7211 STONE RIVER ROAD BRADENTON, FLORIDA

PROJECT MAP

7650 West Courtney Campbell Suite 700 Tampa, Florida 33607 Ph: (813) 286—1711 Fax: (1971) Florida Engineering Number: C

(813) 286-6587 000002

REVISIONS

PM: ENG: DRW: FILE

19,

2008

12007391

JOB NUMBER

Campbell Causeway

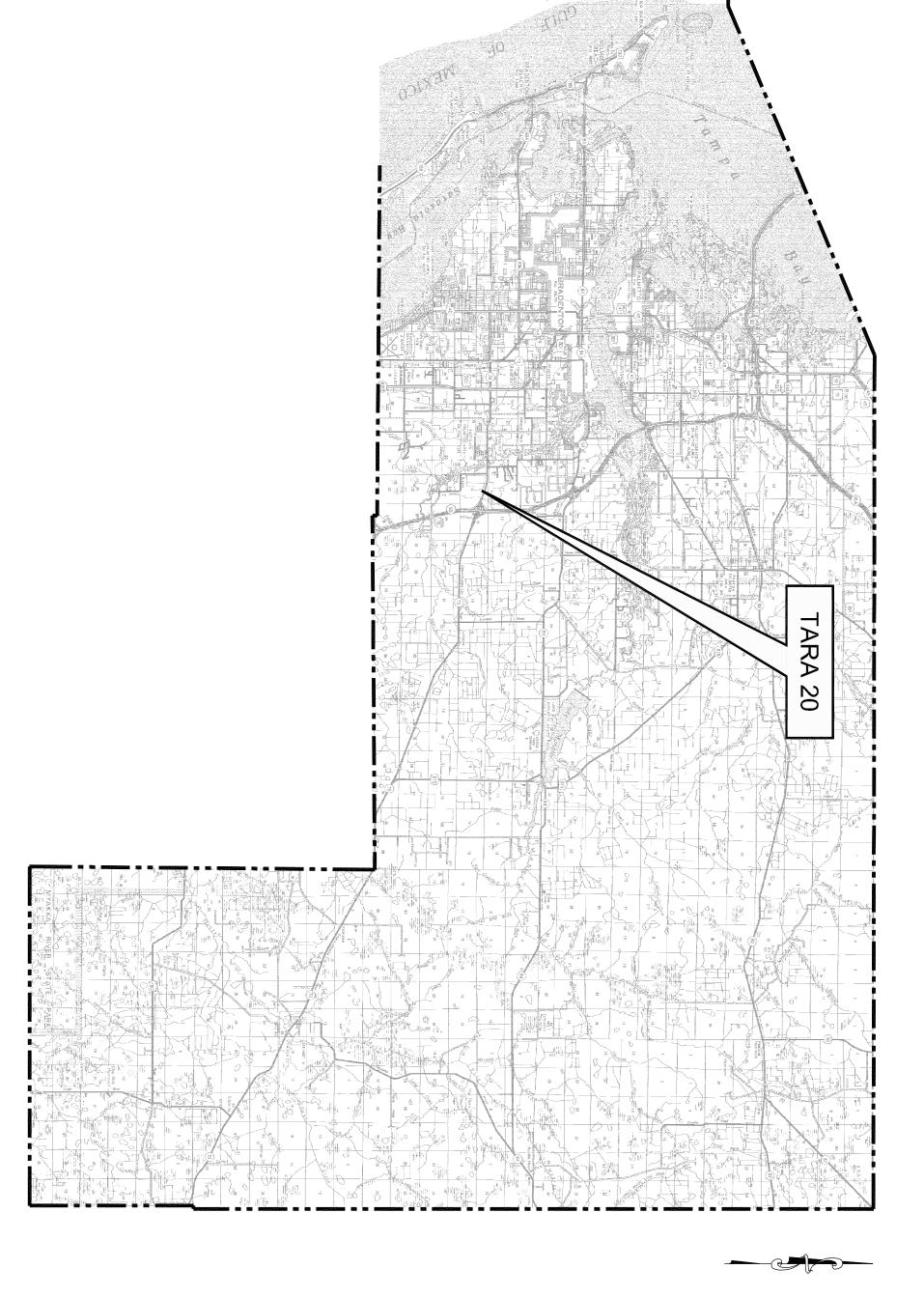


PROJECT NO. TARA #20 MASTER LII 6022087

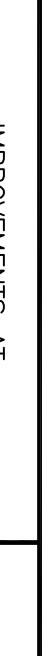
BID SET

NOVEMBER 2008





MANATEE COUNTY



MANATEE COUNTY, FLORIDA STATION

TARA

COVER SHEET

C

BID DOCUMENT

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		G
ACCORDING TO THE BEST INFORMATION AVAILABLE AT TIME OF THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.	LOCATION, ELEVATION, AND DIMENSIONS OF THE EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN	GENERAL NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL AND FITS IN THE SPACE AVAILABLE. **IEASUREMENTS** AND SUBMIT ONLY EQUIPMENT THAT MEETS 붐 **SPECIFICATIONS**
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL PROVIDE AT HOURS NOTICE TO THE UTILITY COMPANIES PRIOR TO CONSTRUCTION TO OBTAIN FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES. CALL SUNSHINE ONE CALL CENTER OF FLORIDA AT 1-800-432-4770 TO ARRANGE IN LOCATIONS. THE CONTRACTOR SHALL REPAIR ALL DAMAGES RESULTING FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.

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5

- CONTRACTOR SHALL INVESTIGATE ALL AREAS OF THE WORK AND PREPARE AND PLAN FOR UNFORESEEN CONDITIONS LIKE EMERGENCY PUMPING, NEIGHBORHOOD NOTICES, BYPASS PUMPING AND CLOSURE NOTICES.
