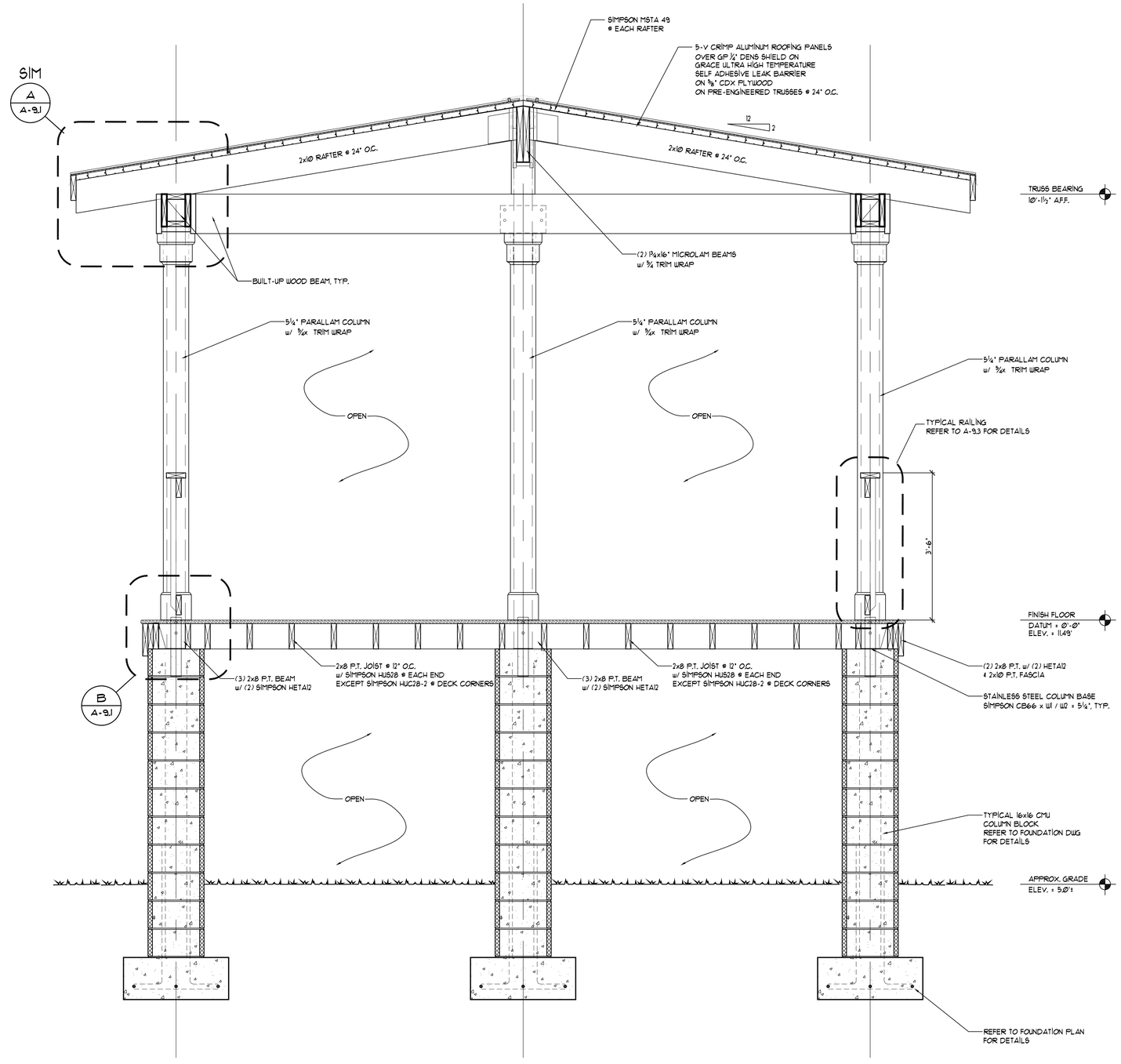

CC BUILDING SECTION

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

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APPROVED INSULATION MANUFACTURERS:
DEMILEC
CERTAINTEED

SUPPLIER:
SERVICE PARTNERS (TAMPA OFFICE)
JOE LUDVIGSEN 877-626-8400

INSTALLERS:
MH INSULATION (WILLSBOROUGH) 813-886-3354
JANSEN & SONS (SARASOTA) 941-484-0301

2x OUTLOOKER(S) @ 24" O.C.
BB A-8.2
PROVIDE CONTINUOUS SOLID WOOD BLOCKING AT TOP CHORD @ SIMPSON XXX AT 24" O.C.
DROP TOP CHORD SCISSOR TRUSS
SCISSOR TRUSSES
AA A-8.1
5-V CRIMP ALUMINUM ROOFING PANELS OVER GP ¾" DENS SHIELD ON GRACE ULTRA HIGH TEMPERATURE SELF ADHESIVE LEAK BARRIER ON ½" CDX PLYWOOD ON PRE-ENGINEERED TRUSSES @ 24" O.C.
PROVIDE CONTINUOUS SOLID BLOCKING BETWEEN TRUSS TOP CHORD & GABLE FRAME WALL
BUILT-UP HEADER (3) 2x6 + (2) ½" PLYWOOD SPACERS
TOILET ROOM EXHAUST LOUVER(S)
ALUMINUM DRIP OVER 2x12 FASCIA & 2x10 SUBFASCIA
DECORATIVE BRACKET REFER TO A1-A1 FOR DETAILS
1x6 T&G V-GROOVE, STAINED
TOILET ROOM EXHAUST LOUVER(S)
2x6 GABLE END FRAME WALL @ 16" O.C. w/ ½" CDX PLYWOOD
CC A-8.3
2x6 GABLE ENDWALL
BUILT-UP RAFTER 2x10 + 2x8 / 2x10 w/ SIMPSON MSTA 49 @ EACH 2x10 RAFTER
2x10 RAFTER w/ SIMPSON MSTA 49
5-V CRIMP ALUMINUM ROOFING PANELS OVER GP ¾" DENS SHIELD ON GRACE ULTRA HIGH TEMPERATURE ON 2x6 V-GROOVE T&G PLANKS ON 2x10 RAFTERS @ 24" O.C.
(2) PLY6 MICROLAM® RIDGE
ALUMINUM DRIP OVER 2x12 FASCIA & 2x8 SUBFASCIA
OPEN OPEN OPEN OPEN OPEN OPEN OPEN BLOCKING BLOCKING BLOCKING
TRUSS BEARING 18'-11½" A.F.F.
BUILT-UP WOOD BEAM, TYP.
⅜ x 10 RAKED BAND OVER TYVEK-D WEATHER BARRIER ON ½" CDX SHEATHING ON 2x FILLER FRAMING @ 16" O.C.
FRESH AIR LOUVER
FRESH AIR LOUVER
5½" SQUARE P.T. PARALAM COLUMN w/ ⅜" TRIM
WOOD SHIP-LAPPED SIDING PROFILE P105 OVER TYVEK-D WEATHER BARRIER ON ½" CDX SHEATHING ON 2x6 P.T. @ 16" O.C.
WOOD SHIP-LAPPED SIDING PROFILE P105 OVER TYVEK-D WEATHER BARRIER ON ½" CDX SHEATHING ON 2x6 P.T. @ 16" O.C.
2x6 FRAMING @ 16" O.C. COORDINATE w/ PLUMBING FIXTURES
2x6 FRAMING @ 16" O.C. COORDINATE w/ PLUMBING FIXTURES
TYPICAL RAILING REFER TO A-8.3 FOR DETAILS
TYPICAL RAILING REFER TO A-8.3 FOR DETAILS
½ x 6 P.T. DECKING
2x8 P.T. DECK JOIST @ 12" O.C., TYP.
2x8 P.T. JOIST @ 12" O.C. w/ SIMPSON HUS28 @ EACH END EXCEPT SIMPSON HUC28-2 @ DECK CORNERS
2x8 P.T. DECK JOIST @ 12" O.C., TYP.
2x8 P.T. DECK JOIST @ 12" O.C., TYP.
2x10 P.T. FASCIA & (2) 2x8 P.T.
(3) 2x8 P.T. w/ (2) SIMPSON HETA12
(3) 2x8 P.T., TYP.
(3) 2x8 P.T., TYP.
2x P.T. LEDGER FROM (2) 2x8 P.T.
2x10 P.T. JOIST @ 16" O.C. w/ SIMPSON HUC10 @ EACH END EXCEPT SIMPSON HUC28-2 AT BUILDING CORNERS
(3) 2x10 P.T. BEAM
FINISH FLOOR DATUM = 0'-0" ELEV. = 11.49
(2) 2x8 P.T. & 2x10 P.T. FASCIA
OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN
TYPICAL Verde CMU COLUMN BLOCK REFER TO FOUNDATION DWG FOR DETAILS
APPROX. GRADE ELEV. = 5.67'
REFER TO FOUNDATION PLAN FOR DETAILS
CC A-8.3
BB A-8.2
AA A-8.1

DD BUILDING SECTION

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

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
AA COMPANY
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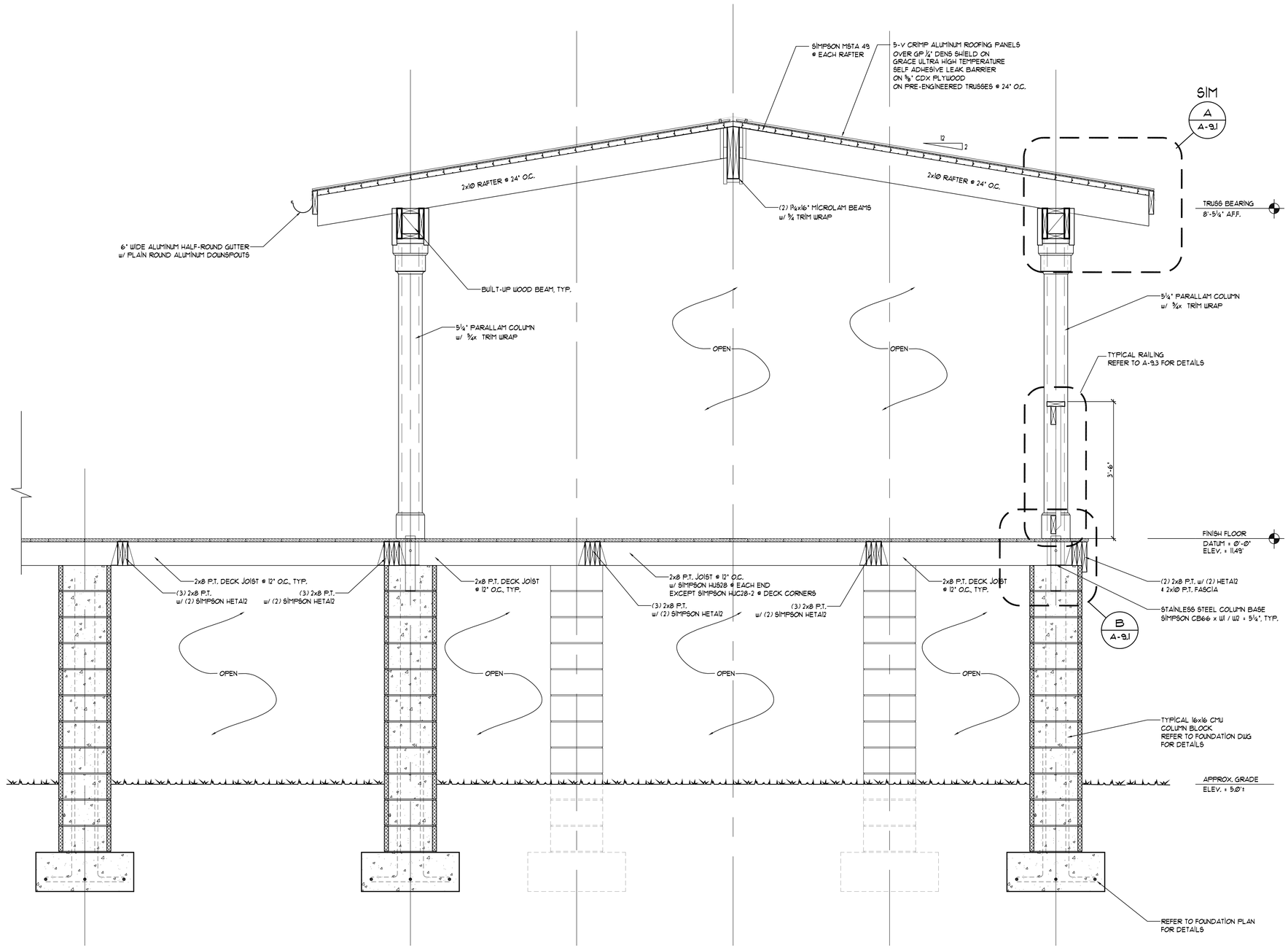

EE BUILDING SECTION

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

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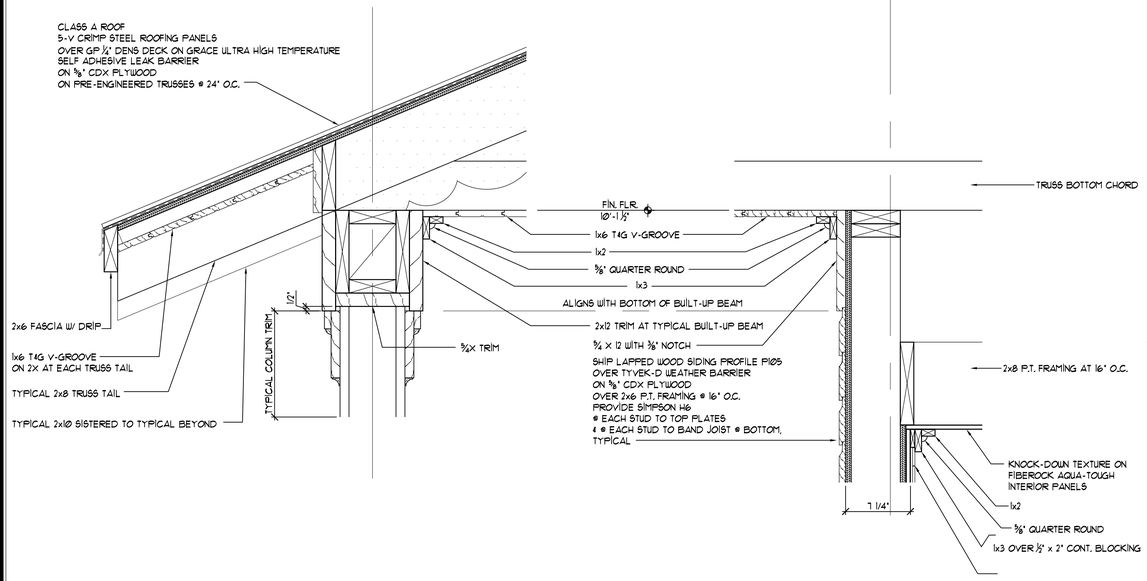
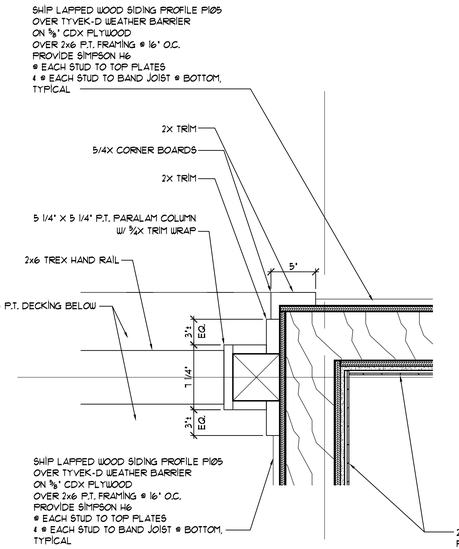


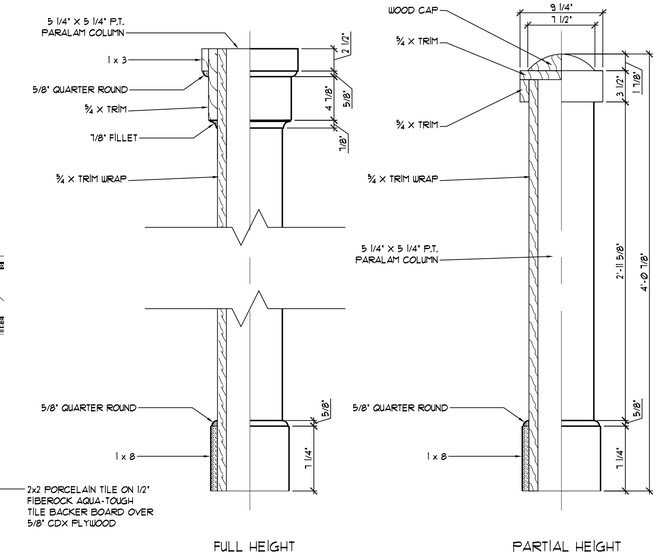
A TYPICAL DETAIL AT BEAM

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



C DETAIL AT BLDG WALL

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

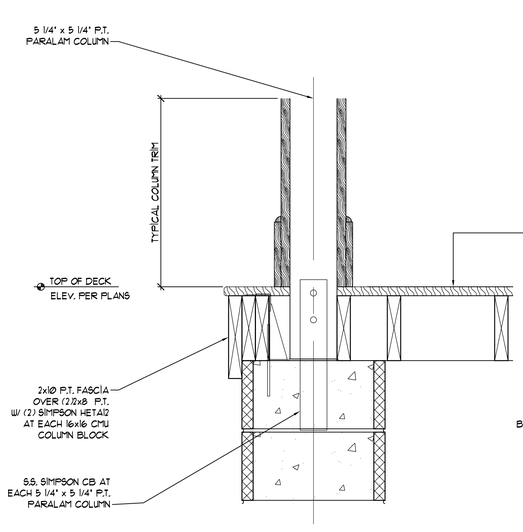


E DETAIL AT REAR CORNER

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

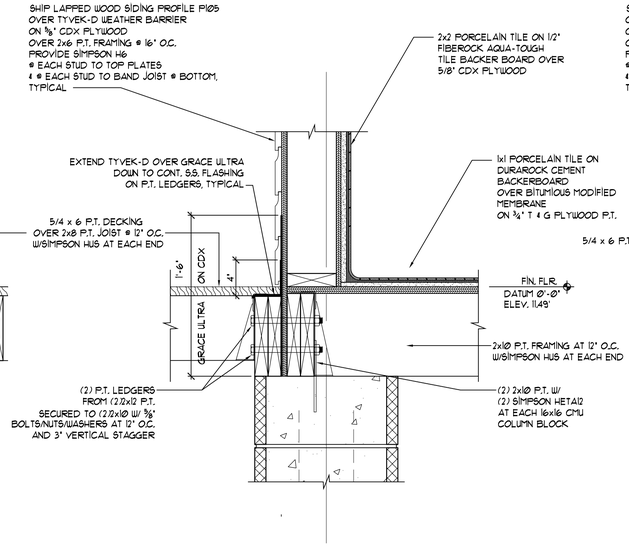
G TYPICAL COLUMN DETAIL

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



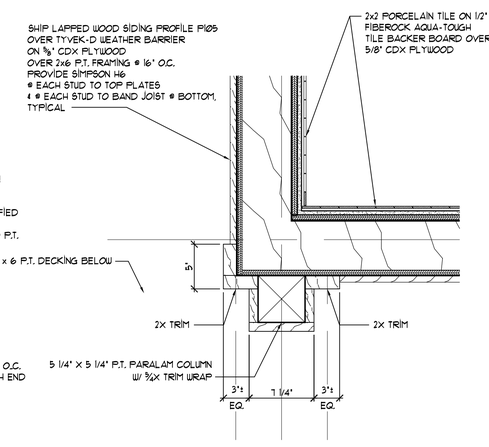
B DETAIL AT DECK EDGE

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



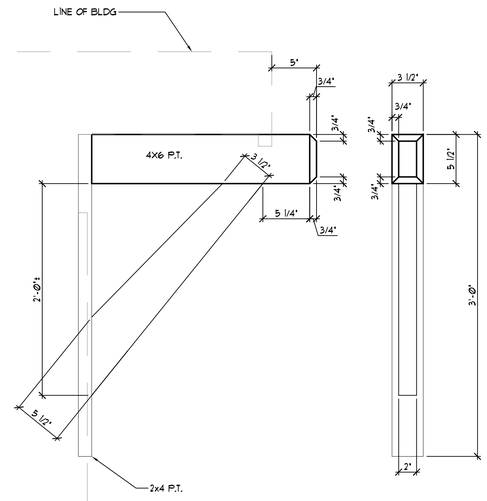
D DETAIL AT DECK TO BLDG

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



F DETAIL AT FRONT CORNER

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



H DECORATIVE BRACKET DETAIL

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

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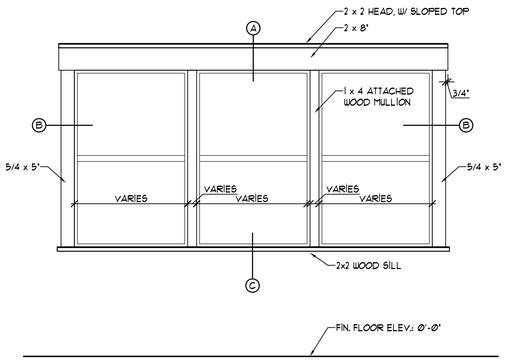
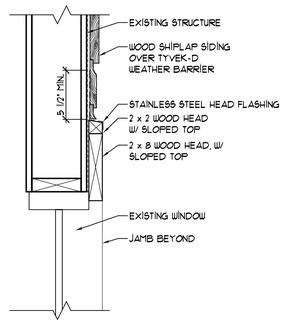


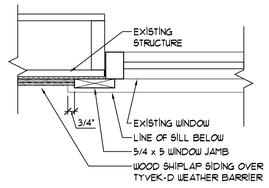
1 EXISTING WINDOW ELEVATION

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



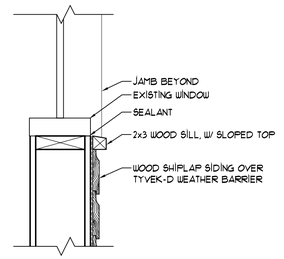
A WINDOW HEAD DETAIL

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



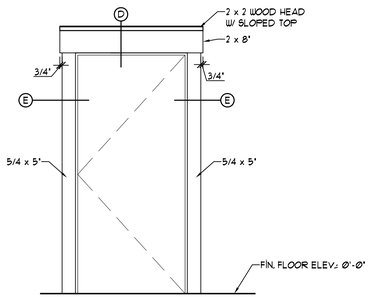
B WINDOW JAMB DETAIL

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



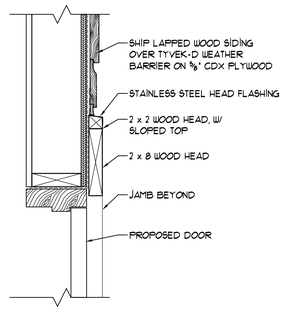
C WINDOW SILL DETAIL

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



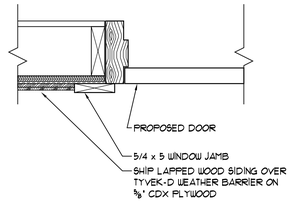
2 DOOR ELEVATION

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



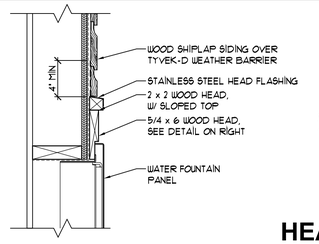
D DOOR HEAD DETAIL

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

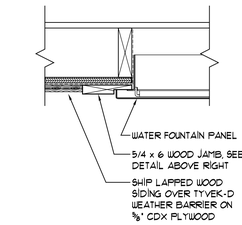


E DOOR JAMB DETAIL

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



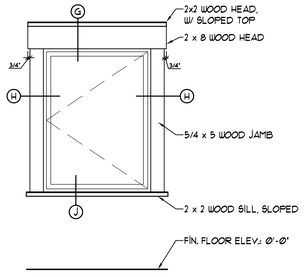
HEAD DETAIL



JAMB/SILL DETAIL

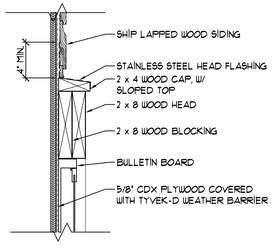
F WATER FOUNTAIN TRIM DETAIL

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



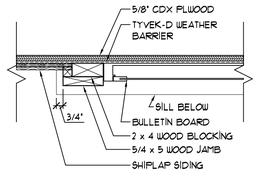
3 BULLETIN BOARD ELEVATION

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



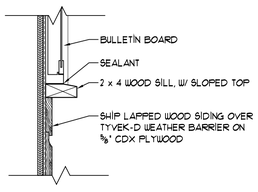
G BULLETIN BOARD HEAD DETAIL

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



H BULLETIN BOARD JAMB DETAIL

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



J BULLETIN BOARD SILL DETAIL

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

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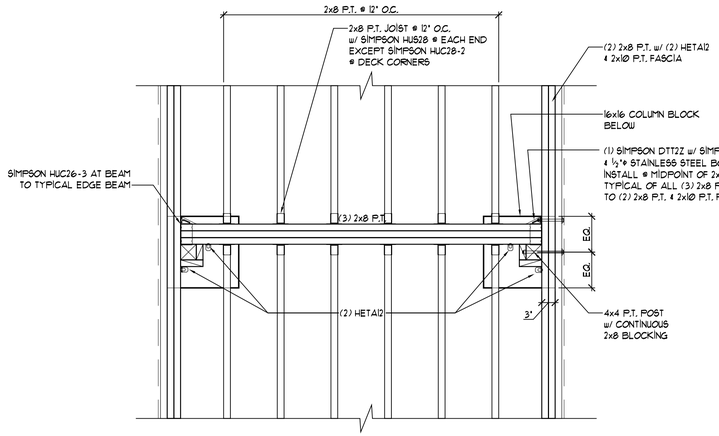
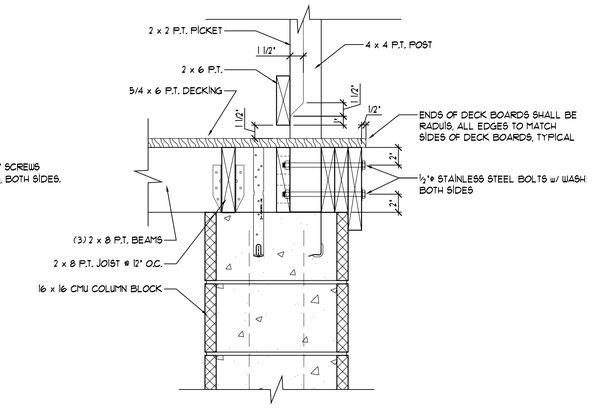


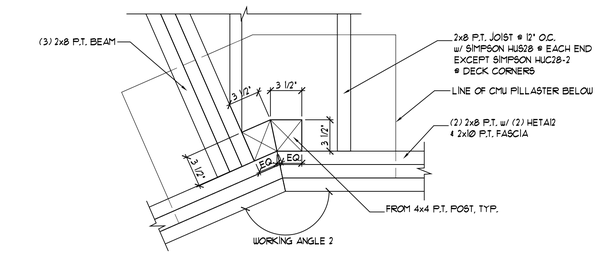
1 PARTIAL DECK FRAMING PLAN

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



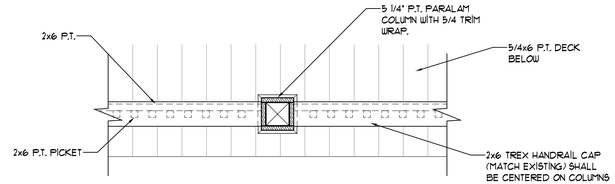
2 TYPICAL DECK RAILING @ 4x4 POST

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



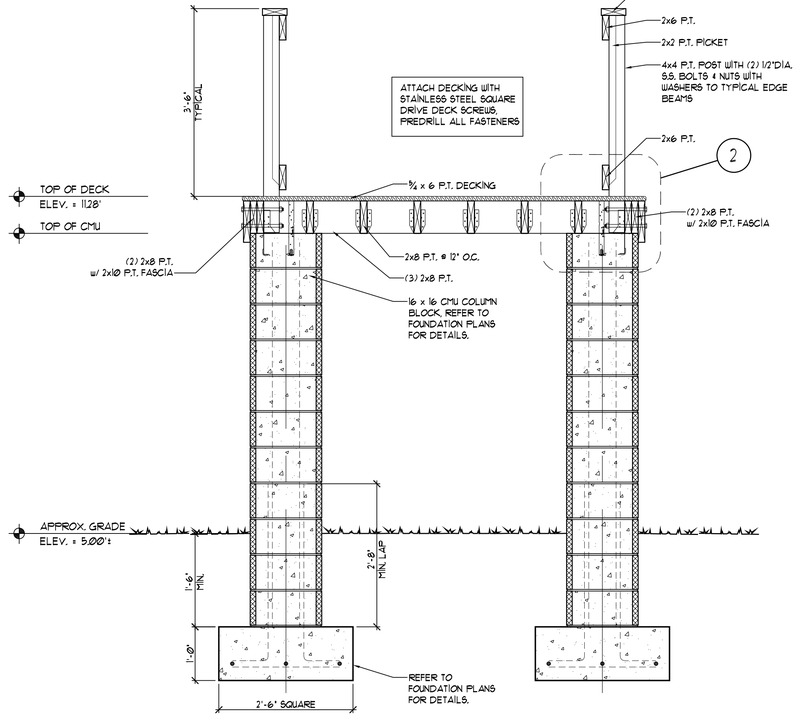
6 DECK POST @ TRANSITION PLAN

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



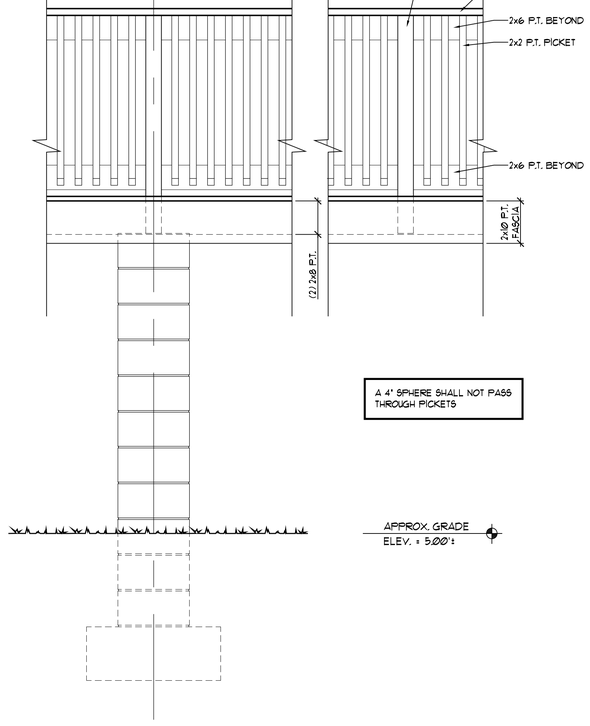
3 DECK RAILING BETWEEN COLUMNS PLAN

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



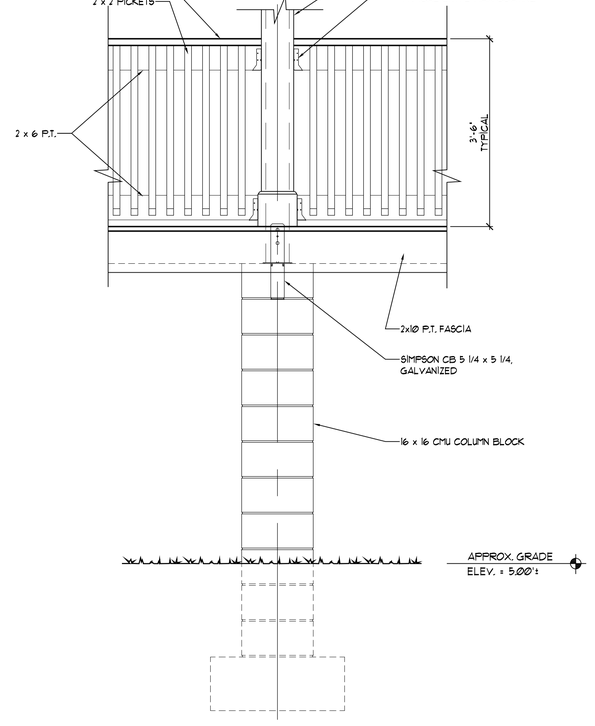
DD DECK SECTION

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



4 TYPICAL DECK RAILING

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



5 DECK RAILING BETWEEN COLUMNS ELEVATION

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

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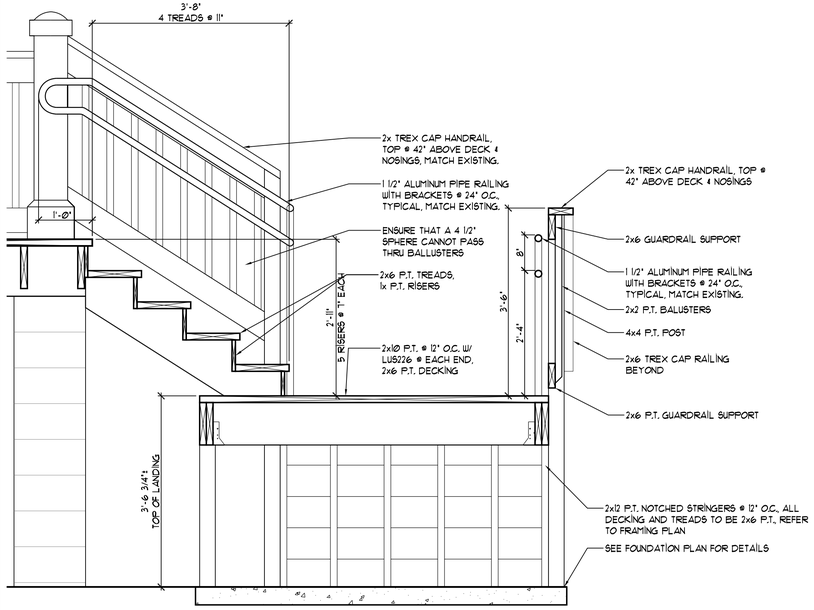
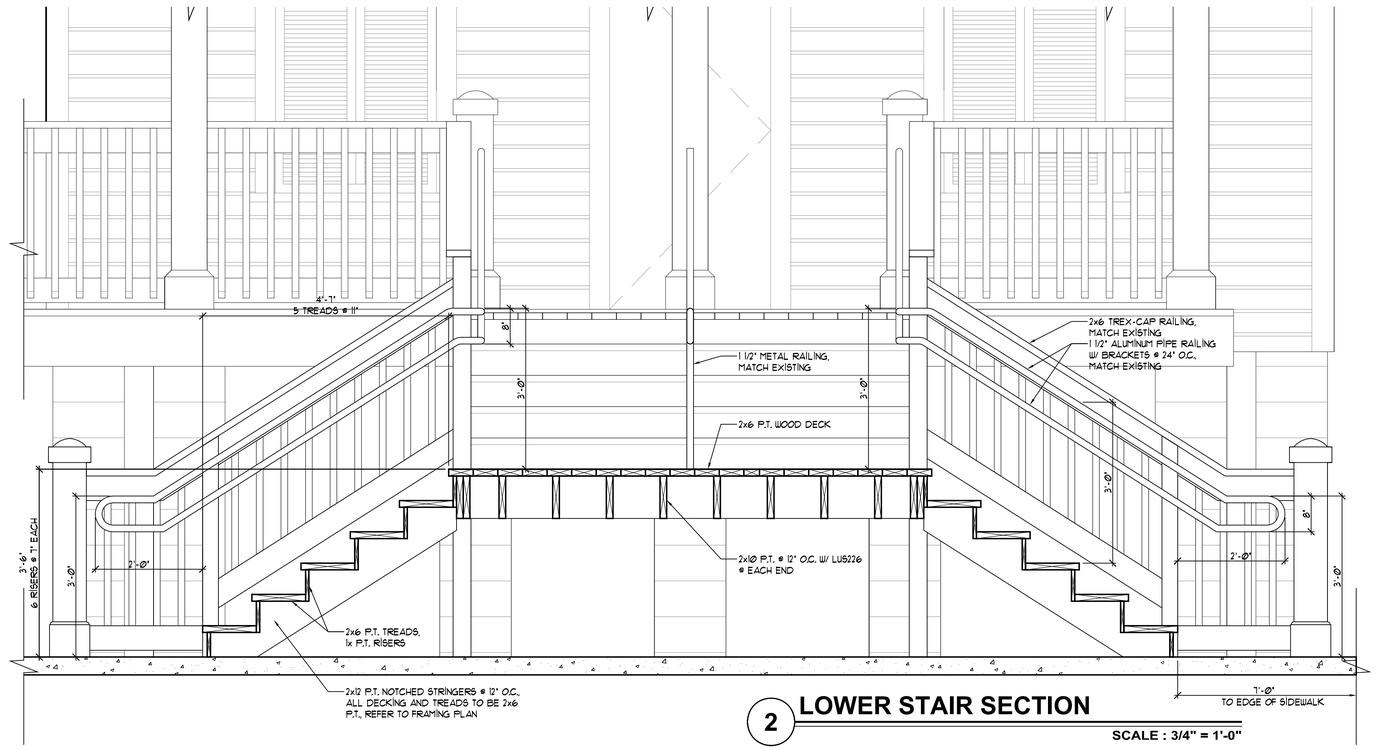


