

MANATEE WTP

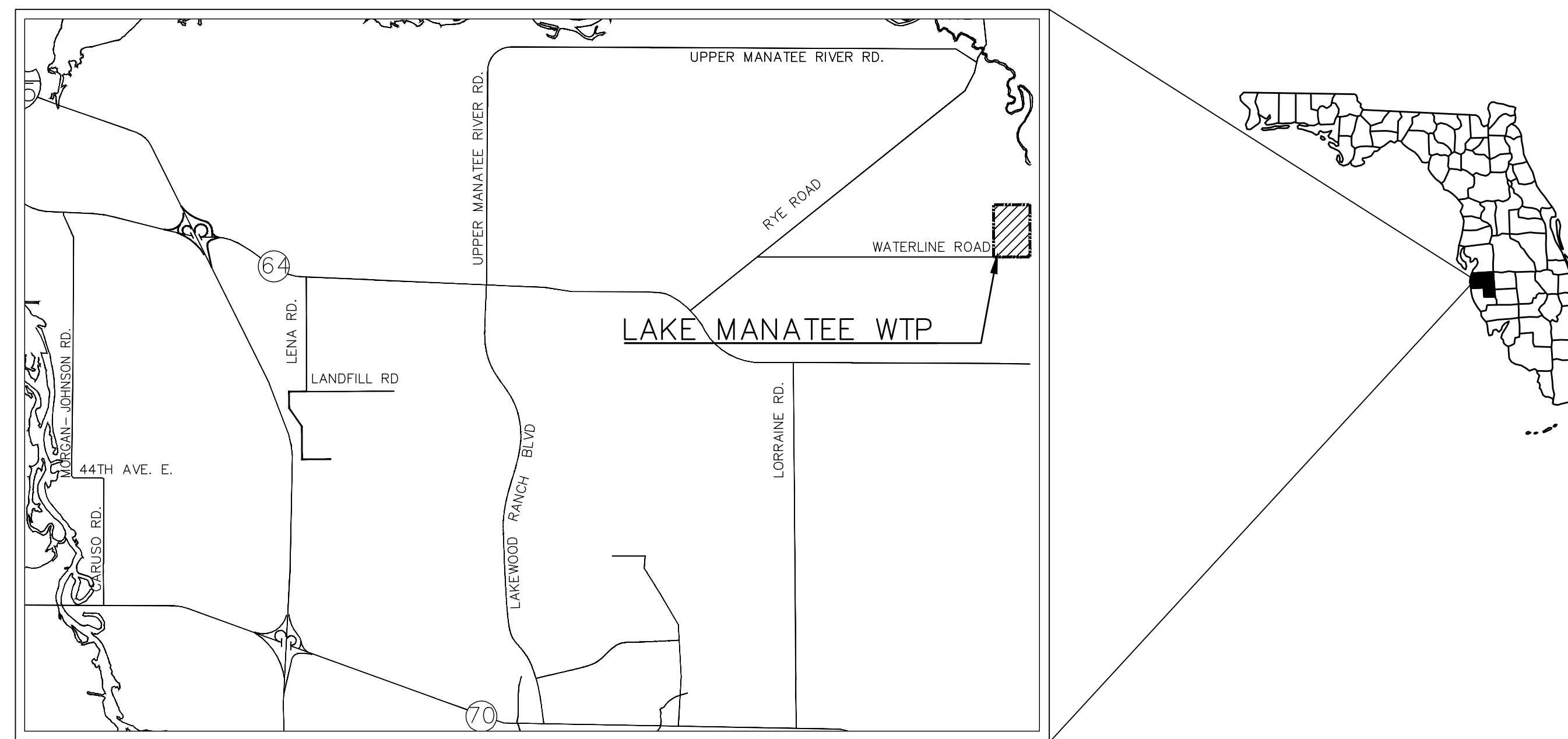
COUNTY PROJECT No. 6025374 & 6025973

A-MCC-1 & 2 , RAW WATER #2 MCC REPLACEMENT

ISSUE FOR BID
FEBRUARY 2016

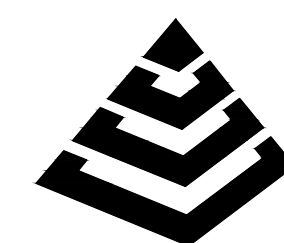


MANATEE COUNTY, FLORIDA



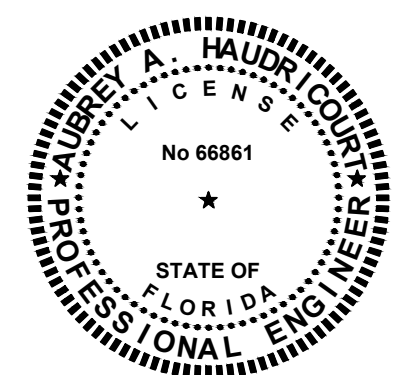
PROJECT VICINITY MAP
SECTION 25, TOWNSHIP 34S, RANGE 19E

DRAWING INDEX	
SHEET	DESCRIPTION
E-0.0	COVER & INDEX
E-0.1	ABBREVIATIONS, SYMBOLS, AND LEGENDS
E-0.2	OVERALL SITE PLAN
E-1.0	EXISTING A-MCC 1&2 ONE LINE DEMOLITION
E-1.1	EXISTING A-MCC 1&2 DEMOLITION PLAN I
E-1.2	EXISTING A-MCC 1&2 DEMOLITION PLAN II
E-1.3	RAW WATER #2 MCC DEMOLITION
E-1.4	RW#2 EXISTING & PROPOSED SITE PLAN
E-2.0	PROPOSED MCC-1A ONE LINE
E-2.1	PROPOSED MCC-1A FLOOR PLAN
E-2.2	RAW WATER #2 MCC ONE LINE
E-2.3	RAW WATER #2 MCC POWER PLAN
E-2.4	RAW WATER #2 MCC STRUCTURAL SITE PLAN
E-3.0	CONTROL SCHEMATICS
E-3.1	ELECTRICAL DETAILS I
E-3.2	ELECTRICAL DETAILS II



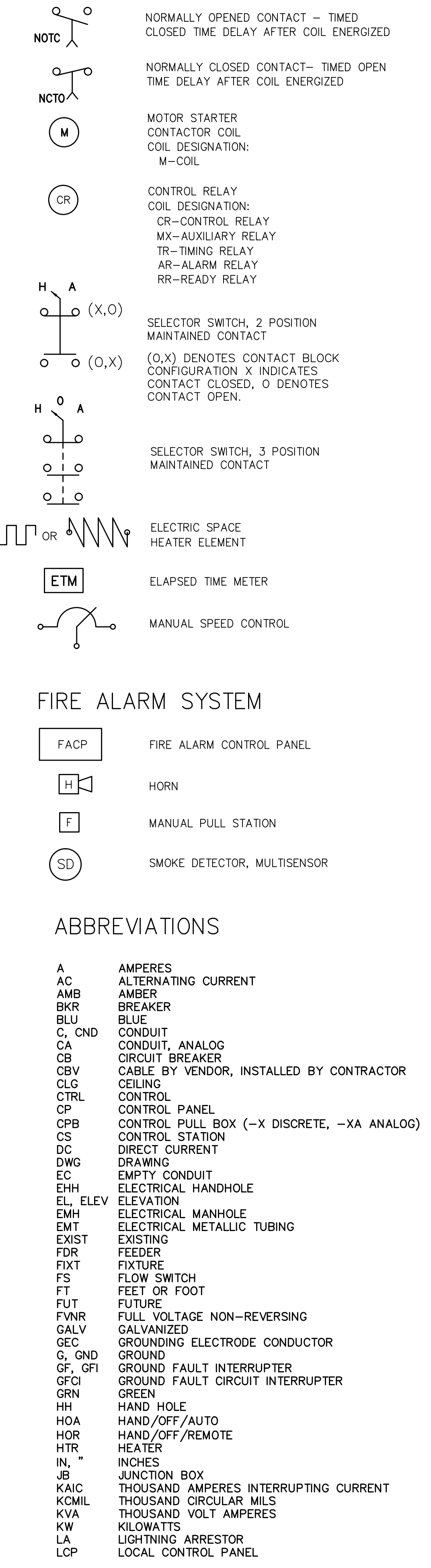
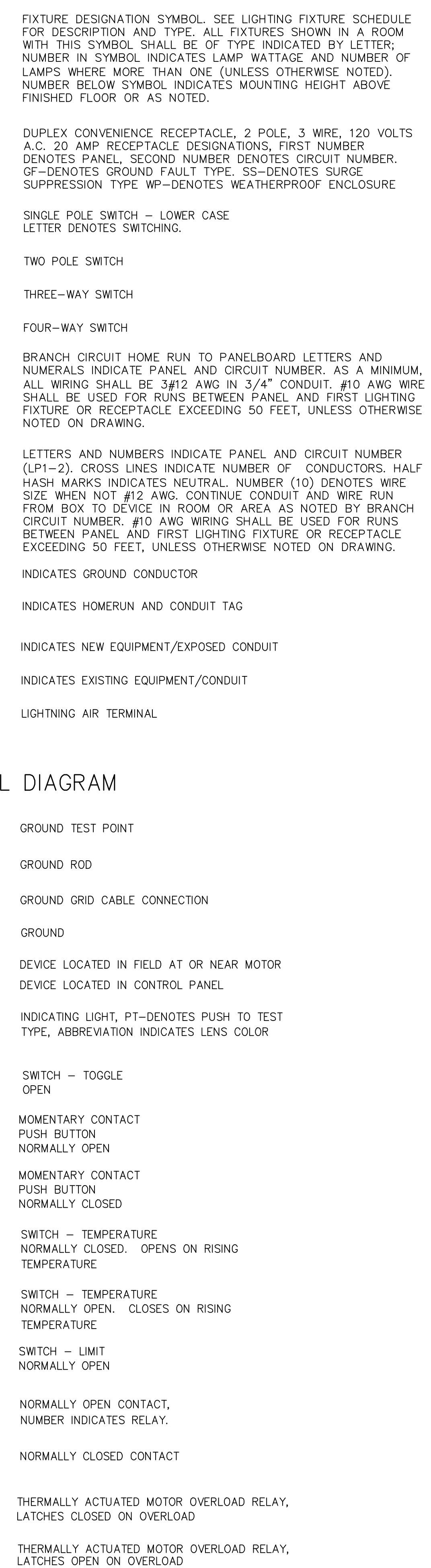
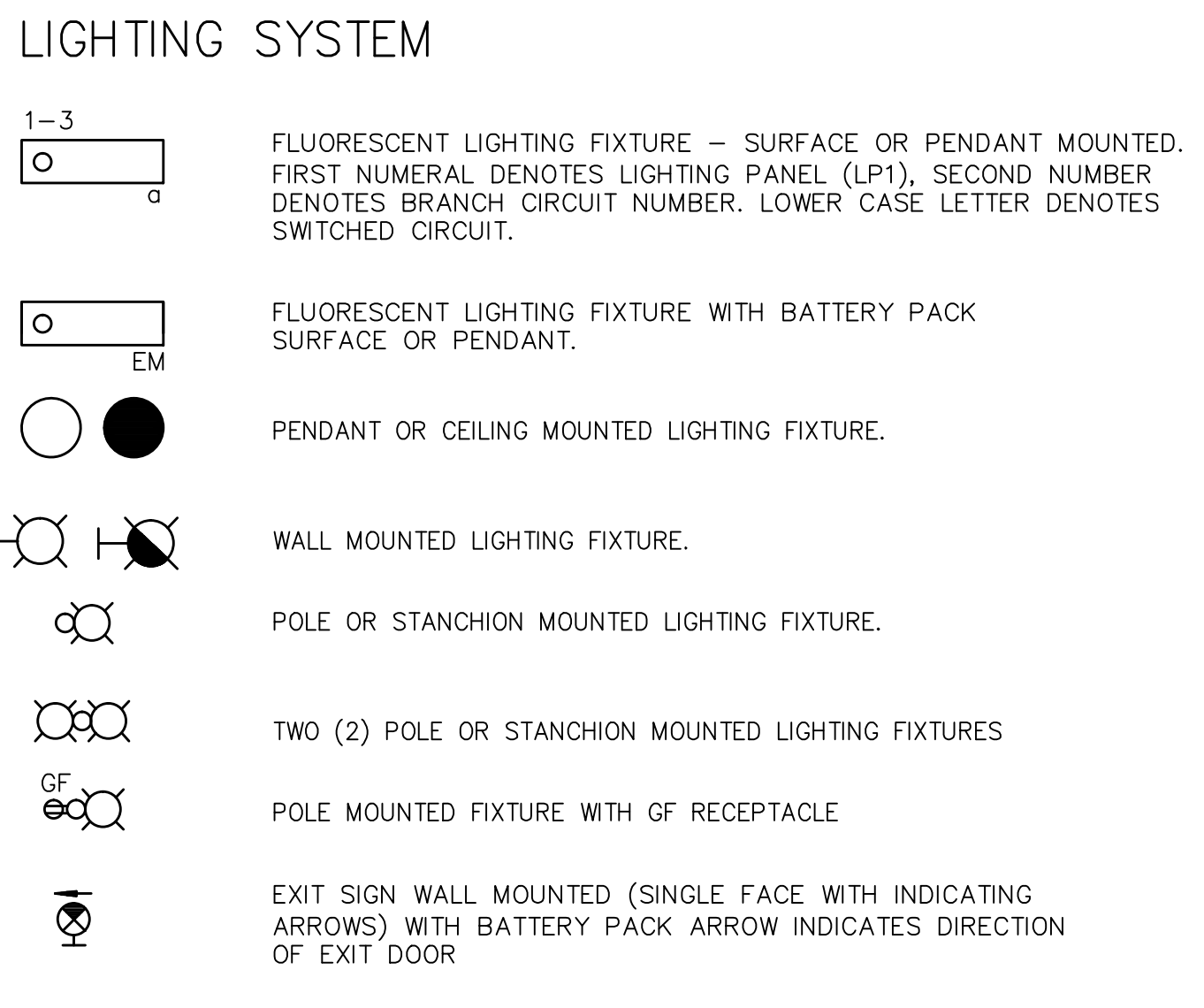
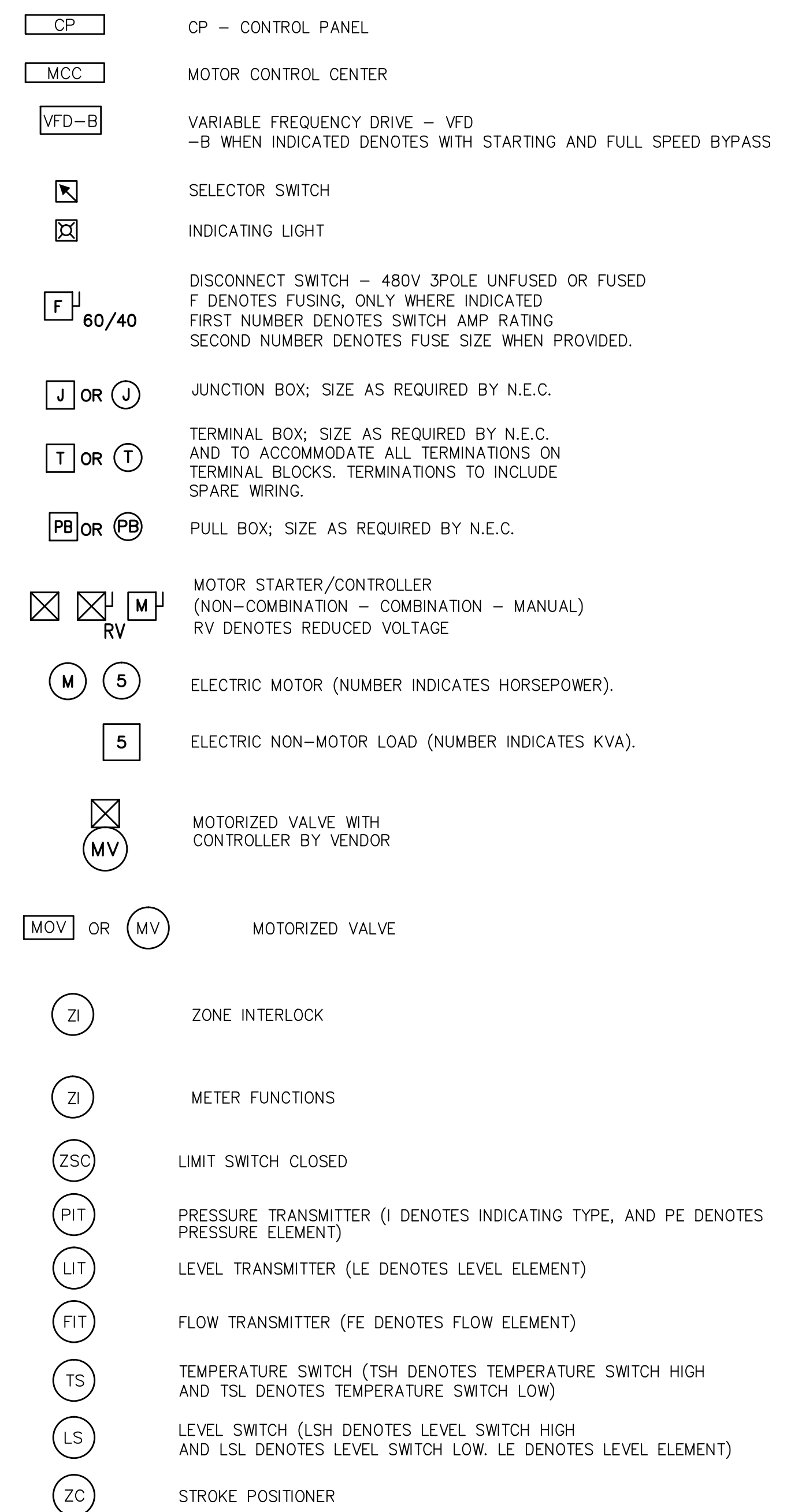
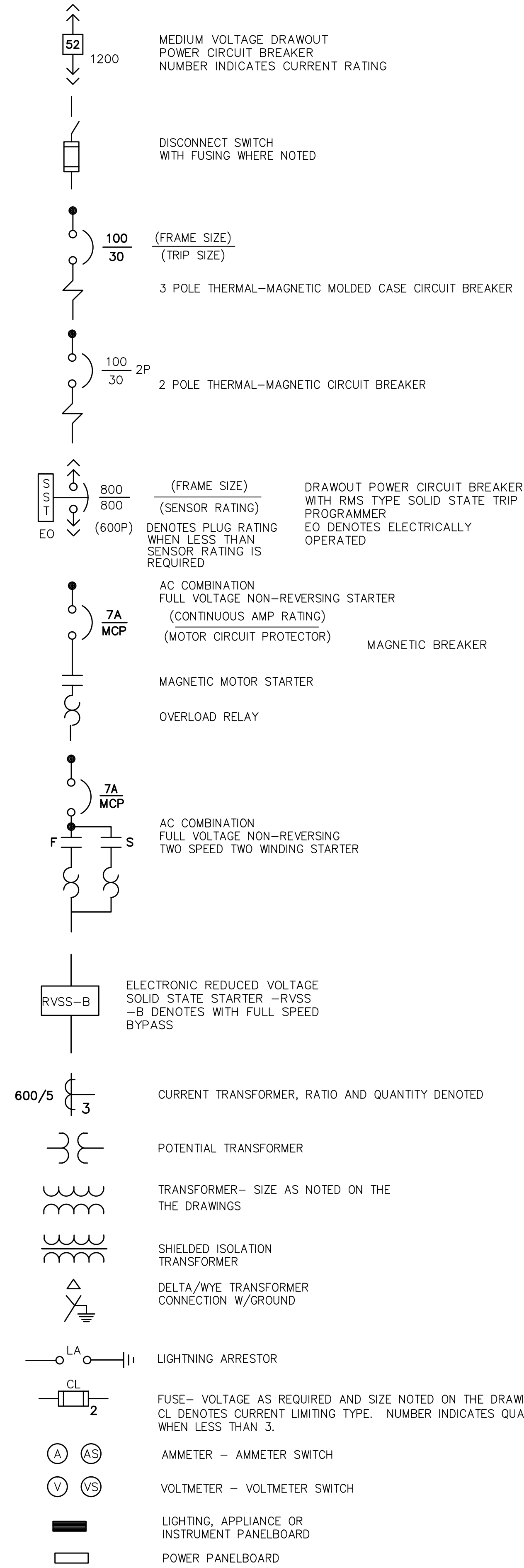
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AUBREY HAUDRICOURT
No. 66861