- MAINTENANCE OF TRAFFIC, IF NECESSARY, PER FDOT STANDARDS. MOT PREPARER SH TRAINING CERTIFICATION. A COPY OF THE FOR APPROVAL BY FDOT. ALL WORK ZONE TRAFFIC CONTROL INTERMEDIATE LEVEL TR. MAINTAINED AT ALL TIMES. RY, WILL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE FINDER SHALL HOLD THE NEW WORK ZONE TRAFFIC CONTROL ADVANCED LEVEL BE CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER ALONG WITH TRAINING. ACCESS TO EXISTING RESIDENCES AND BUSINESSES MUST BE THE MOT PREPARED

BELDG BELDG

BENCHMARK
BALL VALVE
BUTTERFLY \
BUILDING
BOTTOM

MAXIMUM MECHANICAL MANUFACTURED MANUFACTURING MANUFACTURER MANHOLE

O/E OD NIS

NOT TO SCALE ON CENTER OUTSIDE DIAMETER OR EQUAL

MINIMUM

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TEE ROTATED UP

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TEE ROTATED DOWN

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REDUCER

A/C AC ADDL ADDL ALUM APPROX ARV ARV AUTO AUTO AVG

AIR CONDITIONER
ASBESTOS CEMENT F
ADDITIONAL
ADJUSTABLE
ADAPTER
ALUMINUM
APPROXIMATE (LY)
AIR RELEASE VALVE
ASPHALT
AUTOMATIC
AUXILIARY
AVERAGE

INSIDE DIAMETER
INVERT ELEVATION
LINER FEET
LEFT

•

90° ELBOW ROTATED UP

90° ELBOW

 \mathcal{P}

90° ELBOW ROTATED DOWN

Œ

NUMBER

HB HDPE HORZ HT

HOSE BIBB HIGH DENSITY POLYETHYLENE HORIZONTAL HEIGHT

DOUBLE LINE

SINGLE LINE

PIPE

AND

FITTING

SYMBOLS

ABBREVIATIONS:

UNLESS OTHERWISE SPECIFIED SUITABLE BORROW MATERIAL, PLANS AND SPECIFICATIONS. APPROVED ONTRACT DOCUMENTS AND SPECIFICATIONS, THE CONTRACTOR SHALL PROVIDE BY THE ENGINEER, AND INSTALL SAID MATERIAL IN ACCORDANCE WITH THE