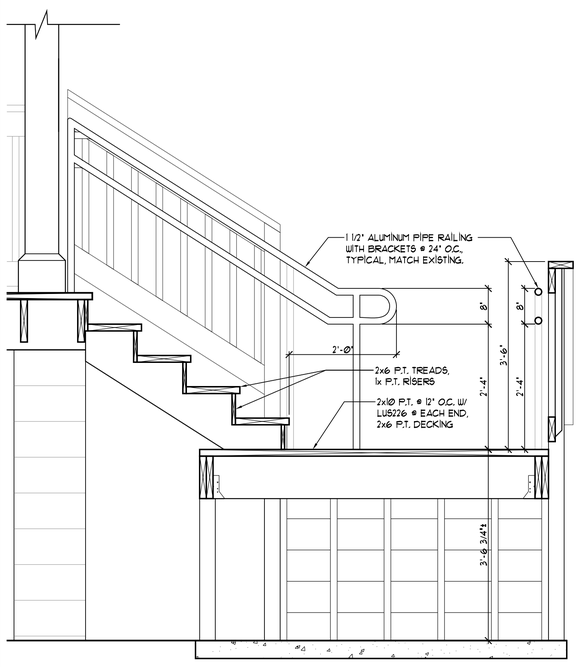
1 UPPER STAIR & LANDING SECTION

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



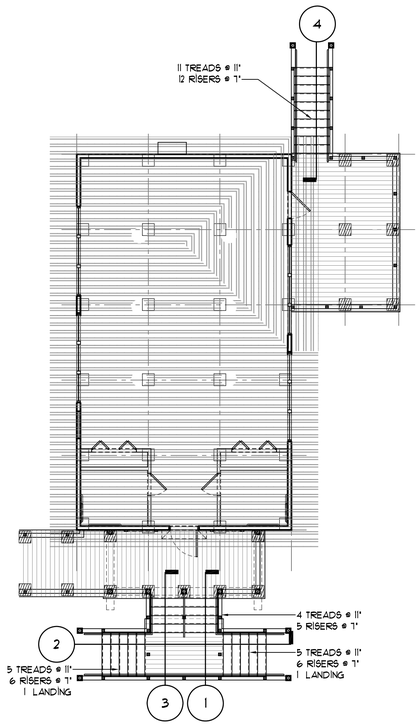
2 LOWER STAIR SECTION

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



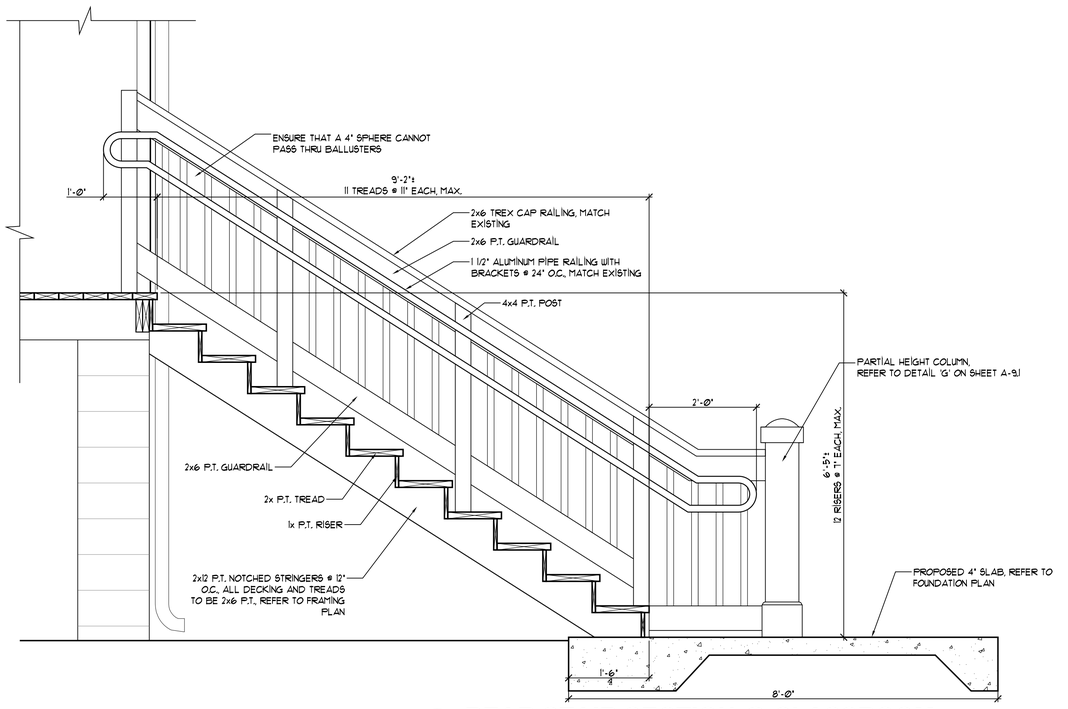
3 UPPER STAIR CENTER RAILING

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



KEY PLAN

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



4 REAR STAIR SECTION @ CLASSROOM

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

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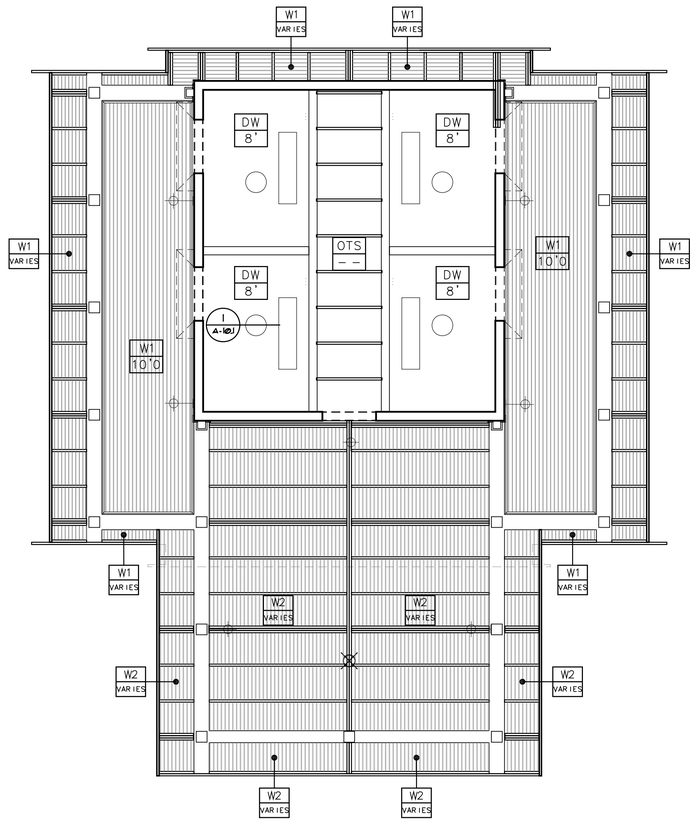
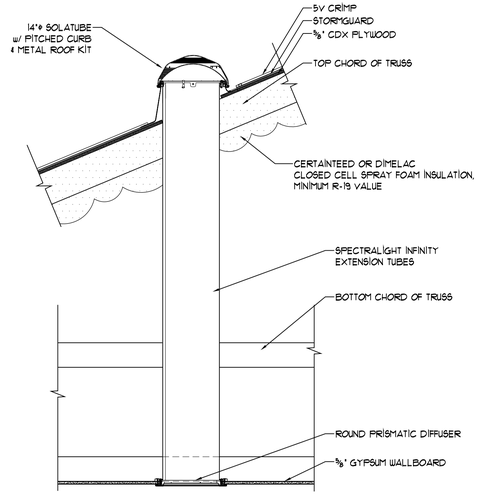


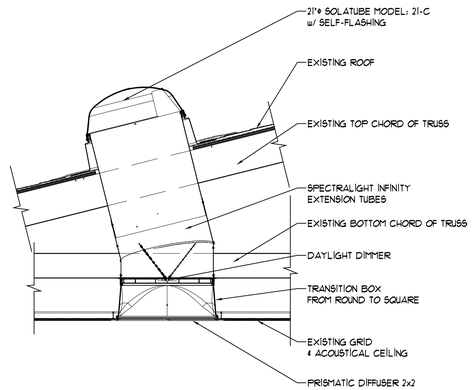
REFLECTED CEILING PLAN
RESTROOM BUILDING

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



1 SOLATUBE SKYLIGHT DETAIL
RESTROOM BUILDING

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



2 SOLATUBE SKYLIGHT DETAIL
PORTABLE CLASSROOMS

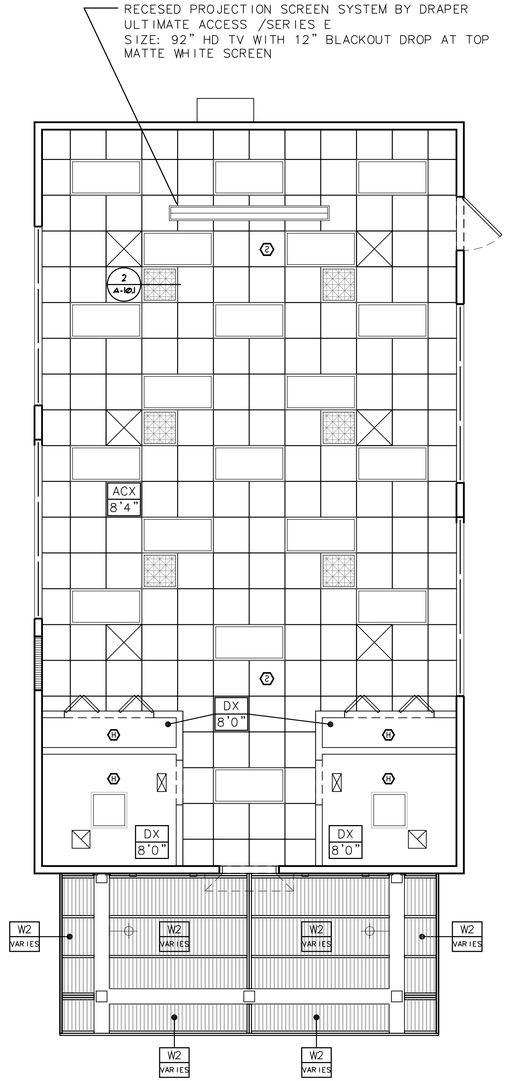
SCALE : 3/4" = 1'-0"

CEILING LEGEND :

DW / 10'0"	INDICATES CEILING TYPE / INDICATES CEILING HEIGHT
ACX	EXISTING 2x2 ACOUSTIC CEILING SYSTEM
DX	EXISTING DRYWALL CEILING
DW	GYPSUM BOARD CEILING
W1	1x6 T&G BEAD / V-GROOVE, STAIN
W2	2x6 T&G V-GROOVE DECKING, STAIN
OTS	OPEN TO STRUCTURE ABOVE

LIGHTING LEGEND :

- EXISTING 2'x2' RECESSED LAY-IN FLUOR. FIXTURE
- EXISTING 2'x4' RECESSED LAY-IN FLUOR. FIXTURE
- EXISTING HVAC SUPPLY
- EXISTING HVAC RETURN
- PROPOSED EXHAUST FAN
- PROPOSED 1'x4' SURFACE MOUNTED FLUOR. FIXTURE
- PROPOSED WALL MOUNTED FIXTURE
- PROPOSED 24"ø PRISMATIC LENS AT SOLATUBE
- PROPOSED ROUND DIFFUSER AT 14"ø SOLOTUBE



REFLECTED CEILING PLAN
PORTABLE CLASSROOMS

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

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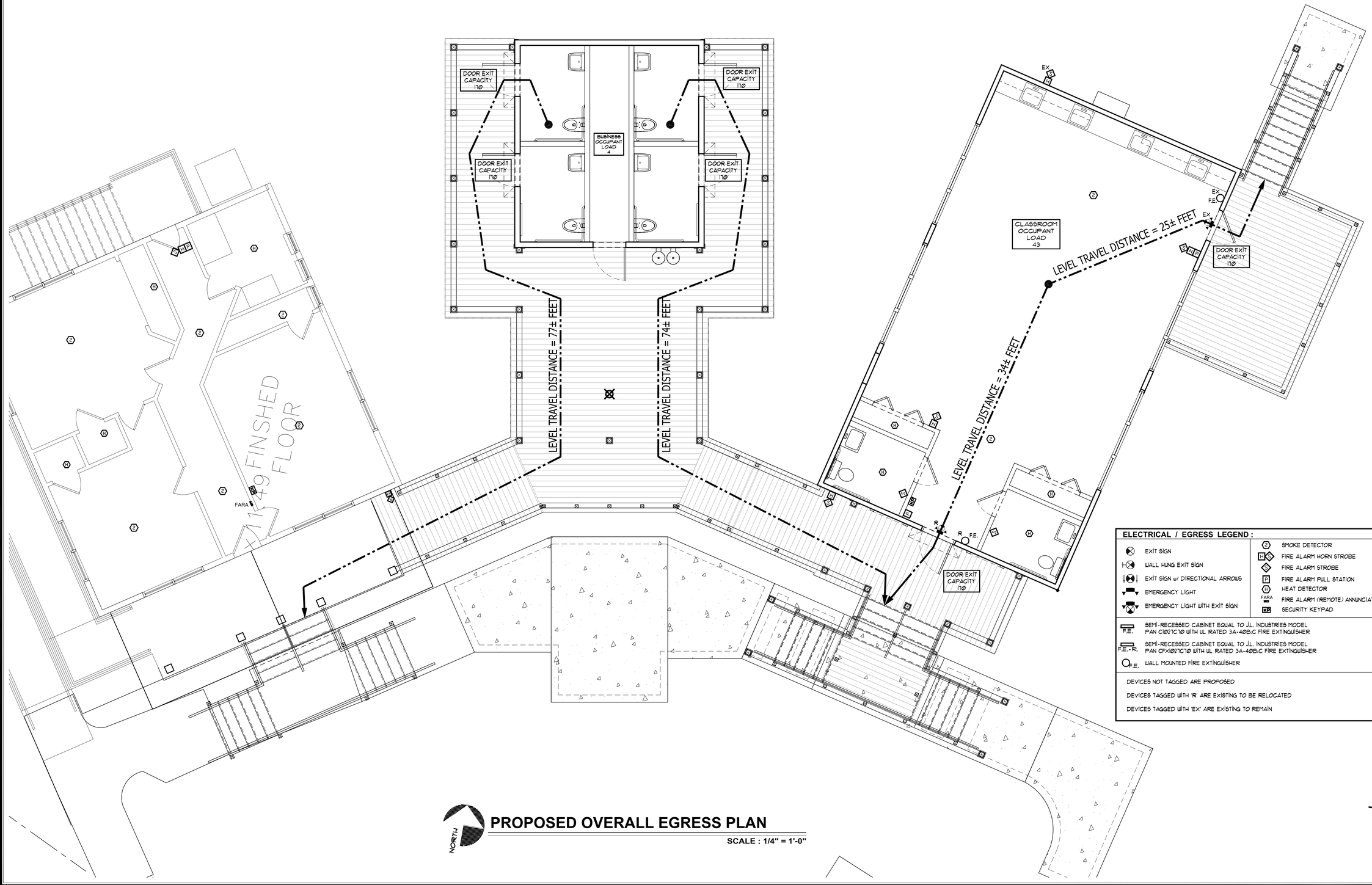

PROPOSED OVERALL EGRESS PLAN

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

NORTH

ELECTRICAL / EGRESS LEGEND :

EXIT SIGN	SMOKE DETECTOR
WALL HUNG EXIT SIGN	FIRE ALARM HORN STROBE
EXIT SIGN w/ DIRECTIONAL ARROWS	FIRE ALARM STROBE
EMERGENCY LIGHT	FIRE ALARM PULL STATION
EMERGENCY LIGHT WITH EXIT SIGN	HEAT DETECTOR
	FIRE ALARM (REMOTE) ANNUNCIATOR
	SECURITY KEYPAD

F.E. SEMI-RECESSED CABINET EQUAL TO J.L. INDUSTRIES MODEL PAN C1027C10 WITH UL RATED 3A-40B:C FIRE EXTINGUISHER

F.E.-R. SEMI-RECESSED CABINET EQUAL TO J.L. INDUSTRIES MODEL PAN CFX1027C10 WITH UL RATED 3A-40B:C FIRE EXTINGUISHER

F.E. WALL MOUNTED FIRE EXTINGUISHER

DEVICES NOT TAGGED ARE PROPOSED

DEVICES TAGGED WITH 'R' ARE EXISTING TO BE RELOCATED

DEVICES TAGGED WITH 'EX' ARE EXISTING TO REMAIN

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SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
1. Footings.
2. Slabs-on-grade.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

1.3 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

B. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

2.3 REINFORCEMENT ACCESSORIES

A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
1. Portland Cement: ASTM C 150, Type I/II, gray.

B. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.
1. Maximum Coarse-Aggregate Size: 1 inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M and potable.

2.5 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

2.6 FIBER REINFORCEMENT

A. Synthetic Micro-Fiber: Monofilament polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116/C 1116M, Type III, 1 to 2-1/4 inches long.

2.7 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

2.8 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.

2.9 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Footings: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 3000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Slump Limit: 4 inches, plus or minus 1 inch.

B. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 3000 psi at 28 days.
2. Minimum Cementitious Materials Content: 470 lb/cu. yd..
3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Synthetic Micro-Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.5 lb/cu. yd..

2.10 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct forms tight enough to prevent loss of concrete mortar.

C. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

D. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.3 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.4 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

3.5 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin finish al floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

F. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.6 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

3.7 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces to receive trowel finish.

C. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces. While concrete is still plastic, slightly scarify surface with a fine broom.

3.8 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.

D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
1. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.

3.9 FIELD QUALITY CONTROL

A. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

B. Inspections:
1. Steel reinforcement placement.
2. Headed bolts and studs.
3. Verification of use of required design mixture.
4. Concrete placement, including conveying and depositing.
5. Curing procedures and maintenance of curing temperature.
6. Verification of concrete strength before removal of shores and forms from beams and slabs.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd, or fraction thereof.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete;one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
6. Compression Test Specimens: ASTM C 31/C 31M.
a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

END OF SECTION 033000

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Concrete masonry units.
2. Mortar and grout.
3. Steel reinforcing bars.
4. Miscellaneous masonry accessories.

1.2 SUBMITTALS

A. Shop Drawings: For the following:
1. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."

1.3 QUALITY ASSURANCE

A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.

B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

C. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in covered weathertproof dispensing silos.

E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.5 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
1. Extend cover a minimum of 24 inches down both sides of walls and hold cover securely in place.

B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

2.2 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
1. Provide square-edged units for outside corners unless otherwise indicated.

B. CMUs: ASTM C 90.
1. Density Classification: Normal weight.
2. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.

2.3 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C 207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

D. Aggregate for Mortar: ASTM C 144.
1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.

E. Aggregate for Grout: ASTM C 404.

F. Water: Potable.

2.4 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

2.5 MISCELLANEOUS ANCHORS

A. Anchor Bolts: L-shaped steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153/A 153M, Class C; of dimensions indicated.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

A. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and hold reinforcing bars in center of cells. Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.

2.7 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, or other admixtures, unless otherwise indicated.
1. Use portland cement-lime mortar unless otherwise indicated.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated.
1. For masonry below grade or in contact with earth, use Type M.

D. Grout for Unit Masonry: Comply with ASTM C 476.
1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C 476, paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 3000 psi
3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.

B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

C. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
1. Mix units from several pallets or cubes as they are placed.

3.2 TOLERANCES

A. Dimensions and Locations of Elements:
1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:
1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
2. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
3. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
4. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:
1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.

3.3 LAYING MASONRY

A. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in stack bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

B. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

C. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.

3.4 MORTAR BEDDING AND JOINTING

A. Lay hollow CMUs as follows:
1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.

B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

3.5 REINFORCED UNIT MASONRY INSTALLATION

A. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

B. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.

3.6 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
3. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

END OF SECTION 042000

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Aluminum tube railings.

1.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. General: In engineering railings to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
1. Aluminum: The lesser of minimum yield strength divided by 1.65 or minimum ultimate tensile strength divided by 1.95.

C. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Handrails and Top Rails of Guards:
a. Uniform load of 50 lbf/ ft. applied in any direction.
b. Concentrated load of 200 lbf applied in any direction.
c. Uniform and concentrated loads need not be assumed to act concurrently.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

E. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.3 SUBMITTALS

A. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1.4 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.2 ALUMINUM

A. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required.

B. Extruded Tubing: ASTM B 221, Alloy 6063-T5/T52.

2.3 FASTENERS

A. General: Provide the following:
1. Aluminum Railings: Type 304 stainless-steel fasteners.

B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

C. Fasteners for Interconnecting Railing Components:
1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.
2. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
3. Provide tamper-resistant flat-head machine screws for exposed fasteners unless otherwise indicated.

2.4 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

G. Connections: Fabricate railings with either welded or nonwelded connections unless otherwise indicated.

H. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.

I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

J. Form changes in direction as follows:
1. by inserting prefabricated flush-elbow fittings.

K. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

L. Close exposed ends of railing members with prefabricated end fittings.

M. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.

N. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

O. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

2.5 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.6 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements have been clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

A. Fit exposed connections together to form tight, hairline joints.

B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

C. Corrosion Protection: Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

D. Adjust railings before anchoring to ensure matching alignment at abutting joints.

E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.

B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches of post.

3.4 ATTACHING RAILINGS

A. Anchor railing ends at walls with round flanges anchored to wall construction.

B. Secure wall brackets and railing end flanges to building construction as follows:
1. For wood use hanger or lag bolts set into studs

3.5 ADJUSTING AND CLEANING

A. Clean aluminum by washing thoroughly with clean water and soap and rinsing with clean water.

3.6 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

END OF SECTION 055213

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Framing with dimension lumber.
2. Shear wall panels.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
3. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat all rough carpentry unless otherwise indicated.
1. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
2. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.

2.3 DIMENSION LUMBER FRAMING

A. Load-Bearing Partitions: No. 2 grade.
1. Application: Walls.
2. Species:
a. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

2.4 SHEAR WALL PANELS

A. Wood-Framed Shear Wall Panels: Prefabricated assembly consisting of wood perimeter framing, tie downs, and Exposure I, Structural I plywood or OSB sheathing.
1. Products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

B. Steel-Framed Shear Wall Panels: Prefabricated assembly consisting of cold-formed galvanized steel panel, steel top and bottom plates, and wood studs.

C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

ARCHITECTURAL SPECIFICATIONS

JERRY N. ZOLLER AIA
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PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn KB
checked JZ
revisions

sheet
A-12.1
of

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: NES NER-272.

D. Lag Bolts: ASME B18.2.1.

2.6 METAL FRAMING ANCHORS

A. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

B. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
1. Use for wood-preservative-treated lumber and where indicated.

C. Joist Hangers: U-shaped joist hangers with 2-inch- long seat and 1-1/4-inch- wide nailing flanges at least 85 percent of joist depth.
1. Thickness: 0.062 inch.

D. Hold-Downs: Brackets for bolting to wall studs and securing to foundation walls with anchor bolts or to other hold-downs with threaded rods and designed with first of two bolts placed seven bolt diameters from reinforced base.
1. Bolt Diameter: 3/4 inch.
2. Width: 3-3/16 inches.
3. Body Thickness: 0.138 inch.
4. Base Reinforcement Thickness: 0.239 inch.

2.7 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Shear Wall Panels: Install shear wall panels to comply with manufacturer's written instructions.

C. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

D. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

E. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
1. Use inorganic boron for items that are continuously protected from liquid water.
2. Use copper naphthenate for items not continuously protected from liquid water.

F. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. NES NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.

G. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WALL AND PARTITION FRAMING INSTALLATION

A. General: Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction unless otherwise indicated.
1. For exterior walls, provide 2-by-6-inch nominal- size wood studs spaced 16 inches o.c. unless otherwise indicated.

B. Construct corners and intersections with three or more studs.

C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
1. For load-bearing walls, provide double-jamb studs for openings 60 inches and less in width, and triple-jamb studs for wider openings. Provide headers of depth indicated or, if not indicated, according to Table R502.5(1) or Table R502.5(2), as applicable, in ICC's International Residential Code for One- and Two-Family Dwellings.

D. Provide diagonal bracing in exterior walls, at both walls of each external corner, at 45-degree angle, full-story height unless otherwise indicated. Use metal wall bracing, let into studs in saw kerf.

3.3 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 061753 - SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Wood roof trusses.
2. Metal truss accessories.

1.2 ACTION SUBMITTALS

A. Shop Drawings: Show fabrication and installation details for trusses.
1. Show location, pitch, span, camber, configuration, and spacing for each type of truss required.
2. Indicate sizes, stress grades, and species of lumber.
3. Indicate locations of permanent bracing required to prevent buckling of individual truss members due to design loads.
4. Indicate locations, sizes, and materials for permanent bracing required to prevent buckling of individual truss members due to design loads.
5. Indicate type, size, material, finish, design values, orientation, and location of metal connector plates.

B. Delegated-Design Submittal: For metal-plate-connected wood trusses indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Handle and store trusses to comply with recommendations in TPI BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."
1. Store trusses flat, off of ground, and adequately supported to prevent lateral bending.
2. Protect trusses from weather by covering with waterproof sheeting, securely anchored.
3. Provide for air circulation around stacks and under coverings.

B. Inspect trusses showing discoloration, corrosion, or other evidence of deterioration. Discard and replace trusses that are damaged or defective.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Division 01 Section "Quality Requirements," to design metal-plate-connected wood trusses.

B. Structural Performance: Provide metal-plate-connected wood trusses capable of withstanding design loads within limits and under conditions indicated. Comply with requirements in TPI 1 unless more stringent requirements are specified below.
1. Design Loads: As indicated.
2. Maximum Deflection Under Design Loads:
a. Roof Trusses: Vertical deflection of 1/180 of span.

C. Comply with applicable requirements and recommendations of the following publications:
1. TPI 1, "National Design Standard for Metal Plate Connected Wood Truss Construction."
2. TPI DSB, "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses."
3. TPI BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."

D. Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Wood Construction" and its "Supplement."

2.2 DIMENSION LUMBER

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S.
4. Provide dry lumber with 19 percent maximum moisture content at time of dressing.

B. Minimum Chord Size for Roof Trusses: 2 by 6 inches nominal for both top and bottom chords.

C. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Division 06 Section "Rough Carpentry."

2.3 METAL CONNECTOR PLATES

A. Source Limitations: Obtain metal connector plates from single manufacturer.

B. General: Fabricate connector plates to comply with TPI 1.

C. Hot-Dip Heavy-Galvanized-Steel Sheet: ASTM A 653/A 653M: Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
1. Use for wood-preservative-treated lumber and where indicated.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. Provide fasteners for use with metal framing anchors that comply with written recommendations of metal framing manufacturer.
2. Where trusses are exposed to weather, in ground contact, made from pressure-preservative treated wood, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

2.5 METAL FRAMING ANCHORS AND ACCESSORIES

A. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

B. Hot-Dip Heavy-Galvanized-Steel Sheet: ASTM A 653/A 653M: Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
1. Use for wood-preservative-treated lumber and where indicated.

2.6 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 94 percent zinc dust by weight.

2.7 FABRICATION

A. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints.

B. Fabricate metal connector plates to sizes, configurations, thicknesses, and anchorage details required to withstand design loads for types of joint designs indicated.

C. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated.
1. Fabricate wood trusses within manufacturing tolerances in TPI 1.

D. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install wood trusses only after supporting construction is in place and is braced and secured.

B. If trusses are delivered to Project site in more than one piece, assemble trusses before installing.

C. Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.

D. Install and brace trusses according to TPI recommendations and as indicated.

E. Install trusses plumb, square, and true to line and securely fasten to supporting construction.

F. Space trusses as indicated; adjust and align trusses in location before permanently fastening.

G. Anchor trusses securely at bearing points; use metal truss tie-downs or floor truss hangers as applicable. Install fasteners through each fastener hole in metal framing anchors according to manufacturer's fastening schedules and written instructions.

H. Securely connect each truss ply required for forming built-up girder trusses.

I. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.
1. Install bracing to comply with Division 06 Section "Rough Carpentry."

J. Install wood trusses within installation tolerances in TPI 1.

K. Do not alter trusses in field. Do not cut, drill, notch, or remove truss members.

L. Replace wood trusses that are damaged or do not meet requirements.
1. Damaged trusses may be repaired according to truss repair details signed and sealed by the qualified professional engineer responsible for truss design, when approved by Architect.

3.2 REPAIRS AND PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect wood trusses from weather. If, despite protection, wood trusses become wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

C. Repair damaged galvanized coatings on exposed surfaces with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

END OF SECTION 061753

SECTION 062013 - EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
1. Exterior standing and running trim.
2. Lumber siding.
3. Exterior stairs and railings.

1.2 DELIVERY, STORAGE, AND HANDLING

A. Protect materials against weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation within and around stacks and under temporary coverings.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by ALSC's Board of Review.
1. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
2. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process:
1. Lumber: AWPA C2 except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX). Kiln dry after treatment to a maximum moisture content of 19 percent.
2. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
3. Do not use material that is warped or does not comply with requirements for untreated material.
4. Mark lumber with treatment quality mark of an Inspection agency approved by ALSC's Board of Review.
5. Application: All exterior lumber and plywood.

2.3 STANDING AND RUNNING TRIM

A. Lumber Trim for Painted Finish:
1. Species and Grade: Eastern white pine, eastern hemlock-balsam fir-tamarack, eastern spruce, or white woods; Premium or 2 Common (Sterling); NeLMA, NLGA, WCLIB, or WWPA.
2. Maximum Moisture Content: 15 percent.
3. Finger Jointing: Not allowed.
4. Face Surface: Match existing..