POWER DISTRIBUTION SYSTEM

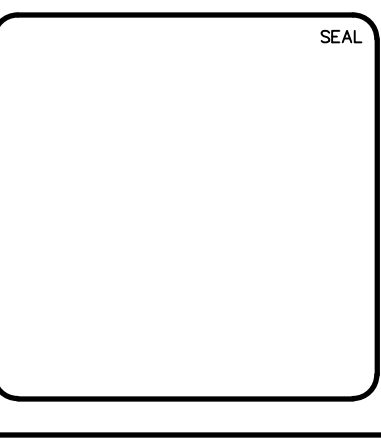
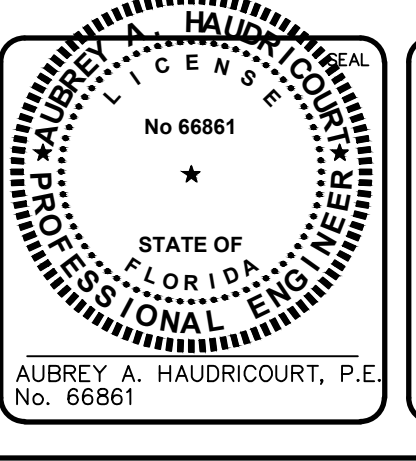


GENERAL NOTES:

- THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
- THE CONTRACTOR SHALL READ AND UNDERSTAND THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. THIS INCLUDES BUT IS NOT LIMITED TO THE PLANS AND SPECIFICATIONS FOR ALL DISCIPLINES. THIS WILL ENSURE THAT HE UNDERSTANDS THE FULL SCOPE OF WORK AND IS ABLE TO CONVEY THE REQUIRED MATERIALS AND METHODS OF INSTALLATION TO HIS ESTIMATORS, SUPPLIERS AND INSTALLERS.
- THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS.
- PROVIDE MEANS TO FURNISH AND INSTALL.
- COORDINATE ANY AND ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION IN ORDER TO AVOID CONFLICTS DURING CONSTRUCTION.
- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. DO NOT SCALE FROM THESE DRAWINGS.
- WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ANY ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN CONSENT FROM THE ENGINEER AND OWNER.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENFORCED EDITION OF THE NATIONAL ELECTRIC CODE, NATIONAL ELECTRIC SAFETY CODE, LIFE SAFETY CODE, FLORIDA BUILDING CODE AND ALL LOCAL AND STATE CODES AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE U.O.N.

S:\VDA\2016 - MCC A & RWPS #2 - MCC Replacement\00-Drawings\00-Submittals\01-10-2016\01-10-2016 12:50:33 PM_Aubrey_Haudricourt.dwg

REV. NO.	DESCRIPTIONS	DATE



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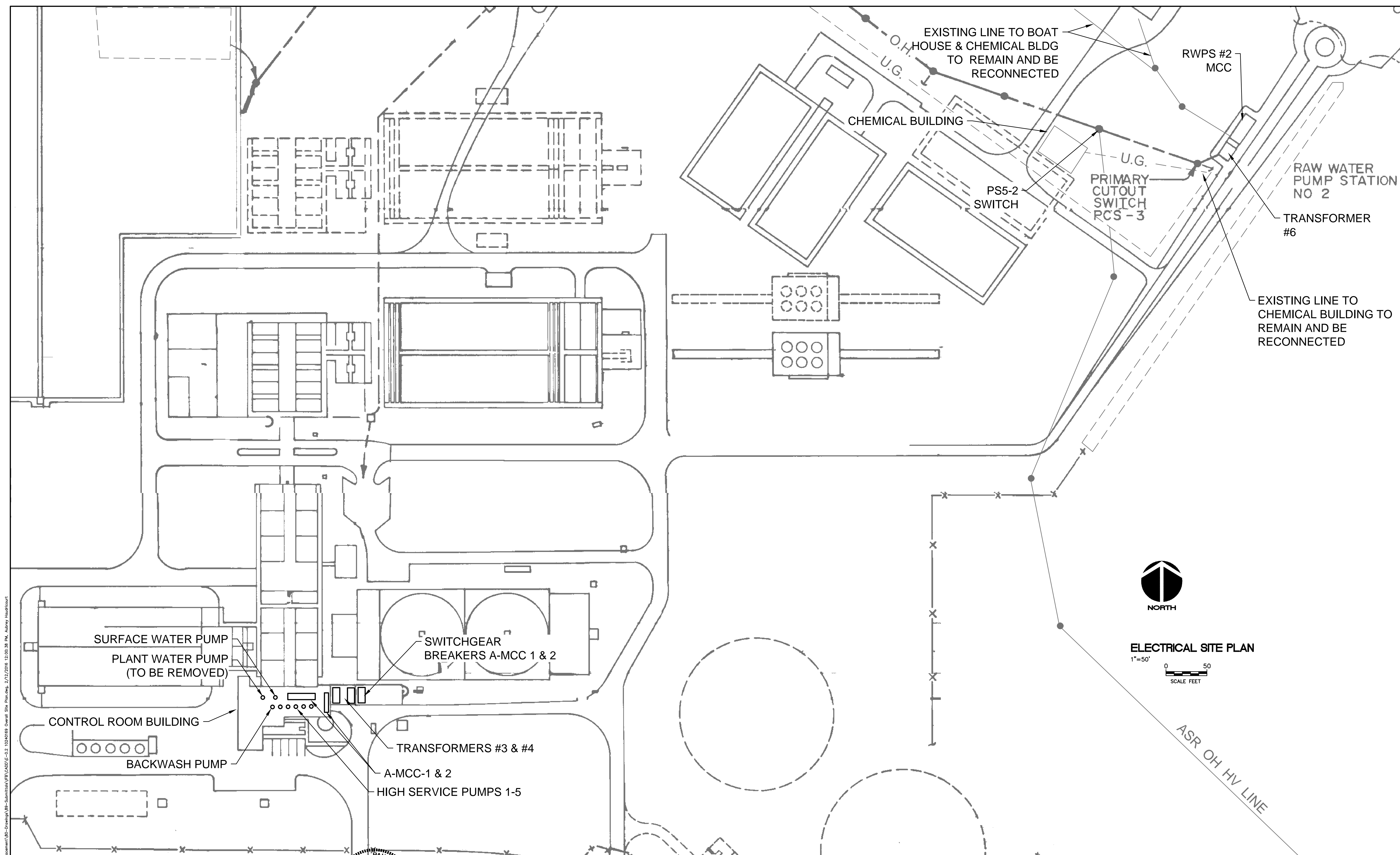


MANATEE COUNTY WTP
'A'-MCC & RWPS #2 MCC REPLACEMENT

ABBREVIATIONS, SYMBOLS, AND LEGENDS

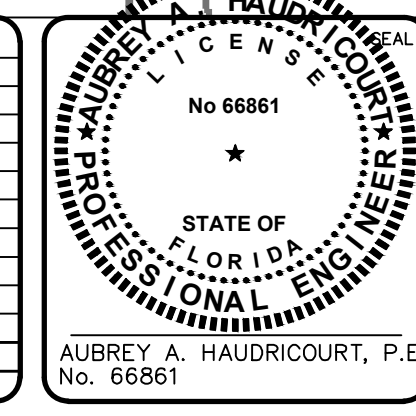
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DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS:	REVISION:	

ISSUE FOR BID



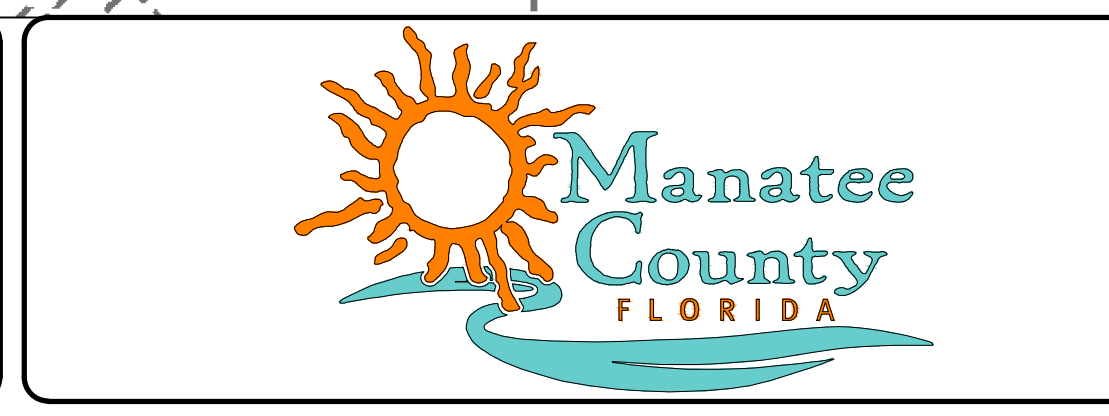
S:\1024\0169 - MCC A & RWPS #2 MCC Replacement\02-Drawings\02-Overall Site Plan.dwg, 2/17/2016 12:00:38 PM, Aubrey Haudricourt

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SEAL

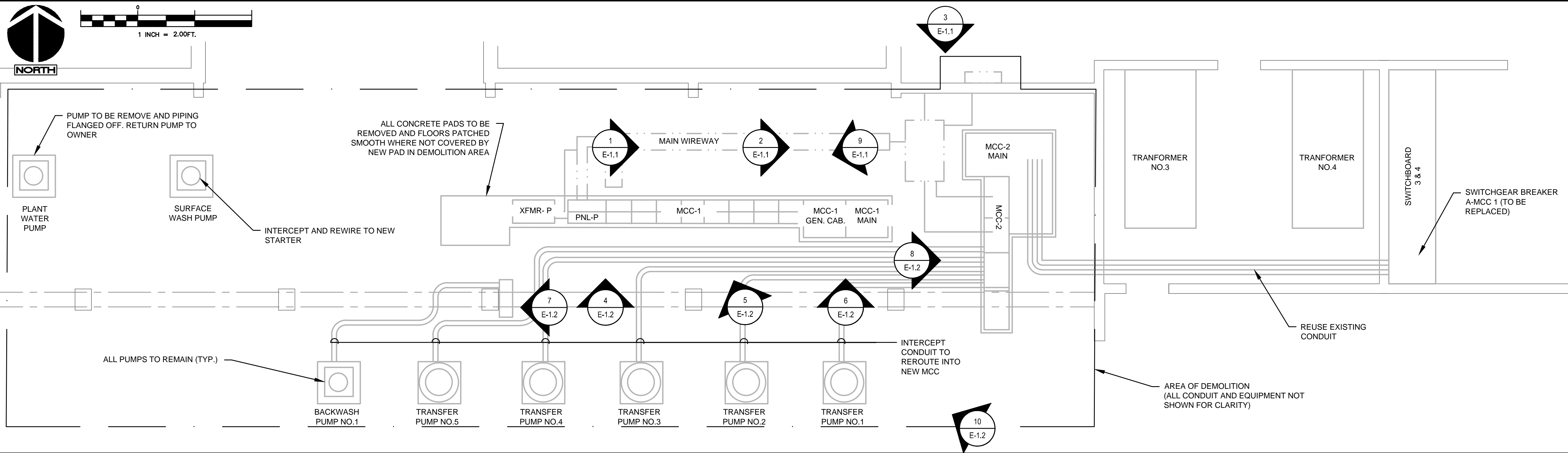
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**MANATEE COUNTY WTP
 'A'-MCC & RWPS #2 MCC REPLACEMENT**

OVERALL SITE PLAN

DATE: February 2016	SCALE	DRAWING NUMBER
MCE PROJ. # 1024-0169	HORIZONTAL:	E-0.2
DRAWN: LS	VERTICAL:	
DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		



- DEMOLITION NOTES:**
- SCOPE OF WORK IS REPLACEMENT OF ALL MOTOR CONTROLLERS AND BREAKERS TO EXISTING PUMPS AND OTHER RELATED EQUIPMENT IN EXISTING MCC'S. CONDUIT CAN BE INTERCEPTED BUT WIRE WILL BE REPLACED WITHIN THE DEMOLITION AREA UNLESS OTHERWISE SHOWN ON DRAWINGS. ALL CONDUIT AND WIRE EXITING THE DEMOLITION AREA WILL BE INTERCEPTED AND SPICED WITH TERMINAL BLOCKS IN TERMINAL BOXES UNLESS OTHERWISE SHOWN ON DRAWINGS.
 - ALL CONTROL WIRING WILL BE TRACED AND RECONNECTED AS NECESSARY. ALL UNUSED CONTROL WIRE WILL BE REMOVED AND IF EMPTY, CONDUIT REMOVED TO NEAREST JUNCTION BOX AND/OR EQUIPMENT.

EXISTING A-MCC-1&2 ELECTRICAL FLOOR PLAN
1/2"=1'-0"