CATV
CHKD
CCL
CCMP
CMP
CONC
CONC
CONC
CCPLG
CCTR

CABLE TV
CHECKED
CENTERLINE
CHLORINE
CHLORINE
CAST IRON
CORRUGATED METAL F
CONCRETE MASONRY I
CLEAN OUT
CONCRETE
CONCRET

PROP PVAT

PLAIN END
PROPERTY LINE
PROPER POLE
PROPOSED
PUMP STATION
POUNDS PER SQUARE INCH
POLYVINYL CHLORIDE PIPE

WATER

×

BALL VALVE

ECCENTRIC REDUCER

BUTTERFLY VALVE

တ

Ģ

- OVERALL CLEAN UP SHALL BE DIRECTED BY THE ENGINEER. PRICE. ACCOMPL ANY AND SHED BY THE CONTRACTOR IN ALL EXPENSES INCURRED FOR ACCORDANCE WITH COUNTY STANDARDS THIS WORK SHALL BE INCLUDED IN THE
- 9 œ THE CONTRACTOR SHALL ENDEAVOR TO PROTECT PRIVATE PROPERTY. ANY DAMAGE CAUSED BY THE CONTRACTOR IN THE PERFORMANCE OF HIS WORK SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR' EXPENSE. PAYMENT SHALL NOT BE MADE FOR THIS WORK.
- 10. ANY DAMAGE TO STATE, COUNTY, OR LOCEQUIPMENT SHALL BE REPAIRED BY THE PAYMENT SHALL NOT BE MADE FOR THIS LOCAL ROADS CAUSED BY THE CONTRACTOR'S HAULING HE CONTRACTOR TO THE SATISFACTION OF THE COUNTY WORK. TIC INFORMATION CENTER BE PROTECTED. ╗ IN DANGER OF OR EXCAVATION PROJECT ENGINEER.

D DEMO DEMO DEPT DIA DIA DIA DIM DIM DIM

DEMOLITION
DEPARTMENT
DUCTILE IRON
DIAMETER
DIAGONAL
DIMENSION

RIGHT-OF-WAY
RADIUS
REINFORCED COI
RECLAIMED WATE
REDUCER
RESTRAIN MECHA
RAILROAD

) CONCRETE PIPE WATER

MECHANICAL JOINT

RAW WATER

- ANY U.S.C. AND G.S. MONUMENT WITHIN LITHE CONTRACTOR SHALL NOTIFY. GEODETIC ATTN.: MARK MAINTENANCE CENTER ATTN.: N/CG-162
 6001 EXECUTIVE BLVD. ROCKVILLE, MARYLAND 20852
 PH (301)443-8319
- THE CONTRACTOR(S) PERFORMI SAFETY AND HEALTH ADMINIST SUBPART P, INCLUDING ALL SUBPARTMENT OF LABOR AND E PERFORMING TRENCH EXCAVATION ON THIS CONTRACT, SHALL COMPLY ADMINISTRATION'S (OSHA) TRENCH EXCAVATION SAFETY STANDARDS, 2 NG ALL SUBSEQUENT REVISIONS OR UPDATES TO THE STANDARDS AS A OR AND EMPLOYMENT SECURITY (DLES). Y WITH THE OCCUPATIONAL 29 C.F.R., S.1926.650, ADOPTED BY THE

EACH
ECCENTRIC
EFFLUENT
ELEVATION
EDGE OF PAVEMENT
EQUAL (LY)
EQUIVALENT
EQUIPMENT
EASEMENT
ETCETERA
EACH WAY
EXISTING
EXPANSION