B. Moldings for Painted Finish: WMMPA WM 4, P-grade wood moldings. Made from kiln-dried stock to patterns included in WMMPA WM 12.
1. Species: Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine.
2. Finger Jointing: Not allowed.

2.4 LUMBER SIDING

A. Provide kiln-dried lumber siding complying with DOC PS 20, factory coated with exterior alkyd primer.

B. Species and Grade: Grade Premium or 2 Common (Sterling) eastern white pine, eastern hemlock-balsam fir-tamarack, eastern spruce, or white woods; NeLMA, NLGA, WCLIB, or WWPA.

2.5 STAIRS AND RAILINGS

A. Stairs:
1. Treads: 1-1/4-inch thick, kiln-dried, pressure-preservative-treated stepping with half-round or rounded edge nosing.
a. Species and Grade: Southern pine, B & B stepping; SPIB.

B. Railings: Clear, kiln-dried, solid, pressure-preservative-treated southern pine; railing stock of pattern indicated.

C. Balusters: 1-1/16-inch- square, clear, kiln-dried, solid, pressure-preservative-treated southern pine.

D. Newel Posts: 2-3/4-inch- square, clear, kiln-dried, pressure-preservative-treated southern pine; either solid or laminated.

2.6 MISCELLANEOUS MATERIALS

A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches into wood substrate.
1. For face-fastening siding, provide ringed-shank hot-dip galvanized siding nails.
2. For prefinished items, provide matching prefinished stainless fasteners where face fastening is required.
3. For pressure-preservative-treated wood, provide stainless-steel fasteners.
4. For applications not otherwise indicated, provide stainless-steel fasteners.

B. Wood Glue: Waterproof resorcinol glue recommended by manufacturer for exterior carpentry use.

C. Flashing: Comply with requirements in Division 07 Section "Sheet Metal Flashing and Trim" for flashing materials installed in exterior finish carpentry.

2.7 FABRICATION

A. Back out or kerf backs of standing and running trim wider than 5 inches, except members with ends exposed in finished work.

B. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Prime lumber to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Division 09 Section "Exterior Painting."

3.2 INSTALLATION, GENERAL

A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
1. Do not use manufactured units with defective surfaces, sizes, or patterns.

B. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
2. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
3. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/8-inch variation between largest and smallest treads and risers within each flight.
4. Coordinate exterior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

3.3 STANDING AND RUNNING TRIM INSTALLATION

A. Install flat grain lumber with bark side exposed to weather.

B. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long except where necessary.
1. Use scarf joints for end-to-end joints.
2. Stagger end joints in adjacent and related members.

C. Fit exterior joints to exclude water. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Plane backs of casings to provide uniform thickness across joints, where necessary for alignment.

D. Unless otherwise indicated, countersink fasteners, fill surface flush, and sand where face fastening is unavoidable.

3.4 SIDING INSTALLATION

A. Horizontal Lumber Siding: Apply starter strip along bottom edge of sheathing or sill. Install first course of siding with lower edge at least 1/8 inch below starter strip and subsequent courses lapped 1 inch over course below. Nail at each stud. Do not allow nails to penetrate more than one thickness of siding.

B. Flashing: Install flashing as indicated on Drawings and as recommended by siding manufacturer.

C. Finish: Apply finish within two weeks of installation.

3.5 STAIR AND RAILING INSTALLATION

A. Treads and Risers at Exterior Stairs: Secure treads and risers by gluing and nailing to carriages. Countersink nail heads, fill flush, and sand filler. Extend treads over carriages and finish with bullnose edge.

B. Balusters: Fit balusters to treads, glue, and nail in place. Countersink nail heads, fill flush, and sand filler. Let into railings and glue in place.

C. Newel Posts: Secure newel posts to stringers and risers with through bolts.

D. Railings: Secure wall rails with metal brackets. Fasten freestanding railings to newel posts and to trim at walls with countersunk-head wood screws or rail bolts, and glue.

3.6 ADJUSTING

A. Replace exterior finish carpentry that is damaged or does not comply with requirements. Exterior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.7 CLEANING

A. Clean exterior finish carpentry on exposed and semiexposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.8 PROTECTION

A. Protect installed products from damage from weather and other causes during construction.

B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 062013

SECTION 071326 - SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
1. Modified bituminous sheet waterproofing, under tiled areas and as flashing.

1.2 DELIVERY, STORAGE, AND HANDLING

A. Deliver liquid materials to Project site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by waterproofing manufacturer.

PART 2 - PRODUCTS

2.1 MODIFIED BITUMINOUS SHEET WATERPROOFING

A. Modified Bituminous Sheet: Not less than 60-mil- thick, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated to a 4-mil- thick, polyethylene film with release liner on adhesive side and formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
a. Carlisle Coatings & Waterproofing Inc.; CCW MiraDRI 860/861.
b. Grace, W. R. & Co.; Bituthene 4000.
2. Physical Properties:
a. Tensile Strength: 250 psi minimum; ASTM D 412, Die C, modified.
b. Ultimate Elongation: 300 percent minimum; ASTM D 412, Die C, modified.
c. Low-Temperature Flexibility: Pass at minus 20 deg F; ASTM D 1970.
d. Crack Cycling: Unaffected after 100 cycles of 1/8-inch movement; ASTM C 836.
e. Puncture Resistance: 40 lbf minimum; ASTM E 154.
f. Hydrostatic-Head Resistance: 150 feet minimum; ASTM D 5385.
g. Water Absorption: 0.15 percent weight-gain maximum after 48-hour immersion at 70 deg F; ASTM D 570.
h. Vapor Permeance: 0.05 perms; ASTM E 96, Water Method.

2.2 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.
1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.

B. Primer: Liquid waterborne primer recommended for substrate by manufacturer of sheet waterproofing material.

C. Surface Conditioner: Liquid, waterborne surface conditioner recommended for substrate by manufacturer of sheet waterproofing material.

D. Substrate Patching Membrane: Low-viscosity, two-component, asphalt-modified coating.

E. Sheet Strips: Self-adhering, rubberized-asphalt sheet strips of same material and thickness as sheet waterproofing.

F. Mastic, Adhesives, and Tape: Liquid mastic and adhesives, and adhesive tapes recommended by waterproofing manufacturer.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.

B. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks according to ASTM D 4258.
1. Install sheet strips and center over treated construction and contraction joints and cracks exceeding a width of 1/16 inch.

C. Corners: Prepare, prime, and treat inside and outside corners according to ASTM D 6135.
1. Install membrane strips centered over vertical inside corners. Install 3/4-inch fillets of liquid membrane on horizontal inside corners and as follows:

D. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions according to ASTM D 6135.

3.2 MODIFIED BITUMINOUS SHEET WATERPROOFING APPLICATION

A. Install modified bituminous sheets according to waterproofing manufacturer's written instructions and according to recommendations in ASTM D 6135.

B. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by sheet waterproofing in same day. Reprime areas exposed for more than 24 hours.

C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align sheets and maintain uniform 2-1/2-inch- minimum lap widths and end laps. Overlap and seal seams and stagger end laps to ensure watertight installation.
1. When ambient and substrate temperatures range between 25 and 40 deg F, install self-adhering, modified bituminous sheets produced for low-temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 deg F.

D. Horizontal Application: Apply sheets from low point to high point of decks to ensure that side laps shed water.

E. Apply continuous sheets over sheet strips bridging substrate cracks, construction, and contraction joints.

F. Seal exposed edges of sheets at terminations not concealed by metal counterflashings or ending in reglets with mastic.

G. Install sheet waterproofing and auxiliary materials to tie into adjacent waterproofing.

H. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending 6 inches beyond repaired areas in all directions.

I. Install protection course with butted joints over waterproofing membrane immediately.

J. Correct deficiencies in or remove sheet waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.

3.3 PROTECTION AND CLEANING

A. Do not permit foot or vehicular traffic on unprotected membrane.

B. Protect waterproofing from damage and wear during remainder of construction period.

C. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 071326

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Spray polyurethane foam insulation and fire barrier.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Research/Evaluation Reports: For foam-plastic insulation, from ICC-ES.

1.3 QUALITY ASSURANCE

A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 - PRODUCTS

2.1 SPRAY POLYURETHANE FOAM INSULATION

A. Closed-Cell Polyurethane Foam Insulation: ASTM C 1029, Type II, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
a. Certainteed
b. Demilec
2. Minimum density of 1.5 lb/cu. ft., thermal resistivity of 6.2 deg F x h x sq. ft./Btu x in, at 75 deg F.

B. Ignition Barrier shall be equal to FireFree88, Safecoat latex or Aldocoat 757.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.

B. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

3.2 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions.

B. Spray-Applied Insulation: Apply spray-applied insulation according to manufacturer's written instructions. Retain paragraph below for miscellaneous voids if needed for sound deadening, sound absorption, thermal protection, or air-infiltration reduction.

C. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
1. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

D. Apply thermal barrier in accordance with manufacturer's directions.

END OF SECTION 072100

SECTION 072500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Building wrap.
2. Flexible flashing.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIER

A. Building Wrap: ASTM E 1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E 84; UV stabilized; and acceptable to authorities having jurisdiction.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Dow Chemical Company (The); Styrofoam Weathermate Plus Brand Housewrap.
b. DuPont (E. I. du Pont de Nemours and Company); Tyvek CommercialWrap.
c. Raven Industries Inc.; Fortress Pro Weather Protective Barrier.
d. Reemay, Inc.; Typar HouseWrap.
2. Water-Vapor Permeance: Not less than 500 g through 1 sq. m of surface in 24 hours per ASTM E 96/E 96M, Desiccant Method (Procedure A).
3. Allowable UV Exposure Time: Not less than three months.

B. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.

2.2 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.040 inch.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
b. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Vycor Plus Self-Adhered Flashing.

B. Primer for Flexible Flashing: Product recommended by manufacturer of flexible flashing for substrate.

C. Nails and Staples: ASTM F 1667.

PART 3 - EXECUTION

3.1 WATER-RESISTIVE BARRIER INSTALLATION

A. Cover exposed exterior surface of sheathing with water-resistive barrier securely fastened to framing immediately after sheathing is installed.

B. Building Wrap: Comply with manufacturer's written instructions.
1. Seal seams, edges, fasteners, and penetrations with tape.
2. Extend into jambs of openings and seal corners with tape.

3.2 FLEXIBLE FLASHING INSTALLATION

A. Apply flexible flashing where indicated to comply with manufacturer's written instructions.
1. Prime substrates as recommended by flashing manufacturer.
2. Lap seams and junctures with other materials at least 4 inches except that at flashing flanges of other construction, laps need not exceed flange width.
3. Lap flashing over water-resistive barrier at bottom and sides of openings.
4. Lap water-resistive barrier over flashing at heads of openings.
5. After flashing has been applied, roll surfaces with a hard rubber or metal roller to ensure that flashing is completely adhered to substrates.

END OF SECTION 072500

SECTION 074113 - METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Exposed-fastener, lap-seam metal roof panels.

1.2 PERFORMANCE REQUIREMENTS

A. General Performance: Metal roof panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E 2140.

C. Roof shall meet 2007 Florida Building Code requirements

1.3 SUBMITTALS

A. Manufacturer Certificates: Signed by manufacturer certifying that roof panels comply with energy performance requirements specified in "Performance Requirements" Article.
1. Submit evidence of meeting performance requirements.

B. Provide State of Florida or Miami-Dade County NOA

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, metal roof panels, and other manufactured items so as not to be damaged or deformed. Package metal roof panels for protection during transportation and handling.

B. Unload, store, and erect metal roof panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal roof panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal roof panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Protect strippable protective covering on metal roof panels from exposure to sunlight and high humidity, except to extent necessary for period of metal roof panel installation.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace metal roof panel assemblies that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Structural failures including rupturing, cracking, or puncturing.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
2. Warranty Period: Five years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Finish Warranty Period: 10 years from date of Substantial Completion.

C. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
1. Weathertight Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

A. Aluminum Sheet: Coil-coated sheet, ASTM B 209, alloy as standard with manufacturer, with temper as required to suit forming operations and structural performance required.
1. Surface: Smooth, flat finish.
2. Exposed Coil-Coated Finish:
a. 2-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
3. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

B. Panel Sealants:
1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.

ARCHITECTURAL SPECIFICATIONS

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465
fl. reg. 5926

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn KB
checked JZ
revisions

sheet
A-12.2
of

2.2 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: 40 mils thick minimum, consisting of slip-resisting, polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
1. W. R. Grace Ultra.
2. Thermal Stability: Stable after testing at 240 deg F; ASTM D 1970.
3. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D 1970.

2.3 SUBSTRATE BOARDS

A. Glass-Mat Gypsum Sheathing Board: ASTM C 1177/C 1177M.
1. Type and Thickness: Regular, 1/4 inch.
2. Product: Subject to compliance with requirements, provide Dens-Dek by Georgia-Pacific Corporation.

B. Substrate-Board Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FMG 4470, designed for fastening substrate board to substrate.

2.4 MISCELLANEOUS MATERIALS

A. Panel Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal roof panels by means of plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.

B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.5 EXPOSED-FASTENER, LAP-SEAM METAL ROOF PANELS

A. General: Provide factory-formed metal roof panels designed to be installed by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.

B. Vee-Rib-Profile, Exposed-Fastener Metal Roof Panels: Formed with raised, V-shaped ribs and recesses that are approximately same size, evenly spaced across panel width, and with rib/recess sides angled at approximately 45 degrees.
1. Material: Aluminum sheet, 0.032 inch thick.
a. Exterior Finish: 2-coat fluoropolymer.
b. Color: As selected by Architect from manufacturer's full range.
2. Rib Spacing: 5.3 inches o.c.
3. Panel Coverage: 30 inches.
4. Panel Height: 1.375 inches.

2.6 ACCESSORIES

A. Roof Panel Accessories: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fascias, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.
1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.
2. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
3. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

2.7 FABRICATION

A. Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

C. Fabricate metal roof panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.

D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.
1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. End Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
3. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal roof panel manufacturer for application, but not less than thickness of metal being secured.

2.8 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Substrate Board: Install substrate boards over roof sheathing on entire roof surface. Attach with substrate-board fasteners.
1. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
2. Comply with UL requirements for fire-rated construction.

B. Miscellaneous Framing: Install subpurlins, eave angles, furring, and other miscellaneous roof panel support members and anchorage according to metal roof panel manufacturer's written instructions.

3.3 UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.

3.4 METAL ROOF PANEL INSTALLATION, GENERAL

A. Provide metal roof panels of full length from eave to ridge unless otherwise indicated or restricted by shipping limitations.

B. Thermal Movement. Rigidly fasten metal roof panels to structure at one and only one location for each panel. Allow remainder of panel to move freely for thermal expansion and contraction. Predrill panels for fasteners.
1. Point of Fixity: Fasten each panel along a single line of fixing located at ridge.
2. Avoid attaching accessories through roof panels in a manner that will inhibit thermal movement.

C. Install metal roof panels as follows:
1. Commence metal roof panel installation and install minimum of 300 sq. ft. in presence of factory-authorized representative.
2. Field cutting of metal panels by torch is not permitted.
3. Install panels perpendicular to purlins.
4. Locate and space fastenings in uniform vertical and horizontal alignment.
5. Provide metal closures at rake edges and each side of ridge caps.
6. Flash and seal metal roof panels with weather closures at eaves, rakes, and perimeter of all openings.
7. Install ridge caps as metal roof panel work proceeds.
8. End Splices: Locate panel end splices over, but not attached to, structural supports. Stagger panel end splices to avoid a four-panel splice condition.
9. Install metal flashing to allow moisture to run over and off metal roof panels.

D. Fasteners:
1. Aluminum Roof Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior and aluminum or galvanized-steel fasteners for surfaces exposed to the interior.

E. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.

F. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.
1. Coat back side of roof panels with bituminous coating where roof panels will contact wood, ferrous metal, or cementitious construction.

G. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal roof panel manufacturer.
1. Seal metal roof panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal roof panel manufacturer.
2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."

3.5 METAL ROOF PANEL INSTALLATION

A. Lap-Seam Metal Roof Panels: Fasten metal roof panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
1. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
2. Lap ribbed or fluted sheets one full rib corrugation.
3. Provide metal-backed EPDM washers under heads of exposed fasteners bearing on weather side of metal roof panels.
4. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
5. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
6. Provide sealant tape at lapped joints of metal roof panels and between panels and protruding equipment, vents, and accessories.
7. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on end laps, and on side laps of nesting-type panels; on side laps of corrugated nesting-type, ribbed, or fluted panels; and elsewhere as needed to make panels weatherproof to driving rains.
8. At panel end splices, nest panels with minimum 6-inch end lap, sealed with butyl-rubber sealant and fastened together by interlocking clamping plates.

3.6 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

B. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

3.7 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similiar minor repair procedures.

END OF SECTION 074113

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Silicone joint sealants.
2. Latex joint sealants.

1.2 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

A. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
1. Products: Subject to compliance with requirements, **[provide one of the following]**:
a. BASF Building Systems; Omniplus.
b. Dow Corning Corporation; 786 Mildew Resistant.
c. GE Advanced Materials - Silicones; Sanitary SCS1700.
d. May National Associates, Inc.; Bondaflex Sil 100 WF.
e. Tremco Incorporated; Tremsil 200 Sanitary.

2.3 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
1. Products: Subject to compliance with requirements, provide one of the following:
a. BASF Building Systems; Sonolac.
b. Bostik, Inc.; Chem-Calk 600.
c. Pecora Corporation; AC-20+.
d. Schnee-Morehead, Inc.; SM 8200.
e. Tremco Incorporated; Tremflex 834.

2.4 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

2.5 MISCELLANEOUS MATERIALS

A. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
a. Unglazed surfaces of ceramic tile.

B. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
a. Perimeter joints of frames of doors.
2. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Sealant Location:
a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
2. Joint Sealant: Single component, nonsag, mildew resistant, acid curing.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

SECTION 081416 - DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Solid-core doors with faces.
2. Factory finishing doors.
3. Factory fitting doors to frames and factory machining for and installing hardware.

1.2 SUBMITTALS

A. Product Data: For each type of door indicated. Include details of core and edge construction and trim for openings.

B. Provide NOA from State of Florida.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain doors from single manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of referenced standard and manufacturer's written instructions.

B. Package doors individually in plastic bags or cardboard cartons.

C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Exterior Doors: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Plastpro Inc..

2.2 DOORS FOR OPAQUE FINISH

A. Exterior Doors: Distinction Series by Plastropro Inc. and Nan Ya Plastics Corp. Glazing shall be insulated glass meeting large missile impact requirements.

B. Door frames shall be Plastpro PVC,.

C. Hardware on doors shall be as required to meet State of Florida NOA. Hardware shall be classroom function on doors 103, and 201. Doors 101, 102, 104, 105, shall each have privacy locks with classroom function dead bolts. Locksets and hinges shall be stainless steel . Provide LCN SRI series closers on all doors.

2.3 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.

B. Openings: Cut and trim openings through doors in factory.
1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with NOA.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and installed door frames before hanging doors.
1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Hardware: For installation, see Division 08 Section "Door Hardware."

B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.

C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

3.3 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 086200 - UNIT SKYLIGHTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Unit skylights mounted on curbs.

1.2 SUBMITTALS

A. Product Data: For each type of unit skylight indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for unit skylights.

B. Provide State of Florida or Miami-Dade County NOA.

1.3 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of unit skylights that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Uncontrolled water leakage.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
c. Yellowing of acrylic glazing.
2. Warranty Period: Ten years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings

2.2 MATERIALS

A. On toilet rooms provide Solatube 290 DS, with Type MR Flashing kit, vuslon diffuser, and required accessories.

B. On Classroom building provide Solatube 330DS-C-F11-TA-xx-L2-D

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with unit skylight Installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Coordinate installation of unit skylight with installation of substrates, vapor retarders, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that combined elements are waterproof and weathertight.

B. Comply with recommendations in AAMA 1607 and with manufacturer's written instructions for installing unit skylights.

C. Install unit skylights level, plumb, and true to line, without distortion.

D. Anchor unit skylights securely to supporting substrates.

E. Where metal surfaces of unit skylights will contact incompatible metal or corrosive substrates, including preservative-treated wood, apply bituminous coating on concealed metal surfaces, or provide other permanent separation recommended in writing by unit skylight manufacturer.

F. Set unit skylight flanges in thick bed of roofing cement to form a seal unless otherwise indicated.

G. Where cap flashing is indicated, install to produce waterproof overlap with roofing or roof flashing. Seal with thick bead of mastic sealant except where overlap is indicated to be left open for ventilation.

3.3 CLEANING

A. Clean exposed unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes.

B. Remove excess sealants, glazing materials, dirt, and other substances.

C. Remove and replace glazing that has been broken, chipped, cracked, abraded, or damaged during construction period.

D. Protect unit skylight surfaces from contact with contaminating substances resulting from construction operations.

END OF SECTION 086200

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Interior gypsum board.
2. Tile backing panels.

1.2 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.3 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. USG Corporation.

B. Abuse-Resistant Gypsum Board: ASTM C 1629/C 1629M,.
1. Core: 5/8 inch, Type X.
2. Long Edges: Tapered.
3. Mold Resistance: ASTM D 3273, score of 10.

2.3 TILE BACKING PANELS

A. Water-Resistant Backing Board: .
1. Products: Subject to compliance with requirements, provide the following:
a. USG Aqua-Tough Tile Backer.
2. Core: 5/8 inch, Type X.
3. Mold Resistance: ASTM D 3273, score of 10.

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.
1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:
a. Bullnose bead.

2.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:
1. Interior Gypsum Board: Paper.
2. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.

2.6 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
1. Use screws complying with ASTM C 954 for fastening panels to framing.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.

B. Examine panels before Installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:
1. Abuse-Resistant Type: As indicated on Drawings.

B. Single-Layer Application:
1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 APPLYING TILE BACKING PANELS

A. Tile Backing Panels: Comply with manufacturer's written installation instructions and install at locations indicated to receive tile. Install with 1/4-inch gap where panels abut other construction or penetrations.

3.5 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Interior Trim: Install in the following locations:
1. Bullnose Bead: Use at outside corners,

3.6 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
a. Primer and its application to surfaces are specified in other Division 09 Sections.

3.7 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 093000 - TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Ceramic tile.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
1. Provide tile complying with Standard grade requirements unless otherwise indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles. ANSI standards referenced by TCA installation methods specified in tile installation schedules, and other requirements specified.

C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

2.2 TILE PRODUCTS

A. As scheduled.

2.3 SETTING MATERIALS

A. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
a. C-Cure.
b. Jamo Inc.
c. Laticrete International, Inc.
d. MAPEI Corporation.
e. Summitville Tiles, Inc.
2. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
3. Provide prepackaged, dry-mortar mix combined with acrylic resin or styrene-butadiene-rubber liquid-latex additive at Project site.
4. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.

2.4 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color indicated.

2.5 ELASTOMERIC SEALANTS

A. General: Provide sealants, primers, backer rods, and other sealant accessories that comply with the following requirements and with the applicable requirements in Division 07 Section "Joint Sealants."
1. Use primers, backer rods, and sealant accessories recommended by sealant manufacturer.

B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints unless otherwise indicated.

C. One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humicity and extreme temperatures,
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following;
a. Dow Corning Corporation: Dow Corning 786.
b. GE Silicones; a division of GE Specialty Materials: Sanitary 1700.
c. Laticrete International, Inc.; Latasil Tile & Stone Sealant.
d. Pecora Corporation: Pecora 898 Sanitary Silicone Sealant.
e. Tremco Incorporated; Tremsil 600 White.

2.6 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

ARCHITECTURAL SPECIFICATIONS

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465
fl. reg. 5926

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn KB
checked JZ
revisions

sheet
A-12.3
of

2.7 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
1. Verify that substrates for setting tile are firm, dry, clean, free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
2. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

B. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 TILE INSTALLATION

A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

D. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

E. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
1. Ceramic Mosaic Tile: 1/16 inch.

3.4 CLEANING AND PROTECTING

A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
1. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

B. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

END OF SECTION 093000

SECTION 096400 - WOOD FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Factory-finished wood flooring.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver wood flooring materials in unopened cartons or bundles.

B. Store wood flooring materials in a dry, warm, ventilated, weathertight location.

1.4 PROJECT CONDITIONS

A. Conditioning period begins not less than seven days before wood flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.
1. Wood Flooring Conditioning: Move wood flooring into spaces where it will be installed, no later than the beginning of the conditioning period.
a. Do not install flooring until it adjusts to relative humidity of, and is at same temperature as, space where it is to be installed.
b. Open sealed packages to allow wood flooring to acclimatize immediately on moving flooring into spaces in which it will be installed.

B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.

PART 2 - PRODUCTS

2.1 WOOD FLOORING

A. Wood flooring shall be Konecto Prestige Collection. Species and color shall be as selected by the Owner for the full collection.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas and conditions, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of wood flooring.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Broom or vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

A. Comply with flooring manufacturer's written installation instructions.

B. Roll after installation.

3.4 PROTECTION

A. Protect installed wood flooring during remainder of construction period with covering of heavy kraft paper or other suitable material. Do not use plastic sheet or film that might cause condensation.
1. Do not move heavy and sharp objects directly over kraft-paper-covered wood flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.

END OF SECTION 096400

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Vinyl composition floor tile.

PART 2 - PRODUCTS

2.1 VINYL COMPOSITION FLOOR TILE

A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
1. Armstrong World Industries, Inc.;.
2. Congoleum Corporation;.
3. Mannington Mills, Inc.;.
4. Tarkett, Inc.;.

B. Tile Standard: ASTM F 1066, Class 2, through-pattern tile.

C. Wearing Surface: Smooth.

D. Thickness: 0.125 inch.

E. Size: 12 by 12 inches.

F. Colors and Patterns: As selected by Architect from full range of industry colors.

2.2 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

C. Do not install floor tiles until they are same temperature as space where they are to be installed.
1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

D. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
1. Lay tiles square with room axis.

C. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

D. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

E. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.

B. Perform the following operations immediately after completing floor tile installation:
1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

END OF SECTION 096519

SECTION 099100 - PAINTING
SECTION 09912 - PAINTING
PART 1 - GENERAL
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
1.2 SUMMARY
A. This Section includes surface preparation and the application of paint systems on the following substrates:
1. Wood.
2. Gypsum board.
PART 2 - PRODUCTS
2.1 MANUFACTURERS
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Benjamin Moore & Co.
2. Sherwin-Williams Company (The).
3. Color Wheel
2.2 PAINT, GENERAL
A. Material Compatibility:
1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
B. Colors: As indicated in a color schedule.
2.3 PRIMERS/SEALERS
A. Interior Latex Primer/Sealer: S-W PrepRite® 200 Latex Primer, B28W200
(4 mils wet, 1.2 mils dry)
2.4 WOOD PRIMERS
A. Interior Latex-Based Wood Primer: S-W PrepRite® Classic Primer, B28W101
(4 mils wet, 1.6 mils dry)
B. Concealed rough lumber shall be coated with Timbor,(800-264-0870) Nisus Corporation.
2.5 LATEX PAINTS
A. Interior Latex (Satin): S-W Duration® Home Latex Satin, B97-100 Series(4 mils wet, 1.5 mils dry per coat)
B. Interior Latex (Gloss): S -W Duration® Home Semi-Gloss, A98-100 Series(4 mils wet, 1.4 mils dry per coat)
2.6 EXTERIOR MATERIALS (Siding)
A. Satin Finish
1. 1st Coat: Moore's High Build Acrylic Masonry Primer
2. 2nd Coat: MoorGuard 100% Acrylic Low Lustre Latex House Paint N103 (7 mils wet, 2.8 mils dry per coat)(
3. 3rd coat Acrylic siding stain. Moorecraft Stain 177
PART 3 - EXECUTION
3.1 EXAMINATION
A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
C. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.
3.2 PREPARATION
A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
D. Wood Substrates:
1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
E. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.
3.3 APPLICATION
A. Apply paints according to manufacturer's written instructions.
1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
3.4 CLEANING AND PROTECTION
A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.
3.5 INTERIOR PAINTING SCHEDULE
A. Dressed Lumber Substrates: Including architectural woodwork doors.
1. Latex System
a. Prime Coat: Interior latex-based wood primer.
b. Intermediate Coat: Interior latex matching topcoat.
c. Topcoat: Interior latex (semigloss).
B. Gypsum Board Substrates:
1. Latex System: For a Premium Grade system, select primer/sealer option in subparagraph below.
a. Prime Coat: Interior latex primer/sealer.
b. Intermediate Coat: Interior latex matching topcoat.
c. Topcoat: Interior latex (satin).
3.6 EXTERIOR SYSTEMS
A. Wood:
1. Latex System:
a. Prime Coat: Exterior latex matching topcoat.
b. Intermediate Coat: Exterior latex matching topcoat.
c. Topcoat: Exterior latex (semigloss).
END OF SECTION 099100

SECTION 101100 - VISUAL DISPLAY SURFACES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Sliding visual display units.

1.2 DEFINITIONS

A. Visual Display Board Assembly: Visual display surface that is factory fabricated into composite panel form, with a perimeter frame; includes tackboards.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for visual display surfaces.

PART 2 - PRODUCTS

2.1 SLIDING VISUAL DISPLAY UNITS

A. Horizontal-Sliding Visual Display Units: Factory-fabricated units consisting of extruded-aluminum tubular frame, fixed-rear visual display panel,. Provide panels that operate smoothly without vibration or chatter.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following;
a. AARCO Products, Inc. Model 10-921
b. Sliding Glass: Fabricated from laminated glass.
2. Hardware: Manufacturer's standard, extruded-aluminum overhead track and channel-shaped bottom guides; with two nylon ball-bearing carriers and two nylon rollers for each sliding panel.

2.2 FABRICATION

A. Factory-Assembled Visual Display Units: Coordinate factory-assembled units with trim and accessories indicated. Join parts with a neat, precision fit.

B. Aluminum Frames: Fabricate units straight and of single lengths, keeping joints to a minimum. Miter corners to a neat, hairline closure.
1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display units at manufacturer's factory before shipment.

2.3 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.4 ALUMINUM FINISHES

A. Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish. Color Black

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

3.3 INSTALLATION OF FACTORY-FABRICATED VISUAL DISPLAY UNITS

A. Sliding Visual Display Units: Install units in locations and at mounting heights indicated. Attach to wall framing with fasteners at not more than 16 inches o.c.
1. Adjust panels to operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

3.4 CLEANING AND PROTECTION

A. Touch up factory-applied finishes to restore damaged or soiled areas.

B. Cover and protect visual display surfaces after installation and cleaning.

END OF SECTION 101100

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Public-use washroom accessories.
2. Childcare accessories.
3. Underlavatory guards.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated. Include the following:
1. Construction details and dimensions.
2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
3. Material and finish descriptions.
4. Features that will be included for Project.
5. Manufacturer's warranty.

1.3 QUALITY ASSURANCE

A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.4 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.

B. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

C. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

D. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).

E. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

F. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
1. Bobrick Washroom Equipment, Inc.
2. Bradley Corporation.

2.3 CHILDCARE ACCESSORIES

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
1. Koala Kare Products; a division of Bobrick Washroom Equipment, Inc.

2.4 UNDERLAVATORY GUARDS

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
1. Truebro by IPS Corporation.

B. Underlavatory Guard C:
1. Description: Insulating pipe covering for supply and drain piping assemblies that prevent direct contact with and burns from piping; allow service access without removing coverings.
2. Material and Finish: Antimicrobial, molded plastic, white.

2.5 FABRICATION

A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

B. Remove temporary labels and protective coatings.

C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 102800

SECTION 115213 - PROJECTION SCREENS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Manually operated projection screens.
2. Electrically operated projection screens and controls.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 2 - PRODUCTS

2.1 ELECTRICALLY OPERATED PROJECTION SCREENS

A. General: Manufacturer's standard units consisting of case, screen, motor, controls, mounting accessories, and other components necessary for a complete installation. Provide units that are listed and labeled as an assembly by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
1. Controls: Remote, key-operated, three-position control switch installed in recessed device box with flush cover plate matching other electrical device cover plates in room where switch is installed.
2. Motor in Roller: Instant-reversing motor of size and capacity recommended by screen manufacturer, with permanently lubricated ball bearings, automatic thermal-overload protection, preset limit switches to automatically stop screen in up and down positions, and positive-stop action to prevent coasting. Mount motor inside roller with vibration isolators to reduce noise transmission.
3. Screen Mounting: Top edge securely anchored to rigid metal roller and bottom edge formed into a pocket holding a 3/8-inch- diameter metal rod with ends of rod protected by plastic caps.
a. Roller for motor in roller supported by vibration- and noise-absorbing supports.

B. Suspended, Electrically Operated Screens with Automatic Ceiling Closure: Motor-in-roller units designed and fabricated for suspended mounting; with bottom of case composed of two panels, fully enclosing screen, motor, and wiring; one panel hinged and designed to open and close automatically when screen is lowered and fully raised, the other removable or openable for access to interior of case.
1. Products: Subject to compliance with requirements, provide the following:
a. Motor in Roller:
1) Draper Inc.; Ultimate Access/Series E.
2. Provide metal or metal-lined wiring compartment on units with motor in roller.
3. Screen Case: Made from metal.
4. Provide screen case with trim flange to receive ceiling finish.
5. Finish on Exposed Surfaces: Prime painted.

2.2 FRONT-PROJECTION SCREEN MATERIAL

A. Matte-Gray Viewing Surface: Peak gain not less than 0.8, and half-gain angle of not less than 50 degrees from the axis of the screen surface.
1. Products: Subject to compliance with requirements,:
a. Draper Inc.; HiDefGrey.