PHOTO DETAIL 1
NTS

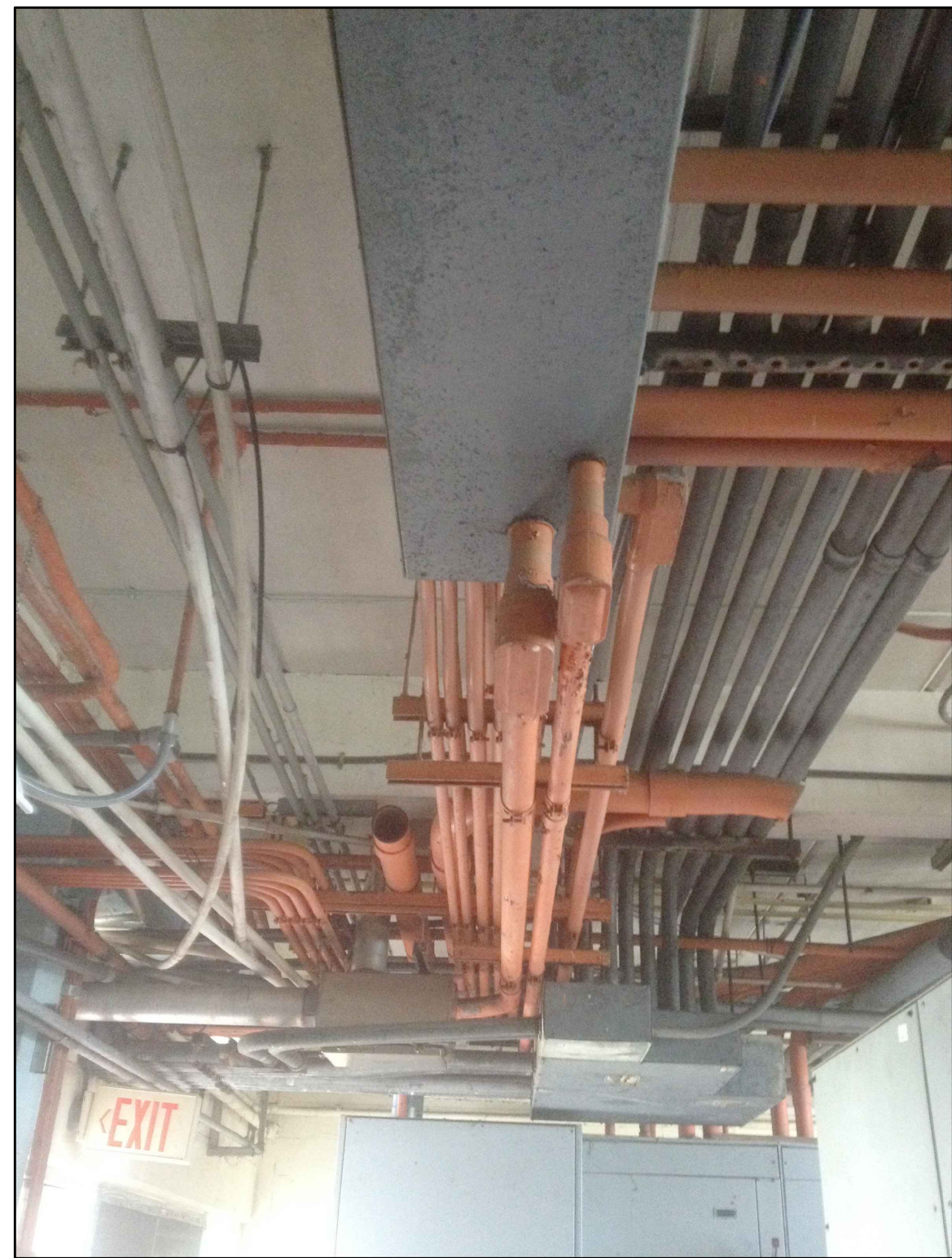


PHOTO DETAIL 2
NTS



PHOTO DETAIL 3
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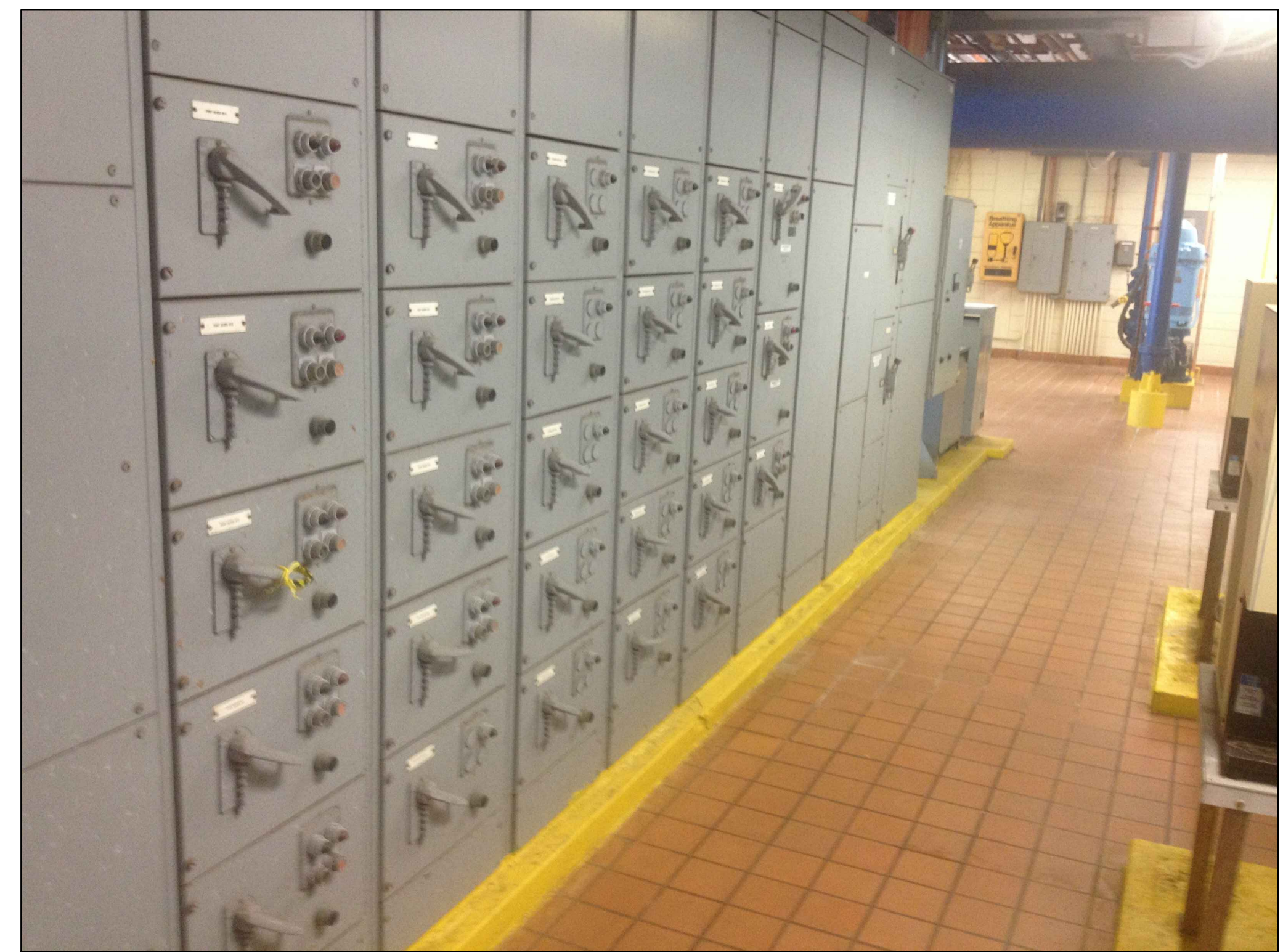
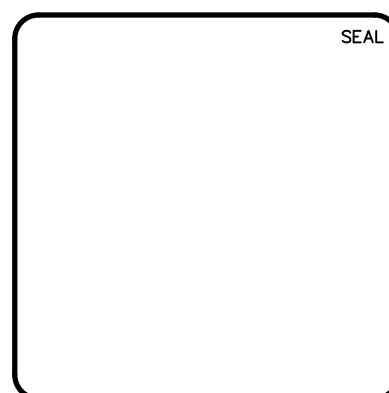
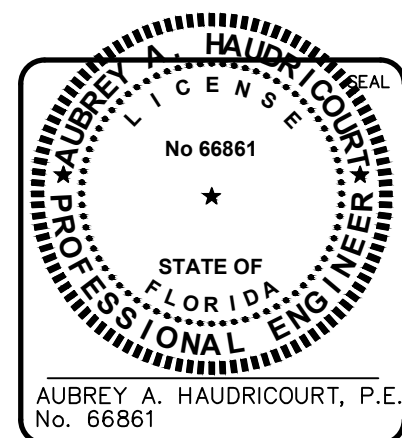


PHOTO DETAIL 9
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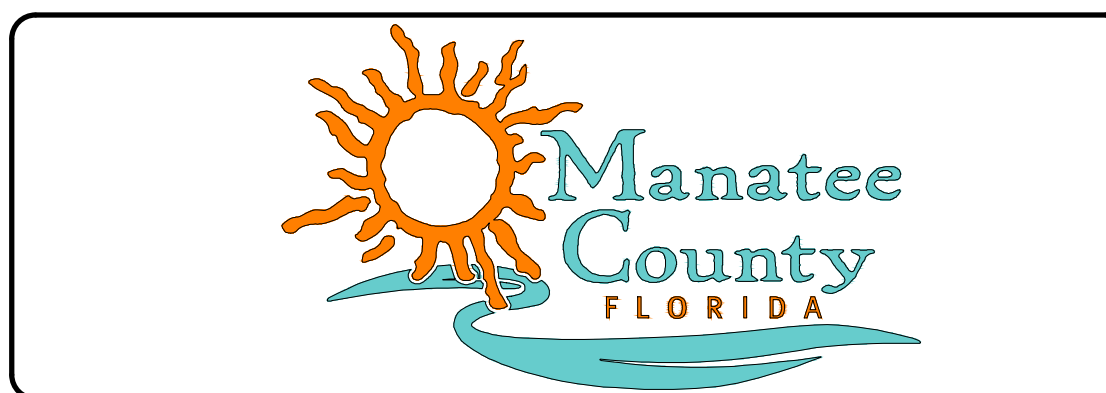
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MANATEE COUNTY WTP
'A'-MCC & RWPS #2 MCC REPLACEMENT

EXISTING A-MCC 1&2 DEMOLITION
PLAN I

DATE: February 2016	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0169	HORIZONTAL:	E-1.1
DRAWN: LS	VERTICAL:	
DESIGNED: AH		
CHECKED: AH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		REVISION:



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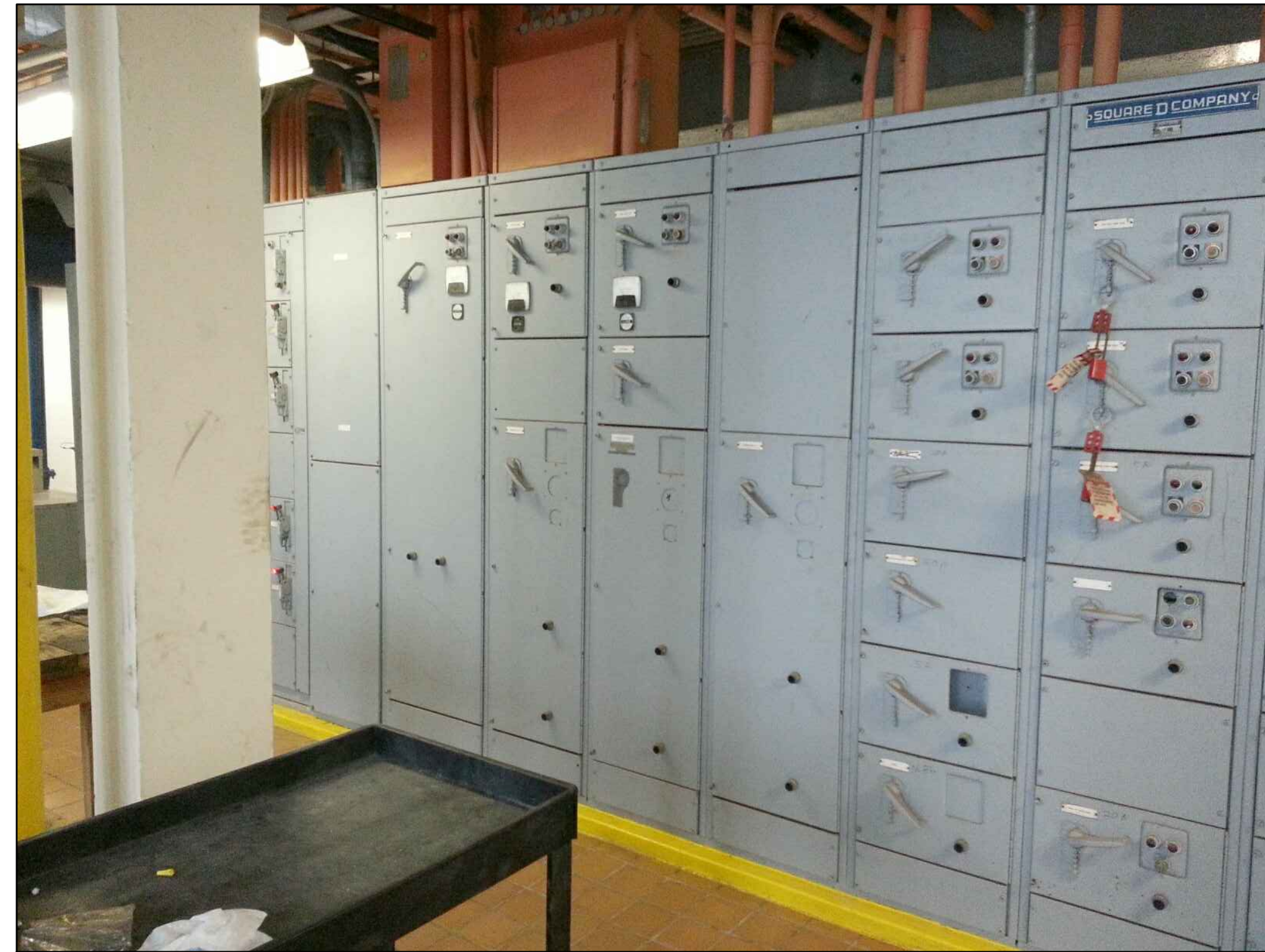


PHOTO DETAIL 5
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PHOTO DETAIL 6
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PHOTO DETAIL 7
NTS



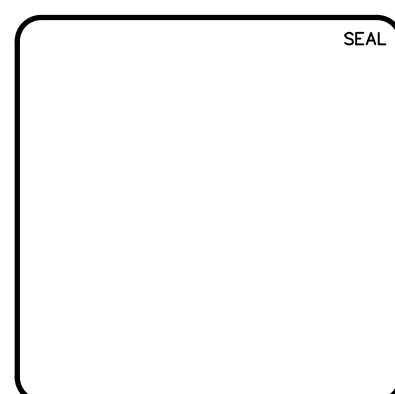
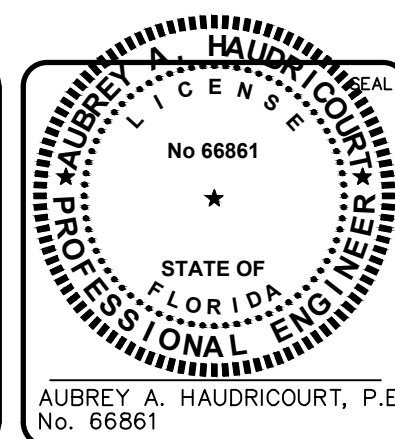
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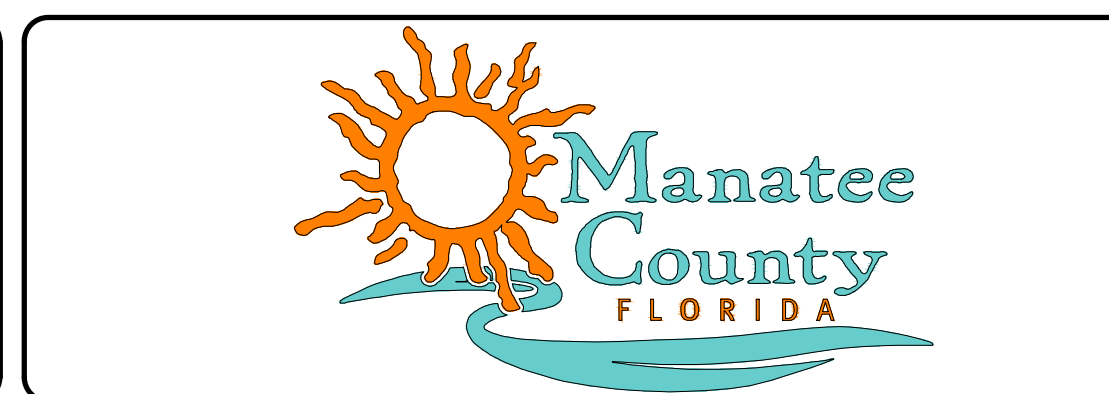
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S:\1024\0169 - MCC A & RWPS #2 MCC Replacement\BID-Drawing\A-MCC-1&2 DEMO Floor Plan 11.dwg, 2/17/2016 12:01:00 PM, Aubrey Haudricourt

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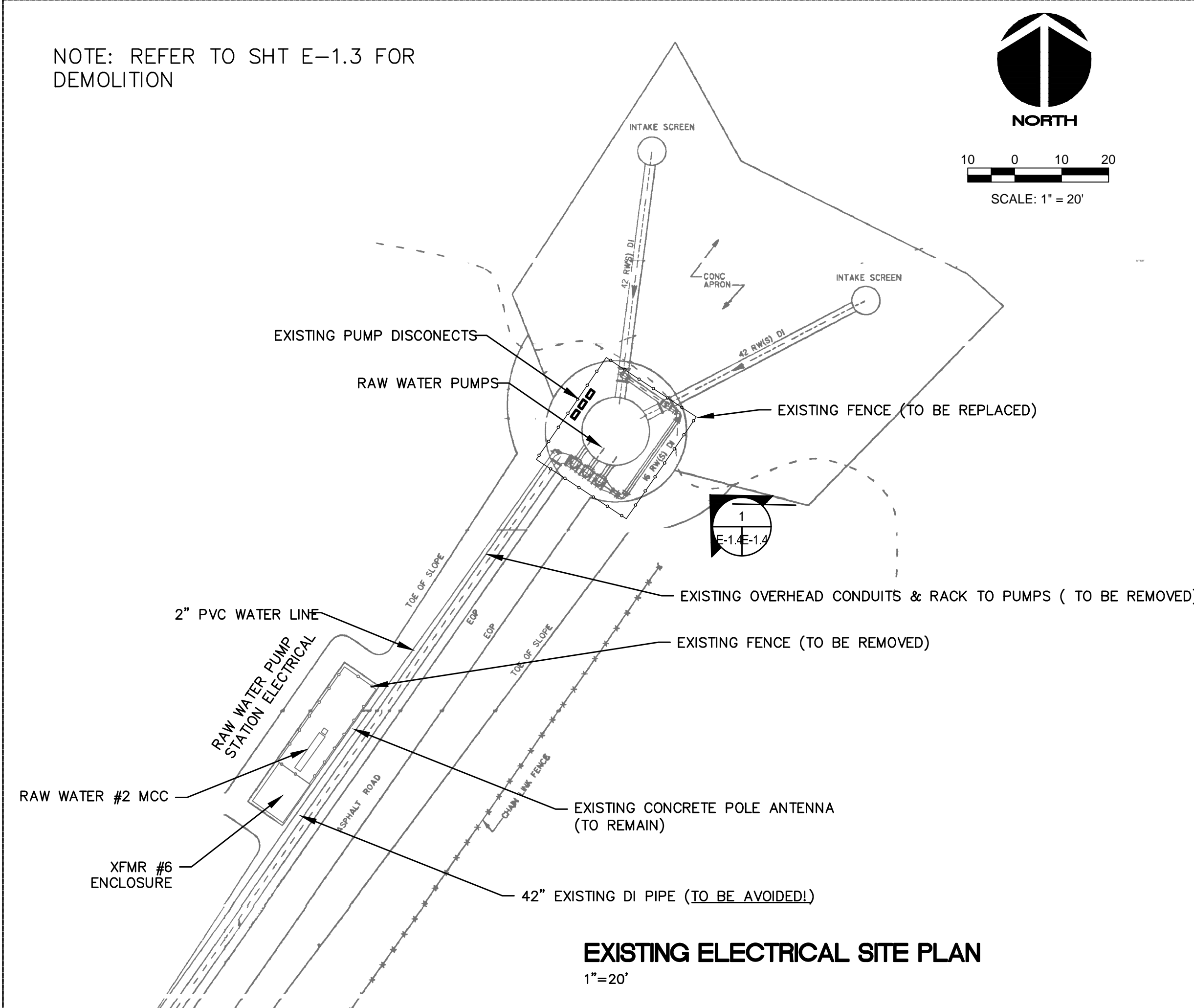