SANITARY
SCHEDULE
SANITARY FORCE MAIN
SODIUM HYPOCHLORITE
SHEET
SQUARE
SANITARY SEWER
STAINLESS STEEL
STANDARD

X \times

HOSE BIBB & VALVE

PLUG VALVE

CHECK VALVE

GATE VALVE

\rightarrow \right

FLOW METER

TO BE REMOVED

- 13. UNLESS OTHERWISE SPECIFIED N THE Ъ _E FOR THE REMOVAL OF ALL DISTURBED AREAS SHALL BE SADDLED.
- THE CONTRACTOR SHALL BE RESPONSIBITHE SAME. ALL EXCESS MATERIAL AND PROPER DISPOSAL
- CONTRACTOR IS TO PROVIDE EROSION CONTROL SILTATION OF ADJACENT PROPERTY STREETS, S AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANT DRAINAGE OR VEHICULAR TRAFFIC, THE CONTRATHE ENGINEER AND/OR AUTHORITIES. THE MAIN ARE TO BE INCLUDED IN THE UNIT BID PRICE F CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILT FENCE) TO PREVENT EETS, STORM SEWERS, AND WATERWAYS. IF IN THE OPINION OF THE ENGINEER EQUANTITIES OF EARTH ARE TRANSPORTED OFF—SITE EITHER BY NATURAL CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF HE MAINTENANCE OF EROSION CONTROL DEVICES AND THEIR COMPLETE REMOVAL PRICE FOR EACH INDIVIDUAL ITEM.

FIRE HYDRANT
FIGURE
FINISH (ED)
FLANGE
FLOOR
FORCE MAIN
FORCE MAIN
FIBERGLASS REINFORCED F

TOP AND BOTTOM
TEMPORARY BENCHMARK
TELEPHONE
THREADED
THICK (NESS)
TYPICAL

SOLVENT WELD

VERT WM WWM XFMR

UNDERDRAIN VERTICAL WITH

WATERMAIN OR WATER METER
WATER VALVE
WOVEN WIRE MESH
TRANSFORMER

- THE CONTRACTOR SHALL PROVIDE ROUTINE UNTIL THE PROJECT IS COMPLETE AND ALL MAINTENANCE OF PERMANENT AND TEMPORARY EROSION CONTROL BARED SOILS ARE STABILIZED.
- 6 THE CONTRACTOR SHALL LIMITS OF THE PROJECT . WORK INVOLVED. BE RESPONSIBLE FOR THE MAINTENANCE OF AREA, FOR THE DURATION OF THE PROJECT. NO A ADDITIONAL PAYMENT WILL BE MADE
- THE CONTRACTOR IS RESPONSIBLE FOR THAT MAY OCCUR AS A RESULT OF THI REPAIRING ANY DAMAGE TO EXISTING FACILITIES, S WORK PERFORMED IN THIS CONTRACT. ABOVE OR BELOW GROUND

<u>DETAIL</u>

8

ECTION

DESIGNATION

FITTING

TYPE SYMBOLS

DOUBLE LINE

SINGLE LINE

DETAIL DESIGNATION NUMBER

SECTION
-DESIGNATION
LETTER

- CONTRACTOR IS TO "
 TO REMAIN IN PLACE "PROTECT Z PLACE" THAT ARE NOT TO RELOCATED
- THE CONTRACTOR IS COUNTY STANDARDS. ТО ADJUST OR REL Ħ H **FACILITIES** THAT FALL IN CONFLICT IN ACCORDANCE ¥ H
- ALL UTILITY CONSTRUCTION SHALL BE STANDARDS. Z CONFORMANCE WITH THE LATEST VERSION OF THE MANATEE COUNTY UTILITIES
- 20.

21.

BURIED DUCTILE IRON PIPE

SHALL

19.

22 THE CONTRACTOR SHALL PROVIDE DETAILED RECORD DRAWINGS, ANY & ALL SHALL BE INCLUDED IN THE CONTRACTOR'S BID. REDLINE DRAWINGS SHALL WILL BE CHECKED AS PART OF THE PAY APPLICATION REVIEW PROCESS. BE CURRENT WITH EACH PAY APPLICATION

DESIGNATION

<u>r</u> 8

SHEET SECTION

¤8

DRAWN

DETAIL

| ><

SECTION

SECTION DESIGNATION LETTER

PUSH ON JOINT

MECHANICAL JOINT

SCALE:

REFERENCE: **ELEVATIONS** HE **PLANS**

FOLLOWING RECORD DRAWINGS PROJECT. TO OBTAIN A COPY 792-8811 WERE USED

- THE F THIS F (914)
- WASTEWATER -32 BY CDM, OCTOBER 12, 1988

MAN THE STATE OF T	

12007391

OSMANSKI

JOB NUMBER

7650 West Suite 700

Courtney

Campbell Causeway

Tampa, Florida 33607 Ph: (813) 286—1711 Fax: Florida Engineering Number:

(813) 286– 000002

REVISIONS

N_O

/ember

19,

2008

OSMANSKI SCHEUERMAN

#20 **IMPROVEMENTS MASTER** A

STATION

SHEET ON WHICH DETAIL IS
CALLED OUT ("—" HERE
INDICATES THAT DETAIL IS
DRAWN ON SEVERAL SHEETS)

SHEET ON WHICH SECTION IS CALLED OUT ("—" HERE INDICATES THAT SECTION IS DRAWN ON SEVERAL SHEETS)

INDEX, G

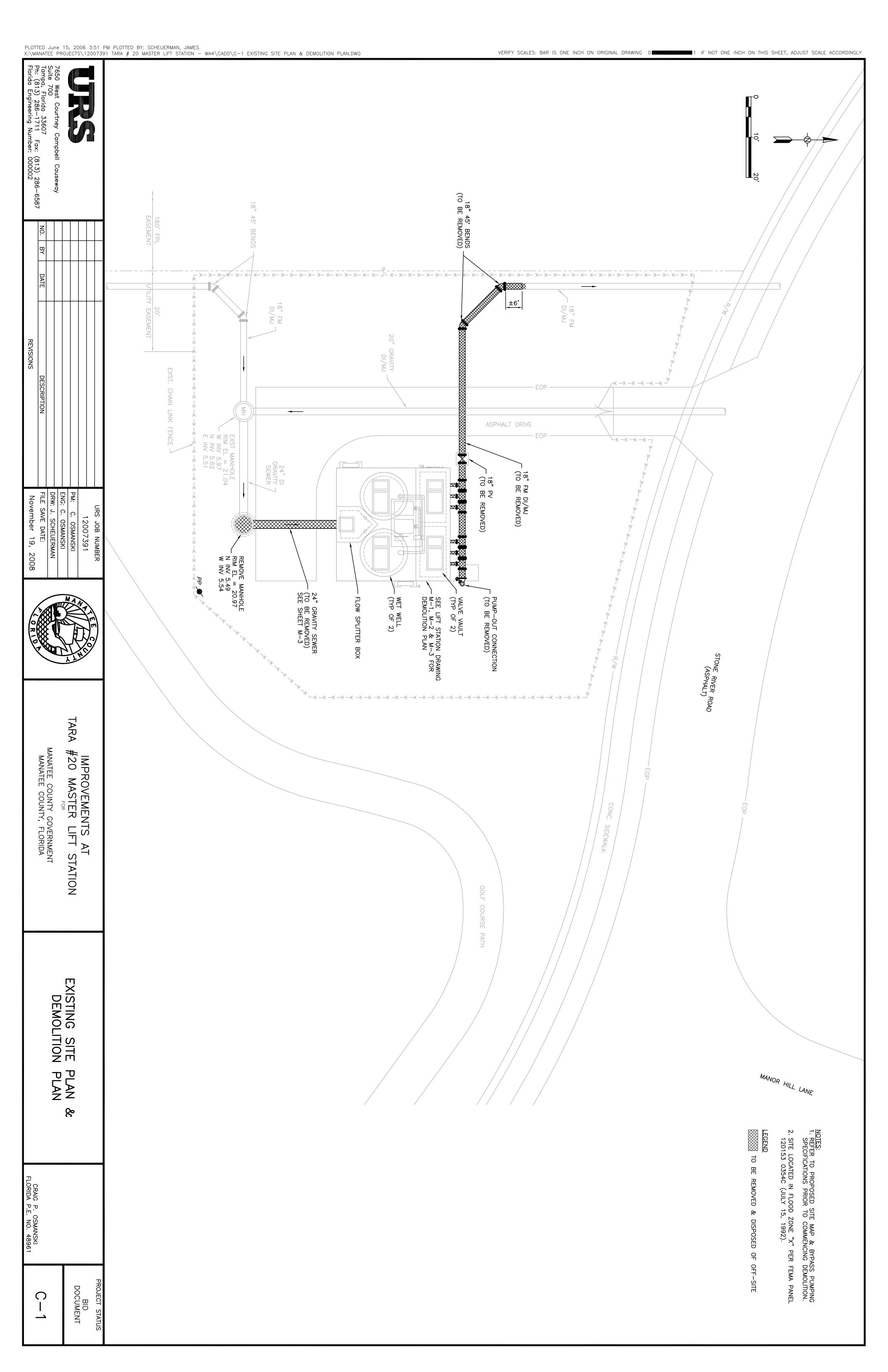