B. Mildew-Resistance Rating: 0 or 1 when tested according to ASTM G 21.

C. Flame Resistance: Passes NFPA 701.

D. Flame-Spread Index: Not greater than 75 when tested according to ASTM E 84.

E. Seams: Where length of screen indicated exceeds maximum length produced without seams in material specified, provide screen with horizontal seam placed as follows:
1. At top of screen at juncture between extra drop length and viewing surface.
2. In location indicated.

F. Size of Viewing Surface: 52 by 92 inches.

G. Provide extra drop length of dimensions and at locations indicated.
1. Color: Black.

PART 3 - EXECUTION

3.1 FRONT-PROJECTION SCREEN INSTALLATION

A. Install front-projection screens at locations indicated to comply with screen manufacturer's written instructions.

B. Install front-projection screens with screen cases in position and in relation to adjoining construction indicated. Securely anchor to supporting substrate in a manner that produces a smoothly operating screen with vertical edges plumb and viewing surface flat when screen is lowered.
1. Install low-voltage controls according to NFPA 70 and complying with manufacturer's written instructions.
a. Wiring Method: Install wiring in raceway except in accessible ceiling spaces and in gypsum board partitions where unenclosed wiring method may be used. Use UL-listed plenum cable in environmental air spaces, including plenum ceilings. Conceal raceway and cables except in unfinished spaces.
2. Test electrically operated units to verify that screen controls, limit switches, closures, and other operating components are in optimum functioning condition.
3. Test manually operated units to verify that screen-operating components are in optimum functioning condition.

END OF SECTION 115213

SECTION 123200 - MANUFACTURED WOOD CASEWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Plastic-laminate-faced wood cabinets of stock design.
2. Plastic-laminate countertops.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show fabrication details, including types and locations of hardware. Show installation details, including field joints and filler panels. Indicate manufacturer's catalog numbers for casework.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver manufactured wood casework only after painting, utility roughing-in, and similar operations that could damage, soil, or deteriorate casework have been completed in installation areas. If casework must be stored in other than installation areas, store only in areas where environmental conditions meet requirements specified in "Project Conditions" Article.

B. Keep finished surfaces covered with polyethylene film or other protective covering during handling and installation.

1.4 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of manufactured wood casework that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Delamination of components or other failures of glue bond.
b. Warping of components.
c. Failure of operating hardware.
d. Deterioration of finishes.
2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Maximum Moisture Content for Lumber: 7 percent for hardwood and 12 percent for softwood.

B. Hardwood Plywood: HPVA HP-1, either veneer core or particleboard core unless otherwise indicated.

C. Softwood Plywood: DOC PS 1.

D. Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
a. Formica Corporation.
b. Nevamar Company, LLC; Decorative Products Div.
c. Wilsonart International; Div. of Premark International, Inc.

E. Edgebanding for Plastic Laminate: Plastic laminate matching adjacent surfaces.

2.2 CABINET FABRICATION

A. Plastic-Laminate-Faced Cabinet Construction: As required by referenced quality standard, but not less than the following:
1. Bottoms and Ends of Cabinets, and Tops of Wall Cabinets and Tall Cabinets: 3/4-inch plywood, plastic-laminate faced.
2. Shelves: 3/4-inch plywood, plastic-laminate faced.
3. Backs of Cabinets: 1/2-inch plywood plastic-laminate faced.
4. Drawer Fronts: 3/4-inch plywood, plastic-laminate faced.
5. Drawer Sides and Backs: 1/2-inch solid-wood or veneer-core hardwood plywood, with glued dovetail or multiple-dowel joints.
6. Drawer Bottoms: 1/4-inch hardwood plywood glued and dadoed into front, back, and sides of drawers. Use 1/2-inch material for drawers more than 24 inches wide.
7. Doors: 3/4-inch plywood, plastic-laminate faced.

B. Filler Strips: Provide as needed to close spaces between cabinets and walls, ceilings, and indicated equipment. Fabricate from same material and with same finish as cabinets.

2.3 CASEWORK HARDWARE AND ACCESSORIES

A. Hardware, General: Unless otherwise indicated, provide manufacturer's standard satin-finish, commercial-quality, heavy-duty hardware.
1. Use threaded metal or plastic inserts with machine screws for fastening to particleboard except where hardware is through-bolted from back side.

B. Frameless Concealed Hinges (European Type): BHMA A156.9, Type B01602, 170 degrees of opening, self-closing.

C. Pulls: Solid nylon wire pulls, fastened from back with two screws. Drawer Slides: BHMA A156.9, Type B05091.
1. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Side mounted; full-extension type; zinc-plated, steel ball-bearing slides.

D. Adjustable Shelf Supports: Single-pin metal shelf rests complying with BHMA A156.9, Type B04013.

2.4 COUNTERTOPS

A. Countertops, General: Provide smooth, clean exposed tops and edges in uniform plane free of defects. Provide front and end overhang of 1 inch over base cabinets.

B. Plastic-Laminate Tops: Plastic-laminate sheet, shop bonded to both sides of 3/4-inch plywood or particleboard. Sand surfaces to which plastic laminate is to be bonded.
1. Plastic Laminate for Flat Tops: Grade HGS.
2. Plastic Laminate for Backing: Grade BKL.
3. Provide plastic-laminate edgings of the same material as top on front edge of top, on top edges of backsplashes and end splashes, and on ends of tops and splashes.
4. Use exterior plywood for countertops.

ARCH. SPECIFICATIONS

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ARCHITECT / PLANNER P.A.
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PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn KB
checked JZ
revisions

sheet
A-12.4
of

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of framing and reinforcements, and other conditions affecting performance of manufactured wood casework.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 CASEWORK INSTALLATION

A. Install level, plumb, and true; shim as required, using concealed shims. Where manufactured wood casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical.

B. Base Cabinets: Set cabinets straight, level, and plumb. Adjust subtops within 1/16 inch of a single plane. Fasten cabinets to masonry or framing, wood blocking, or reinforcements in walls and partitions with fasteners spaced 24 inches o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16 inch.
1. Where base cabinets are not installed adjacent to walls, fasten to floor at toe space with fasteners spaced 16 inches o.c. Secure sides of cabinets to floor, where they do not adjoin other cabinets, with not less than two fasteners.

C. Wall Cabinets: Hang cabinets straight, level, and plumb. Adjust fronts and bottoms within 1/16 inch of a single plane. Fasten to hanging strips, masonry, or framing, blocking, or reinforcements in walls or partitions. Align similar adjoining doors to a tolerance of 1/16 inch.
1. Fasten through back, near top and bottom, at ends, and not more than 16 inches o.c.
2. Use No. 10 wafer-head screws sized for 1-inch penetration at wood hanging strips.
3. Use No. 10 wafer-head screws sized for 1-inch penetration into wood framing or blocking at wood-framed partitions.

D. Install hardware uniformly and precisely. Set hinges snug and flat in mortises unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.

E. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

3.3 INSTALLATION OF TOPS

A. Field Jointing: Where possible make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings.
1. Secure field joints in plastic-laminate countertops with concealed clamping devices located within 6 inches of front and back edges and at intervals not exceeding 24 inches. Tighten according to manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.

B. Secure tops to cabinets with Z- or L-type fasteners or equivalent, using two or more fasteners at each front, end, and back.

C. Abut top and edge surfaces in one true plane, with internal supports placed to prevent deflection.

D. Secure backsplashes and end splashes to tops with concealed metal brackets at 16 inches o.c. and walls with adhesive.

E. Seal junctures of tops, splashes, and walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.

3.4 CLEANING AND PROTECTING

A. Repair or remove and replace defective work as directed on completion of installation.

B. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.

C. Protection: Provide 6-mil plastic or other suitable water-resistant covering over countertop surfaces. Tape to underside of countertop at a minimum of 48 inches o.c. Remove protection at Substantial Completion.

END OF SECTION 123200

ARCHITECTURAL SPECIFICATIONS

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fl. reg. 5926

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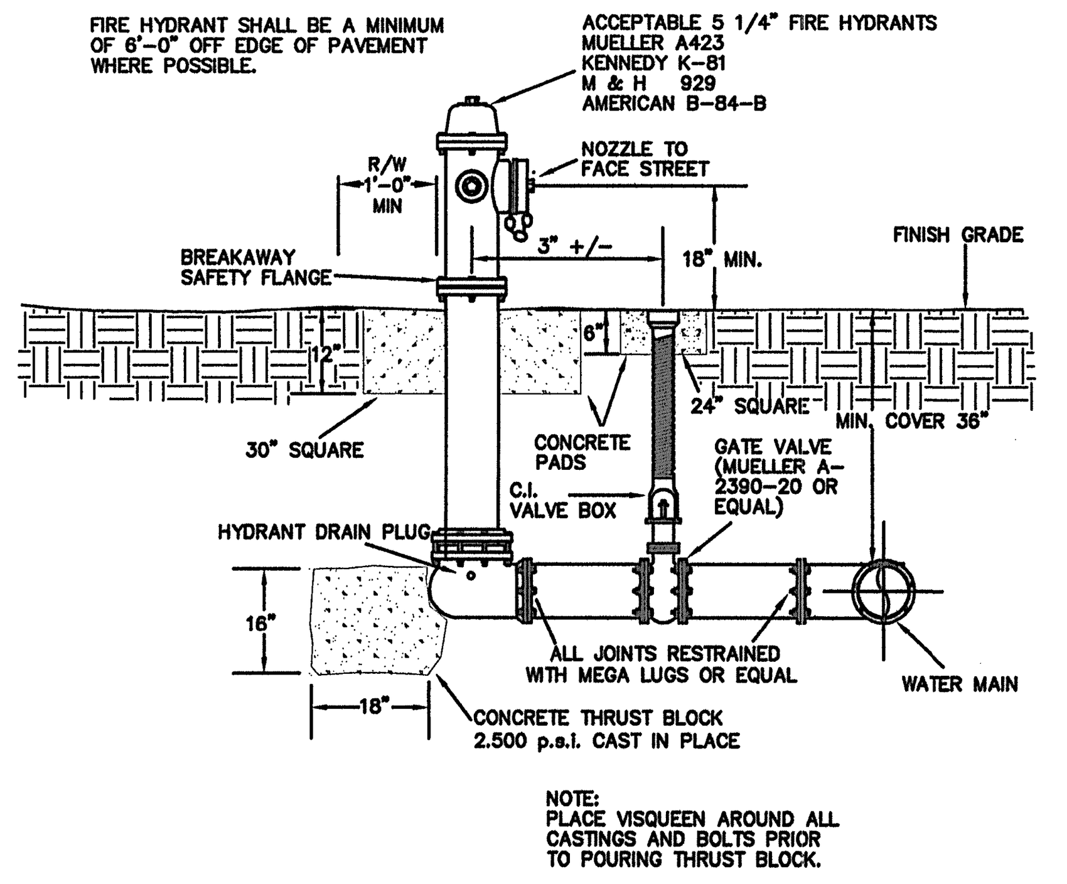
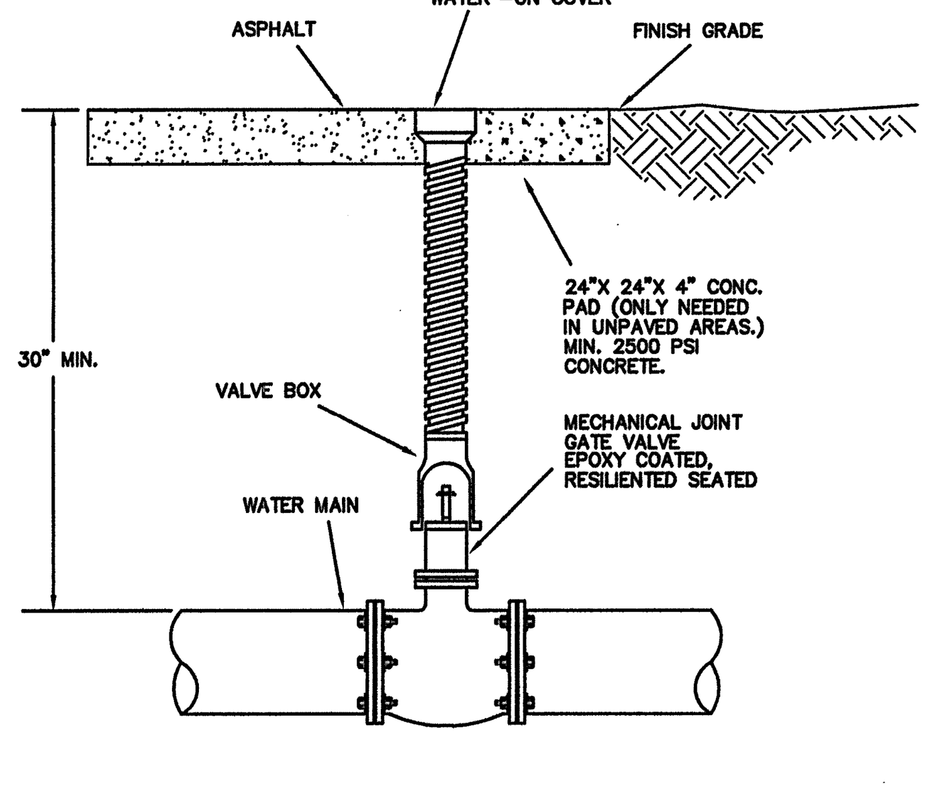
AERIAL VIEW



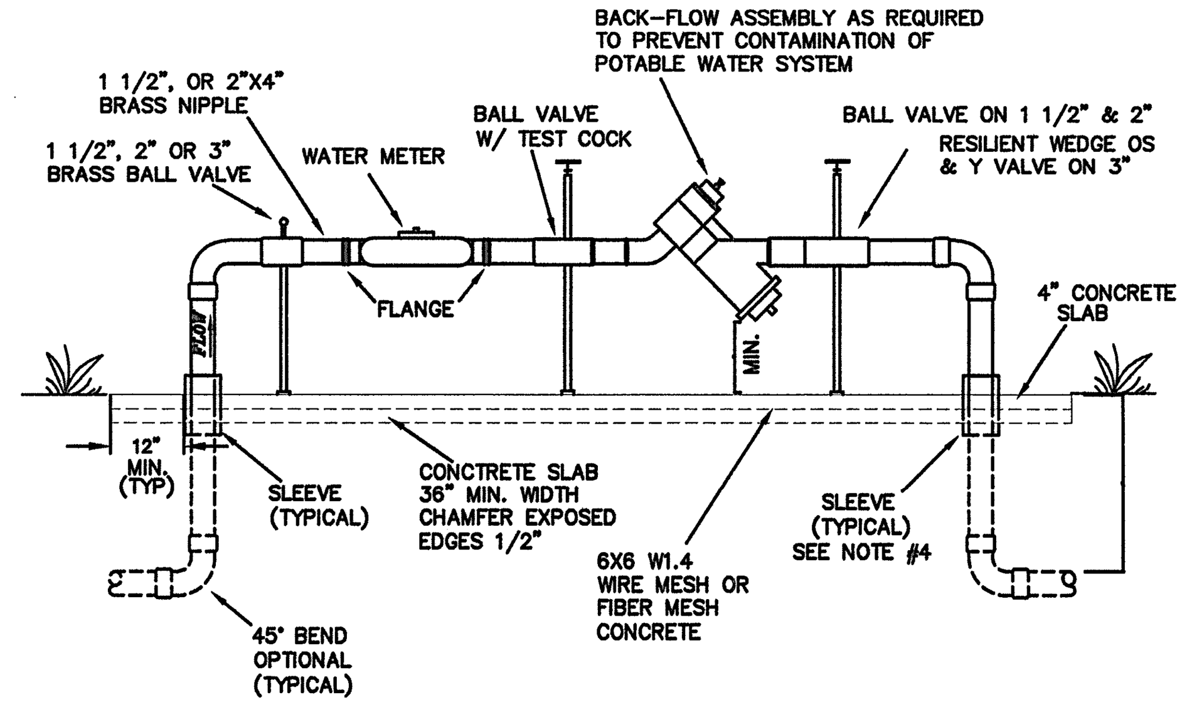
TYPICAL FIRE HYDRANT DETAIL

N.T.S.



WATER VALVE DETAIL

N.T.S.

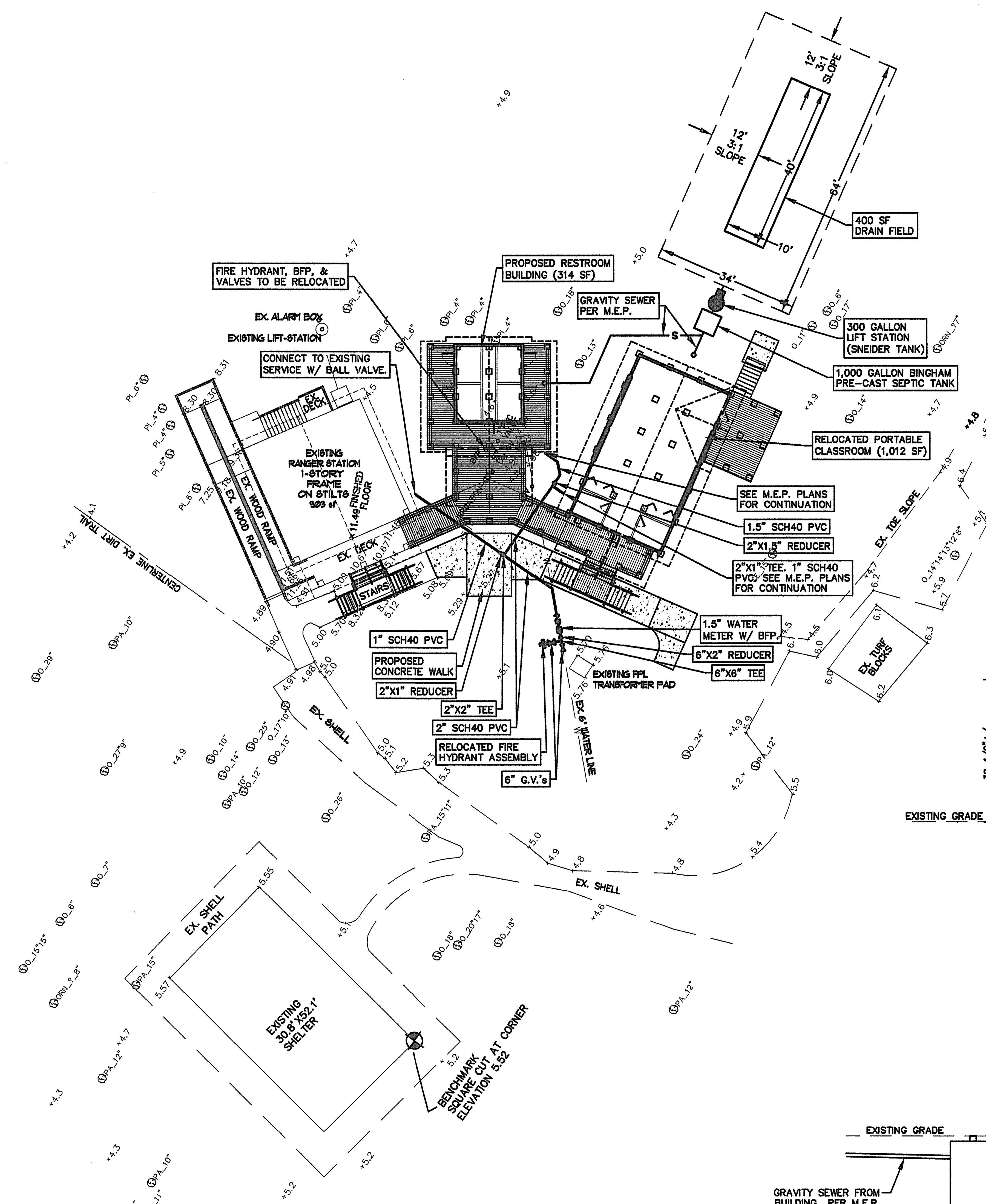


NOTES:

1. BOTTOM OF BACKFLOW DEVICE, IF REQUIRED, MUST BE 12" ABOVE FINISHED GRADE.
2. BACKFLOW ASSEMBLY MUST BE INSTALLED DOWNSTREAM OF METER, AS CLOSE TO METER AS POSSIBLE.
3. COPPER PIPE TYPE "L" OR "K" OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 36" BELOW GRADE.
4. PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEEVED.
5. THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE CITY OF PALMETTO PLUMBING CODE (Latest Edition) AND THE CITY OF PALMETTO BACKFLOW PREVENTION CODE (Lastest Edition).
6. METER, LOCK PACKS, METER COUPLINGS AND BRASS NIPPLES FURNISHED BY COP.

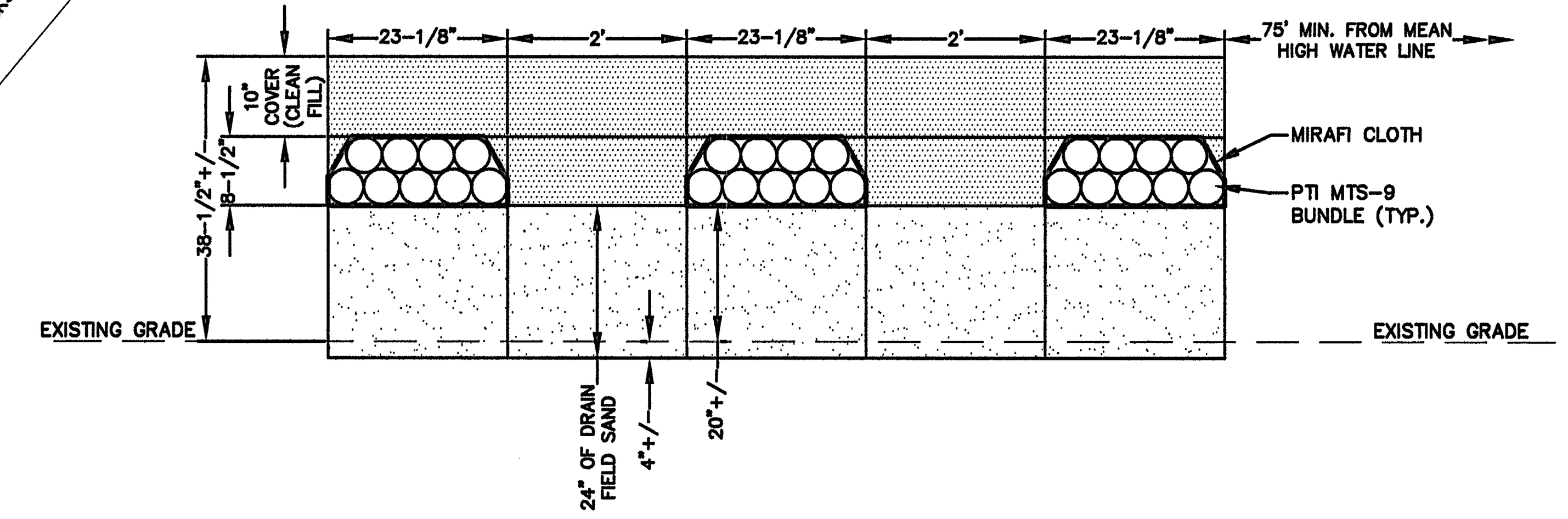
2" WATER METER & BACKFLOW PREVENTER DETAIL

N.T.S.



1" = 20'

NOTE:
- EXISTING CONDITIONS SHOWN HEREIN ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- WATERLINE, HYDRANT, METER, & BFP TO BE RELOCATED PER FIELD DETERMINATION BY OWNER, E.O.R. AND C.O.P.



DRAIN FIELD UNDERDRAIN DETAIL

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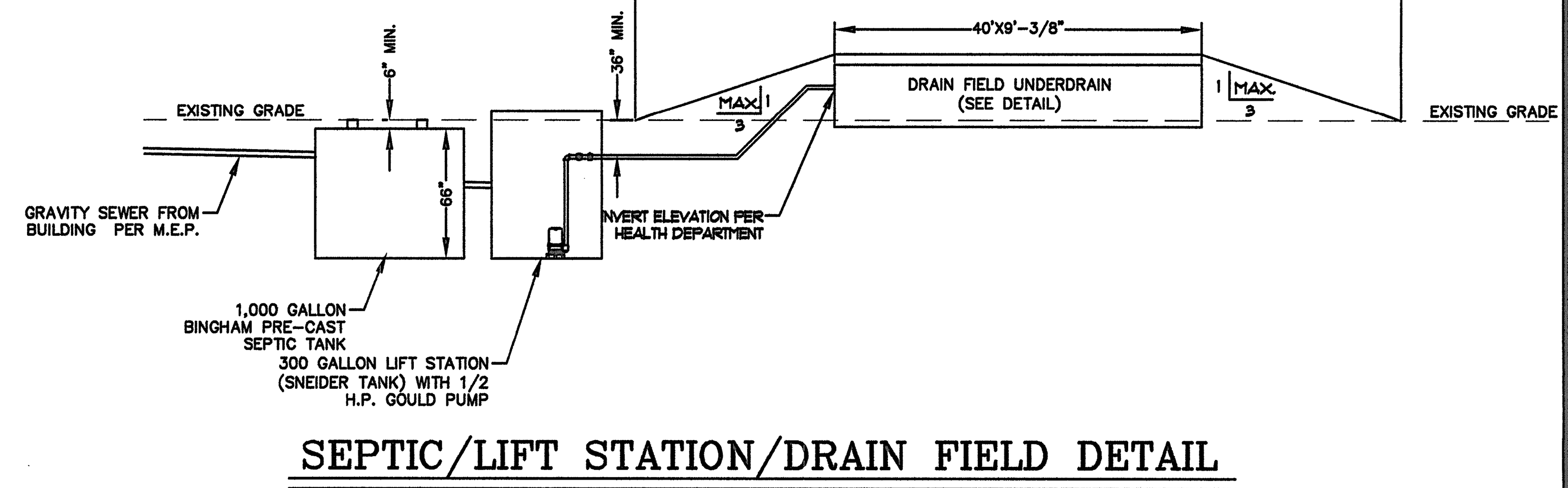


SEPTIC/LIFT STATION/DRAIN FIELD DETAIL

N.T.S.

REVISIONS
1
2
3
4
5
6
7

SITE PLAN
FOR
EMERSON POINT PRESERVE CLASSROOM/RESTROOM
LOCATED IN
SECTIONS 7 & 8, TOWNSHIP 34 SOUTH, RANGE 17 EAST
MANATEE COUNTY, FLORIDA

ALLISON ENGINEERING
928 14th STREET WEST BRADENTON, FLORIDA 34205 TEL(941)708-5400 FAX(941)708-5405

DESIGNED	MAA	FILE NO.	2850
DRAWN	BRF	SCALE	1" = 20'
DATE	5/27/09	JOB NO.	2850

SHEET 1

ELECTRICAL SYMBOL LEGEND

WIRING DEVICES

Symbol	Description
GFI	20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT 16" AFF TO CENTER OF BACKBOX.
GFI	20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT ABOVE SINK, COUNTER, CASEWORK, ETC. OR AT HIEGHT INDICATED. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND CONDITIONS PRIOR TO ROUGH–IN.
F	20 AMP TYPE DUPLEX RECEPTACLE MOUNTED IN FLOOR BOX FLUSH WITH FLOOR. COVERPLATE SHALL HAVE A TRAP DOOR WITH CARPET (TILE) INSERT. SEAL OPENING THROUGH FLOOR.
	"WP" INDICATES RECEPTACLE SHALL HAVE WEATHERPROOF IN–USE COVER.

SWITCHES

Symbol	Description
M	WALL MOUNTED MOTION DETECTOR: WATTSTOPPER WS–200. MOUNT 48" AFF.
$	SINGLE POLE SWITCH , RECESS MOUNT 48" AFF TO CENTER OF BACKBOX.
$	EXISITNG SWITCH. RELOCATE TO WHERE INDICATED

POWER DISTRIBUTION (REFER TO THE "ELECTRICAL RISER DIAGRAM")

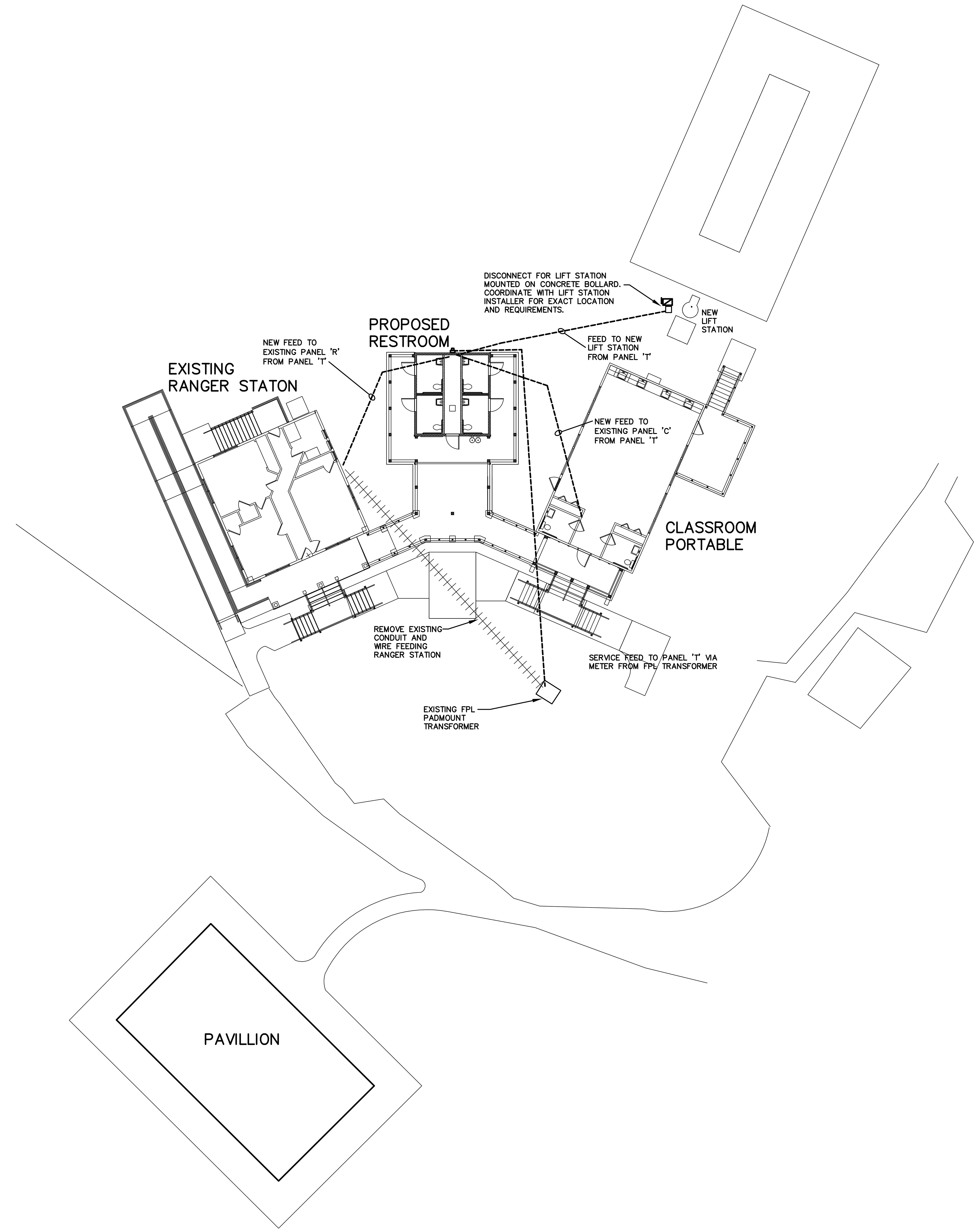
Symbol	Description
	PANELBOARD. REFER TO THE "PANELBOARD SCHEDULE".
	DISCONNECT SWITCH. PROVIDE DISCONNECT SWITCH AS INDICATED ON THE SCHEDULES. REFER TO PLANS AND SCHEDULES FOR ADDITIONAL REQUIREMENTS. FUSES SHALL BE DUAL ELEMENT TIME DELAY. VERIFY NAMEPLATE RATINGS OF FRAME SIZE AND FUSING OF THE ACTUAL EQUIPMENT TO BE INSTALLED.
	GROUND TO METAL FRAME OF BUILDING, SLAB STEEL, OTHER MADE ELECTRODES, AND METAL UNDERGROUND WATER PIPE. PROVIDE A MINIMUM OF (2) 3/4" DIA, 10 FOOT LONG COPPER CLAD GROUND RODS LOCATED AT LEAST 6 FEET APART. ALL CONCEALED CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. LOCATE EXTERIOR GROUND ROD ASSEMBLY IN LANDSCAPE AREA AND PROVIDE WELL FOR ACCESS TO EACH GROUND ROD ALL GROUND ROD LOCATIONS SHALL BE ACCESSIBLE.
J J	JUNCTION BOX

FIRE ALARM / SECURITY

Symbol	Description
P	FIRE ALARM MANUAL PULL STATION, RECESS MOUNT 48"AFF TO CENTER OF BACKBOX AND LOCATE WITHIN 5'–0" OF EXIT DOOR. PROVIDE DUAL ACTION DEVICE.
S	FIRE ALARM SMOKE DETECTOR, CEILING MOUNTED. PROVIDE PHOTOELECTRIC TYPE U.N.O. WHERE SMOKE DETECTOR IS MOUNTED IN GRID CEILING IT SHALL BE MOUNTED CENTERED IN CEILING TILE.
H	FIRE ALARM HEAT DETECTOR, CEILING MOUNTED. PROVIDE 135 DEGREE FAHRENHEIT TYPE U.N.O. PROVIDE 195 DEGREE FAHRENHEIT TYPE IN HIGH HEAT AREAS (KITCHENS, KILN ROOMS, ETC. AS REQUIRED). IF HEAT DETECTOR IS MOUNTED IN GRID CEILING IT SHALL BE MOUNTED CENTERED IN CEILING TILE.
S	FIRE ALARM STROBE ONLY ANNUNCIATOR, RECESS MOUNT 80"AFF TO CENTER OF DEVICE
S H	FIRE ALARM COMBINATION HORN/STROBE ANNUNCIATOR, RECESS MOUNT 80" AFF TO CENTER OF DEVICE. EXTERIOR LOCATIONS MOUNTED AT HEIGHT INDICATED. "WP" INDICATES WEATHER PROOF ENCLOSURE
FARA	FIRE ALARM (REMOTE) ANNUNCIATOR. RECESS MOUNT 60" AFF WITH APPROPRIATE GANGED BOX.
KP	SECURITY KEYPAD. RECESS MOUNT 48" AFF WITH APPROPRIATE GANGED BOX.