MANATEE COUNTY WTP
 'A'-MCC & RWPS #2 MCC REPLACEMENT

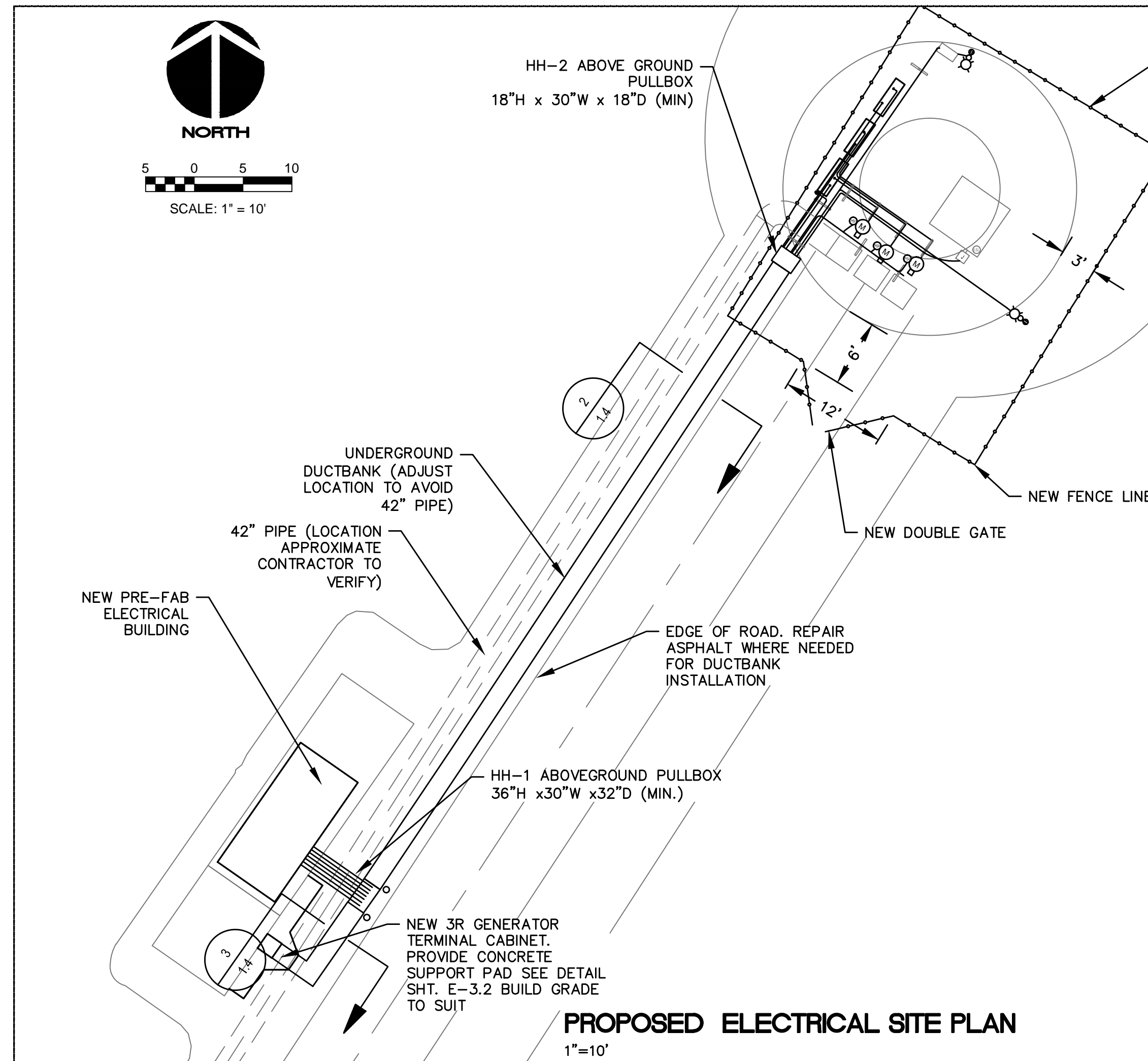
EXISTING A-MCC-1&2 DEMOLITION
 PLAN II

DATE: February 2016	SCALE	DRAWING NUMBER
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DRAWN: LS	VERTICAL:	
DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		

NOTE: REFER TO SHT E-1.3 FOR DEMOLITION

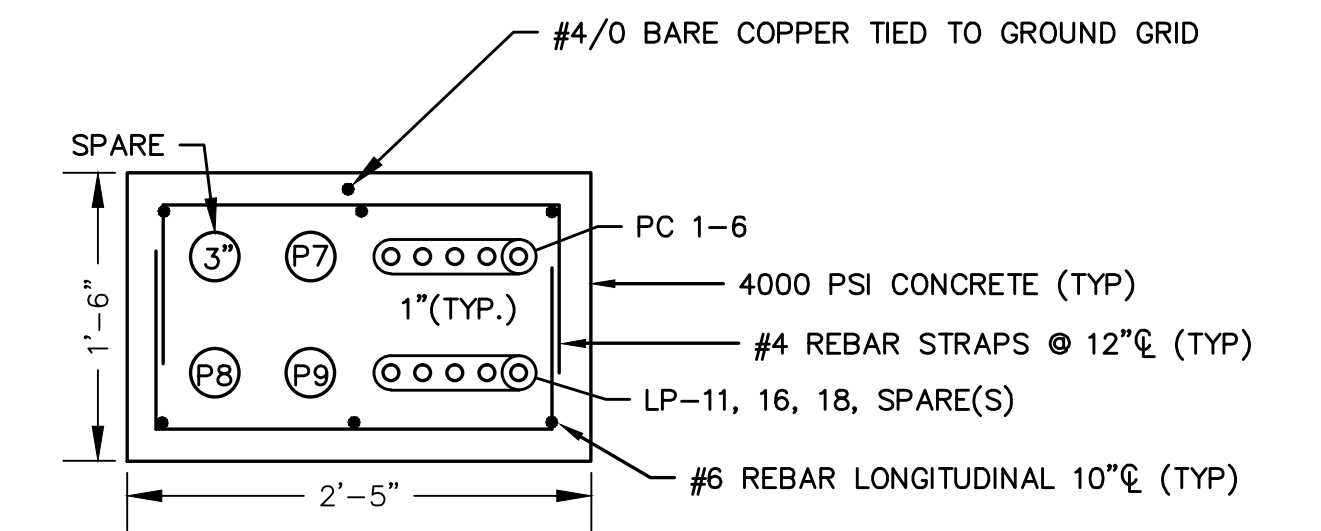


EXISTING ELECTRICAL SITE PLAN
1"=20'

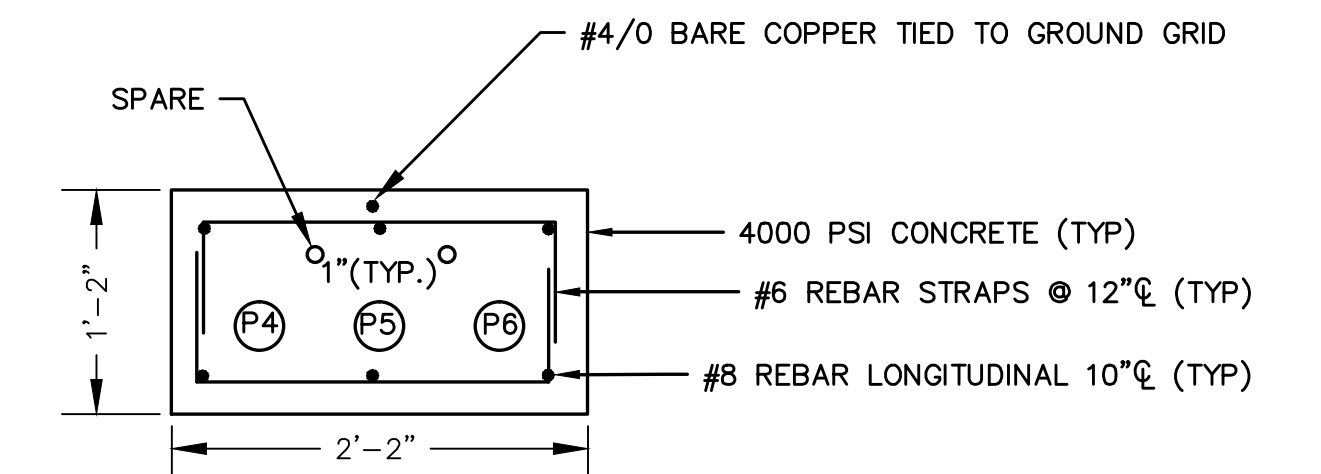


PROPOSED ELECTRICAL SITE PLAN
1"=10'

- NOTES:
1. UG LV DUCTBANK SHALL TERMINATE AT HH-2. PROVIDE ABOVEGROUND ALUMINUM PULLBOX. PROVIDE CONCRETE PAD (TYP. OF BOTH PULL BOXES). MIN SIZE FOR HH-1: 32"H x30"W x32"D. MIN SIZE FOR HH-2: 18"H x30"W x18"D.
 2. ALUMINUM PULLBOX SEE DETAIL SHT 3.2
 3. EXISTING XFMR #6 AND ENCLOSURE TO REMAIN.
 4. COORDINATE WITH PLANT MAINTENANCE FOR ANY DISCONNECTION OF SERVICES.
 5. LOCATION AND DIMENSIONS OF EXISTING STRUCTURES ARE APPROXIMATE. CONTRACTOR SHALL LOCATE AND AVOID ALL EXISTING UNDERGROUND STRUCTURES, INCLUDING 42" DI PIPE.



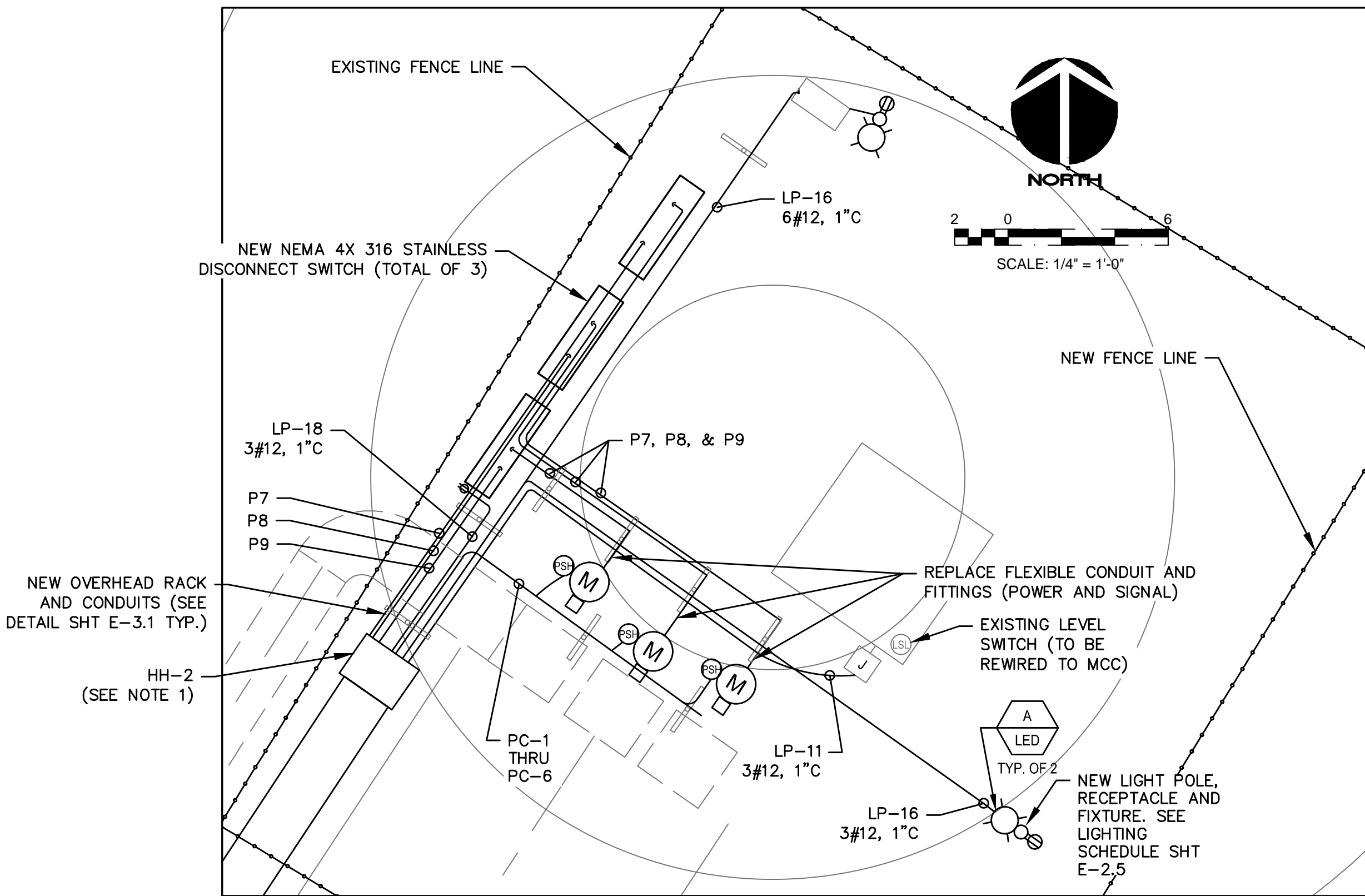
PROPOSED DUCTBANK SECTION
1"=1'-0"



PROPOSED DUCTBANK SECTION
1"=1'-0"

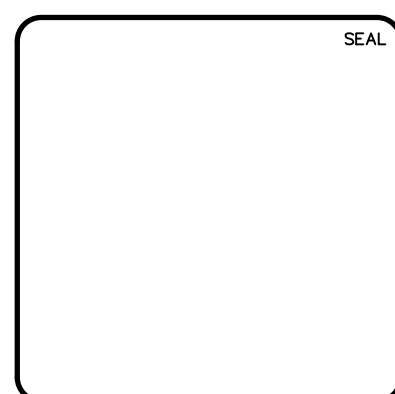
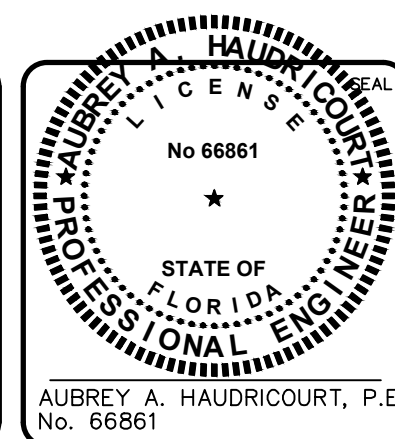


PHOTO 1
NTS
EXISTING PUMPS AND DISCONNECTS

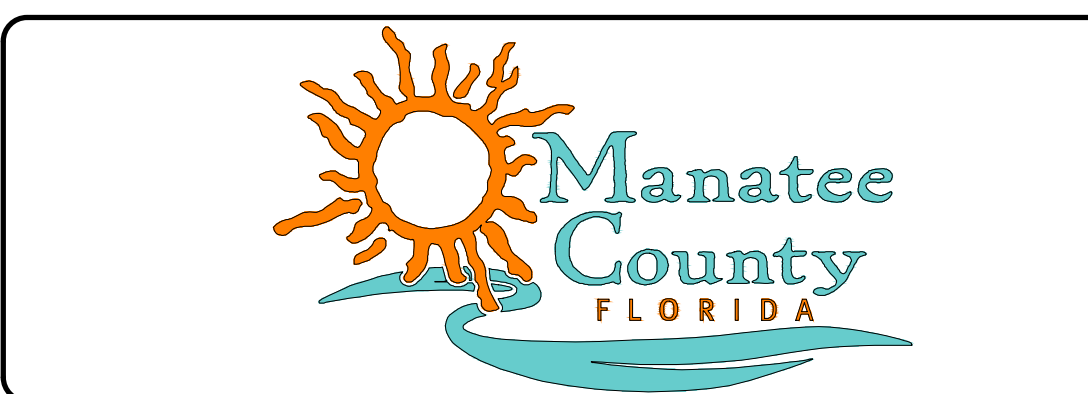


PROPOSED PARTIAL ELECTRICAL SITE PLAN
1"=4'

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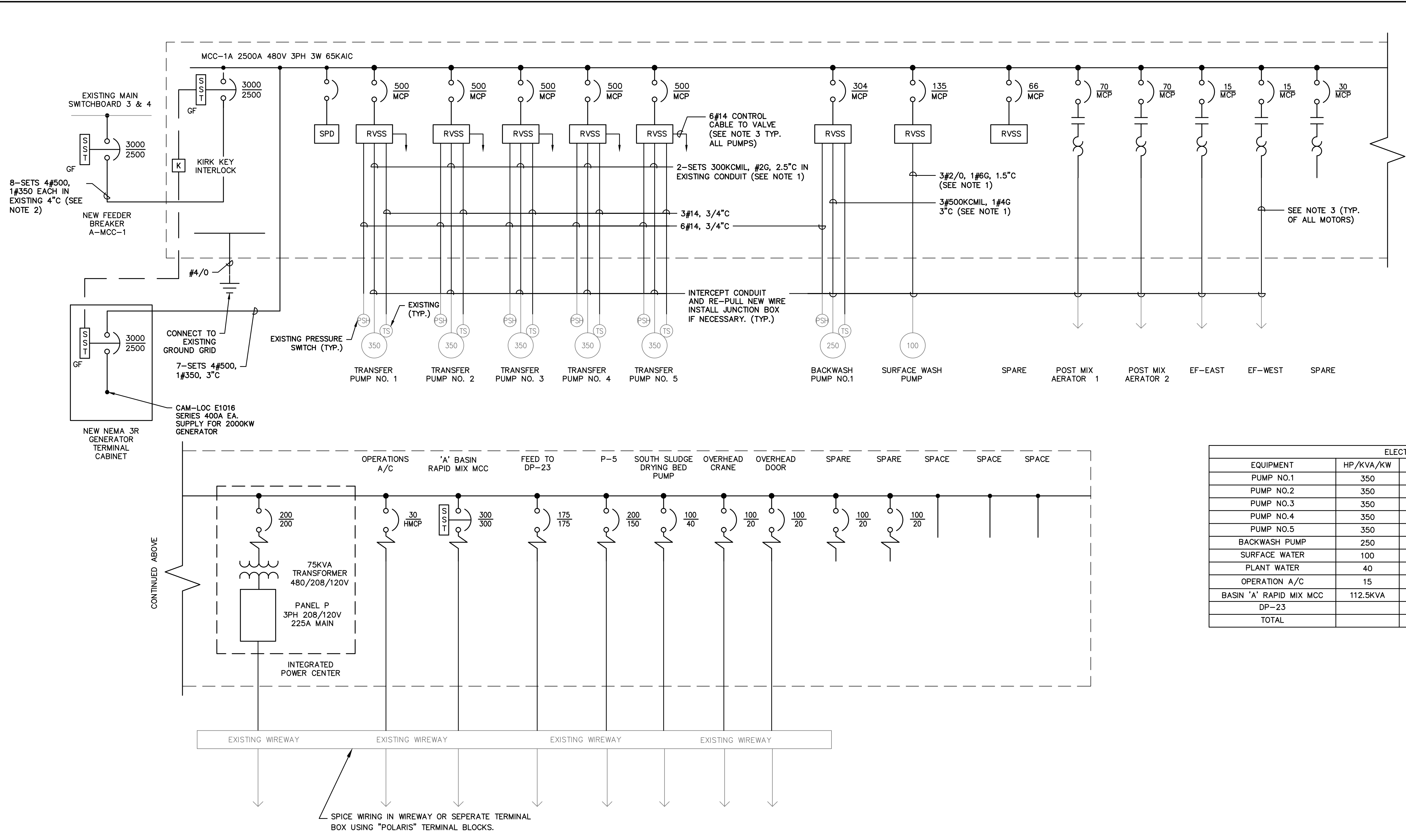


MANATEE COUNTY WTP
'A'-MCC & RWPS #2 MCC REPLACEMENT
RW#2 EXISTING & PROPOSED
SITE PLAN

DATE: February 2016	SCALE: HORIZONTAL: E-1.4	DRAWING NUMBER: E-1.4
MCE PROJ. # 1024-0169	DESIGNED: AH	CHECKED: AAH
PROJ. MGR. AAH	STATUS: ISSUE FOR BID	REVISION:

S:\1024\0169 - MCC 'A' & RWPS #2 MCC Replacement\1024-0169-RW2-Site Plan.dwg, 2/17/2016 12:01:13 PM, Aubrey Haudricourt

S:\1024\0169 - MCC A & RWPS #2 - Drawing\1024-0169-010240169 Proposed MCC-1A One Line.dwg, 2/17/2016 12:01:21 PM, Aubrey Haudricourt



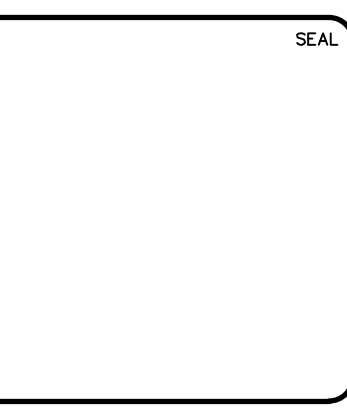
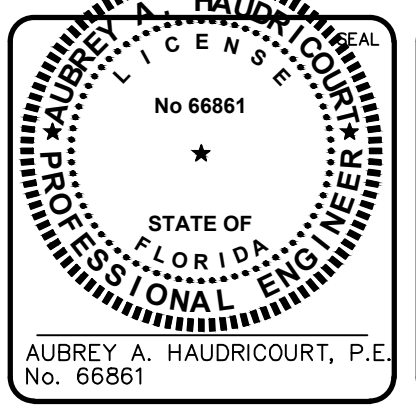
CONTINUED BELOW

- NOTES:**
1. INTERCEPT EXISTING CONDUIT AND EXTEND TO NEW STARTER LOCATION. RE-PULL NEW WIRE AS SHOWN.
 2. INTERCEPT CONDUIT INSIDE OF PUMP ROOM AND EXTEND TO NEW MCC LOCATION. RE-PULL NEW WIRE FROM SWITCHBOARD TO MCC.
 3. SCHEMATIC SHOWN IS MINIMAL REQUIREMENTS. CONTRACTOR IS TO VERIFY CONTROL REQUIREMENTS OF ALL MOTORS CONNECTED TO MCC. CONTRACTOR TO REFER TO EXISTING DRAWINGS AND RESEARCH FIELD WIRING TO PROVIDE ALL RELAYS, TIMERS, AND CONTROL WIRING NEEDED IN MOTOR CONTROLLERS. PROVIDE CONTROL WIRING FOR EXISTING VALVES, PRESSURE SWITCHES AND SCADA.

ELECTRICAL LOADING			
EQUIPMENT	HP/KVA/KW	AMPERAGE	REMARKS
PUMP NO.1	350	518	414*1.25=518A
PUMP NO.2	350	414	
PUMP NO.3	350	414	
PUMP NO.4	350	414	
PUMP NO.5	350	0	STANDBY
BACKWASH PUMP	250	309	
SURFACE WATER	100	124	
PLANT WATER	40	52	
OPERATION A/C	15	21	
BASIN 'A' RAPID MIX MCC	112.5KVA	108	135*.8=108A
DP-23		140	175*.8=140A
TOTAL		2514	

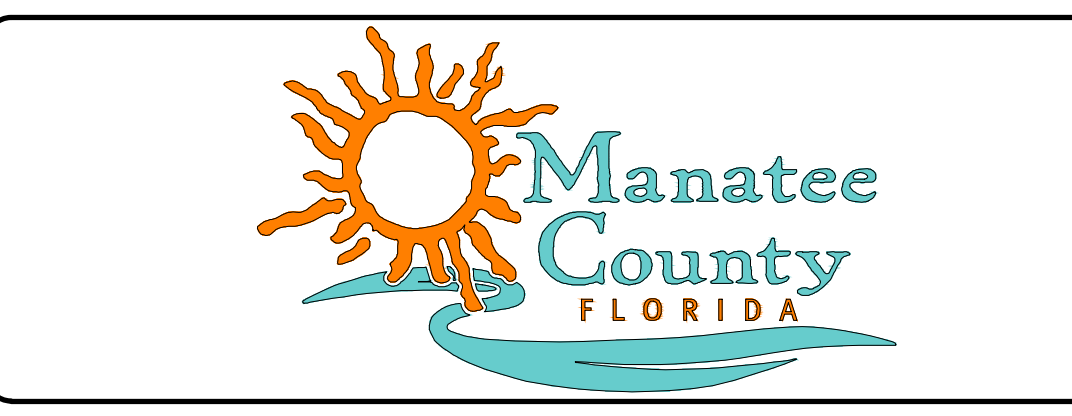
MCC-A ONE LINE DIAGRAM

REVNO.	DESCRIPTIONS	DATE



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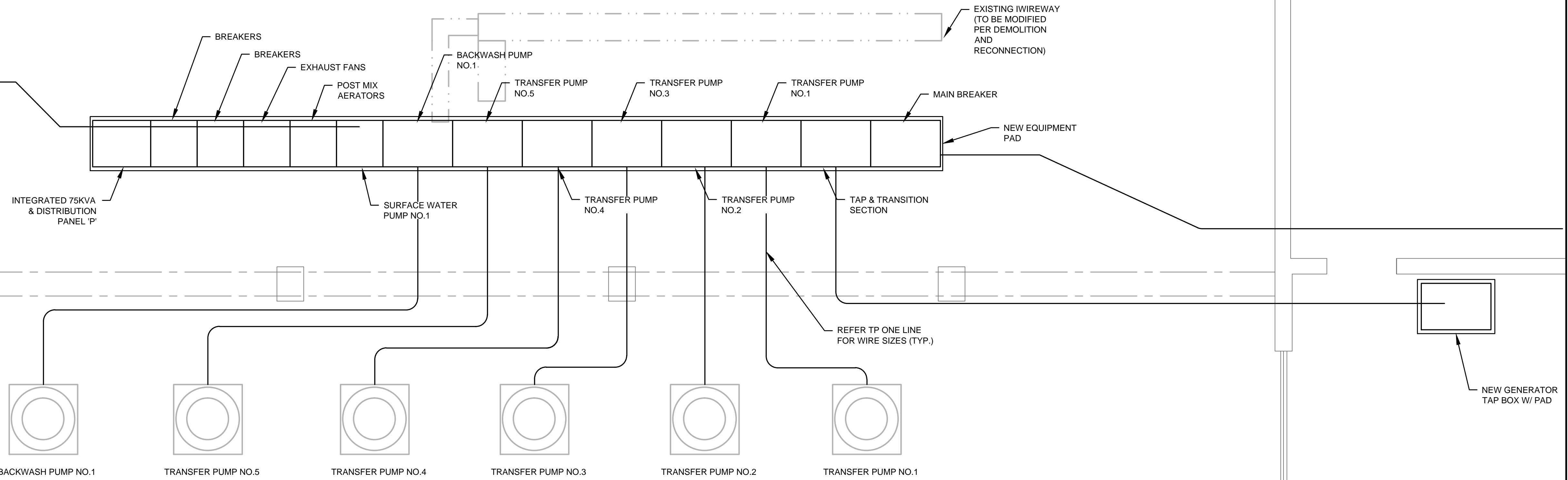
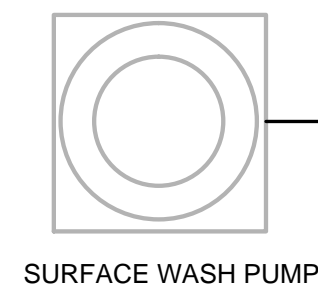
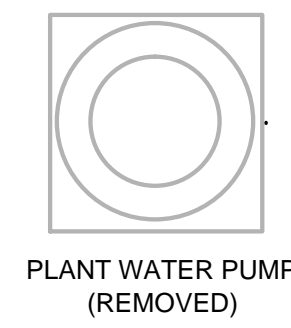
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'A'-MCC & RWPS #2 MCC REPLACEMENT

PROPOSED MCC-1A ONE LINE

DATE: FEBRUARY 2016	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0169	HORIZONTAL: AS SHOWN	E-2.0
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DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		



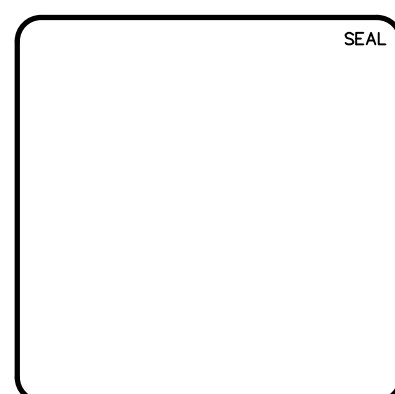
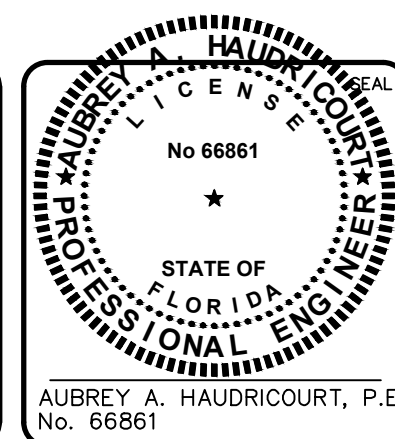
MCC-1A FLOOR PLAN
3/8" = 1'-0"

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE			POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	100	LIGHTING PANEL #2	20	72.2	3	40.0	40.0	40.0	3	72.2	20	LIGHTING PANEL #6	100	2
7	50	LIGHTING PANEL #3	10	36.1	3	30.0	30.0	30.0	3	72.2	20	LIGHTING PANEL #8	100	8
13	100	GAMATRONIC UPS	20	72.2	3	20.0	20.0	20.0	3			SPARE	100	14
19	20				3	0.0	0.0	0.0	3				20	20
25	20				3	0.0	0.0	0.0	3				20	26
PANEL PANEL-P LOCATION MCC-A BUILDING NOTES:			TOTAL KVA			90.0	90.0	90.0	SERVICE CHARACTERISTICS VOLTS: 480Y/277 PHASE: 3 WIRE: 4 22k MIN AIC SYMM, FULLY RATED ASSEMBLY					
			GRAND CONNECTED TOTAL KVA			270.0			A MLO 225 A MCB					

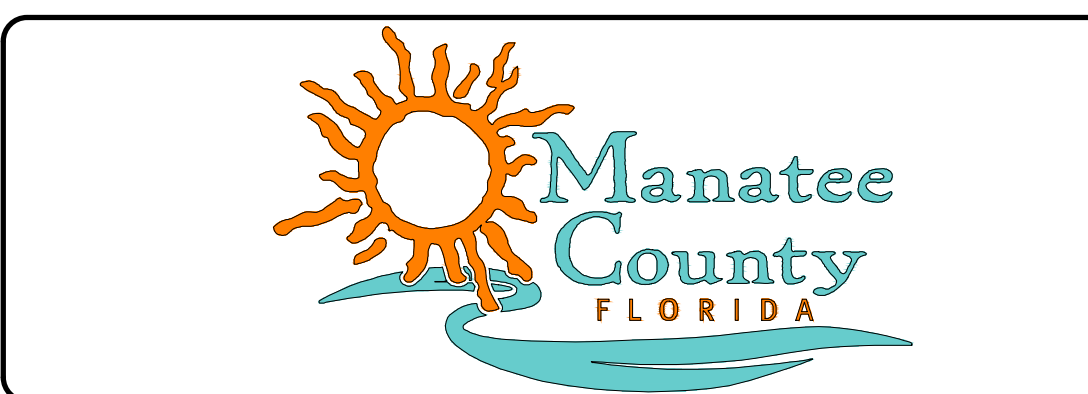
PANELBOARD SCHEDULE 'P'

S:\1024\0169 - MCC A & RWPS #2 MCC Replacement\BID-Drawings\BID-Drawings\MCC-1A Floor Plan.dwg, 2/17/2016, 12:01:08 PM, Aubrey Haudricourt

REV. NO.	DESCRIPTIONS	DATE



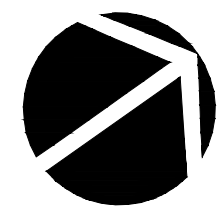
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**MANATEE COUNTY WTP
'A'-MCC & RWPS #2 MCC REPLACEMENT**

**PROPOSED MCC-1A FLOOR PLAN &
PANELBOARD 'P' SCHEDULE**

DATE: February 2016	SCALE	DRAWING NUMBER
MCE PROJ. # 1024-0169	HORIZONTAL:	E-2.1
DRAWN: LS	VERTICAL:	
DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		REVISION



NORTH
SCALE FEET
0 2

TO CHEMICAL BUILDING
TO BOAT HOUSE

INTERCEPT EXISTING CONDUIT AT EXISTING SLAB. EXTEND TO NEW DISTRIBUTION PANEL LP AND REPULL WIRE TO WEATHER HEAD.

MAIN BREAKER
50KVA INTEGRAL TRANSFORMER AND DISTRIBUTION PANEL

BYPASS STARTER (TYP.)
RAW WATER PUMP STARTER (TYP.)

NEW WALK-IN ENCLOSURE

EXISTING CONDUIT
WEATHER HEADS

EXISTING TRANSFORMER #6

P1, P2, P3

HVAC

CABLE TRAY

D1 LED CEILING

D LED CEILING

B LED (TYP. OF 4)

RELOCATED TELEMETRY CABINET

C LED ABOVE DOOR (TYP.)

10'-0"

EXISTING SLAB (TO REMAIN)

REMOVE 6" OF DIRT FROM AREA, INSTALL GEOCLOTH FOR VEGETATION RETARDATION AND FILL WITH #57 STONE

NEMA 3R GENERATOR CABINET

EQUIPMENT PAD

SIDEWALK

SUPPORT CONDUIT ENTERING ENCLOSURE

EXISTING CONCRETE POLE AND ANTENNA (TO REMAIN)

CENTER OF 42" PIPE

3'-0"

HH-1 ABOVE GRADE PULLBOX (SEE DETAIL SHT. 3.2)

8" STEEL & CONCRETE BOLLARD (TYP. SEE DETAIL SHT. 3.2)

EDGE OF ROAD

ELECTRICAL POWER PLAN

1"=2'

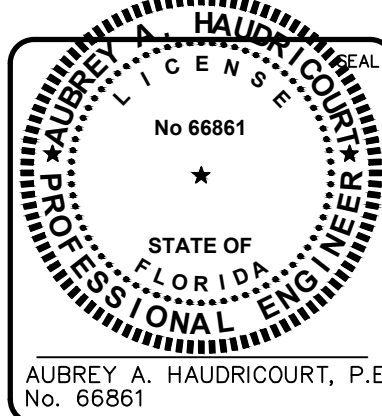
LIGHTING SCHEDULE

LETTER	DESCRIPTION	LAMPS	REMARKS
A	LED OUTDOOR POLE MOUNTED AREA LIGHT. EPA 1.2sqft. POLE MOUNTED FIXTURE, ONE-PIECE DIE-CAST ALUMINUM HOUSING WITH BRONZE FINISH TO MATCH EXISTING SHAPE AND COLOR OF LIGHTING AT BACKWASH PONDS. 120V INTEGRAL BALLAST. TYPE 3 DISTRIBUTION. PROVIDE POLE AND BASE TO MATCH EXISTING LIGHTING AT BACKWASH PONDS. 158MPH WIND LOAD.	LED BULBS L90/>80,000HRS. 109WATTS, 530mA, 3000K	LITHONIA LIGHTING MOD. KADT LED OR APPROVED EQUAL.
B	DIECAST ALUMINUM WALL MOUNTED FIXTURE W/ DEBIS SCREEN ALLOWING FOR AIR FLOW. COMPLETELY SEAL WEATHERPROOF HOUSING. ACRYLIC LENS TM2 DISTRIBUTION. DARK BRONZE FINISH. PHOTOELECTRIC CELL, BUTTON TYPE.	30-LED, L90/100,000HRS, 700MA, 67W. 4000K, 120V	LITHONIA LIGHTING MOD. CSXW LED OR APPROVED EQUAL
C	REAR MOUNT EMERGENCY EXIT SIGN. INJECTION-MOLDED, FLAME-RETARDANT, HIGH-IMPACT, THERMOPLASTIC HOUSING. BATTERY BACKUP. TEST SWITCH FOR MANUAL ACTIVATION OF 30-SECOND DIAGNOSTIC TESTING. SELF DIAGNOSTIC TESTING EVERY 30 DAYS.	LED, RED LENS <1W, 120V	LITHONIA LIGHTING MOD. LQM OR APPROVED EQUAL
D	4' PENDANT SUSPENDED LED LUMINAIRE, SUITABLE FOR WET, DAMP AND/OR COLD LOCATIONS. ONE-PIECE FIBERGLASS HOUSING, GASKETED, FROSTED SPREAD DISTRIBUTION LENS.	LED L80/60,000HRS, 39W, 350mA. 4100K	LITHONIA LIGHTING MOD. FEM LED OR APPROVED EQUAL.
D1	4' PENDANT SUSPENDED LED LUMINAIRE, SUITABLE FOR WET, DAMP AND/OR COLD LOCATIONS. ONE-PIECE FIBERGLASS HOUSING, GASKETED, FROSTED SPREAD DISTRIBUTION LENS. EMERGENCY BATTERY BACKUP 90MINUTES.	LED L80/60,000HRS, 39W, 350mA. 4100K	LITHONIA LIGHTING MOD. FEM LED OR APPROVED EQUAL.

NOTE:

- EXACT LOCATION AND DIMENSIONS OF ALL EXISTING STRUCTURES ARE APPROXIMATE.
- CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND STRUCTURES, INCLUDING 42" UG DIP, AND RE-ROUTE ELECTRICAL DUCTBANK AS NEEDED.