ABBREVIATIONS

A	AMPERE	NF	NON–FUSED
AFF	HEIGHT ABOVE FINISHED FLOOR	P	POLE
AFG	HEIGHT ABOVE FINISHED GRADE	PH	PHASE
ETR	EXISTING TO REMAIN	U.N.O.	UNLESS NOTED OTHERWISE
GFI	GROUND FAULT CIRCUIT INTERRUPTING (GFCI) TYPE WIRING DEVICE OR CIRCUIT BREAKER	VA	VOLT AMPERE (WATTAGE)
KW	KILOWATT	WG	WIREGUARD
LTG	LIGHTING	WP	WEATHERPROOF ENCLOSURE
MTR	MOTOR	W/T	WATER TIGHT
		XFMR	TRANSFORMER



ELECTRICAL SITE PLAN

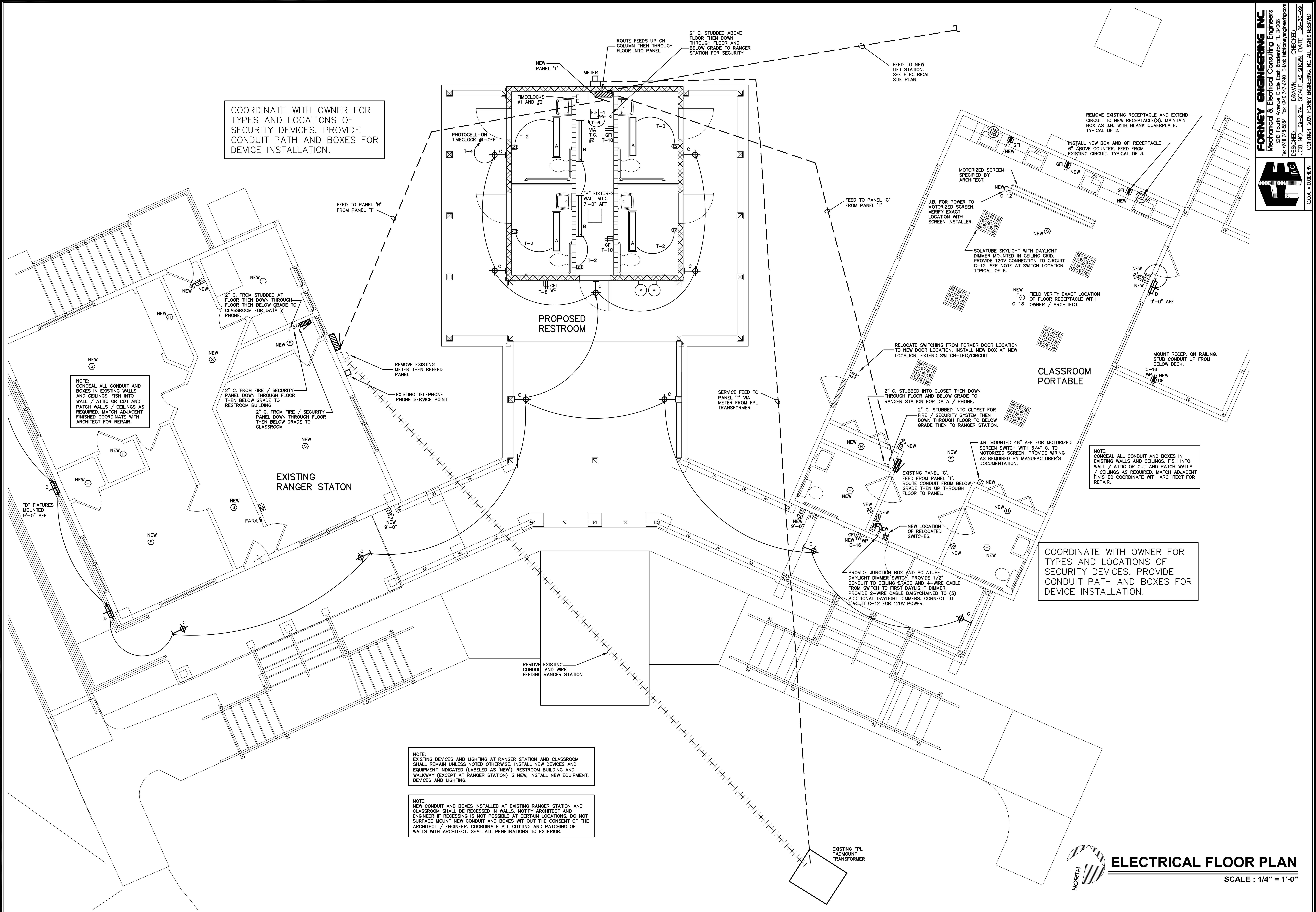
SCALE : 1" = 16'-0"

FORNEY ENGINEERING INC.
Mechanical & Electrical Consulting Engineers

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST
PALMETTO, FLORIDA

job no	0907
date	06/30/09
drawn	--
checked	
revisions	
sheet	E-1.1
of	



COORDINATE WITH OWNER FOR TYPES AND LOCATIONS OF SECURITY DEVICES. PROVIDE CONDUIT PATH AND BOXES FOR DEVICE INSTALLATION.
ROUTE FEEDS UP ON COLUMN THEN THROUGH FLOOR INTO PANEL
2" C. STUBBED ABOVE FLOOR THEN DOWN THROUGH FLOOR AND BELOW GRADE TO RANGER STATION FOR SECURITY.
NEW PANEL "T"
METER
FEED TO NEW LIFT STATION. SEE ELECTRICAL SITE PLAN.
TIMECLOCKS #1 AND #2
PHOTOCELL-ON TIMECLOCK #1-OFF
"B" FIXTURES WALL MTD. 7'-0" AFF
PROPOSED RESTROOM
FEED TO PANEL 'R' FROM PANEL 'T'
FEED TO PANEL 'C' FROM PANEL 'T'
REMOVE EXISTING METER THEN REFEED PANEL
EXISTING TELEPHONE PHONE SERVICE POINT
2" C. FROM STUBBED AT FLOOR THEN DOWN THROUGH FLOOR THEN BELOW GRADE TO CLASSROOM FOR DATA / PHONE.
2" C. FROM FIRE / SECURITY PANEL DOWN THROUGH FLOOR THEN BELOW GRADE TO RESTROOM BUILDING
2" C. FROM FIRE / SECURITY PANEL DOWN THROUGH FLOOR THEN BELOW GRADE TO CLASSROOM
NOTE: CONCEAL ALL CONDUIT AND BOXES IN EXISTING WALLS AND CEILINGS. FISH INTO WALL / ATTIC OR CUT AND PATCH WALLS / CEILINGS AS REQUIRED. MATCH ADJACENT FINISHED COORDINATE WITH ARCHITECT FOR REPAIR.
EXISTING RANGER STATON
"D" FIXTURES MOUNTED 9'-0" AFF
SERVICE FEED TO PANEL 'T' VIA METER FROM FPL TRANSFORMER
REMOVE EXISTING RECEPTACLE AND EXTEND CIRCUIT TO NEW RECEPTACLE(S). MAINTAIN BOX AS J.B. WITH BLANK COVERPLATE. TYPICAL OF 2.
INSTALL NEW BOX AND GFI RECEPTACLE 6" ABOVE COUNTER. FEED FROM EXISTING CIRCUIT. TYPICAL OF 3.
MOTORIZED SCREEN SPECIFIED BY ARCHITECT.
J.B. FOR POWER TO MOTORIZED SCREEN. VERIFY EXACT LOCATION WITH SCREEN INSTALLER.
SOLATUBE SKYLIGHT WITH DAYLIGHT DIMMER MOUNTED IN CEILING GRID. PROVIDE 120V CONNECTION TO CIRCUIT C-12. SEE NOTE AT SWITCH LOCATION. TYPICAL OF 6.
FIELD VERIFY EXACT LOCATION OF FLOOR RECEPTACLE WITH OWNER / ARCHITECT.
RELOCATE SWITCHING FROM FORMER DOOR LOCATION TO NEW DOOR LOCATION. INSTALL NEW BOX AT NEW LOCATION. EXTEND SWITCH-LEG/CIRCUIT
MOUNT RECEP. ON RAILING. STUB CONDUIT UP FROM BELOW DECK.
CLASSROOM PORTABLE
2" C. STUBBED INTO CLOSET THEN DOWN THROUGH FLOOR AND BELOW GRADE TO RANGER STATION FOR DATA / PHONE.
2" C. STUBBED INTO CLOSET FOR FIRE / SECURITY SYSTEM THEN DOWN THROUGH FLOOR TO BELOW GRADE THEN TO RANGER STATION.
J.B. MOUNTED 48" AFF FOR MOTORIZED SCREEN SWITCH WITH 3/4" C. TO MOTORIZED SCREEN. PROVIDE WIRING AS REQUIRED BY MANUFACTURER'S DOCUMENTATION.
NOTE: CONCEAL ALL CONDUIT AND BOXES IN EXISTING WALLS AND CEILINGS. FISH INTO WALL / ATTIC OR CUT AND PATCH WALLS / CEILINGS AS REQUIRED. MATCH ADJACENT FINISHED COORDINATE WITH ARCHITECT FOR REPAIR.
EXISTING PANEL 'C'. FEED FROM PANEL 'T'. ROUTE CONDUIT FROM BELOW GRADE THEN UP THROUGH FLOOR TO PANEL.
NEW LOCATION OF RELOCATED SWITCHES.
PROVIDE JUNCTION BOX AND SOLATUBE DAYLIGHT DIMMER SWITCH. PROVIDE 1/2" CONDUIT TO CEILING SPACE AND 4-WIRE CABLE FROM SWITCH TO FIRST DAYLIGHT DIMMER. PROVIDE 2-WIRE CABLE DAISYCHAINED TO (5) ADDITIONAL DAYLIGHT DIMMERS. CONNECT TO CIRCUIT C-12 FOR 120V POWER.
COORDINATE WITH OWNER FOR TYPES AND LOCATIONS OF SECURITY DEVICES. PROVIDE CONDUIT PATH AND BOXES FOR DEVICE INSTALLATION.
REMOVE EXISTING CONDUIT AND WIRE FEEDING RANGER STATION
EXISTING FPL PADMOUNT TRANSFORMER
NORTH

NOTE:
EXISTING DEVICES AND LIGHTING AT RANGER STATION AND CLASSROOM SHALL REMAIN UNLESS NOTED OTHERWISE. INSTALL NEW DEVICES AND EQUIPMENT INDICATED (LABELED AS 'NEW'). RESTROOM BUILDING AND WALKWAY (EXCEPT AT RANGER STATION) IS NEW, INSTALL NEW EQUIPMENT, DEVICES AND LIGHTING.

NOTE:
NEW CONDUIT AND BOXES INSTALLED AT EXISTING RANGER STATION AND CLASSROOM SHALL BE RECESSED IN WALLS. NOTIFY ARCHITECT AND ENGINEER IF RECESSING IS NOT POSSIBLE AT CERTAIN LOCATIONS. DO NOT SURFACE MOUNT NEW CONDUIT AND BOXES WITHOUT THE CONSENT OF THE ARCHITECT / ENGINEER. COORDINATE ALL CUTTING AND PATCHING OF WALLS WITH ARCHITECT. SEAL ALL PENETRATIONS TO EXTERIOR.

ELECTRICAL FLOOR PLAN

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

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C.O.A. # 00004049

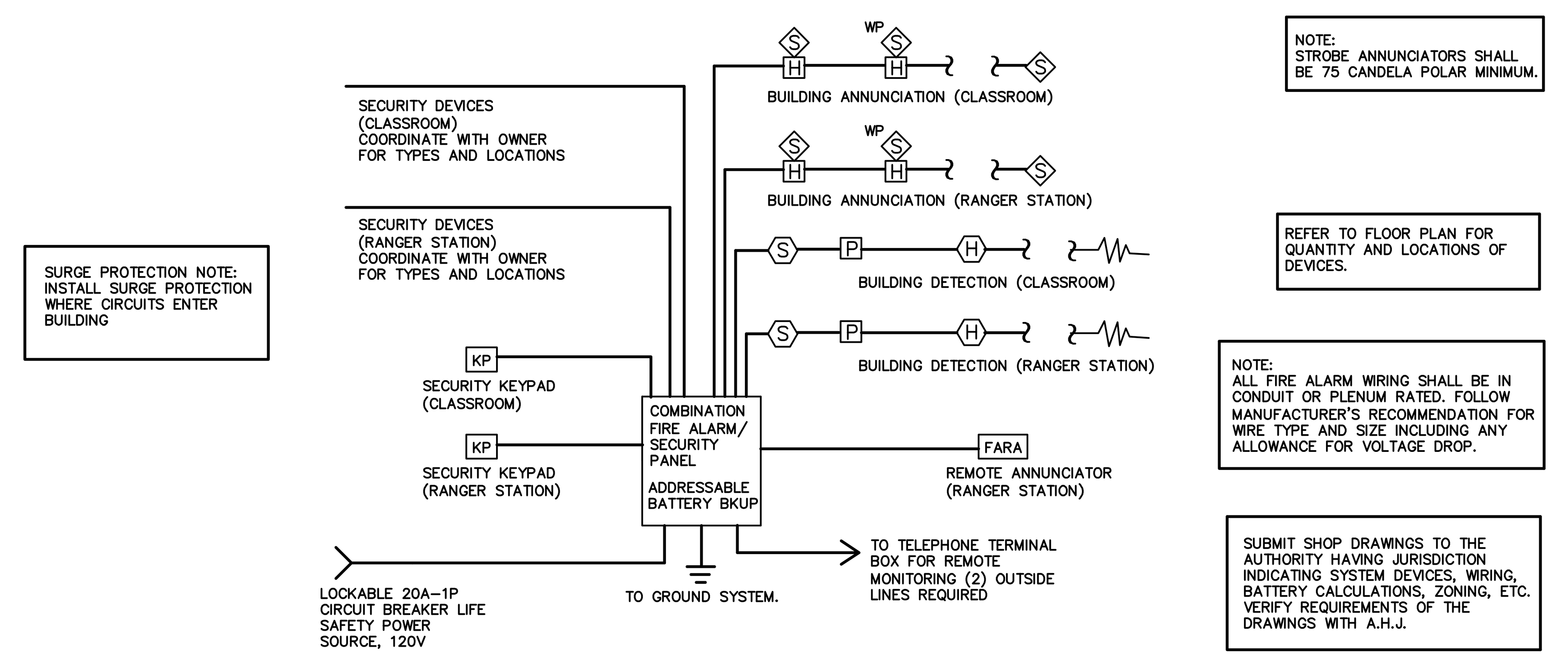
DESIGNED___ DRAWN___ CHECKED___
JOB. NO. 09-2174 SCALE AS SHOWN DATE 06-30-09

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.
BY ___ PHILLIP J. FEIKEMA P.E. 65083
DATE: ___

JERRY N. ZOLLER AIA
AA C000557
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST
PALMETTO, FLORIDA

job no	0907
date	06/30/09
drawn	--
checked	
revisions	
sheet	E-2.1
of	



FIRE ALARM / SECURITY RISER DIAGRAM

NO SCALE

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS (4100K) QTY	LAMPS (4100K) TYPE	VOLTS	MOUNTING	REMARKS
A	4', 2-LAMP VANDAL RESISTANT, SURFACE FAILSAFE FSRX-PP-64-A120V-WHT	2	32W T8	UNV @ 120	CEILING	WHITE TRIM
B	4', 2-LAMP STRIP METALUX SS-232-UNV-EB81-WG	2	32W T8	UNV @ 120	WALL	WIRE GUARD
C	EXTERIOR UPLIGHT AMETRIX RS-S0-P-1E-039-120-W-Y101	1	32W T8	120	WALL/ BEAM	WHITE
D	EXTERIOR WALL MOUNT LUMARK PLIPT-42-MT-WH	1	42W PLT	MULTI @ 120	WALL	WHITE

NOTES:
1. ALL LAMPS SHALL BE 4100K COLOR.
2. ALL BALLASTS SHALL BE ELECTRONIC.
3. PROVIDE ALL MOUNTING HARDWARE FOR ALL FIXTURES.
4. EQUIVALENT LIGHTING PACKAGES FROM SESCO, ENVISION AND WESTERN FLORIDA LIGHTING AGENCIES SHALL BE ACCEPTABLE.

PANELBOARD DESIGNATION: T

MAXIMUM DEPTH OF PANEL SHALL BE 8" — NEW PANEL

VOLTAGE: 240/120V 1ø-3W | MAINS RATING: 400 AMPS | MAIN CB TRIP RATING: 400 AMPS

■ SURFACE ☐ FLUSH | ■ MCB ☐ MLO | COPPER BUS | INTERRUPTING RATING: 22,000 AIC | ENCLOSURE: NEMA 1

SERVES	CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES
PANEL C (CLASSROOM)	100/2	7100	1	2	360	20	LIGHTING-RESTROOMS
		7100	3	4	960	20	LIGHTING-EXTERIOR
LIFT STATION	60/2	3360	5	6	260	20	EXHAUST FAN(VIA T.C. #2)
		3360	7	8	180	20	RECEPS-EXTERIOR
			9	10			
			11	12	360	20	RECEPS-CHASE
			13	14			
			15	16		20	SPARE
			17	18		20	SPARE
			19	20		20	SPARE
			21	22		20	SPARE
			23	24			
			25	26			
PANEL R (RANGER STATION)	200/2	12600	27	28		60/2	SURGE PROTECTION
(SUBFEED C/B)		12600	29	30			
CONNECTED:	48.4	KVA	A	B	EST. DEMAND:	48.4	KVA

PANELBOARD DESIGNATION: C

EXISTING PANEL

VOLTAGE: 240/120V 1ø-3W | MAINS RATING: 400 AMPS | MAIN CB TRIP RATING: 400 AMPS

■ SURFACE ☐ FLUSH | ■ MCB ☐ MLO | COPPER BUS | INTERRUPTING RATING: 22,000 AIC | ENCLOSURE: NEMA 1

SERVES	CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES
MAIN	100/2		1	2		60/2	A/C
			3	4			
RESTROOM-LTS/FANS	20		5	6		20	PATIO LIGHTING/FANS
RECEPTACLE	20		7	8		20	FIRE ALARM
2-GANG RECEPTACLE	20		9	10		20	LIGHTING
ALARM	20		11	12		20	* SCREEN & SOLATUBE
REFRIGERATOR	20		13	14		20	LIGHTING
GFI RECEP-KITCHEN	20		15	16	360	20	* RECEPS-EXTERIOR
CUBICAL	20		17	18		20	* RECEPACLE-FLOOR
[RECEP-CLO] [H/W TANK]	[20] [20]		19	20		[20] [20]	[CUBICAL] [CUBICAL]
			A	B	EST. DEMAND:	14.2	KVA

CIRCUITS INDICATED ARE AS EXISTING WHEN USED AS SCHOOL PORTABLE. NOT ALL CIRCUITS MAY BE USED FOR NEW USE OF BUILDING.

PANELBOARD DESIGNATION: R

EXISTING PANEL

VOLTAGE: 240/120V 1ø-3W | MAINS RATING: 200 AMPS | MAIN CB TRIP RATING: 200 AMPS

■ SURFACE ☐ FLUSH | ■ MCB ☐ MLO | COPPER BUS | INTERRUPTING RATING: 22,000 AIC | ENCLOSURE: NEMA 3R

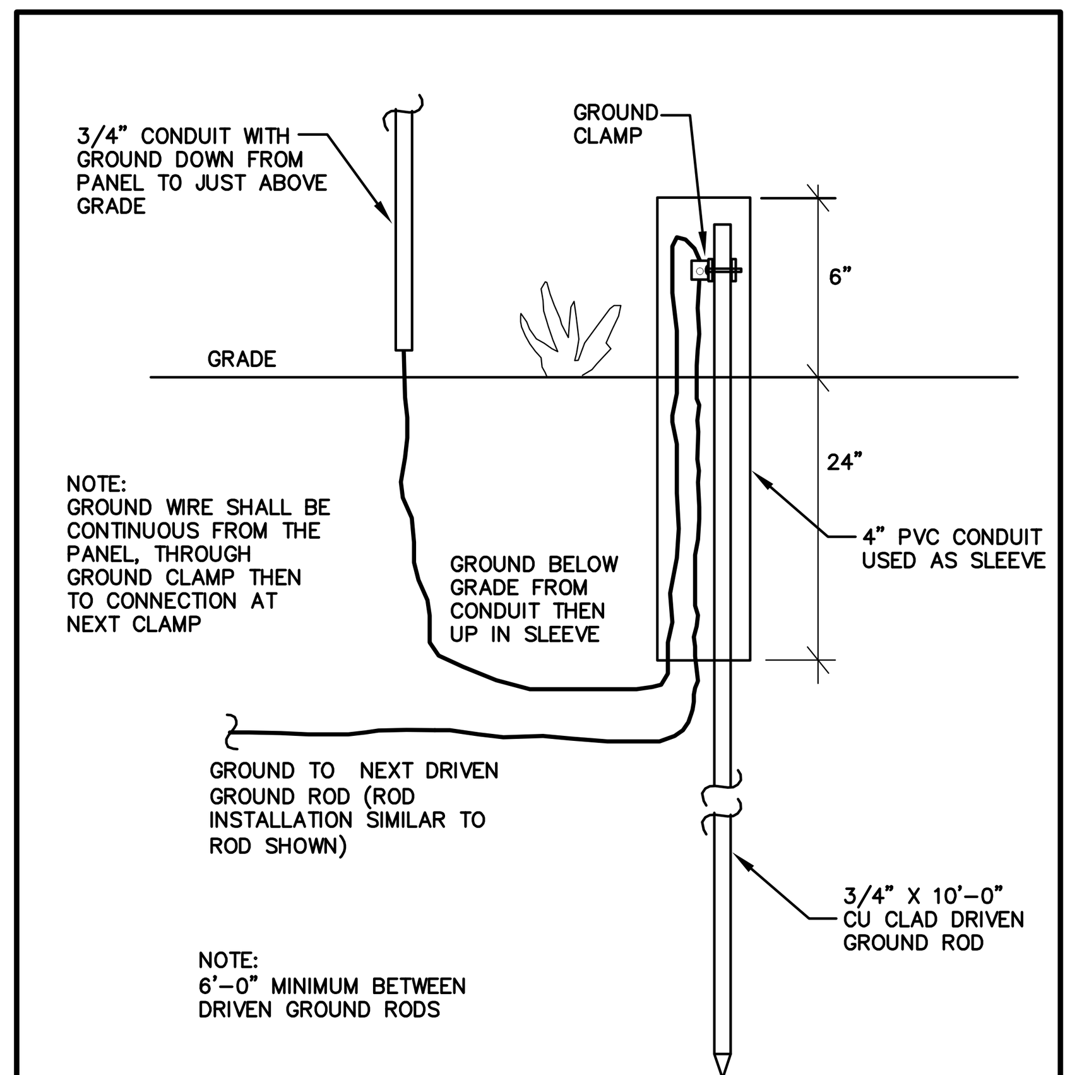
SERVES	CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES
UNKNOWN	15		1	2		20	GFI RECEP-OUTSIDE
UNKNOWN	15		3	4		40/2	SUB PANEL
LIFT STATION	50/2		5	6			
			7	8		40/2	AHU
TELEPHONE	20		9	10			
SW ROOM	20		11	12		40/2	CU
			13	14			
+ FIRE ALARM/SECURITY PANEL	20	200	15	16			
			17	18			
			19	20			
			21	22			
			23	24			
			25	26			
			27	28			
			29	30			
			31	32			
			33	34			
			35	36			
			37	38			
			39	40			
			A	B	EST. DEMAND:	25.2	KVA

+ NEW CIRCUIT AT EXISTING PANEL. INSTALL CIRCUIT BREAKER INDICATED. NEW CIRCUIT BREAKER SHALL BE COMPATIBLE WITH THE EXISTING PANEL.

* NEW CIRCUIT FROM EXISTING CIRCUIT BREAKER. CIRCUIT WAS FORMERLY USED FOR CIRCUIT NOT REQUIRED IN NEW LAYOUT. VERIFY CIRCUIT INDICATED IS NO LONGER REQUIRED.

NOTE: PANEL "T" AND CIRCUIT BREAKERS ARE NEW.

NOTE: INSTALL HANDLE LOCKS ON ALL CIRCUIT BREAKERS SERVING FIRE ALARM OR SECURITY EQUIPMENT.



SYSTEM GROUNDING DETAIL

NO SCALE

CONDUIT AND WIRE SCHEDULE

C/B	POLE	WIRE SIZE (BASED UPON TYPE THW)	CONDUIT	PHASE
20A	1	2-#12, 1-#12 G.	3/4"	1Ø 2W
20A	2	2-#12, 1-#12 G.	3/4"	1Ø 2W
25A	1	2-#10, 1-#10 G.	3/4"	1Ø 2W
25A	2	2-#10, 1-#10 G.	3/4"	1Ø 2W
30A	1	2-#10, 1-#10 G.	3/4"	1Ø 2W
30A	2	2-#10, 1-#10 G.	3/4"	1Ø 2W
40A	2	2-#8, 1-#10 G.	1"	1Ø 2W
45A	2	2-#8, 1-#10 G.	1"	1Ø 2W
50A	2	2-#8, 1-#10 G.	1"	1Ø 2W
60A	2	2-#6, 1-#10 G.	1"	1Ø 2W
70A	2	2-#4, 1-#8 G.	1"	1Ø 2W
80A	2	2-#4, 1-#8 G.	1"	1Ø 2W
90A	2	2-#3, 1-#8 G.	1 1/4"	1Ø 2W
100A	2	2-#3, 1-#8 G.	1 1/4"	1Ø 2W

NOTES:
1. ALL CONDUCTORS SHALL BE COPPER.
2. ALL CONDUIT SHALL HAVE GROUNDING CONDUCTOR INSTALLED.
3. CONDUIT BELOW GRADE OUTSIDE OF BUILDING SHALL BE 1" MINIMUM.
4. SIZING OF CONDUCTORS MUST BE ALTERED FOR DERATING PER N.E.C. OR VOLTAGE DROP CONSIDERATIONS.
5. SEE RISER DIAGRAM FOR SIZING OF CIRCUITS GREATER THAN 100A.
6. VERIFY IF NEUTRAL IS REQUIRED FOR ANY EQUIPMENT.
7. MINIMUM CONDUIT SIZE SHALL BE 1/2".

DISCONNECT SCHEDULE

D.S.#	SIZE	POLES	PHASE	NEMA	FUSE	VOLT.	SERVED	NOTES
1	30A	2	1	4X S/S	60A	240V	LIFT STATION	MOUNT ON CONCRETE BOLLARD

DISCONNECT NOTES:
1. VERIFY FUSE SIZES REQUIRED FOR ACTUAL EQUIPMENT SUBMITTED.
2. FUSES SHALL BE DUAL ELEMENT, TIME DELAY, 100,000 AIC MINIMUM.
3. FINAL CONNECTIONS TO EQUIPMENT FROM DISCONNECT SHALL BE FLEX. FLEX SHALL BE WATERTIGHT AT EXTERIOR OR WET LOCATIONS.
4. EXTERIOR DISCONNECTS SHALL BE STAINLESS STEEL.

EST. FAULT CURRENT

CONDUCTOR LENGTH	92'
CONDUCTOR "C"	20,000
ESTIMATED TRANSFORMER SCA	10,417

$$\frac{92 \times 10{,}417}{20{,}000 \times 240} = .1996$$

$$\frac{1}{1 + .1996} = .8336$$

$$10{,}417 \times .8336 = 8{,}684$$

8,684 SHORT CIRCUIT AMPS ESTIMATED AT SERVICE ENTRANCE

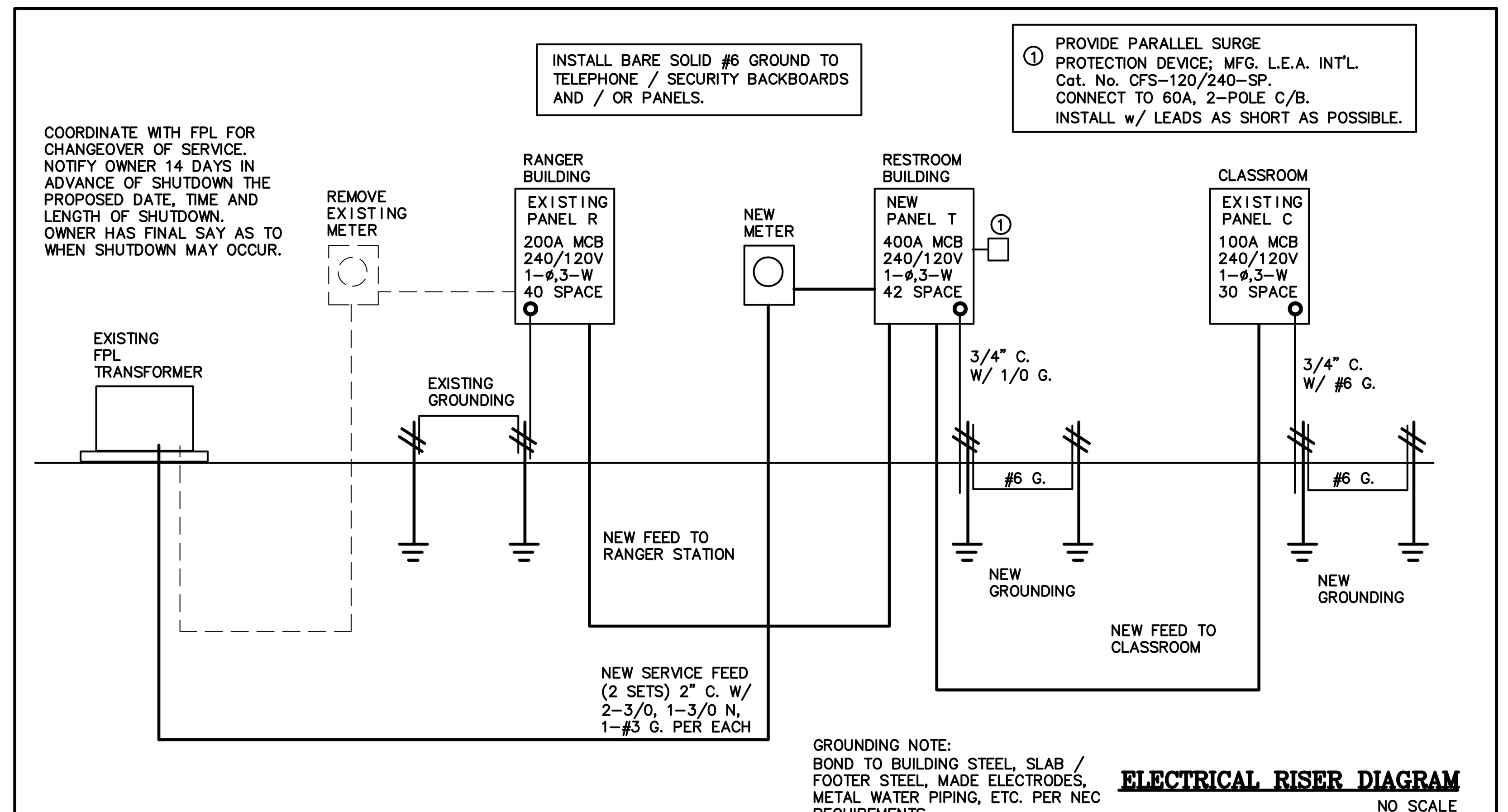
ELECTRICAL SERVICE CALCULATION

	CONNECTED	DEMAND
LIGHTING LOAD	1,320	1,650
OTHER LOADS	7,340	7,340
CLASSROOM	- -	14,200
RANGER STATION	- -	25,200
TOTAL		48,390

201.6A DEMAND

252.0A MINIMUM SERVICE REQUIRED

400A SERVICE @ 240V, 1-PHASE PROVIDED



ELECTRICAL RISER DIAGRAM

NO SCALE

ELECTRICAL RISERS AND DETALS

SCALE : NONE

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C.O.A. # 00004049

DESIGNED ___ DRAWN ___ CHECKED ___
JOB. NO. 09-2174 SCALE AS SHOWN DATE 06-30-09

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY ___ PHILLIP J. FEIKEMA P.E. 65083

DATE ___

JERRY N. ZOLLER AIA
AA C000557
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST
PALMETTO, FLORIDA

job no	0907
date	06/30/09
drawn	--
checked	
revisions	

sheet

E-5.1

of

ELECTRICAL SPECIFICATIONS

SCOPE OF WORK AND GENERAL CONDITIONS

THE SCOPE OF THE WORK COVERED HEREIN CONSISTS OF FURNISHING ALL LABOR, MATERIALS, NECESSARY EQUIPMENT AND SERVICES TO COMPLETE THE ELECTRICAL WORK AND RELATED WORK IN FULL ACCORDANCE AS INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN OR BOTH AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT. THE WORK WILL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING:

DISCONNECT SWITCHES
CONDUIT AND TUBING
CONDUCTORS
GROUNDING
WIRING DEVICES
OVERCURRENT PROTECTION
LIGHTING LUMINAIRES
FIRE ALARM / SECURITY SYSTEM(S)
TELEPHONE / DATA / TV CONDUIT SYSTEMS
CONNECTION OF MOTORS, CONTROL DEVICES AND ELECTRICAL EQUIPMENT FURNISHED BY OTHERS
TESTING
FINAL ACCEPTANCE/WARRANTY
RECORD DRAWINGS

ALL OTHER ITEMS NOTED HEREIN, SHOWN BY THE ELECTRICAL PLANS, OR REASONABLY TO BE INTERPRETED FROM THE PLANS NECESSARY TO COMPLETE THE ELECTRICAL SYSTEM SHALL BE PROVIDED AND INSTALLED UNDER THE WORK OF THIS DIVISION, WHETHER SAME ARE SPECIFICALLY MENTIONED HEREIN OR NOT.