REVNO.	DESCRIPTIONS REVISIONS	DATE



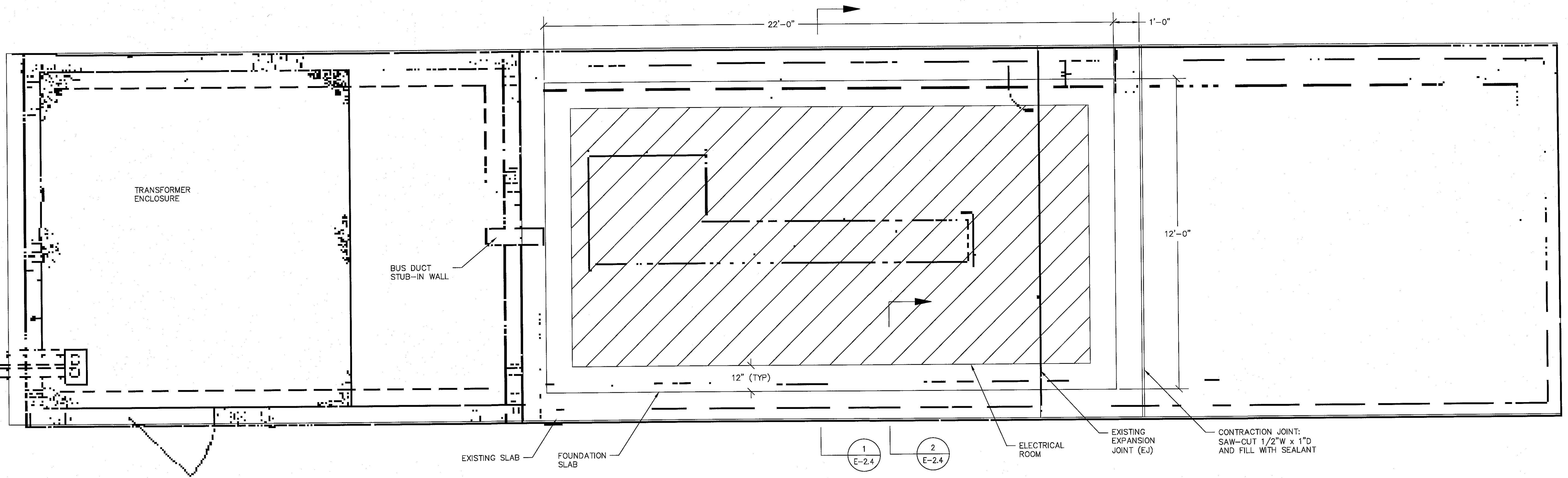
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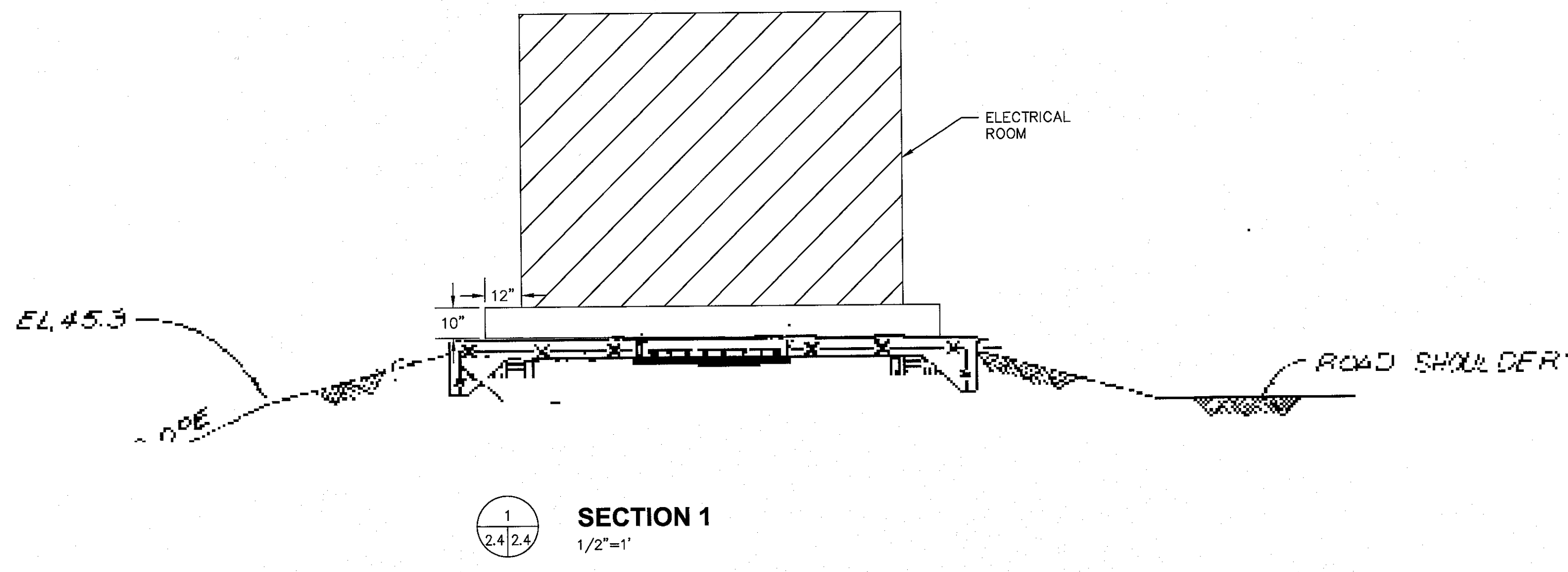
MANATEE COUNTY WTP
 'A'-MCC & RWPS #2 MCC REPLACEMENT
 RAW WATER #2 MCC POWER PLAN

DATE: FEBRUARY 2016	SCALE	DRAWING NUMBER
MCC PROJ. # 1024-0169	HORIZONTAL:	E-2.3
DRAWN	VERTICAL:	
DESIGNED		
CHECKED		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		

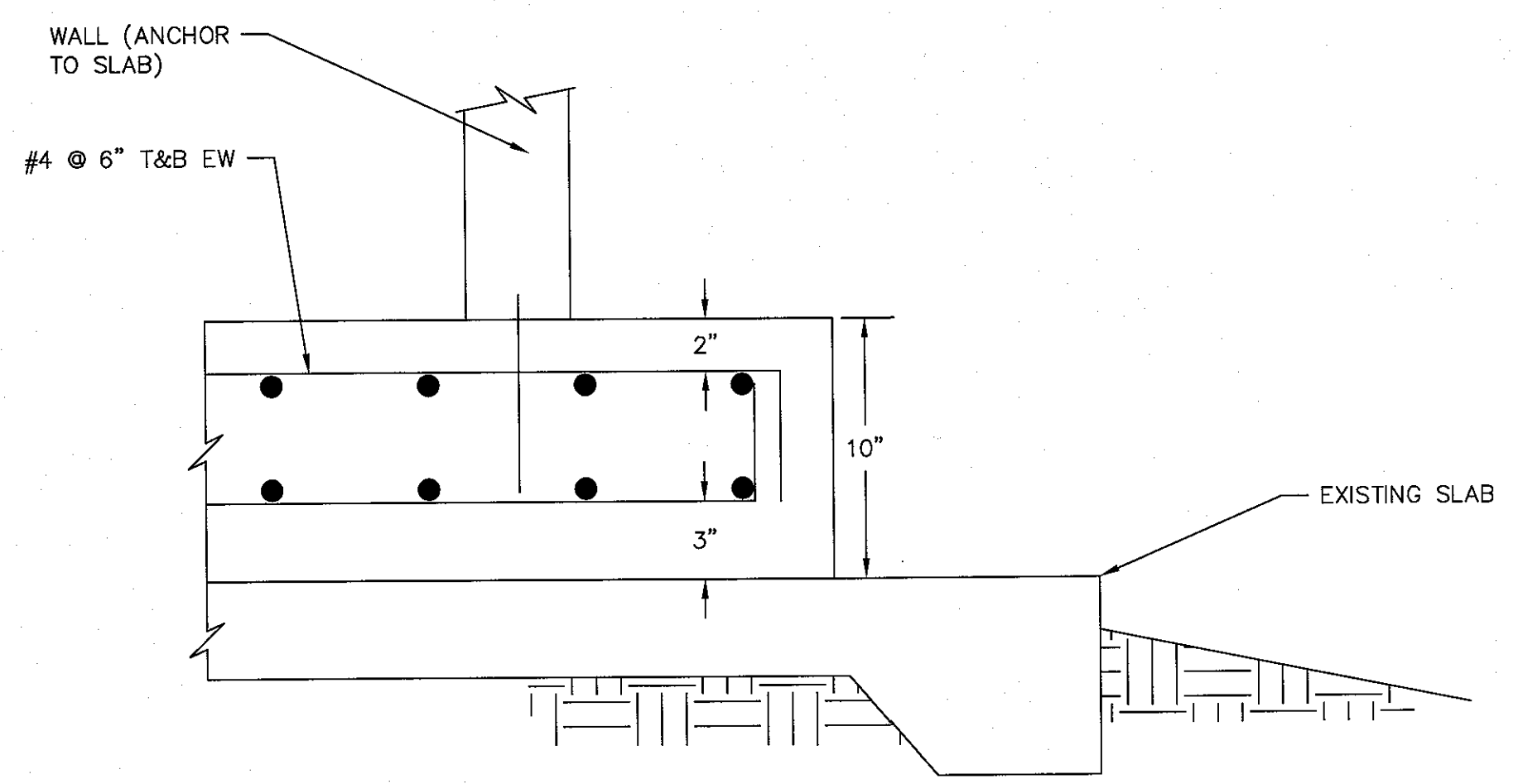
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STRUCTURAL SITE PLAN
1/2"=1'



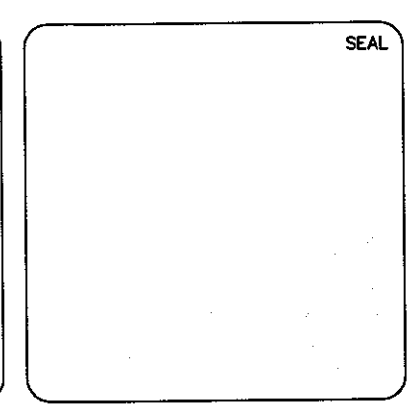
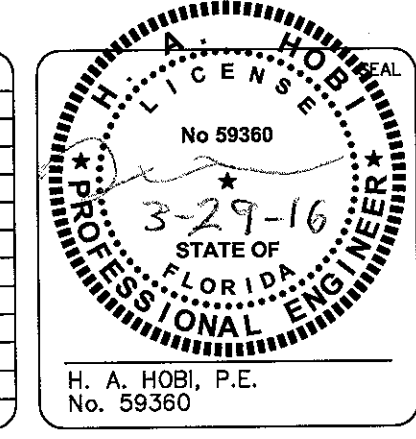
SECTION 1
1/2"=1'



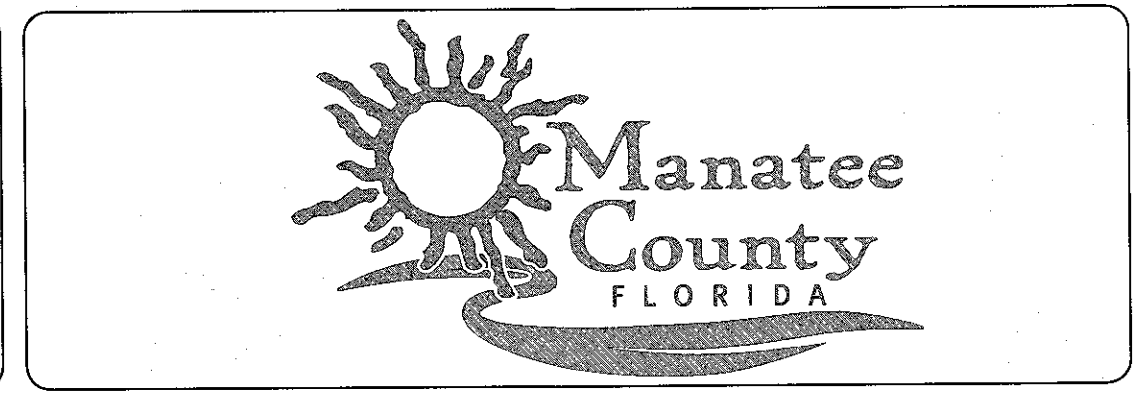
SECTION 2
NTS

C:\projects\Manatee-RW\mcc\E-2.4_10240169 Raw Water #2 Structural Plan.dwg, 3/29/2016, 4:43:51 PM, Sam Hibel

REV. NO.	DESCRIPTIONS	DATE



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MANATEE COUNTY WTP
'A'-MCC & RWPS #2 MCC REPLACEMENT

RAW WATER #2
STRUCTURAL SITE PLAN

DATE: FEBRUARY 2016	SCALE:	DRAWING NUMBER:
MCC PROJ. # 1024-0169	HORIZONTAL: AS SHOWN	E-2.4
DRAWN: LS	VERTICAL: NA	
DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		

WIND DESIGN DATA:
 ULTIMATE DESIGN WIND SPEED 158 MPH
 RISK CATEGORY IV
 WIND EXPOSURE C

1.0 FOUNDATIONS

1.1 ASSUMED DESIGN ALLOWABLE SOIL BEARING PRESSURE – 2,000 PSF. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THIS VALUE PRIOR TO FOUNDATION CONSTRUCTION.

1.2 PREPARE THE EXISTING SUBGRADE AS SHOWN ON DRAWINGS. IN THE EVENT UNUSUAL SOIL CONDITIONS ARE UNCOVERED, NOTIFY THE OWNER AND ENGINEER PRIOR TO FOUNDATION CONSTRUCTION FOR INSTRUCTIONS HOW TO PROCEED.

1.3 ALL FILL BELOW FOUNDATIONS AND AS REQUIRED SHALL BE SELECT MATERIAL FREE FROM ROOTS, TRASH, WOOD SCRAPS, AND OTHER EXTRANEIOUS MATERIALS. PLACE FILL IN LIFTS NOT EXCEEDING 6 INCHES.

1.4 ALL EXCAVATIONS SHALL BE ADEQUATELY DEWATERED BEFORE PLACEMENT OF REINFORCING STEEL AND CONCRETE.

1.5 FOOTING EXCAVATIONS AND FORMS SHALL BE REVIEWED BY AN OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE.

1.6 ANCHOR BOLTS SHALL BE SET BY MEANS OF TEMPLATE. "FLOATING" ANCHOR BOLTS INTO PLACE IS PROHIBITED.

2.0 REINFORCING STEEL

2.1 REINFORCING STEEL FOR ALL CONCRETE WORK SHALL BE GRADE 60 STEEL AND CONFORMING TO ASTM A 615

2.2 DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "ACI DETAILING MANUAL," LATEST PUBLICATION.

2.3 REINFORCING STEEL IN PLACE SHALL BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE. IN GENERAL "CLR" DISTANCES FOR CONCRETE COVER ARE AS FOLLOWS:

- A) SURFACES CAST AGAINST SOIL 3" MIN
- B) ALL OTHER SURACES 2" MIN

2.4 BARS SHALL BE COLD BENT AND SHALL NOT BE HEATED FOR ANY REASON.

2.5 REFERENCE THIS DRAWING FOR REQUIREMENTS FOR LAP REINFORCING STEEL IN CONCRETE.

2.6 LAP SPLICED BARS IN CONCRETE ARE TO BE WIRE TIED.

3.0 CONCRETE

3.1 CAST-IN-PLACE REINFORCED CONCRETE SHALL HAVE A MINIMUM (28) DAY COMPRESSIVE STRENGTH OF 4,000 PSI

3.2 CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318 (LATEST EDITION).

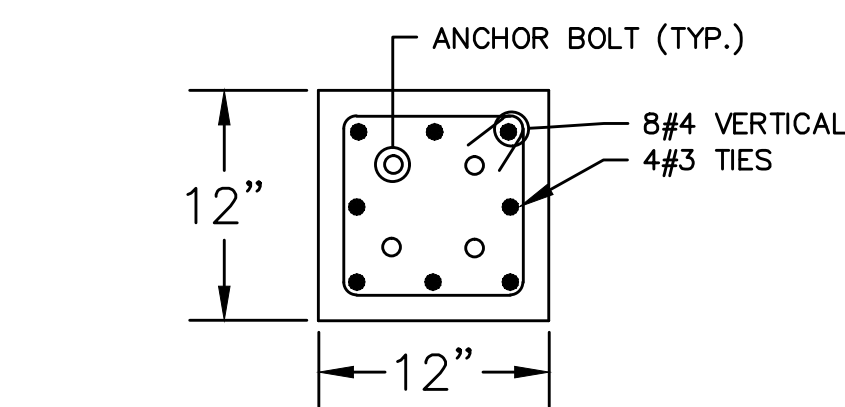
3.3 CHAMFER EXPOSED EDGES OF CONCRETE 3/4 INCH, UNLESS NOTED OTHERWISE.

3.4 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER CURING OF ALL CONCRETE.

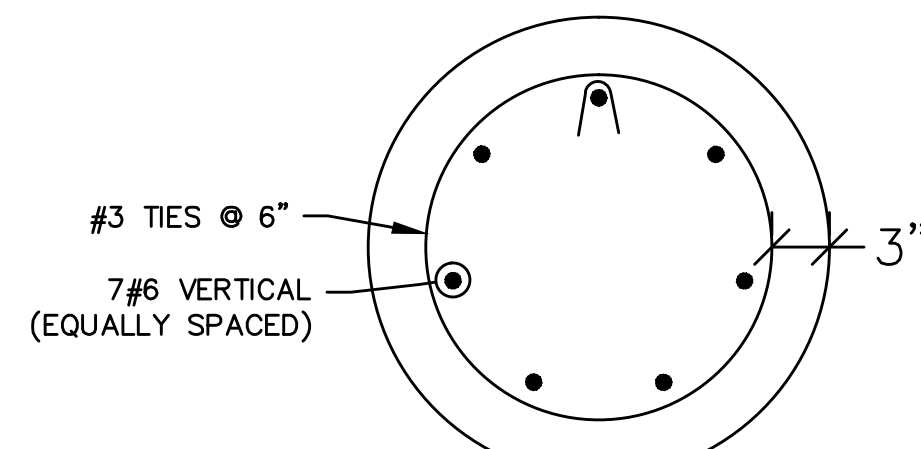
3.5 CONTRACTOR SHALL SUBMIT REBAR SHOP DRAWINGS FOR APPROVAL TO OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO FABRICATION. DO NOT FABRICATE REINFORCING PRIOR TO RECEIPT OF APPROVED SHOP DRAWINGS.

3.6 CONCRETE MIXES TO BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE. COMPRESSIVE STRENGTH TEST CYLINDERS TO BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE.

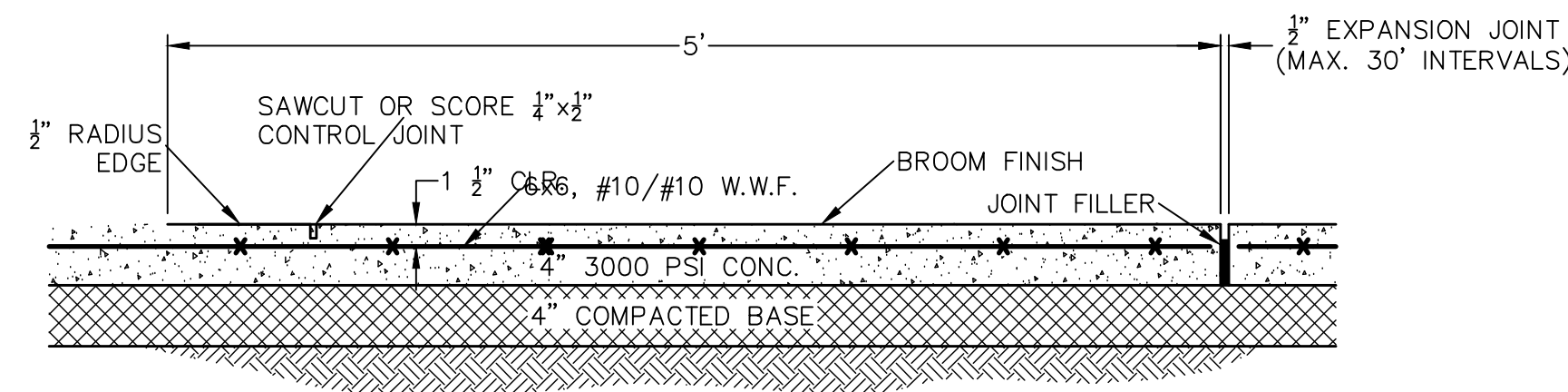
3.7 USE UPPER SECTION (NO FOUNDATION) OF CONDUIT STAND DETAIL FOR CONDUIT STANDS ON CONCRETE SLAB



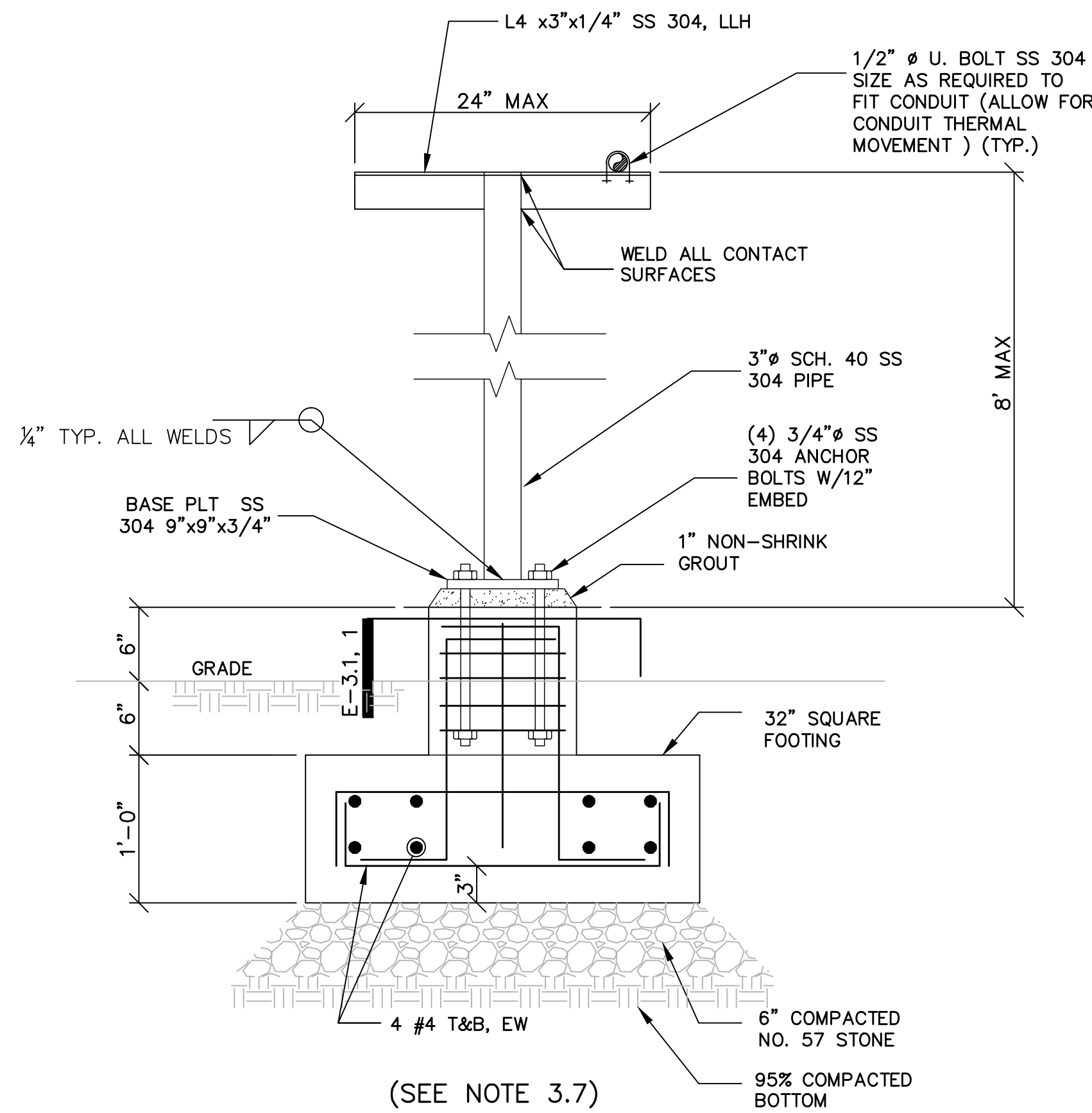
SECTION 1
NTS



SECTION 2
NTS

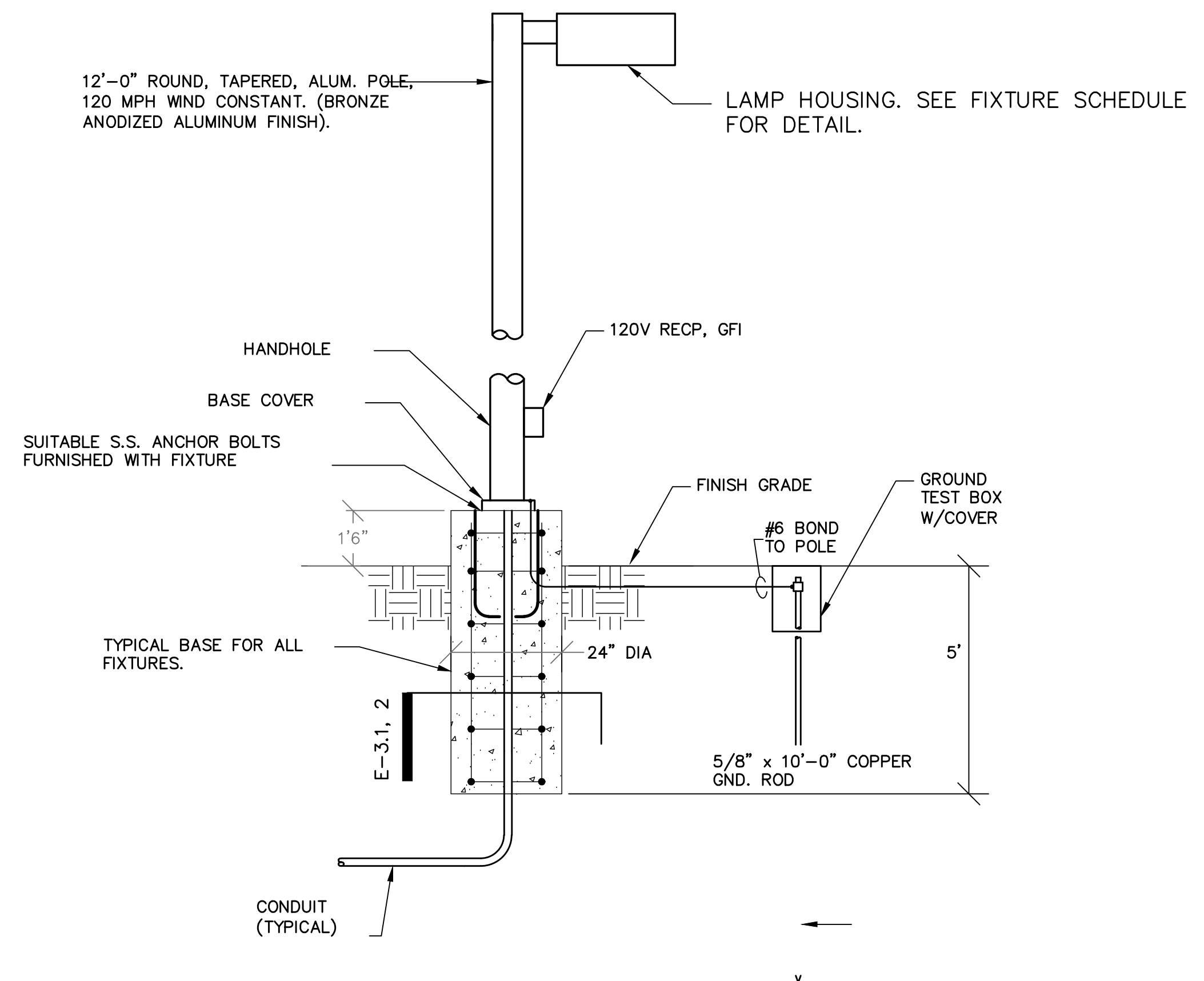


TYPICAL SIDEWALK DETAIL
NTS



CONDUIT STAND DETAIL
NTS

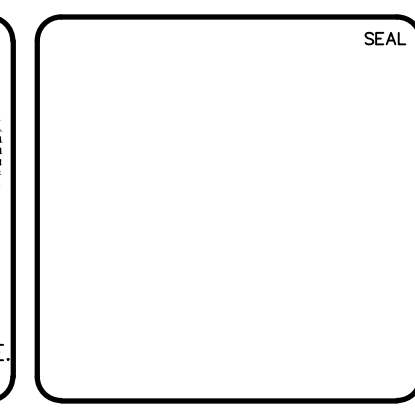
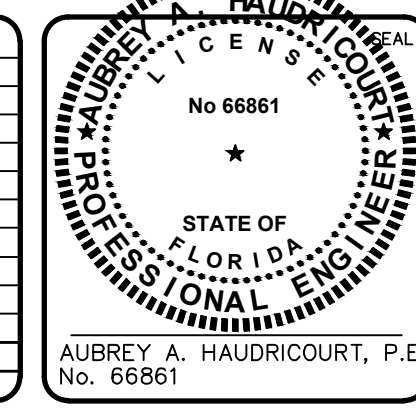
BAR SIZE	MIN LAP LENGTH (INCHES)				MIN. EMBED LGTH (INCHES)		
	TOP BARS		OTHER BARS		STRAIGHT BARS		WITH STD HOOK
	CLASS A	CLASS B	CLASS A	CLASS B	TOP BARS	OTHER BARS	
#3	16	21	12	16	16	12	6
#4	16	21	12	16	16	12	7
#5	20	25	15	19	20	15	9
#6	24	30	18	23	24	18	10
#7	33	43	25	33	33	25	12
#8	38	49	29	37	38	29	14
#9	49	63	37	48	38	29	15
#10	60	78	46	60	60	46	17
#11	75	97	57	74	75	57	19



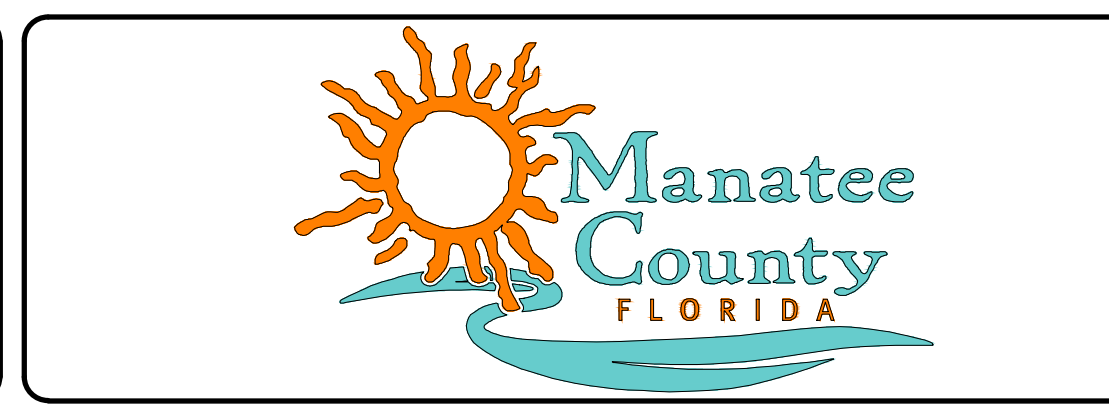
LIGHTING POLE BASE DETAIL
NTS

S:\1024\0169 - MCC A & RWPS #2 MCC Replacement\1024-0169-Drawings\1024-0169-Submittals\1024-0169-CADD\1024-0169-01-01-01.dwg, 2/12/2016 12:01:56 PM, Aubrey Haudricourt

REVNO.	DESCRIPTIONS / REVISIONS	DATE



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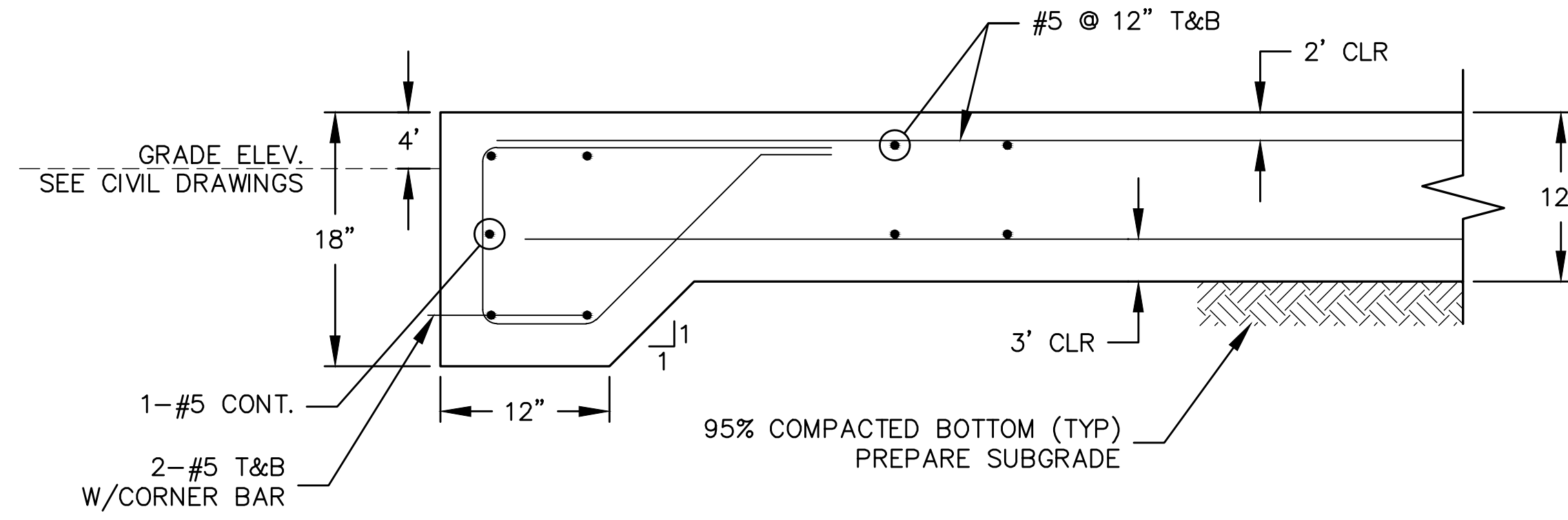
MANATEE COUNTY WTP
 'A'-MCC & RWPS #2 MCC REPLACEMENT

ELECTRICAL DETAILS I

DATE: February 2016	SCALE:	DRAWING NUMBER: E-3.1
MCC PROJ. # 1024-0169	HORIZONTAL:	REVISION:
DRAWN: LS	VERTICAL:	
DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		

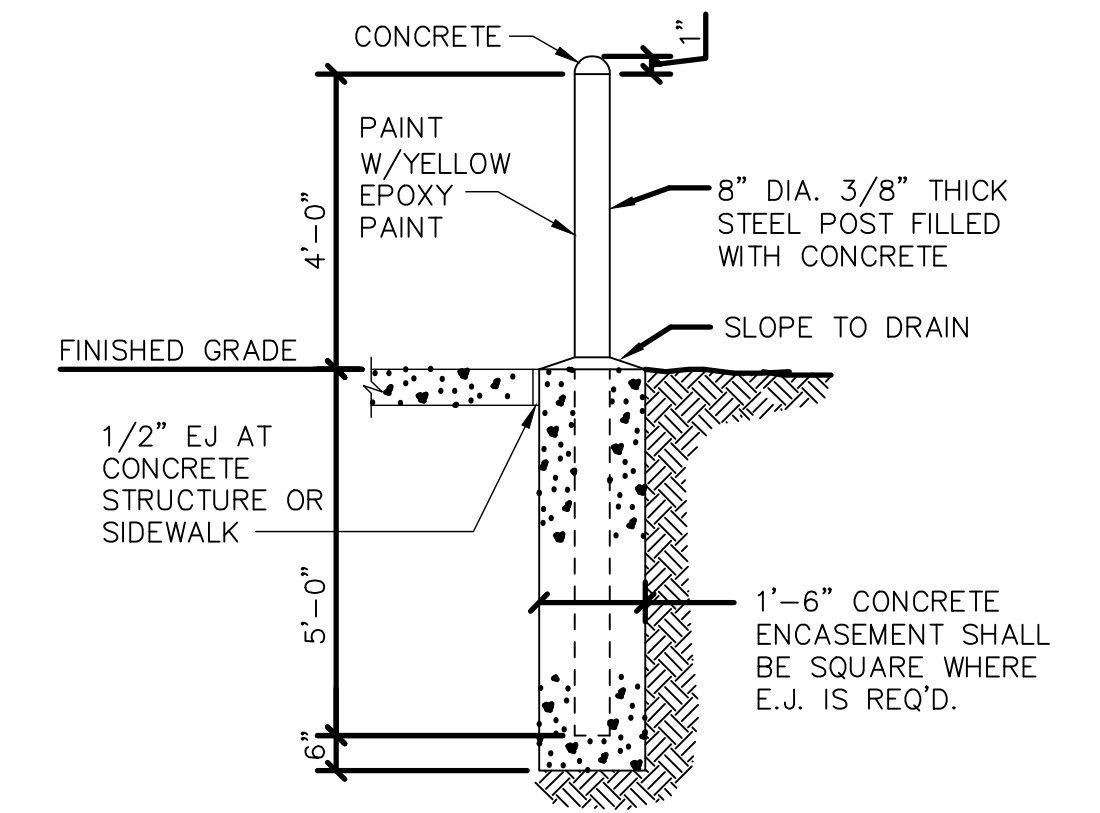
NOTES:

1. PROVIDE GROUNDING PER 16450.
2. PULL BOX ENCLOSURE SHALL BE 0.125 ALUMINUM CONSTRUCTION (NEMA 4) AND ALL HINGES AND HARDWARE SHALL BE STAINLESS STEEL.
3. PULL BOX SIZE SHALL BE COORDINATED WITH NUMBER OF CONDUITS. MIN SIZE FOR HH-1: 36"H x30"W x32"D. MIN SIZE FOR HH-2: 18"H x30"W x18"D.
4. CONTRACTOR SHALL MEET OR EXCEED ALL APPLICABLE NEC REQUIREMENTS.