GENERAL

ATTENTION IS DIRECTED TO THE GENERAL AND SPECIAL CONDITIONS AND TO OTHER PARTS HEREOF INSOFAR AS THEY MAY AFFECT THE WORK HEREIN. ATTENTION IS DIRECTED TO THE ARCHITECTURAL AND MECHANICAL PLANS, ALL OF WHICH AFFECT THE WORK HEREIN. THE WORK OF THE ELECTRICAL CONTRACTOR MUST BE COORDINATED WITH THE WORK OF ALL OTHER TRADES.

WORK NOT COVERED IN THIS SECTION

RECESSES, CHASES, AND OTHER PROVISIONS TO BE MADE IN THE STRUCTURE REQUIRED TO ACCOMMODATE ELECTRICAL WORK, CONDUIT, PANELS, SWITCHES, ETC., SHALL BE PROVIDED BY THE TRADES CONCERNED. THE ELECTRICIAN SHALL, HOWEVER, NOTIFY ALL SUCH TRADES OF HIS EXACT REQUIREMENTS AHEAD OF TIME. HE SHALL PAY THE COSTS OF ANY CUTTING OR PATCHING CAUSED BY HIS FAILURE TO DO SO. ALL SUCH REMEDIAL WORK SHALL BE DONE ONLY BY MECHANICS OF THE TRADES INVOLVED. CONTROLS AND STARTERS FOR AIR CONDITIONERS.

INTENT

IT IS THE INTENT OF THESE DOCUMENTS TO DESCRIBE AND SHOW A COMPLETE ELECTRICAL SYSTEM. HOWEVER, THE WORK SHALL BE COMPLETE EVEN THOUGH MINOR ITEMS MAY NOT BE SPECIFICALLY CALLED FOR OR SHOWN. THE INSTALLATION MUST MEET ALL GOVERNING CODES AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND ALL AGENCIES HAVING JURISDICTION. IT IS THE INTENT OF THESE DOCUMENTS TO DESCRIBE AND SHOW A COMPLETE ELECTRICAL SYSTEM. HOWEVER, THE WORK SHALL BE COMPLETE EVEN THOUGH MINOR ITEMS MAY NOT BE SPECIFICALLY CALLED FOR OR SHOWN. THE INSTALLATION MUST MEET ALL GOVERNING CODES AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND ALL AGENCIES HAVING JURISDICTION.

GENERAL DISTRIBUTION AND UTILIZATION EQUIPMENT

SUBSTITUTION OF EQUIPMENT ('OR EQUIVALENT' CLAUSE) MATERIALS OR PRODUCTS SPECIFIED HEREIN AND/OR INDICATED ON DRAWINGS BY TRADE NAME, MANUFACTURER'S NAME OR CATALOG NUMBER SHALL BE PROVIDED AS SPECIFIED. SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT APPROVAL FOURTEEN (14) DAYS PRIOR TO BID DATE FROM THE ENGINEER. APPROVALS OF 'OR EQUIVALENT' SUBSTITUTIONS WILL BE SUBMITTED TO ALL BIDDERS AS DETERMINED NECESSARY BY ENGINEER/ARCHITECT. ANY CONTRACTOR WISHING TO SUBMIT FOR AN 'OR EQUIVALENT' SUBSTITUTION WILL SUBMIT WITH HIS REQUEST COMPLETE CATALOG INFORMATION TO PERMIT EVALUATION OF THE PRODUCT, AND IN THE CASE OF LIGHTING FIXTURES, AN INDEPENDENT TESTING LABORATORY (NOT MANUFACTURER'S) TEST REPORT(S) SHALL ACCOMPANY THE REQUEST.

CODES, RULES, PERMITS, FEES

THE SUBCONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER COSTS INCLUDING UTILITY CONNECTIONS OR EXTENSIONS, IN CONNECTION WITH HIS WORK; FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVER SAME TO THE ENGINEER BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. THE SUBCONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ANY LABOR, MATERIALS, SERVICES, APPARATUS, OR DRAWINGS NECESSARY TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS, WHETHER OR NOT SHOWN ON DRAWINGS AND/OR SPECIFIED. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE FOLLOWING:

NATIONAL ELECTRIC CODE
FLORIDA BUILDING CODE 2004 WITH CURRENT AMENDMENTS
APPLICABLE STATE AND LOCAL CODES
NATIONAL BUREAU OF FIRE UNDERWRITERS
FLORIDA STATE REQUIREMENTS FOR EDUCATIONAL FACILITIES (SREF)

ALL MATERIAL AND EQUIPMENT FOR THE ELECTRICAL PORTION OF THE MECHANICAL SYSTEMS SHALL BEAR THE APPROVAL LABEL, OR SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC. SHOULD THE SUBCONTRACTOR DISCOVER ANY DISCREPANCY BETWEEN ACTUAL MEASUREMENTS AND THOSE INDICATED, WHICH PREVENTS FOLLOWING GOOD PRACTICE OR THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, HE SHALL NOTIFY THE ENGINEER THROUGH THE GENERAL CONTRACTOR, AND SHALL NOT PROCEED WITH HIS WORK UNTIL HE HAS RECEIVED INSTRUCTIONS FROM THE ENGINEER.

DRAWINGS

DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. DRAWINGS ARE NOT TO BE SCALED. THE ARCHITECTURAL DRAWINGS AND DETAILS SHALL BE EXAMINED FOR EXACT LOCATION OF FIXTURES AND EQUIPMENT. WHERE THEY ARE NOT DEFINITELY LOCATED, THIS INFORMATION SHALL BE OBTAINED FROM THE ENGINEER. THE SUBCONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, THE ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH INSTALLATION. IF DIRECTED BY THE ENGINEER, THE SUBCONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK.

COOPERATION WITH OTHER TRADES

THE SUBCONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH IN WRITING TO THE CONTRACTOR, WITH COPIES TO THE ENGINEER, ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY. WHERE THE WORK OF THE SUBCONTRACTOR WILL BE INSTALLED IN CLOSE PROXIMITY TO, OR WILL INTERFERE WITH WORK OR OTHER TRADES, HE SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF SO DIRECTED BY THE ENGINEER, THE SUBCONTRACTOR SHALL PREPARE COMPOSITE WORKING DRAWINGS AND SECTIONS AT SUITABLE SCALE, NOT LESS THAN 1/4" = 1'-0", CLEARLY SHOWING HOW HIS WORK IS TO BE INSTALLED IN RELATION TO THE WORK OF OTHER TRADES. IF THE SUBCONTRACTOR INSTALLS HIS WORK BEFORE COORDINATING WITH OTHER TRADES, OR SO AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE THE NECESSARY CHANGES IN HIS WORK TO CORRECT THE CONDITIONS WITHOUT EXTRA CHARGE. THE SUBCONTRACTOR SHALL FURNISH TO OTHER TRADES, AS REQUIRED, ALL NECESSARY TEMPLATES, PATTERNS, SETTING PLANS, AND SHOP DETAILS FOR THE PROPER INSTALLATION OF WORK AND FOR THE PURPOSE OF COORDINATING ADJACENT WORK.

SCAFFOLDING, RIGGING, HOISTING

THE SUBCONTRACTOR SHALL FURNISH ALL SCAFFOLDING, RIGGING, HOISTING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES OF ANY EQUIPMENT AND APPARATUS FURNISHED. REMOVE SAME FROM PREMISES WHEN NO LONGER REQUIRED.

EXCAVATING AND BACKFILLING

THE SUBCONTRACTOR SHALL DO ALL TRENCH AND PIT EXCAVATION AND BACKFILLING REQUIRED FOR WORK UNDER THIS SECTION OF THE SPECIFICATIONS, INSIDE AND OUTSIDE THE BUILDING, INCLUDING REPAIRING OF FINISHED SURFACES, ALL REQUIRED SHORING, BRACING, PUMPING, AND ALL PROTECTION FOR SAFETY OF PERSONS AND PROPERTY. LOCAL OR STATE SAFETY CODES SHALL BE STRICTLY OBSERVED. IN ADDITION, IT SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR TO CHECK THE INDICATED ELEVATIONS OF THE UTILITIES ENTERING AND LEAVING THE BUILDING. IF SUCH ELEVATIONS REQUIRE EXCAVATIONS LOWER THAN THE FOOTING LEVELS, THE ENGINEER SHALL BE NOTIFIED OF SUCH CONDITIONS AND A REDESIGN SHALL BE MADE BEFORE EXCAVATIONS ARE COMMENCED. IT IS ALSO THE RESPONSIBILITY OF THE SUBCONTRACTOR TO MAKE THE EXCAVATIONS AT THE MINIMUM REQUIRED DEPTHS IN ORDER NOT TO UNDERCUT THE FOOTINGS. CONFORM TO THE REQUIREMENTS OF THE STATE OF FLORIDA "TRENCH SAFETY ACT".

MATERIAL AND WORKMANSHIP

ALL MATERIALS AND APPARATUS REQUIRED FOR THE WORK, EXCEPT AS SPECIFICALLY SPECIFIED OTHERWISE, SHALL BE NEW, OF FIRST CLASS QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED AND FINISHED IN EVERY DETAIL AND SHALL BE SO SELECTED AND ARRANGED AS TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A FIRST CLASS STANDARD ARTICLE, AS APPROVED BY THE ENGINEER, SHALL BE FURNISHED. THE SUBCONTRACTOR SHALL FURNISH THE SERVICES OF AN EXPERIENCED SUPERINTENDENT, WHO SHALL BE CONSTANTLY IN CHARGE OF THE INSTALLATION OF THE WORK, TOGETHER WITH ALL SKILLED WORKMEN, FITTERS, METAL WORKERS, WELDERS, HELPERS, AND LABOR REQUIRED TO UNLOAD, TRANSFER, ERECT, CONNECT UP, ADJUST, START, OPERATE AND TEST EACH SYSTEM. UNLESS OTHERWISE SPECIFICALLY INDICATED ON THE PLANS OR SPECIFICATIONS, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED WITH THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. THIS INCLUDES THE PERFORMANCE OF SUCH TESTS AS THE MANUFACTURER RECOMMENDS.

CUTTING AND PATCHING

THE SUBCONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO INSTALL THE WORK SPECIFIED IN THIS SECTION. PATCHING SHALL MATCH ADJACENT SURFACES. NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER, AND ALL SUCH CUTTING SHALL BE DONE IN A MANNER DIRECTED BY THE STRUCTURAL ENGINEER.

SLEEVES AND PLATES

THIS SUBCONTRACTOR SHALL PROVIDE AND LOCATE ALL SLEEVES AND INSERTS REQUIRED BEFORE THE FLOORS AND WALLS ARE BUILT, OR SHALL BE RESPONSIBLE FOR THE COST OF CUTTING AND PATCHING REQUIRED FOR CONDUITS WHERE SLEEVES AND INSERTS WERE NOT INSTALLED, OR WHERE INCORRECTLY LOCATED. THE SUBCONTRACTOR SHALL DO ALL DRILLING REQUIRED FOR THE INSTALLATION OF HIS HANGERS. SLEEVES SHALL BE PROVIDED FOR ALL CONDUITS PASSING THROUGH ABOVE GRADE CONCRETE FLOOR SLABS AND CONCRETE, MASONRY, TILE AND GYPSUM WALL CONSTRUCTION. SLEEVES PASSING THROUGH FLOORS SHALL BE SEALED WATERTIGHT. WHERE SLEEVES ARE PLACED IN EXTERIOR WALLS BELOW GRADE, THE SPACE BETWEEN THE CONDUIT AND THE SLEEVES SHALL BE SEALED WATERTIGHT. WHERE CONDUIT MOTION DUE TO EXPANSION AND CONTRACTION WILL OCCUR, MAKE SLEEVES OF SUFFICIENT DIAMETER TO PERMIT FREE MOVEMENT OF THE CONDUIT. CHECK FLOOR AND WALL CONSTRUCTION FINISHES TO DETERMINE PROPER LENGTH OF SLEEVES FOR VARIOUS LOCATIONS; MAKE ACTUAL LENGTHS TO SUIT THE FOLLOWING:

TERMINATE SLEEVES FLUSH WITH WALLS, PARTITIONS AND CEILING.
IN AREAS WHERE PIPES ARE CONCEALED, AS IN CHASES, TERMINATE SLEEVES 1" ABOVE FLOOR.
IN ALL AREAS WHERE PIPES ARE EXPOSED, EXTEND SLEEVES 2" ABOVE FINISHED FLOOR.
SLEEVES SHALL BE CONSTRUCTED OF SCH. 40 STEEL PIPE.

FASTEN SLEEVES SECURELY IN FLOORS AND WALLS SO THAT THEY WILL NOT BECOME DISPLACED WHEN CONCRETE IS POURED OR WHEN OTHER CONSTRUCTION IS BUILT AROUND THEM. TAKE PRECAUTIONS TO PREVENT CONCRETE, PLASTER OR OTHER MATERIALS FROM BEING FORCED INTO THE SPACE BETWEEN PIPE AND SLEEVE DURING CONSTRUCTION.

PENETRATIONS

ALL PENETRATIONS THROUGH A FIRE BARRIER WILL BE PROTECTED BY A METHOD RATED IN THE LIFE SAFETY CODE BOOK 101.

SHOP DRAWINGS

THE SUBCONTRACTOR SHALL SUBMIT FOR REVIEW DETAILED SHOP DRAWINGS OF ALL EQUIPMENT AND ALL MATERIAL REQUIRED TO COMPLETE THE PROJECT AND NO MATERIAL OR EQUIPMENT MAY BE DELIVERED TO THE JOB SITE OR INSTALLED UNTIL THE SUBCONTRACTOR HAS IN HIS POSSESSION THE APPROVED SHOP DRAWINGS FOR THE PARTICULAR MATERIALS OR EQUIPMENT. THE SHOP DRAWINGS SHALL BE COMPLETE AS DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL FURNISH THE NUMBER OF COPIES REQUIRED BY THE GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT, BUT IN NO CASE LESS THAN SIX (6) COPIES. SAMPLES, DRAWINGS, SPECIFICATIONS, AND CATALOGS SUBMITTED FOR REVIEW, SHALL BE PROPERLY LABELED INDICATING SPECIFIC SERVICE FOR WHICH MATERIAL OR EQUIPMENT IS TO BE USED, CONTRACTOR'S NAME, AND NAME OF JOB. WHERE MORE THAN ONE (1) ITEM IS SUBMITTED, A TABLE OF CONTENTS SHALL BE PROVIDED AND SHALL INDICATE ALL EQUIPMENT (PROPERLY LABELED) SUBMITTED TOGETHER WITH MANUFACTURER, COMPLETE CATALOG NUMBER AND NOTES AS APPROPRIATE. THE TABLE OF CONTENTS SHALL HAVE SUFFICIENT SPACE FOR MULTIPLE REVIEW STAMPS. CATALOGS, PAMPHLETS OR OTHER DOCUMENTS SUBMITTED TO DESCRIBE ITEMS ON WHICH REVIEW IS BEING REQUESTED, SHALL BE SPECIFIED AND IDENTIFICATION IN CATALOG, PAMPHLET, ETC. OF ITEM SHALL BE CLEARLY MADE IN INK. DATA OF A GENERAL NATURE WILL NOT BE ACCEPTED.

"NO EXCEPTION" RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS. WHERE DRAWINGS ARE REVIEWED, SAID "NO EXCEPTION" DOES NOT MEAN THAT DRAWINGS HAVE BEEN CHECKED IN DETAIL; SAID "NO EXCEPTION" DOES NOT IN ANY WAY RELIEVE THE SUBCONTRACTOR FROM HIS RESPONSIBILITY OR NECESSITY OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS.

SHOP DRAWINGS AND SUBMITTAL ARE REQUIRED ON PANELS, TRANSFORMERS, BREAKERS, DISCONNECT SWITCHES, LIGHT FIXTURES, AND FIRE ALARM SYSTEM.

GROUNDING

PROVIDE A COMPLETE GROUNDING NETWORK FOR THE ENTIRE ELECTRICAL SYSTEM TO COMPLY WITH N.E.C. REQUIREMENTS. SERVICE NEUTRAL AND EQUIPMENT GROUND SHALL BE CONNECTED AT ONE POINT INSIDE OF THE MAIN DISTRIBUTION PANEL WITH BONDING FROM THIS LOCATION TO DRIVEN GROUND RODS, STRUCTURAL STEEL, BUILDING SLAB REINFORCING STEEL, AND ANY METAL WATER / GAS PIPING. GROUND CONNECTIONS TO RODS SHALL BE MADE WITH BRONZE GROUND CLAMPS. ALL CONDUIT SHALL HAVE THE GROUNDING CONDUCTOR INSTALLED CONDUIT USED FOR GROUND IS NOT ACCEPTABLE.

INSTALL #6 SOLID CU GROUND FROM SERVICE GROUND TO COMMUNICATIONS BACKBOARD OR CABINET.

PANELBOARDS

GENERAL – FURNISH AND INSTALL PANELBOARDS AS INDICATED IN THE PANELBOARD SCHEDULE AND WHERE SHOWN ON THE PLANS. PANELBOARDS SHALL BE OF DEAD FRONT CONSTRUCTION. ALL PANELBOARDS SHALL NOT BE LESS THAN 20" WIDE AND FABRICATED FROM CODE GAUGE STEEL AND WITH A GRAY ENAMEL FINISH. WIRE GUTTERING SPACE SHALL BE IN ACCORDANCE WITH U.L. STANDARD 67, AND NEC 373-6 FOR PANELBOARDS. THE PANEL FRONT SHALL BE SURFACE OR FLUSH AS SHOWN ON THE DRAWING. EACH FRONT SHALL BE EQUIPPED WITH RECESSED HINGES FLUSH LOCK WITH CATCH AND SPRING LOADED DOOR PULL. ALL LOCKS SHALL BE KEYED ALIKE

PANELBOARDS SHALL BE AS MANUFACTURED BY SQUARE "D", G.E., SIEMENS, OR CUTLER-HAMMER.

BUSING ASSEMBLY & TEMPERATURE RISE – PANELBOARD BUS STRUCTURE AND MAIN LUGS OR CIRCUIT BREAKER SHALL BE U.L. LISTED TO INTERRUPT THE SYMMETRICAL SHORT CIRCUIT AMPERES AS INDICATED ON THE PANEL SCHEDULES. SUCH RATINGS SHALL BE ESTABLISHED BY HEAT RISE TESTS, CONDUCTED IN ACCORDANCE WITH U.L. STANDARD 67. BUS STRUCTURE SHALL BE INSULATED.

CIRCUIT BREAKERS – CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK- BREAK, THERMAL MAGNETIC MOLDED CASE OF FRAME SIZE, NUMBER OF POLES AND TRIP RATINGS AS SHOWN ON THE SCHEDULES. NEW CIRCUIT BREAKERS AT EXISTING PANELS SHALL MATCH EXISTING CIRCUIT BREAKER CHARACTERISTICS. ALL MULTI-POLE BREAKERS SHALL HAVE A SINGLE HANDLE TO TRIP ALL POLES AT ONCE. PROVIDE CIRCUIT BREAKERS WITH GROUND FAULT PROTECTION IF REQUIRED. SPARE CIRCUIT BREAKERS SHALL BE LEFT IN THE 'OFF' POSITION.

LABELING – A CIRCUIT DIRECTORY FRAME AND TYPED CIRCUIT IDENTIFICATION CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. THE CONTRACTOR WILL SUPPLY THE CIRCUIT DIRECTORY AS SPECIFIED WHEN IT IS NOT SUPPLIED BY THE PANEL MANUFACTURER. A LAMINATED BLACK PLASTIC WITH WHITE LETTERING PLASTIC NAMEPLATE WITH THE IDENTIFICATION NUMBER AS SHOWN ON THE PANEL SCHEDULE SHALL BE MOUNTED ON THE OUTSIDE OF THE DOOR WITH SHEET METAL SCREWS. NAMEPLATE SIZE SHALL BE 3" WIDE X 1-1/2" HIGH WITH 1/2" HIGH ENGRAVING.

DISCONNECT SWITCHES

EQUIPMENT DISCONNECT SWITCHES SHALL BE SQUARE "D", G.E., SIEMENS, OR CUTLER-HAMMER GENERAL SWITCHES AS LISTED BY UNDERWRITER'S LABORATORIES, INC. ALL SWITCHES SHALL HAVE SWITCH BLADES WHICH ARE FULLY VISIBLE IN THE "OFF" POSITION WITH THE DOOR OPEN. ALL CURRENT CARRYING PARTS SHALL BE PLATED TO RESIST CORROSION AND PROMOTE COOL OPERATION. SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK SUCH THAT, DURING NORMAL OPERATION OF THE SWITCH, THE OPERATION OF THE CONTACTS SHALL NOT BE CAPABLE OF BEING RESTRAINED BY THE OPERATING HANDLE AFTER THE CLOSING OR OPENING ACTION OF THE CONTACTS HAS STARTED. THE HANDLE AND MECHANISM SHALL BE AN INTEGRAL PART OF THE BOX, NOT THE COVER, WITH POSITIVE PADLOCKING PROVISIONS IN THE "OFF" SWITCH ENCLOSURES SHALL BE FURNISHED IN NEMA TYPE SPECIFIED ON THE PLANS. ALL EXTERIOR OR WET LOCATION SWITCHES SHALL BE A MINMIMUM NEMA 3R WHETHER INDICATED AS SUCH OR NOT OR AS SPECIFIED. FINISH OF ENCLOSURE SHALL BE GRAY BAKED ENAMEL UNLESS NOTED OTHERWISE.

RATINGS – SWITCHES SHALL BE HORSEPOWER RATED FOR AC AS SPECIFIED ON THE DRAWINGS. ALL SWITCHES SHALL MEET I SQUARE T REQUIREMENTS. ALL FUSIBLE SWITCHES RATED 100 THROUGH 600 AMPERES AT 240 VOLTS SHALL HAVE THE CAPABILITY OF FIELD CONVERSION FROM STANDARD CLASS H FUSE SPACING TO CLASS J FUSE SPACING WITHOUT AFFECTING THE U.L. LISTING. THE SWITCH ALSO MUST ACCEPT CLASS R FUSES AND HAVE A FIELD INSTALLABLE U.L. LISTED REJECTION FEATURE TO REJECT ALL FUSES EXCEPT CLASS R. U.L. LISTED SHORT CIRCUIT RATINGS, WHEN EQUIPPED WITH CLASS J OR CLASS R FUSES, SHALL BE A MINIMUM 100,000 AMPERES RMS SYMMETRICAL.

CONDUIT

DESIGNATED WIRING IS TO BE INSTALLED IN GALVANIZED RIGID, EMT, FLEXIBLE CONDUIT, OR SCH. 40 PVC. WHERE CONDUIT TYPE IS NOT NOTED ON THE PLANS, TYPE SHALL BE AS PER THIS SPECIFICATION.

SCHEDULE 40 PVC CONDUIT IS TO BE USED FOR UNDERGROUND FEEDS, UNDERGROUND WIRING, UNDER SLAB WIRING, AND ALL NON-EXPOSED WIRING OUTSIDE OF BUILDING.

EXPOSED EXTERIOR WIRING SHALL BE GALVANIZED RIGID CONDUIT. ALL JOINTS ARE TO BE MADE WATERTIGHT.

FLEXIBLE CONDUIT SHALL BE USED TO CONNECT TO FIXED EQUIPMENT, FLEX SHALL BE WATERTIGHT AT LOCATIONS EXPOSED TO MOISTURE

LIGHTING FIXTURES SHALL BE CONNECTED WITH A MAXIMUM 7' LENGTH OF FLEXIBLE CONDUIT EXCEPT AT EXPOSED CEILING LOCATIONS WHERE EMT SHALL BE USED AT INDOOR LOCATIONS. EMT IS TO BE USED FOR INTERIOR WIRING IN WALLS, ABOVE CEILINGS, IN POURED CONCRETE ABOVE GRADE NOT EXPOSED TO MOISTURE, AND EXPOSED INTERIOR WIRING NOT SUBJECT TO PHYSICAL DAMAGE. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, OR CEILINGS IN FINISHED AREAS. CONDUIT SHALL NOT BE EXPOSED EXCEPT WHEN ABSOLUTELY NECESSARY AND SHALL BE STRAIGHT AND PARALLEL TO BUILDING LINES. CONDUIT SHALL BE PROTECTED AGAINST DAMAGE AND ENTRANCE OF WATER, DIRT OR FOREIGN MATTER DURING CONSTRUCTION WITH WATERTIGHT CAPS. SLEEVES ARE TO BE PROVIDED WHERE CONDUIT PASSES THROUGH CONSTRUCTION AS IDENTIFIED IN OTHER PARTS OF THIS SECTION. INSULATING BUSHINGS WITH DOUBLE LOCK-NUTS SHALL BE USED WHEREVER A CONDUIT 1-1/4" OR LARGER ENTERS A BOX, PANEL, DISCONNECT OR ELECTRICAL DEVICE. ALL CONDUIT SIZES SHOWN ON THE PLANS INDICATE MINIMUM SIZES REQUIRED FOR CONFORMANCE WITH CODE OR OWNER'S REQUIREMENTS. LARGER SIZE CONDUIT TO FACILITATE WIRE PULLS, ETC., SHALL BE PERMITTED.

CONDUCTORS

INSULATED COPPER CONDUCTORS RATED 600V WITH TYPE THW, THWN, OR XHHN/THHN INSULATION SHALL BE USED IN WIRING THE ELECTRICAL DISTRIBUTION SYSTEM. ALL WIRE FILLS FOR CONDUIT SHOWN ON THE DRAWINGS ARE BASED ON THW WIRE UNLESS NOTED OTHERWISE. CONDUCTORS OF #8 AWG AND LARGER ARE TO BE STRANDED. MINIMUM CONDUCTOR SIZE TO BE #12 AWG. CONDUCTORS FOR FEEDERS SHALL BE ELECTRICALLY CONTINUOUS. SPLICES ARE TO BE MADE ONLY IN ACCESSIBLE JUNCTION OR OUTLET BOXES. SPLICES ON #12 AND #10 WIRE ARE TO BE MADE WITH PRESSURE CONNECTORS CAPABLE OF CARRYING FULL WIRE CAPACITY. SPLICES ON #8 WIRE AND LARGER ARE TO BE MADE WITH SOLDERLESS LUGS COVERED WITH INULATING MATERIAL. CONNECTIONS TO FIXED EQUIPMENT TERMINALS ARE TO BE MADE WITH SOLDERLESS LUGS.

WIRING DEVICES

THE EXTENT OF WIRING DEVICE WORK IS INDICATED BY DRAWINGS AND SCHEDULES. PROVIDE FACTORY FABRICATED WIRING DEVICES, IN TYPES AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED. PROVIDE WHITE COLORED DEVICES EXCEPT AS OTHERWISE INDICATED, FINAL COLOR SELECTION TO BE VERIFIED BY CONTRACTOR WITH ARCHITECT.

A – SWITCHES:

1. TOGGLE: PROVIDE HARD USE SPECIFICATION GRADE FLUSH SINGLE-POLE QUIET TOGGLE SWITCHES, 20-AMPERE, 120-277 VOLTS AC, WITH MOUNTING YOKE INSULATED FROM MECHANISM, EQUIPPED WITH PLASTER EARS, SWITCH HANDLE, AND SIDE-WIRED SCREW TERMINALS.
2. THREE WAY: PROVIDE HARD USE SPECIFICATION GRADE FLUSH 3-WAY AC QUIET SWITCHES, 20-AMPERES, 120-277 VOLTS, WITH MOUNTING YOKE INSULATED FROM MECHANISM, EQUIPPED WITH PLASTER EARS, SWITCH HANDLE, SIDE-WIRED SCREW TERMINALS.

B – RECEPTACLES:

1. HEAVY-DUTY SINGLE: PROVIDE SPECIFICATION GRADE SINGLE HEAVY-DUTY TYPE RECEPTACLES, 2-POLE, 3-WIRE, GROUNDING, WITH GREEN HEXAGONAL EQUIPMENT GROUND SCREW, 20-AMPERES, 125 VOLTS, WITH METAL PLASTER EARS; DESIGN FOR SIDE AND BACK WIRING WITH SPRING LOADED, SCREW ACTIVATED PRESSURE PLATE, WITH NEMA CONFIGURATION 5-20R UNLESS OTHERWISE INDICATED. VERIFY NEMA TYPE AND RATING FOR MULTI-POLE RECEPTACLE APPLICATIONS.
2. HEAVY-DUTY DUPLEX: PROVIDE SPECIFICATION GRADE HEAVY-DUTY DUPLEX RECEPTACLES, 2-POLE, 3-WIRE GROUNDING, 20-AMPERES, 125-VOLTS, WITH METAL PLASTER EARS, DESIGN FOR SIDE AND BACK WIRING WITH SPRING LOADED, SCREW ACTIVATED PRESSURE PLATE, WITH NEMA CONFIGURATION 5-20R UNLESS OTHERWISE INDICATED.
3. GROUND-FAULT INTERRUPTER: PROVIDE SPECIFICATION GRADE "FEED-THRU" TYPE GROUND-FAULT CIRCUIT INTERRUPTERS, WITH HEAVY-DUTY DUPLEX RECEPTACLES, CAPABLE OF PROTECTING CONNECTED DOWNSTREAM RECEPTACLES ON SINGLE CIRCUIT, AND OF BEING INSTALLED IN A 2-3/4" DEEP OUTLET BOX WITHOUT ADAPTER, GROUNDING TYPE UL-RATED CLASS A, GROUP 1, RATED 20-AMPERES, 120-VOLTS, 60 HZ; WITH SOLID-STATE GROUND-FAULT SENSING AND SIGNALING; WITH 5 MILLIAMPERES GROUND-FAULT TRIP LEVEL; EQUIP WITH NEMA CONFIGURATION 5-20R.

C – WIRING DEVICE PLATES

ALL COVER PLATES SHALL BE WHITE SMOOTH PLASTIC.

LIGHTING LUMINAIRES

THE ELECTRICAL CONTRACTOR SHALL SUPPLY, INSTALL, WIRE AND CONNECT ALL LUMINAIRES AND LAMPS AS SHOWN ON THE FIXTURE SCHEDULE. AT THE TIME OF SUBSTANTIAL COMPLETION, ELECTRICAL CONTRACTOR SHALL WIPE CLEAN OF DUST, DEBRIS, FINGERPRINTS, ETC. ALL LUMINARIES LENSES, LOUVERS, AND REFLECTORS AND REPLACE ANY LAMPS NOT OPERATING.

EXTERIOR LIGHTING AND FAN CONTROLS

PROVIDE PHOTOCELL AND PROGRAMMABLE ELECTRONIC TIME CLOCK FOR EXTERIOR LIGHTING CONTROL. TIME CLOCKS SHALL HAVE A MINIMUM 7-DAY SCHEDULE AND HAVE BATTERY BACKUP TO HOLD THE SCHEDULE DURING POWER FAILURES. EXTERIOR LIGHTING CONTROL SEQUENCE OF OPERATIONS SHALL ALLOW THE LIGHTS ON DURING DAYLIGHT HOURS IN INCLEMENT WEATHER AND ON AT DUSK WITH TIMECLOCK OFF AT TIME DETERMINED BY THE OWNER.

SURGE SUPPRESSION

INSTALL A TVSS DEVICE AT WHERE INDICATED, AT DISTRIBUTION PANELS OR AT PANELS FED FROM THE EXTERIOR OF A STRUCTURE. TVSS DEVICES SHALL BE LEA INTERNATIONAL CFS SERIES OR EQUAL. INSTALL DEVICE AT PANEL WITH LEADS AS SHORT AS POSSIBLE.

EQUIPMENT FURNISHED BY OTHERS

ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUIT, WIRE, AND DISCONNECT SWITCHES TO CONNECT ELECTRICAL EQUIPMENT SUPPLIED BY OTHERS. VFD'S, STARTERS, CONTROL DEVICES AND PANELS ARE TO BE FURNISHED AND INSTALLED BY TRADES PROVIDING THE EQUIPMENT. COORDINATE WITH OTHER TRADES FOR REQUIREMENTS.

TELEPHONE/ DATA / TELEVISION SYSTEM CONDUIT

PROVIDE CONDUIT AND BOXES FOR SYSTEMS AS INDICATED ON THE PLANS INCLUDING OUTLETS AND DISTRIBUTION. DEVICES SHALL BE INSTALLED BY OTHERS. INSURE THERE IS AN ACCESSIBLE PATH FROM ALL OUTLETS TO THE RESPECTIVE HEAD END LOCATION INCLUDING A CONDUIT PATH ABOVE INACCESSIBLE CEILINGS. EXTEND CONDUIT FROM OUTLETS, THROUGH RATED WALLS, FROM FLOOR OR STUB-UP LOCATIONS, ETC. TO HEADEND. INSTALL PULL STRINGS IN ALL CONDUIT. INSTALL BLANK COVERPLATES AT ALL OUTLET LOCATIONS.