TYPICAL EQUIPMENT PAD DETAIL 1

NTS

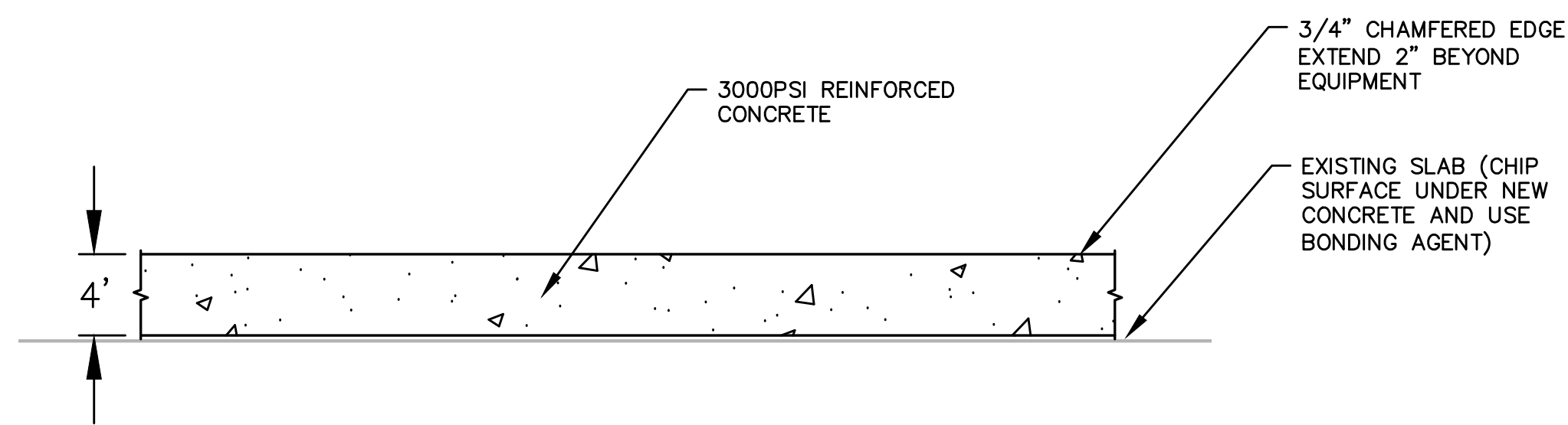


- DETAIL NOTES:
1. HOT DIP GALVANIZE AFTER FABRICATION.
 2. ADD (4) 1/4" DIA. WEEP HOLES IN BASE EVENLY SPACED.

NOTE: BOLLARDS SHALL BE LOCATED TO AVOID UNDERGROUND UTILITIES.

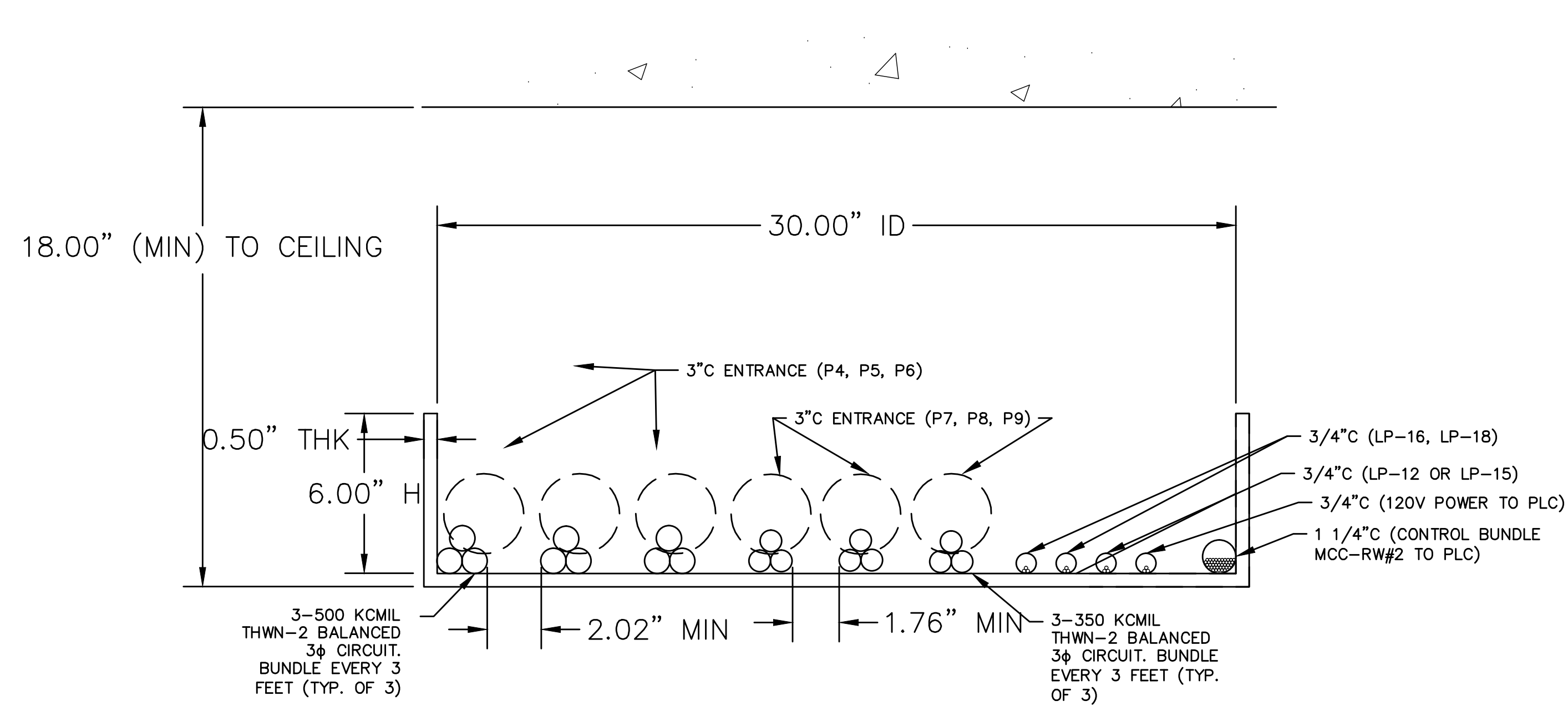
TYPICAL BOLLARD DETAIL

NTS



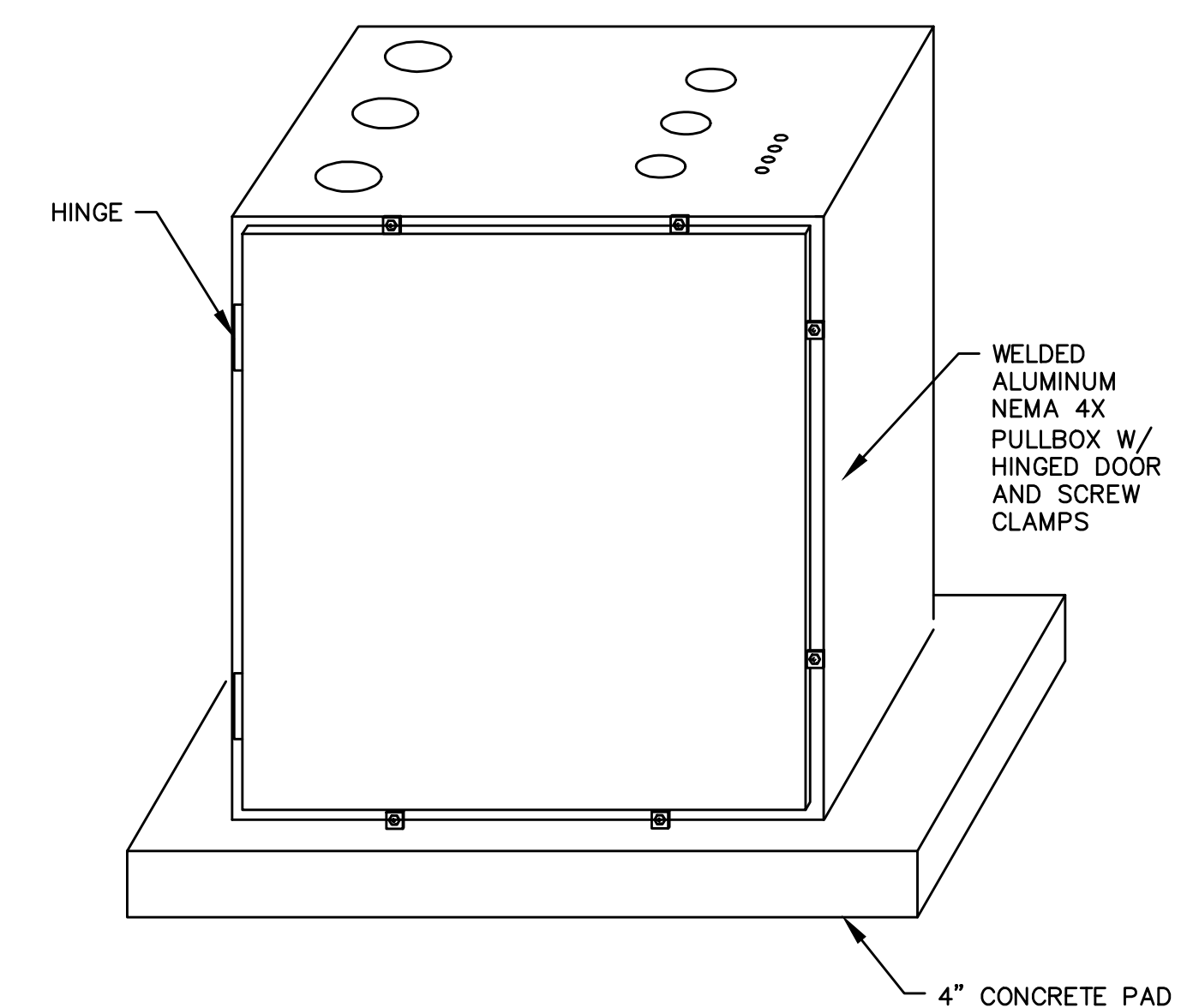
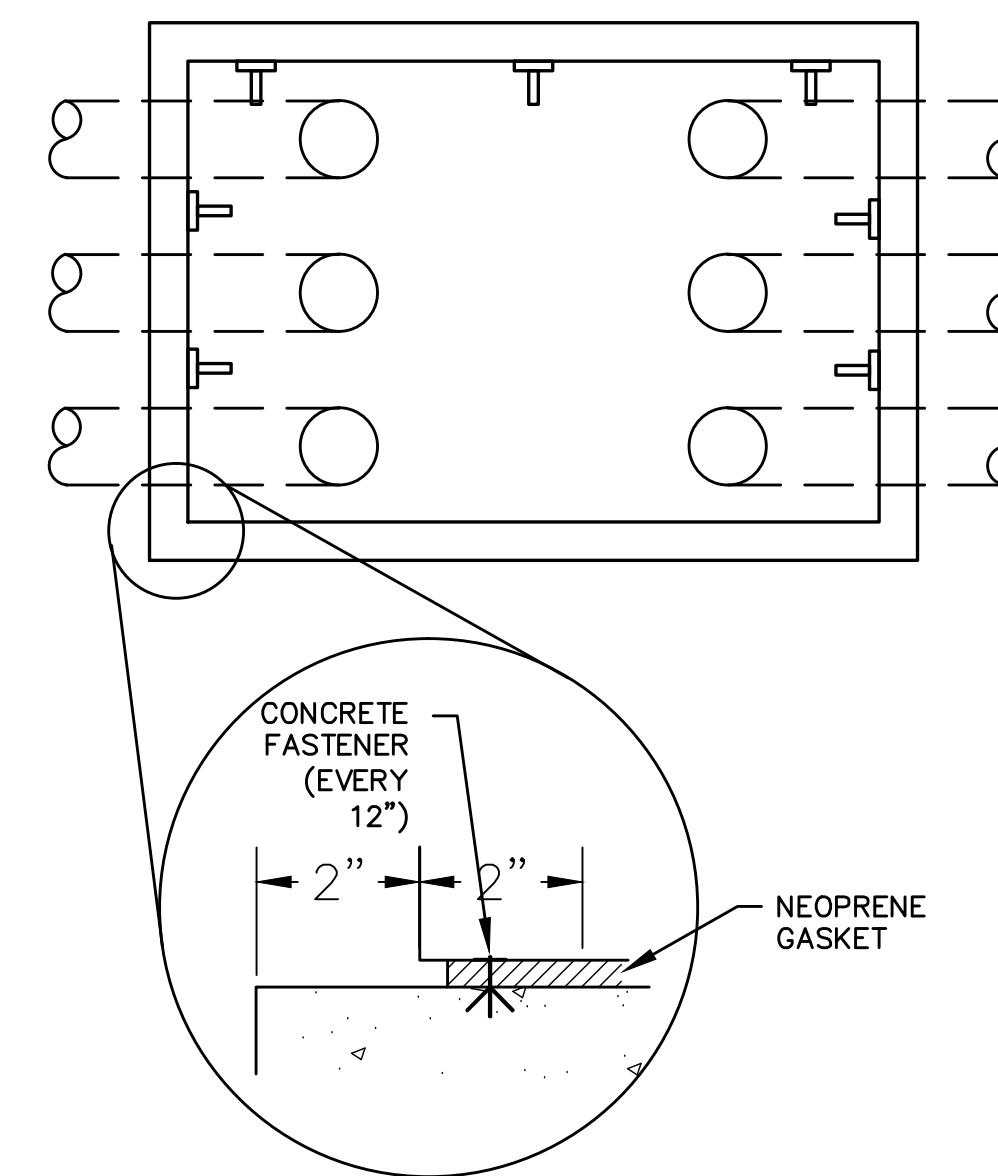
TYPICAL EQUIPMENT PAD DETAIL 2

NTS



CABLE TRAY DETAIL

NTS

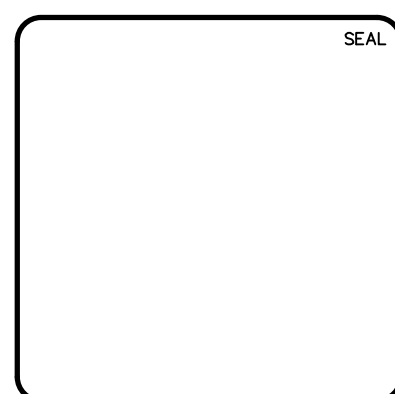
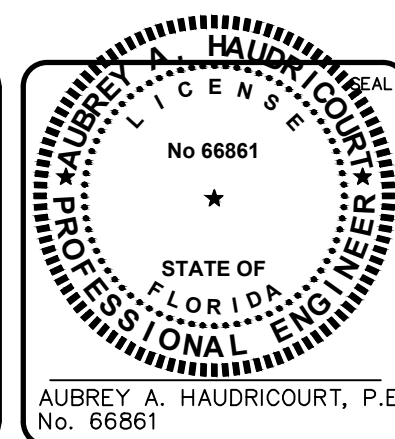


ABOVE GRADE PULL BOX DETAIL

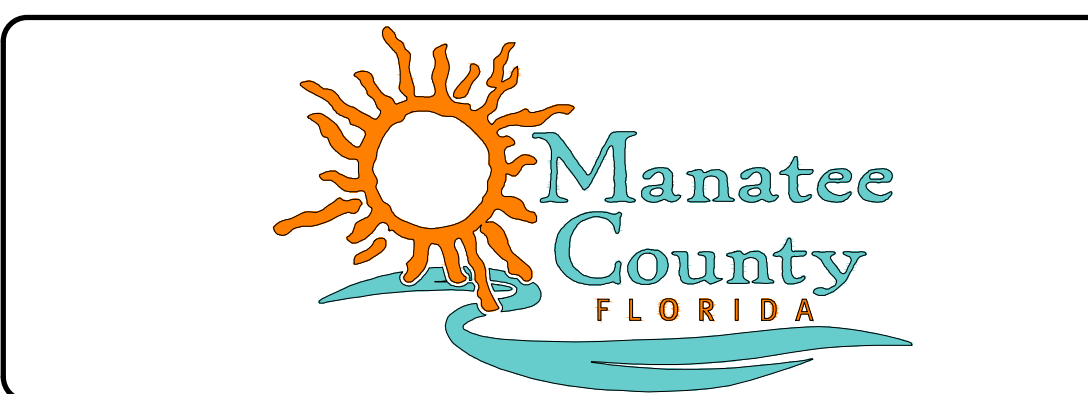
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ELECTRICAL DETAILS II

REV. NO.	DESCRIPTIONS / REVISIONS	DATE



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**MANATEE COUNTY WTP
 'A'-MCC & RWPS #2 MCC REPLACEMENT**

DATE: February 2016	SCALE:	DRAWING NUMBER:
MCC PROJ. # 1024-0169	HORIZONTAL:	E-3.2
DRAWN: LS	VERTICAL:	
DESIGNED: AH		
CHECKED: AAH		
PROJ. MGR. AAH		
STATUS: ISSUE FOR BID		

REVISION	
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S:\1024\0169 - MCC 'A' & RWPS #2 - Drawing\0169-Submittals\0169-CADD\0169-1_10240169-Detailing.dwg, 2/12/2016 12:01:57 PM, Aubrey Haudricourt