FIRE ALARM AND SECURITY SYSTEM

THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL AND PLACE IN OPERATING CONDITION AN ELECTRONICALLY OPERATED COMBINATION FIRE ALARM AND SECURITY SYSTEM AS DESCRIBED HEREIN AND SHOWN IN THE PLANS. THE SYSTEM SHALL HAVE THE APPROVAL OF THE FIRE DEPARTMENT HAVING JURISDICTION AND ALL REQUIRED SUBMITTALS SHALL BE PROVIDED TO THE FIRE DEPARTMENT BY THE CONTRACTOR. ALL UNITS ON THE FIRE ALARM SYSTEM SHALL BE LISTED BY UNDERWRITERS' LABORATORIES, INC. FOR FIRE ALARM USE, AND THE CONTROL PANEL SHALL BEAR THE UL LABEL. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS SET BY NATIONAL ELECTRICAL CODE AND IN COMPLIANCE WITH APPLICABLE PROVISIONS OF STANDARDS #72 PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). THE SYSTEM MUST BE CONNECTED TO THE FIRE DEPARTMENT AS REQUIRED BY THE FIRE MARSHAL. THE FIRE ALARM SYSTEM SHALL BE A D.C. OPERATED ADDRESSABLE UL LISTED AND IN COMPLIANCE WITH THE NFPA #72 SERIES STANDARDS. THE SYSTEM SHALL HAVE A REMOTE COMMUNICATOR FOR REMOTE MONITORING THROUGH PHONE LINES AND A LOCAL REMOTE ANNUNCIATOR. BATTERY BACKUP SHALL SUPPLY POWER TO ALL DEVICES FOR A PERIOD NOT LESS THAN 24 HOURS. THE CONTROL PANEL SHALL BE PROVIDED WITH THE MANUFACTURER'S STANDARD TRANSIENT SUPPRESSION MODULE.

DEVICES

THE SYSTEM SHALL UTILIZE MANUFACTURER'S STANDARD DEVICES OF TYPE SHOWN ON THE PLAN OR AS REQUIRED BY OWNER.

INSTALLATION

THE SYSTEM IS TO BE INSTALLED AS SHOWN ON THE PLANS, IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S WRITTEN INSTRUCTIONS AND COMPLYING WITH ALL APPLICABLE PORTIONS OF THE NEC, NFPA, AND ALL LOCAL CODES AND ORDINANCES. INSTALLATION IS TO BE BY A UL LISTED INSTALLER.

SYSTEM WIRING

WIRING SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND NFPA REGULATION #72A, B AND C. THE SYSTEM, INCLUDING COMPONENTS AND WIRING SHALL BE COMPLETELY INSTALLED AND WIRING SHALL BE PROPERLY TAGGED AND COLOR CODED. THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTIONS AS SHOWN AND REQUIRED BY THE EQUIPMENT MANUFACTURER'S WIRING INSTRUCTIONS.

SYSTEM TEST

THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PERFORM A QUALITY INSPECTION OF THE FINAL INSTALLATION AND, IN THE PRESENCE OF THE ELECTRICAL CONTRACTOR, FIRE MARSHAL AND OWNER'S REPRESENTATIVES, SHALL PERFORM A COMPLETE FUNCTIONAL TEST OF THIS SYSTEM. A SYSTEM CERTIFICATION VERIFYING THE PROPER SYSTEM OPERATION SHALL BE REQUIRED PRIOR TO ACCEPTANCE BY THE OWNER.

SYSTEM GUARANTEE

ALL COMPONENTS, PARTS AND ASSEMBLIES SUPPLIED BY THE MANUFACTURER SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP IN A PERIOD OF 12 MONTHS COMMENCING UPON SYSTEM START-UP AND BENEFICIAL USE AT WHICH TIME THE SYSTEM IS PROTECTING PROPERTY OR OCCUPANTS.

PROJECT CLOSEOUT

TESTING

FINAL TESTS SHALL BE MADE ONLY AFTER THE ENGINEER IS SATISFIED THAT ALL WORK HAS BEEN COMPLETED. WHEN SO DIRECTED, THE ELECTRICAL CONTRACTOR SHALL CONDUCT AN OPERATING TEST IN THE PRESENCE OF THE ENGINEER AND OTHER AUTHORIZED PERSONS. TESTS SHALL DEMONSTRATE THAT THE SYSTEM FUNCTIONS PROPERLY THROUGHOUT, THAT IT IS FREE FROM GROUNDS AND SHORTS, AND THAT ALL REQUIREMENTS HEREIN HAVE BEEN COMPLIED WITH. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND PERSONNEL FOR TESTS. TESTS SHALL BE AS PRESCRIBED BY THE ENGINEER AND SHALL INCLUDE MEGGER TESTS IN ACCORDANCE WITH THE N.E.C. RECOMMENDATIONS.

FINAL ACCEPTANCE

AFTER TESTING, A FINAL INSPECTION SHALL BE MADE BY THE ENGINEER AND OTHER AUTHORIZED PERSONS WITH THE ELECTRICAL CONTRACTOR. THE INSPECTION SHALL BE TO CHECK ALL PANELS ARE COMPLETE WITH NAMEPLATES AND CIRCUIT DIRECTORIES, ALL LUMINAIRES ARE PROPERLY CLEANED AND LAMPED, AND THAT ALL WORKMANSHIP HAS BEEN DONE IN A PROFESSIONAL MANNER. FINAL ACCEPTANCE OF THE PROJECT SHALL NOT PREJUDICE THE OWNER'S RIGHT TO REQUIRE REPLACEMENT AND/OR REPAIR OF ANY DEFECTIVE WORK OR MATERIALS.

WARRANTY

ALL PARTS, MATERIALS, EQUIPMENT AND LABOR FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BEAR A ONE (1) YEAR, NO COST TO THE OWNER, WARRANTY FROM THE DATE OF FINAL ACCEPTANCE. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OF THE ABOVE WARRANTY REQUIREMENTS IN A WRITTEN STATEMENT ALONG WITH EQUIPMENT MANUFACTURER'S WARRANTIES.

RECORD DRAWINGS

THE CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ACTUAL CONDITIONS INCLUDING DEVICE LOCATIONS AND CONDUIT RUNS WHERE DIFFERENT FROM THE PLANS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A REPRODUCIBLE SET OF PLANS OF THE COMPLETE ELECTRICAL AND FIRE ALARM SYSTEMS AS INSTALLED (AS BUILT DRAWINGS). THE SCALE ON THESE AS BUILT DRAWINGS SHALL BE NO SMALLER THAN THE SCALE USED ON THE ORIGINAL PLANS.

ELECTRICAL SPECIFICATIONS

SCALE : NONE

FORNEY ENGINEERING INC.
Mechanical & Electrical Consulting Engineers
5213 Fourth Avenue Circle East, Bradenton, FL 34208
Tel: (941) 748-5884 Fax: (941) 747-6240 E-Mail: fei@forneyengineering.com
C.O.A. # 00004049

DESIGNED____ DRAWN____ CHECKED____
JOB. NO. 09-2174 SCALE AS SHOWN DATE 06-30-09

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.
BY PHILLIP J. FEIKEMA P.E. 65083
DATE:

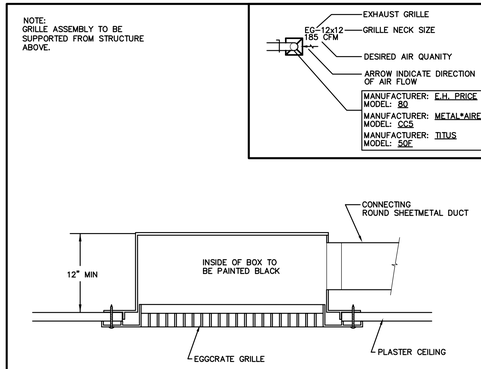
JERRY N. ZOLLER AIA
AA C000557
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn --
checked
revisions

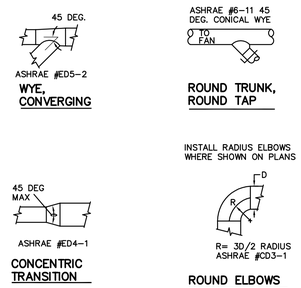
sheet
E-5.2
of

NOTE:
GRILLE ASSEMBLY TO BE SUPPORTED FROM STRUCTURE ABOVE.

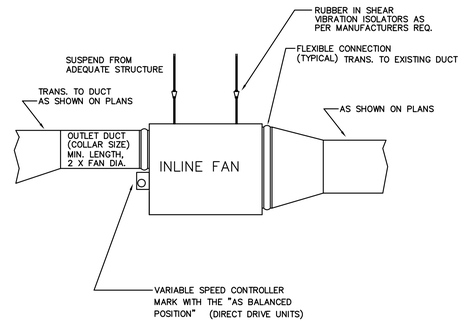


SURFACE MNT EXHAUST EGGCRATE GRILLE | 1
NO SCALE

UNLESS SPECIFICALLY SHOWN OTHERWISE THESE DETAILS SHALL BE USED



ASHRAE ACCEPTABLE DUCT FITTINGS | 2
NO SCALE



INLINE EXHAUST FAN DETAIL | 3
NO SCALE

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	CFM	ESP	DRIVE	SPEED/SONES	ELECTRICAL	WATTS (BHP)	DESCRIPTION	NOTES
EF-1	GREENHECK	CSP-A290	200	.5	DIRECT	1050/4.0	120/1/60	(0.02)	DIRECT DRIVE INLINE FAN	1,2
EF-2	GREENHECK	SP-B110	70	0.25	DIRECT	703/0.8	120/1/60	83	CEILING EXHAUST FAN	1,3,4

ACCEPTABLE MANUFACTURERS ARE: COOK, GREENHECK, AND PENN.
NOTES: (1) WITH FACTORY MOUNTED SPEED CONTROLS.
(2) SWITCH VIA TIMECLOCK BY ELECTRICAL CONTRACTOR.
(3) PROVIDE WITH GRAVITY BACKDRAFT DAMPER.
(4) CONNECT TO EXISTING WIRING.

LOUVER SCHEDULE

MARK	MANUF	MODEL	LIST SIZE (LxW)	CFM	MIN FREE AREA	MAX VEL	ACCESSORIES	DESCRIPTION
LV-1	GREENHECK	ESD-635X	24x12	100	.5 SF	<300 FPM	INSECT SCREEN	WIND-DRIVEN RAIN RESISTANT STATIONARY LOUVER, FLANGED FRAME, SEE ARCHITECT'S PLAN FOR INFORMATION REGARDING LOUVER SHAPE. FLORIDA PRODUCT APPROVAL NUMBER FL6876.4
LV-2	PRICE	ATGH	14x6	50	.5 SF	100 FPM	INSECT SCREEN	HEAVY DUTY ALUMINUM TRANSFER GRILLE
LV-3	GREENHECK	ESF-145	12x12	ETR	.3 SF	–	INSECT SCREEN	–

ALL LOUVERS MUST MEET 130 MPH WIND REQUIREMENT.
ALL LOUVERS TO HAVE FLANGES AND INSECT SCREENS.

ASHRAE 62.1-2004 EXHAUST RATE CALCULATION SCHEDULE

ZONE	TOILETS	CFM/TOILET	REQ. CFM	DESIGN CFM
RESTROOMS	4	50	200	200

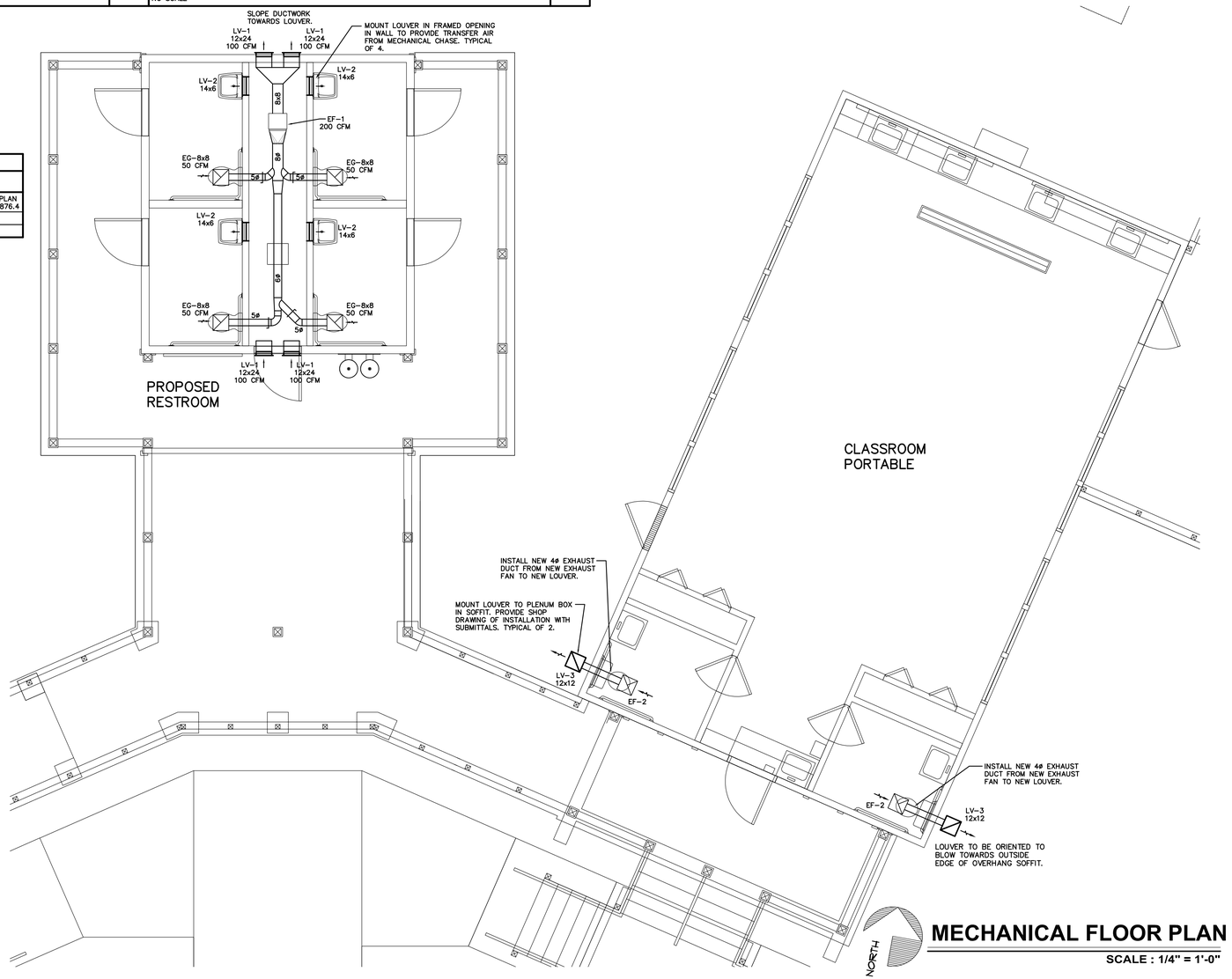
GENERAL NOTES

1. HVAC WORK CONSISTS OF PROVIDING AND INSTALLING EXHAUST SYSTEMS FOR A COMPLETE OPERATING SYSTEM AND AS INDICATED ON THE DRAWINGS. ALL WORK SHALL COMPLY WITH APPLICABLE CODES IN SPECIFICATIONS. IT IS THE INTENTION OF THE CONTRACT DRAWINGS AND SPECIFICATIONS TO CALL FOR COMPLETE, FINISHED WORK, TESTED, AND READY FOR OPERATION. THE CONSTRUCTION OF THIS PROJECT SHALL BE IN COMPLETE CONFORMANCE WITH TITLE XLVIII CHAPTER 1013 OF THE 2008 FLORIDA STATUTES, WHICH INCLUDES BUT IS NOT LIMITED TO: 2007 FLORIDA BUILDING CODE, WITH 2009 SUPPLEMENTS AND 2007 FLORIDA MECHANICAL CODE WITH 2009 SUPPLEMENTS.
2. THE HVAC CONTRACTOR SHALL SUBMIT SIX (6) COPIES FOR APPROVAL OF DETAILED SHOP DRAWINGS OF ALL EQUIPMENT AND ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT TO THE ARCHITECT. MATERIALS OR PRODUCTS SPECIFIED HEREIN AND/OR INDICATED ON DRAWINGS BY TRADE NAME, MANUFACTURER'S NAME OR CATALOG NUMBER SHALL BE PROVIDED AS SPECIFIED. SUBMITTALS ARE REQUIRED FOR ALL MATERIAL AND EQUIPMENT WHICH THE HVAC CONTRACTOR PROPOSES TO FURNISH. SHOP DRAWINGS MUST BE APPROVED BY THE ARCHITECT PRIOR TO ORDERING AND INSTALLING EQUIPMENT. DATA SHALL BE COMPILED IN BROCHURE FORM AND ALL SUBMITTED AT ONE TIME.

   SHOP DRAWINGS OR CUT SHEETS REQUIRED INCLUDE:

   DUCTWORK AND FITTINGS
   HANGERS
   EXHAUST FANS
   DAMPERS
   LOUVERS AND GRILLES
3. DUCT DIMENSIONS SHOWN ON THE DRAWINGS ARE CLEAR INSIDE "FREE AREA" DIMENSIONS.
4. INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS AND RECOMMENDATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL NECESSARY, MISCELLANEOUS ANGLES, CHANNELS, RODS, UNISTRUT, ETC., AS MAY BE NECESSARY TO ADEQUATELY SUPPORT THE MECHANICAL PIPING, DUCTWORK, AND EQUIPMENT IN A MANNER APPROVED BY THE ARCHITECT THAT WILL NOT OVERLOAD THE BUILDING STRUCTURE SYSTEM.
6. DUCTWORK IS TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA MANUALS TO 1" NEGATIVE PRESSURE CLASS FOR RETURN AND EXHAUST, SEAL CLASS "A" AND THE FOLLOWING SCHEDULE:

   A) EXHAUST – GALVANIZED SHEET METAL, NON-INSULATED.
7. COORDINATE THE TYPE AND LOCATION OF ALL DIFFUSERS, GRILLS, REGISTERS, ACCESS DOORS, ETC., WITH THE ARCHITECTURAL REFLECTED CEILING PLAN(S).
8. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT.
9. UNLESS OTHERWISE NOTED, INSTALL ALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO THE BOTTOM OF THE STRUCTURE. COORDINATE ELEVATION AND LOCATION WITH RAIN LEADERS, WATER PIPING, PLUMBING VENTS, AND MAJOR ELECTRICAL CONDUITS OR CABLE TRAY.
10. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE MECHANICAL SYSTEMS BE PROVIDED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES, AND CONTROLS, COORDINATE WITH ALL OTHER DISCIPLINES. ALL PARAMETERS INDICATED IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH. ANY ITEMS AND LABOR REQUIRED FOR COMPLETE MECHANICAL SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE PROVIDED WITHOUT ANY ADDITIONAL COST TO THE CONTRACT. THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS AND SHALL COORDINATE WITH OTHER TRADES WHILE PREPARING THE MECHANICAL SHOP DRAWINGS.
11. UPON COMPLETION OF THE WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL REMOVE ALL TOOLS, APPLIANCES, SURPLUS MATERIALS, AND SCRAP. ALL IDENTIFIED EXISTING EQUIPMENT TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER.
12. WHEN CONFLICTS OCCUR IN SPECIFICATIONS OR IN THE DRAWINGS, OR BETWEEN EITHER, THE ITEMS OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED.
13. CONTRACTOR SHALL COORDINATE ALL DUCTWORK, PIPING, PLUMBING AND FIRE PROTECTION PIPING WITH STRUCTURAL AND ELECTRICAL SYSTEMS INCLUDING ROOF/FLOOR PENETRATIONS AND SHALL PROVIDE AND INSTALL ALL NECESSARY OFFSETS OR FITTINGS REQUIRED TO AVOID CONFLICTS AND MAINTAIN EQUIPMENT ACCESS AND SERVICEABILITY.
14. FIBERGLASS DUCTBOARD DUCTWORK OR DUCT LINER FOR SHEET METAL DUCTWORK IS NOT PERMITTED.
15. OPTIONS OF DUCTWORK VISIBLE THROUGH GRILLS, REGISTERS, AND DIFFUSERS IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.



MECHANICAL FLOOR PLAN
SCALE : 1/4" = 1'-0"

FORNEY ENGINEERING INC
Mechanical & Electrical Consulting Engineers
5219 Fourth Avenue Circle East, Bradenton, FL 34208
Tel (941) 748-5884 Fax (941) 747-0340 E-Mail tle@forneyengineering.com

DESIGNED NJM DRAWN NJM CHECKED GLA
JOB NO 09-2174 SCALE AS SHOWN DATE 06-30-09

C.O.A. • 00004049

I HEREBY CERTIFY THAT I HAVE PERFORMED OR SUPERVISED THE PREPARATION OF THE PLANS, THAT THEY ARE IN COMPLIANCE WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD T. ABRAMS 71784 DATE:

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn --
checked
revisions

sheet
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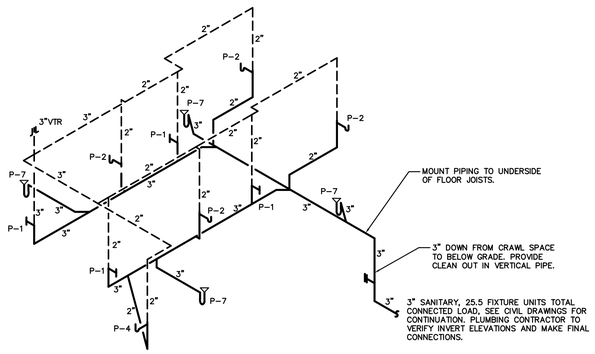
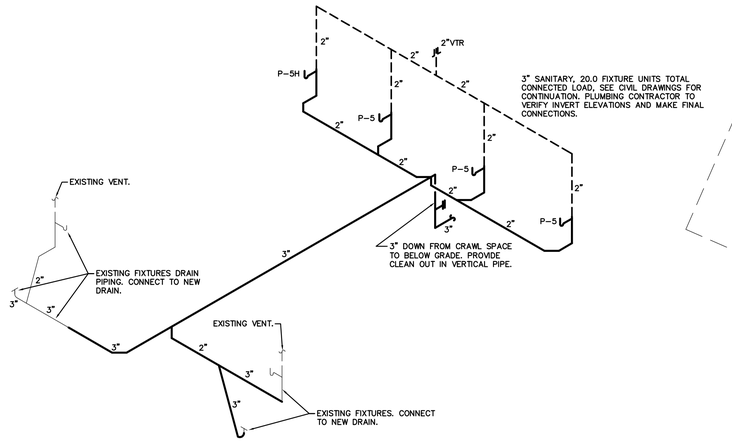


NORTH

PROPOSED RESTROOM SANITARY RISER

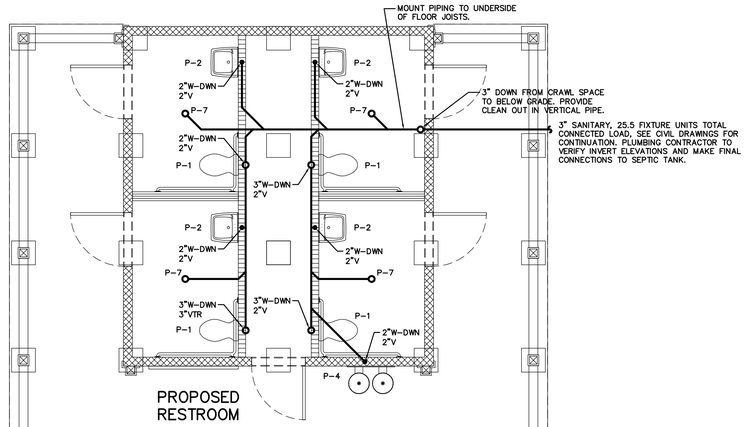
SCALE : NOT TO SCALE

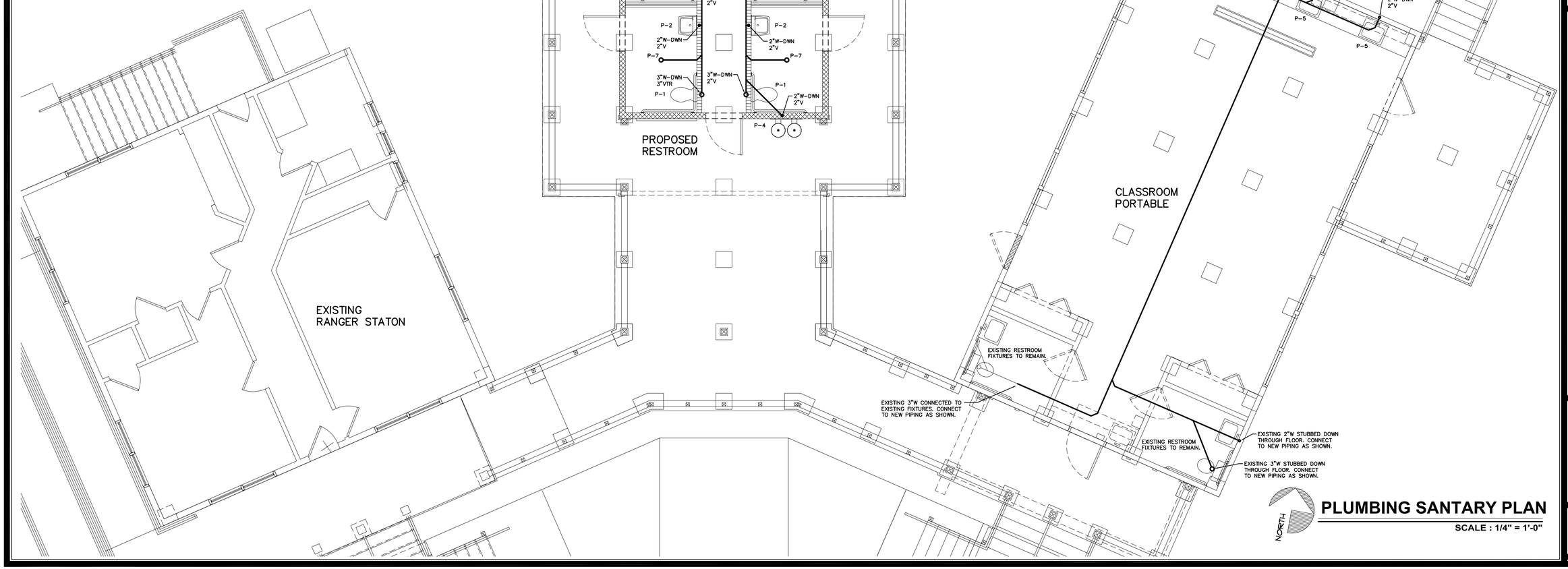


NORTH

PORTABLE CLASSROOM SANTARY RISER

SCALE : NOT TO SCALE





NORTH

PLUMBING SANTARY PLAN

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

FORNEY ENGINEERING INC.
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JOB NO 09-2174 SCALE AS SHOWN DATE

C.O.A. # 00004849

THE BEST OF MY KNOWLEDGE, THESE PLANS ARE IN COMPLIANCE WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD T. ABRAMS 77784

DATE:

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PROPOSED BUILDING FOR:

EMERSON POINT CONSERVATION PRESERVE

5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
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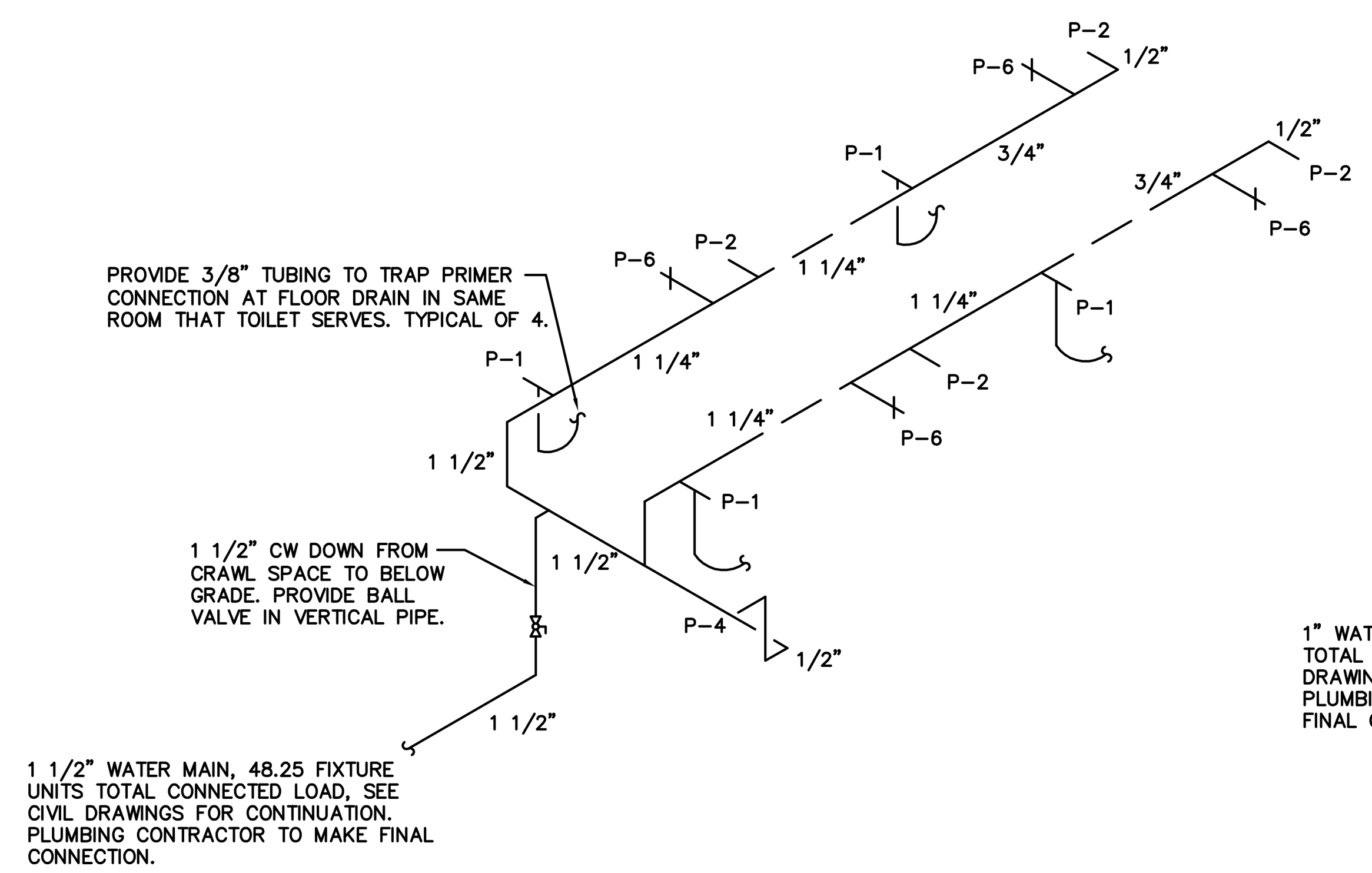
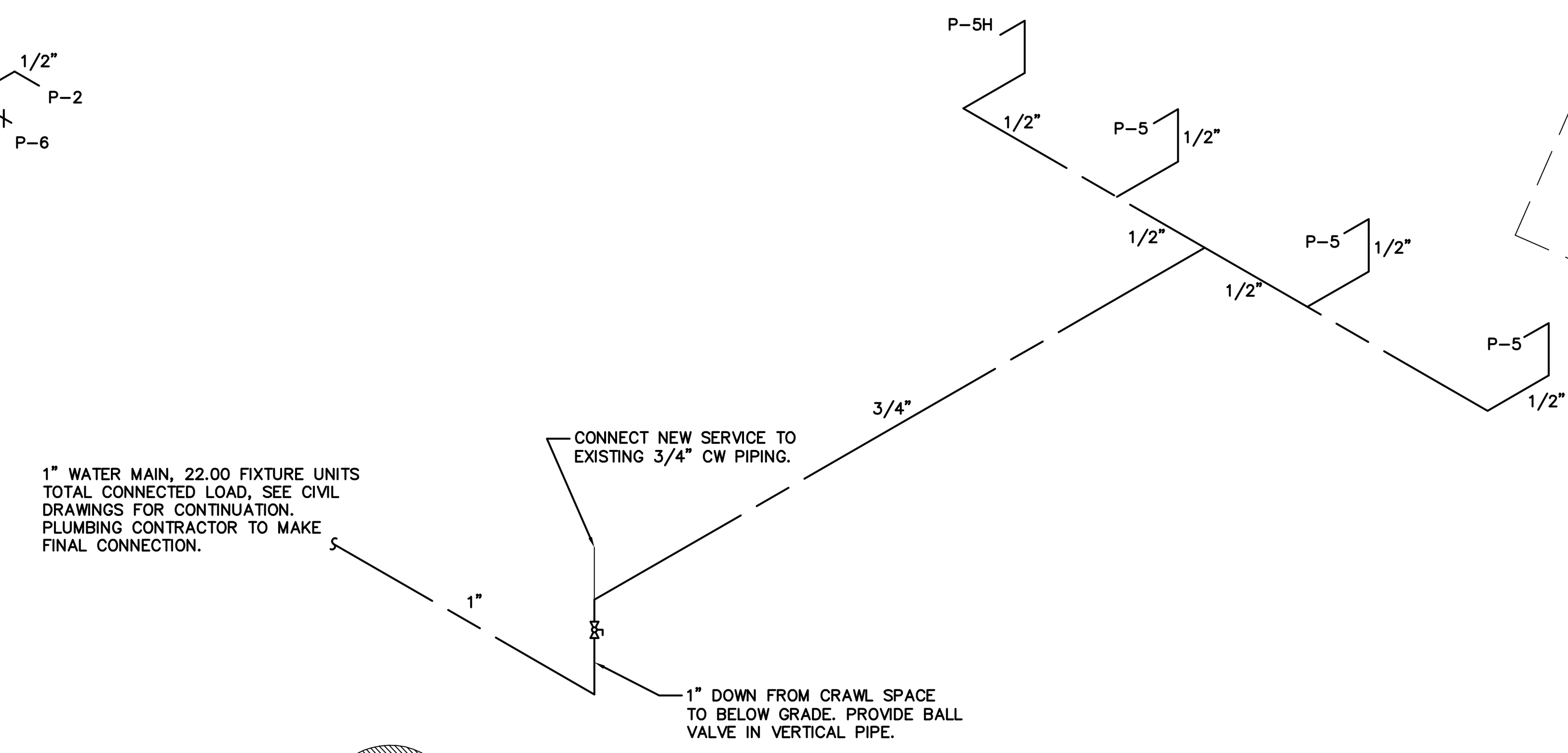


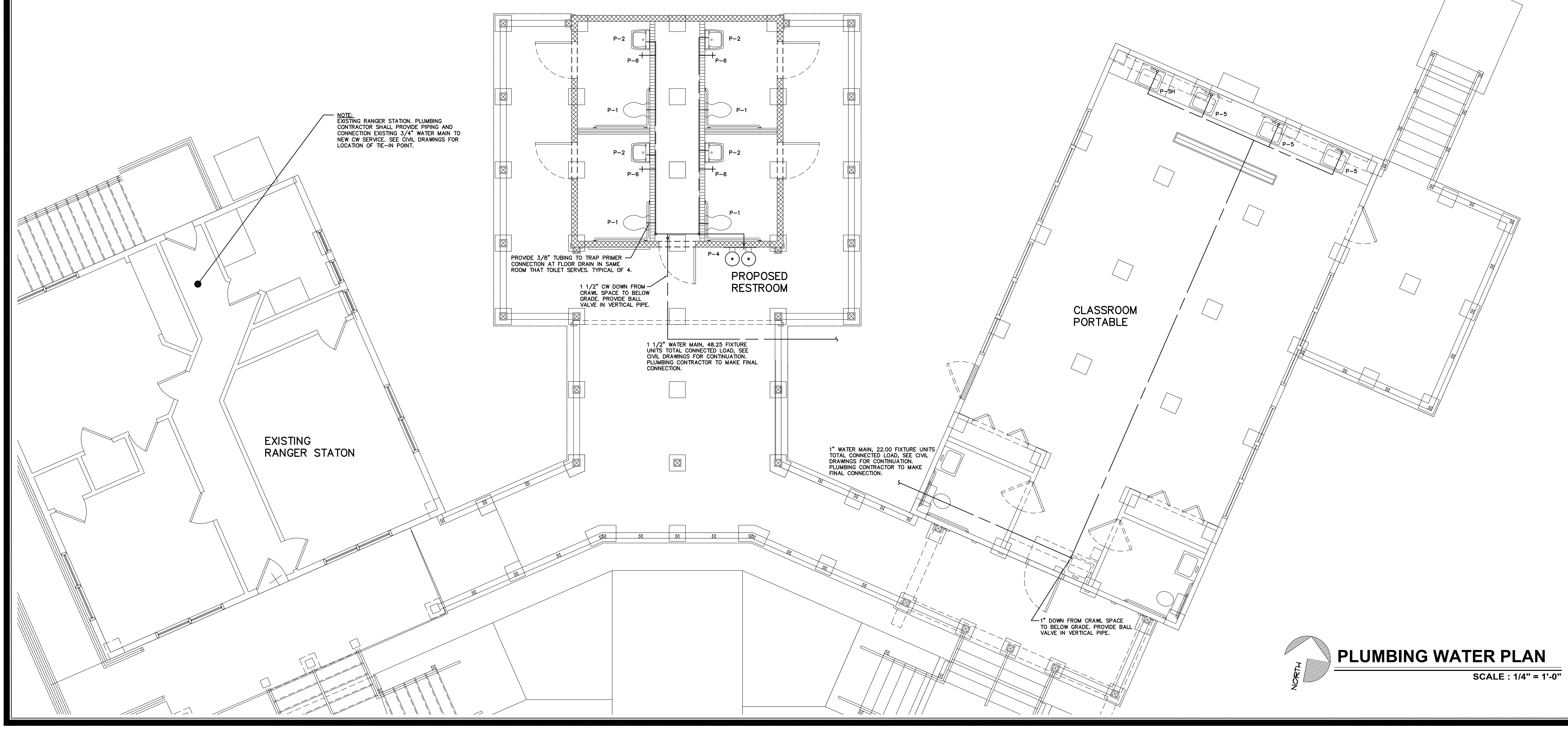
PROPOSED RESTROOM WATER RISER

SCALE : NOT TO SCALE



PORTABLE CLASSROOM WATER RISER

SCALE : NOT TO SCALE



PLUMBING WATER PLAN

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

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DESIGNED NJM DRAWN NJM CHECKED GLA
JOB. NO. 09-2174 SCALE AS SHOWN DATE 06-30-09

C.O.A. # 00004049

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.
BY GERARD L. ABRAMS 47786
DATE:

JERRY N. ZOLLER AIA
AA C000557
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PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
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PLUMBING SPECIFICATIONS

PLUMBING

SCOPE OF WORK AND GENERAL CONDITIONS

THE WORK COVERED INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR FURNISHING, INSTALLING AND TESTING COMPLETE AND READY FOR OPERATION ALL THE WORK SHOWN ON THE PLUMBING DRAWINGS AND AS SPECIFIED HEREIN, AND SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING ITEMS:

THE INSTALLATION OF A COMPLETE SYSTEM OF SOIL, WASTE, AND VENT PIPING TO ALL FIXTURES AND LOCATIONS SHOWN ON THE DRAWINGS OR CALLED FOR HEREIN. MAKE CONNECTIONS TO SANITARY SERVICES AS SHOWN ON THE DRAWINGS.

THE INSTALLATION OF A COMPLETE SYSTEM FOR SUPPLYING DOMESTIC HOT AND COLD WATER TO ALL LOCATIONS SHOWN OR CALLED FOR HEREIN. MAKE CONNECTIONS TO WATER SERVICE AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

PROVIDE AND INSTALL WATER HEATER, FIXTURES, TRIM, CLEANOUTS AND ACCESSORIES AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES AND OTHER CONSTRUCTION DOCUMENTS.

NO ASBESTOS CONTAINING BUILDING MATERIAL (ACBM) HAS BEEN SPECIFIED AS A BUILDING MATERIAL IN ANY CONSTRUCTION DOCUMENT FOR THE BUILDING. NO ASBESTOS CONTAINING BUILDING MATERIAL (ACBM) SHALL BE INSTALLED.

THE DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL BE IN COMPLETE CONFORMANCE WITH THE FOLLOWING:
1. LIFE SAFETY CODE NFPA 101–2006.
2. NATIONAL ELECTRIC CODE NFPA 70–2005.
3. FLORIDA BUILDING CODE 2007, BUILDING.
4. FLORIDA BUILDING CODE 2007, MECHANICAL.
5. FLORIDA BUILDING CODE 2007, PLUMBING.
6. FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION, 2007.

SUBMITTALS

SUBMITTALS ARE REQUIRED FOR ALL MATERIAL AND EQUIPMENT WHICH THE CONTRACTOR PROPOSES TO FURNISH. SHOP DRAWINGS MUST BE APPROVED BY THE ARCHITECT PRIOR TO ORDERING AND INSTALLING EQUIPMENT. DATA SHALL BE COMPILED IN BROCHURE FORM AND ALL SUBMITTED AT ONE TIME.

SHOP DRAWINGS OR CUT SHEETS REQUIRED, INCLUDE:

PLUMBING FIXTURES AND TRIM
PLUMBING TUBE, PIPE, AND FITTINGS
FLOOR DRAINS AND FLOOR SINKS
WATER FOUNTAIN
WATER HAMMER ARRESTORS

PERMITS AND FEES

THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED IN THIS WORK. OWNER SHALL PAY FOR ALL UTILITY IMPACT AND TAPPING FEES.

PIPING INSTALLATION

GENERAL

ARRANGE, INSTALL PIPING APPROXIMATELY AS INDICATED, STRAIGHT, PLUMB AND AS DIRECT AS POSSIBLE; FORM RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS.

CLOSE OPEN ENDS OF WORK WITH TEMPORARY COVERS OR PLUGS DURING STORAGE AND CONSTRUCTION TO PREVENT ENTRY OF OBSTRUCTING MATERIAL. KEEP PIPES CLOSE TO WALLS, PARTITIONS, CEILING; OFF–SET ONLY WHERE NECESSARY TO FOLLOW WALLS AS DIRECTED. LOCATE GROUPS OF PIPES PARALLEL TO EACH OTHER; SPACE THE PIPES AT DISTANCE TO PERMIT APPLYING FULL INSULATION AND TO PERMIT ACCESS FOR SERVICING VALVES.

REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. PLASTIC PIPING SHALL BE CLEANED AND PRIMED WITH A PURPLE CLEANER/PRIMER PRIOR TO SOLVENT WELDING.

WHERE PIPING PASSES INTO A FINISHED SPACE OR INTO A CABINET, SUCH AS PIPING TO A SERVICE VALVE, PLASTIC PIPING SHALL TRANSITION TO COPPER PIPE AND BE SECURELY FASTENED BEFORE LEAVING THE WALL. PLASTIC TO METAL PIPING TRANSITIONS SHALL BE MADE USING CPVC OR PVC ONE–PIECE FITTINGS WITH MANUFACTURER'S SCHEDULE 80 EQUIVALENT DIMENSIONS; ONE END WITH THREADED BRASS INSERT AND ONE SOLVENT–CEMENT–SOCKET END.

GRADING

INSTALL HORIZONTAL PIPING AS HIGH AS POSSIBLE WITHOUT SAGS OR HUMPS.

INSTALL SOIL AND VENT PIPING PITCHED TO DRAIN AT MINIMUM SLOPE OF 1/4" PER FOOT (2 PERCENT) FOR PIPING 2" AND SMALLER, AND 1/8" PER FOOT (1 PERCENT) FOR PIPING 3" AND LARGER.

CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW SEWER LINES ARE TO BE CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE.

CONCEAL PIPING

CONCEAL ALL PIPING IN BUILDING CONSTRUCTION OR UNDERGROUND. INSTALL SUCH PIPING IN TIME SO AS NOT TO CAUSE DELAY TO WORK OF OTHER TRADES AND TO ALLOW AMPLE TIME FOR TESTS AND APPROVAL; DO NOT COVER BEFORE APPROVAL IS OBTAINED.

KEEP FIXTURE BRANCHES CONCEALED TO POINTS ABOVE FLOOR CLOSE TO FIXTURES; EXPOSE ONLY AS MUCH AS NECESSARY FOR FINAL CONNECTION.

WHERE FURRED SPACES ARE INDICATED, KEEP PIPES AS CLOSE TO STRUCTURAL MEMBERS AS POSSIBLE SO AS TO REQUIRE MINIMUM FURRINGS.

HANGERS AND INSERTS

PROVIDE A SUFFICIENT NUMBER OF HANGERS PROPERLY LOCATED TO SUPPORT THE PIPING AND EQUIPMENT. HANGERS SHALL BE PLACED TO PERMIT EXPANSION AND CONTRACTION OF THE PIPING. PIPE HANGERS SHALL BE SPLIT RING HANGERS CAPABLE OF VERTICAL ADJUSTMENT AFTER ERECTION OF THE PIPING. TRAPEZE TYPE HANGERS MAY BE USED FOR MULTIPLE PIPE RUNS INSTALLED AT THE SAME LEVEL AND GRADE. PIPE SHALL BE SECURED TO TRAPEZE USING U–BOLTS.

THE SIZE OF THE HANGER SHALL BE SUITABLE FOR THE PIPE SIZE AND APPLICATION.

SLEEVES

INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

SLEEVES THROUGH POURED CONCRETE SHALL BE STANDARD WEIGHT PVC OR GALVANIZED MILD STEEL PIPE. SLEEVES THROUGH BRICK, CONCRETE BLOCK, ETC., MAY BE 22 GAUGE GALVANIZED SHEET METAL. SLEEVES THROUGH WALLS, PARTITIONS, CEILINGS, AND FLOORS ON GRADE SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH FINISHED SURFACE. ALL SLEEVES SHALL BE OF ADEQUATE SIZE TO PERMIT CLEARANCE FOR PIPE MOVEMENT AND PROPER GRADING OF PIPES. SLEEVES FOR INSULATED PIPE SHALL BE ADEQUATELY SIZED TO CLEAR THE INSULATION.

ESCUTCHEONS

THE PLUMBING CONTRACTOR SHALL PROVIDE ESCUTCHEONS AT EACH POINT WHERE AN UNINSULATED PIPE, CONDUIT OR TUBING PASSES THROUGH A FINISHED SURFACE. ESCUTCHEONS WILL NOT GENERALLY BE REQUIRED FOR INSULATED PIPE AND CONDUIT OR TUBING PASSING THROUGH EQUIPMENT ROOM WALLS UNLESS, IN THE OPINION OF THE ENGINEER, THE INSTALLATION OF SUCH PIPE, CONDUIT OR TUBING HAS NOT BEEN INSTALLED IN A NEAT AND ACCEPTABLE MANNER. ESCUTCHEONS SHALL BE CONSTRUCTED OF CHROME–PLATED BRASS UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE ARCHITECT. EACH ESCUTCHEON SHALL FIT FLUSH WITH THE WALL OR FLOOR AND SHALL FIT SNUGLY AROUND THE PIPE.

DOMESTIC WATER PIPING

DOMESTIC COLD WATER SHALL BE ONE OF THE FOLLOWING:
CPVC PIPE, SCH 40 OR SCH 80, ASTM F 441/F 441M
PVC PIPE, SCH 40 OR SCH 80, ASTM D 1785

WATER HAMMER ARRESTORS

PROVIDE WATER HAMMER ARRESTORS ON WATER LINES AT QUICK CLOSING VALVES AS REQUIRED TO PREVENT WATER HAMMER. INSTALL WATER HAMMER ARRESTORS AT EACH FIXTURE OR BATTERY OF FIXTURES WHERE REQUIRED. ARRESTORS SHALL BE FACTORY–FABRICATED. INSTALL ARRESTORS AND SIZE PER PLUMBING AND DRAINAGE INSTITUTE STANDARD (PDI) WH–201. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER HAMMER ARRESTORS AS SPECIFIED.

SERVICE VALVES

SERVICE VALVES (STOPS) FOR HOT AND COLD WATER SHALL BE INSTALLED FOR EACH FIXTURE. SERVICE VALVES SHALL BE 1/4 TURN CHROME PLATED BRASS VALVE WITH BRASS STEM. SERVICE VALVES ON COPPER PIPING SHALL HAVE COMPRESSION INLET, SERVICE VALVES ON CPVC PIPING SHALL HAVE SOLVENT WELD SOCKET INLET.

HOSE BIBBS

HOSE BIBBS SHALL BE MOUNTED AT 14" AFG FOR EXTERIOR LOCATIONS. HOSE BIBBS LOCATION SHALL BE COORDINATED WITH CASEWORK AND FIXTURES FOR INTERIOR LOCATIONS, AND SHALL BE READILY ACCESSIBLE.

SOIL WASTE AND VENT PIPING AND CHEMICAL WASTE

MATERIALS

ALL WASTE AND VENT PIPE TO BE SCHEDULE 40 PVC DWV PIPE IN ACCORDANCE WITH ASTM D–2665 OR F–891 WITH SOLVENT WELDED JOINTS.

GENERAL

SOIL AND WASTE STACKS SHALL BE RUN AS DIRECT AND FREE FROM BENDS AS POSSIBLE. SOIL STACKS SHALL RUN THROUGH THE ROOF AND TERMINATE NOT LESS THAN 6" OR MORE THAN 12" ABOVE THE FINISHED ROOF SURFACE.

VENTS

EVERY TRAP SHALL BE PROTECTED AGAINST SIPHONAGE AND BACK PRESSURE. AIR CIRCULATION SHALL BE ASSURED BY MEANS OF A SOIL OR WASTE STACK VENT, A CONTINUOUS SOIL OR WASTE VENT OR CIRCUIT VENT.

FLASHING VENT AT ROOF

ALL VENT PIPES PASSING THROUGH THE ROOF SHALL BE FLASHED AND COUNTER–FLASHED. FLASHING SHALL NOT BE LESS THAN 12" ON THE ROOF AND SHALL EXTEND UP PIPE AND TURN DOWN INSIDE THE VENT 3".

VALVES AND SPECIALTY ITEMS

ALL VALVES AND SPECIALTY ITEMS MAY NOT BE SHOWN IN EVERY INSTANCE ON THE DRAWINGS, BUT ARE TO BE PROVIDED WHETHER SHOWN OR NOT WHEN NECESSARY FOR PROPER OPERATION AND MAINTENANCE OF THE SYSTEM.

UNLESS OTHERWISE NOTED, VALVES AND SPECIALTY ITEMS ARE TO BE RATED AT 125 PSIG. DEVICES AND VALVES 2–1/2" AND SMALLER ARE TO HAVE THREADED CONNECTIONS AND THOSE 3" AND LARGER ARE TO HAVE FLANGED CONNECTIONS.

BALL VALVES SHALL BE TWO PIECE BRASS 1/4 TURN WITH BLOW OUT PROOF STEM. PROVIDE CHROMIUM PLATED BALL, 600 PSI MAXIMUM COLD WATER PRESSURE.

FIXTURES AND EQUIPMENT

FIXTURES

PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE SCHEDULE AS SHOWN ON THE PLANS OR AS MANUFACTURED BY AMERICAN–STANDARD, KOHLER, TOTO, ZURN OR ELJER. ALL FIXTURES SHALL BE COMPLETE WITH HANGERS, TRIM, STOP VALVES AND OTHER ACCESSORIES AS REQUIRED TO OBTAIN A COMPLETE INSTALLATION AND MEET MANUFACTURER'S REQUIREMENTS FOR COMMERCIAL INSTALLATION.

AVAILABLE MANUFACTURERS FOR TRIM: SYMMONS, KOHLER, AMERICAN STANDARD, TOTO, SLOAN ROYAL AND ZURN.

AVAILABLE MANUFACTURERS FOR SUPPLY STOP VALVES: NIBCO, BRASSCRAFT

AVAILABLE MANUFACTURERS FOR TOILET SEATS: OLSONITE, CHURCH, BEMIS & BENEKE.

ALL EXPOSED METAL PARTS OF FIXTURES SHALL BE POLISHED CHROME OR BRASS.

TRAPS AND CLEANOUTS

EACH FIXTURE SHALL BE SEPARATELY TRAPPED, UNLESS OTHERWISE SPECIFICALLY DETAILED OR CALLED FOR, WITH A WATER SEAL TRAP PLACED NOT MORE THAN 24" FROM THE OUTLET TO THE TRAP WEIR. FIXTURES SHALL NOT BE DOUBLE TRAPPED.

WALL CLEANOUTS(WCO) SHALL HAVE PVC TEE, PVC PLUG, AND STAINLESS STEEL COVER. FLOOR CLEANOUTS SHALL BE CAST IRON WITH ROUND TOPS. CLEANOUTS MUST BE PLACED IN HORIZONTAL RUNS NOT TO EXCEED 100 FT. APART. CLEANOUTS MUST BE READILY ACCESSIBLE.

PIPE CLEANOUTS SHALL BE PIPE SIZE; HOWEVER, MAXIMUM SIZE REQUIRED IS 4".

EQUIVALENT CLEANOUTS BY J.R. SMITH, ZURN, JOSAM OR WADE ARE ACCEPTABLE.

FLOOR DRAINS

THIS CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR THE SLOPING OF ALL FLOORS WHICH HAVE FLOOR DRAINS. ALL FLOOR DRAIN STRAINERS SHALL BE SET LEVEL (FLUSH) WITH FINISHED FLOOR WITH THE SURROUNDING FLOOR SLOPING FROM ALL DIRECTIONS TOWARDS THE FLOOR DRAIN STRAINER.

FLOOR DRAINS SHALL COMPLY WITH ASME A112.21.1M.

COMPLETION OF WORK

TESTING

ALL PIPING INSTALLED ON THE PROJECT, UNLESS SPECIFICALLY SHOWN OTHERWISE, SHALL BE HYDRAULICALLY TESTED AS SPECIFIED HEREIN. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL EQUIPMENT REQUIRED TO MAKE THE TESTS SPECIFIED HEREIN. ALL PIPING SHALL BE TESTED PRIOR TO BACKFILLING OR CONCEALING.

DOMESTIC WATER PIPING SHALL BE SUBJECT TO STATIC WATER PRESSURE OF 50 PSI ABOVE OPERATING PRESSURE FOR A PERIOD OF 4 HOURS WITHOUT LEAKS OR LOSS OF TEST PRESSURE. REPEAT TEST AFTER REPAIRING LEAKS AND DEFECTS UNTIL SYSTEM PASSES TEST.

WASTE AND VENT PIPING SHALL BE TESTED BY CLOSING OPENINGS IN THE PIPING SYSTEM AND FILLING PIPING WITH WATER TO POINT OF OVERFLOW, BUT NOT LESS THAN 10–FOOT HEAD OF WATER. FROM 15 MINUTES BEFORE INSPECTION STARTS TO COMPLETION OF INSPECTION, WATER LEVEL MUST NOT DROP. INSPECT JOINTS FOR LEAKS.

DELICATE CONTROLS

WHEN DELICATE CONTROL MECHANISMS ARE INSTALLED IN THE PIPING SYSTEM, THEY SHALL BE REMOVED DURING THE TESTS TO PREVENT SHOCK DAMAGE. THIS DOES NOT APPLY TO CONTROL VALVES.

LEAKS

LEAKS DEVELOPING SUBSEQUENT TO THESE TESTS SHALL NOT BE REPAIRED BY MASTIC OR OTHER TEMPORARY MEANS. ALL LEAKS SHALL BE REPAIRED BY REMOVAL OF THE VALVE, FITTING, JOINT, OR SECTION THAT IS LEAKING AND REINSTALLING NEW MATERIAL WITH JOINTS AS SPECIFIED HEREIN BEFORE.

STERILIZATION

AFTER THE TESTS ARE COMPLETED AND BEFORE THE SYSTEM IS PUT IN OPERATION THE ENTIRE WATER PIPE SYSTEM SHALL BE FILLED WITH A SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE AND ALLOWED TO STAND 6 HOURS BEFORE FLUSHING. DURING THIS PERIOD A PRESSURE OF NOT LESS THAN 40 PSI SHALL BE MAINTAINED ON THE SYSTEM AND ALL VALVES SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER DISINFECTION A SAMPLE SHALL BE DRAWN AND TESTED BY THE LOCAL HEALTH DEPARTMENT AND A LETTER CERTIFYING THE ADEQUACY OF THE WATER FOR HUMAN CONSUMPTION SHALL BE SENT TO THE ENGINEER FOR APPROVAL.

SHOULD THE SAMPLE NOT PASS THE HEALTH DEPARTMENT TEST, THEN THE SYSTEM SHALL BE DRAINED AND DISINFECTED UNTIL THE WATER PASSES INSPECTION BY THE HEALTH DEPARTMENT AND A LETTER STATING THE ADEQUACY OF THE WATER FOR HUMAN CONSUMPTION SHALL BE SENT TO THE ENGINEER.

WARRANTY

ALL PARTS, MATERIAL, EQUIPMENT AND LABOR FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BEAR A ONE (1) YEAR, NO COST TO THE OWNER, WARRANTY FROM DATE OF SUBSTANTIAL COMPLETION.

THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OF THE ABOVE WARRANTY REQUIREMENTS IN A WRITTEN STATEMENT ALONG WITH EQUIPMENT MANUFACTURER'S WARRANTIES.

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	FIXTURE MFG.	CATALOG NO.	TRIM MFG.	CATALOG NO.	REMARKS	CW	HW	W	V
P–1	WATER CLOSET–ADA– WALL MTD FLUSH VALVE – BACK SPUD	TOTO	CT708V	SLOAN	952–1.6–FW–TP	TOTO SEAT SC534 (SET AT ADA HEIGHT). PROVIDE WATTS #SCA–141 CARRIER. PROVIDE TRAP PRIMER ELBOW ON FLUSH VALVE WITH 3/8" CONNECTION.	1"	–	3"	2"
P–2	LAVATORY–ADA	TOTO	LT307.4	SYMMONS	S–61–G	MCGUIRE CAST BRASS P–TRAP W/ TUBLAR WALL BEND (SIZE AS REQUIRED). TRUEBRO WHITE HANDICAP LAV–GUARD INSULATION KIT #102. PROVIDE ZURN Z–1231 CARRIER.	1/2"	–	2"	2"
P–3	HOSE BIBB (WALL TYPE)	ZURN	Z–1341–RC–LK	–	–	ROUGH CHROME FINISH WITH 1/2" CHROME PLATED VANDAL RESISTANT VACUUM BREAKER. FURNISHED WITH LOOSE KEY HANDLE	3/4"	–	–	–
P–4	WATER FOUNTAIN	HAWS	1011MS	–	–	UNCONDITIONED WATER FOUNTAIN.	1/2"	–	2"	2"
P–5	SINK– DROP–IN 19X19	ELKAY	LR191910	T&S BRASS	B–2866/B–0199 –07F–05	P–TRAPS IN CONCEALED SPACES MAY BE PVC.	1/2"	–	2"	2"
P–5H	ADA SINK– DROP–IN 19X19	ELKAY	LRAD1919	T&S BRASS	B–2866/B–0199 –07F–05	MCGUIRE CAST BRASS P–TRAP W/ TUBLAR WALL BEND (SIZE AS REQUIRED). 5 1/2" BOWL DEPTH, REAR OFFSET DRAIN. TRUEBRO WHITE HANDICAP LAV–GUARD INSULATION KIT #102.	1/2"	–	2"	2"
P–6	HOSE BIBB (WALL TYPE)	ZURN	Z–1341–P34–RC	–	–	PROVIDE LOOSE KEY HANDLE.	3/4"	–	–	–
P–7	FLOOR DRAIN	WATTS	FD–390–E–63	–	–	PROVIDE TRAP PRIMER ADAPTER.	–	–	3"	–
WHA	SHOCK ARRESTORS	SIOUX CHIEF WILKINS ZURN	SIZE AS PER PDI STANDARDS.	–	–	WATER HAMMER ARRESTOR SIZING 3/4" SIOUX CHIEF 653–B OR WILKINS 1250–B OR ZURN Z1700–200	AS REQUIRED	–	–	–

PLUMBING FIXTURE UNIT SCHEDULE – PROPOSED RESTROOM

QUANTITY	DESCRIPTION	WATER DEMAND						SANITARY	
		FIXTURE UNIT (F.U.) (EACH)			FIXTURE UNITS (TOTAL)			FIXTURE UNIT (F.U.)	
		COLD	HOT	COMB.	COLD	HOT	COMB.	F.U. (EACH)	F.U. (TOTAL)
1	DRINKING FOUNTAIN	0.25	0	0.25	0.25	0.00	0.25	1.50	1.50
4	LAVATORY (PUBLIC)	1.50	1.50	2.00	6.00	6.00	8.00	2.00	8.00
4	WATER CLOSET, PUBLIC FLUSH VALVE	10.00	0	10.00	40.00	0.00	40.00	4.00	16.00
4	FLOOR DRAINS	0	0	0	0.00	0.00	0.00	2.00	8.00
9				**TOTAL:**	**46.25**	**6.00**	**48.25**	**–**	**25.50**

PLUMBING FIXTURE UNIT SCHEDULE – CLASSROOM PORTABLE

QUANTITY	DESCRIPTION	WATER DEMAND						SANITARY	
		FIXTURE UNIT (F.U.) (EACH)			FIXTURE UNITS (TOTAL)			FIXTURE UNIT (F.U.)	
		COLD	HOT	COMB.	COLD	HOT	COMB.	F.U. (EACH)	F.U. (TOTAL)
6	LAVATORY (PUBLIC)	1.50	1.50	2.00	9.00	9.00	12.00	2.00	12.00
2	WATER CLOSET, PUBLIC FLUSH TANK	5.00	0	5.00	10.00	0.00	10.00	4.00	8.00
8				**TOTAL:**	**19.00**	**9.00**	**22.00**	**–**	**20.00**

PLUMBING FIXTURE UNIT SCHEDULE – EXISTING RANGER STATION

QUANTITY	DESCRIPTION	WATER DEMAND						SANITARY	
		FIXTURE UNIT (F.U.) (EACH)			FIXTURE UNITS (TOTAL)			FIXTURE UNIT (F.U.)	
		COLD	HOT	COMB.	COLD	HOT	COMB.	F.U. (EACH)	F.U. (TOTAL)
1	LAVATORY (PRIVATE)	0.50	0.50	0.70	0.50	0.50	0.70	2.00	2.00
1	KITCHEN SINK, DOMESTIC	1.00	1.00	1.40	1.00	1.00	1.40	2.00	2.00
1	WATER CLOSET, PRIVATE FLUSH TANK	2.20	0	2.20	2.20	0.00	2.20	4.00	4.00
3				**TOTAL:**	**3.70**	**1.50**	**4.30**	**–**	**8.00**

PLUMBING LEGEND

DESCRIPTION	LINETYPE
COLD WATER	
HOT WATER	
HOT WATER RETURN	
SANITARY	
SANITARY VENT	
FUEL GAS	
–CONDENSATE DRAIN	
BALL VALVE	
CHECK VALVE	
GATE VALVE	
SOLENOID VALVE	
VALVE IN VALVE BOX	
PRESSURE REDUCING VALVE	
PIPE UP	
PIPE DOWN	
FLOOR DRAIN ABOVE GRADE	
FLOOR CLEANOUT	
CONNECT TO EXISTING	
CAP	
HOSE BIBB OR WALL HYDRANT	

ABBREVIATIONS

A/C	AIR CONDITIONING	G	GAS	PH	PHASE
A/E	ARCHITECT/ENGINEER	GA	GAUGE	POC	POINT OF CONNECTION
ADA	AMERICANS WITH DISABILITIES ACT	GAL	GALLONS	PSIG	POUNDS PER SQUARE INCH GAUGE
		GPM	GALLONS PER MINUTE		
AD	AREA DRAIN			RM	ROOM
AFG	ABOVE FINISHED GRADE	HB	HOSE BIBB		
AAV	AIR ADMITTANCE VALVE			SD	STORM DRAIN
BTUH	BRITISH THERMAL UNITS PER HOUR	HD	HEAD	SDC	SOLUTION DISPENSER CONNECTION
BWCV	BACK WATER CHECK VALVE	HP	HORSE POWER	SPECS	SPECIFICATIONS
CD	CONDENSATE DRAIN	HVAC	HEATING VENTILATION AIR CONDITIONING	SAN	SANITARY SEWER
				S.F.	SQUARE FEET
CFM	CUBIC FEET PER MINUTE	HW	HOT WATER		
CO	CLEAN OUT	IE	INVERT ELEVATION	T & P	TEMPERATURE & PRESSURE
CONN	CONNECTION	HZ	HERTZ	TBD	TO BE DETERMINED
CONT	CONTINUOUS			TDH	TOTAL DISCHARGE HEAD
CW	COLD WATER	MAX	MAXIMUM	TEMP	TEMPERATURE
		MIN	MINIMUM	TYP	TYPICAL
DIA	DIAMETER			UG	UNDERGROUND
DN	DOWN	NC	NORMALLY CLOSED	UL	UNDERWRITER'S LABORATORIES, INC.
DWG	DRAWING	NEC	NATIONAL ELECTRICAL CODE	UNO	UNLESS NOTED OTHERWISE
		NIC	NOT IN CONTRACT		
ECO	EXTERIOR CLEANOUT	NO	NORMALLY OPEN	VTR	VENT THRU ROOF
		NTS	NOT TO SCALE	V	VENT
F	DEGREES FAHRENHEIT	PDI	PLUMBING DRAINAGE INSTITUTE		
FCO	FLOOR CLEANOUT			W/	WITH
FD	FLOOR DRAIN			WCO	WALL CLEAN OUT
FT	FEET				
FBC	FLORIDA BUILDING CODE				

PLUMBING SCHEDULES AND DETAILS

SCALE : NOT TO SCALE

FORNEY ENGINEERING INC
Mechanical & Electrical Consulting Engineers
5219 Fourth Avenue Circle East, Bradenton, FL 34208
Tel (941) 748-5884 Fax (941) 747-0240 E-Mail fe@forneyengineering.com
COA • 00004049

DESIGNED NJM DRAWN NJM CHECKED GLA
JOB NO 09–2174 SCALE AS SHOWN DATE 06–30–09

THE BEST OF MY KNOWLEDGE AND BELIEF, THESE PLANS ARE IN COMPLIANCE WITH ALL APPLICABLE BUILDING CODES.

BY _____ GERARD L. ABRAMS 77596

DATE _____

JERRY N. ZOLLER AIA
ARCHITECT / PLANNER P.A.
914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465

PROPOSED BUILDING FOR:
EMERSON POINT CONSERVATION PRESERVE
5801 17th STREET WEST PALMETTO, FLORIDA

job no 0907
date 06/30/09
drawn --
checked
revisions

sheet
P-5.1
of