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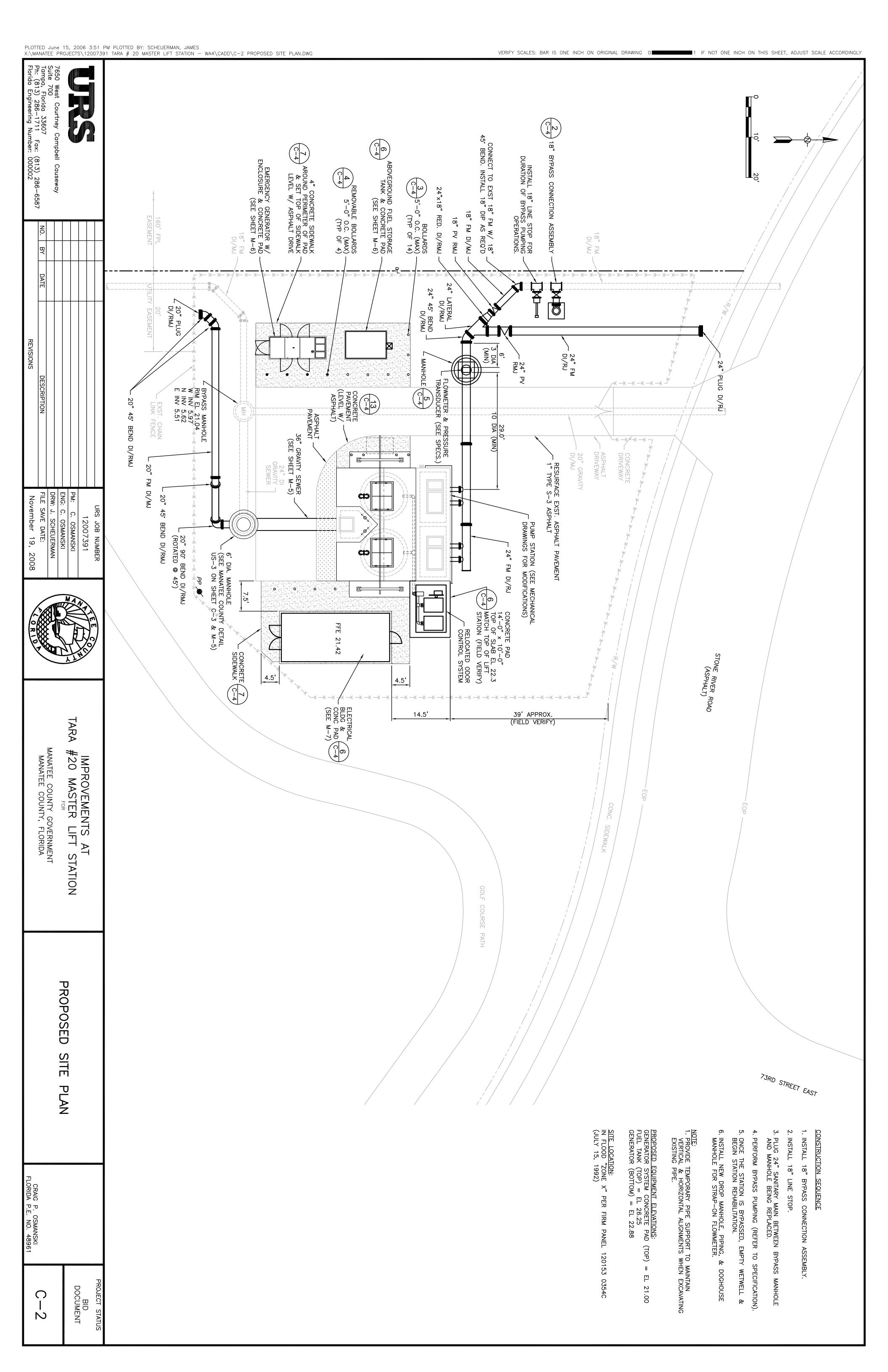
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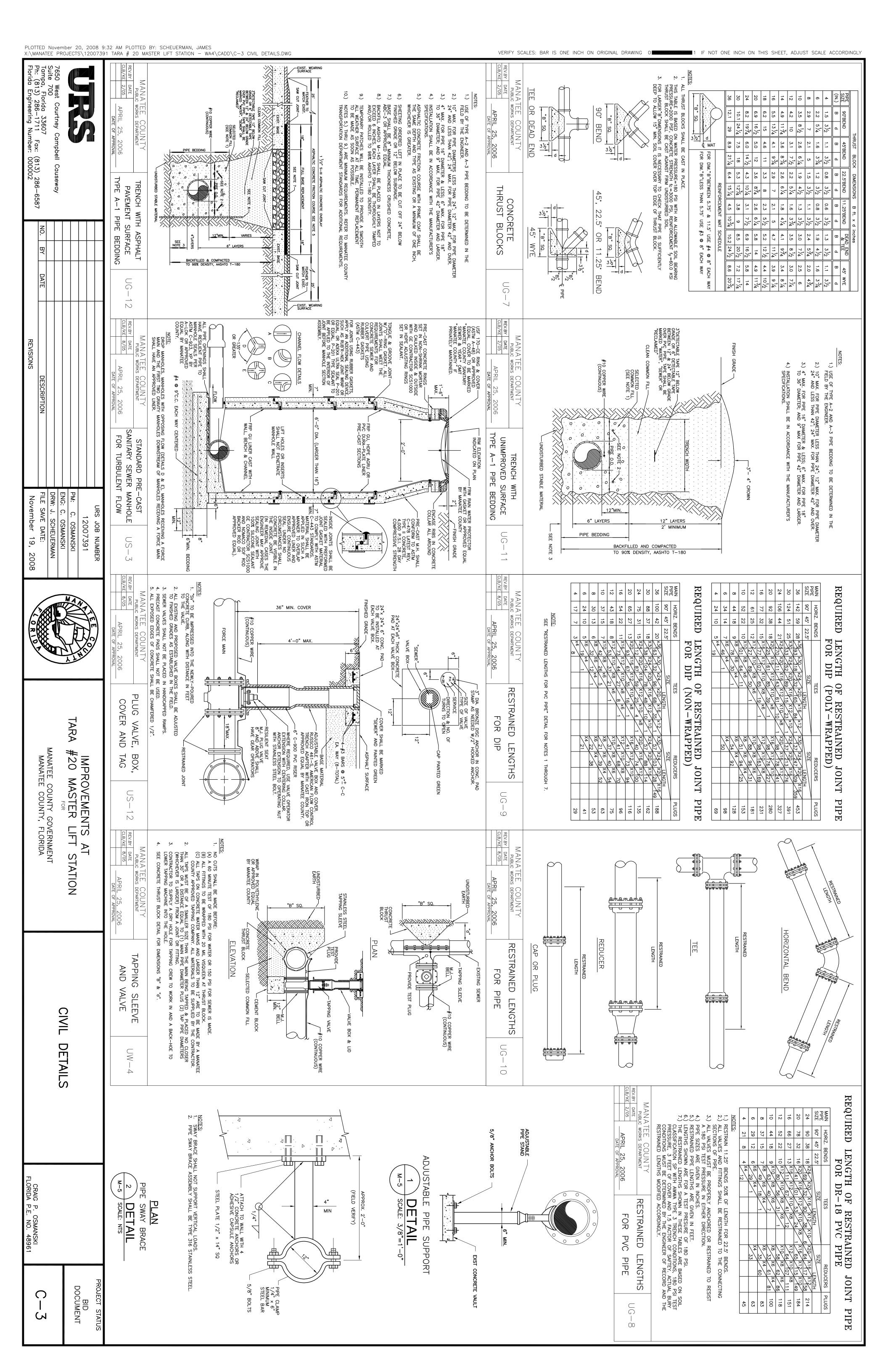
MANATEE COUNTY, FLORIDA

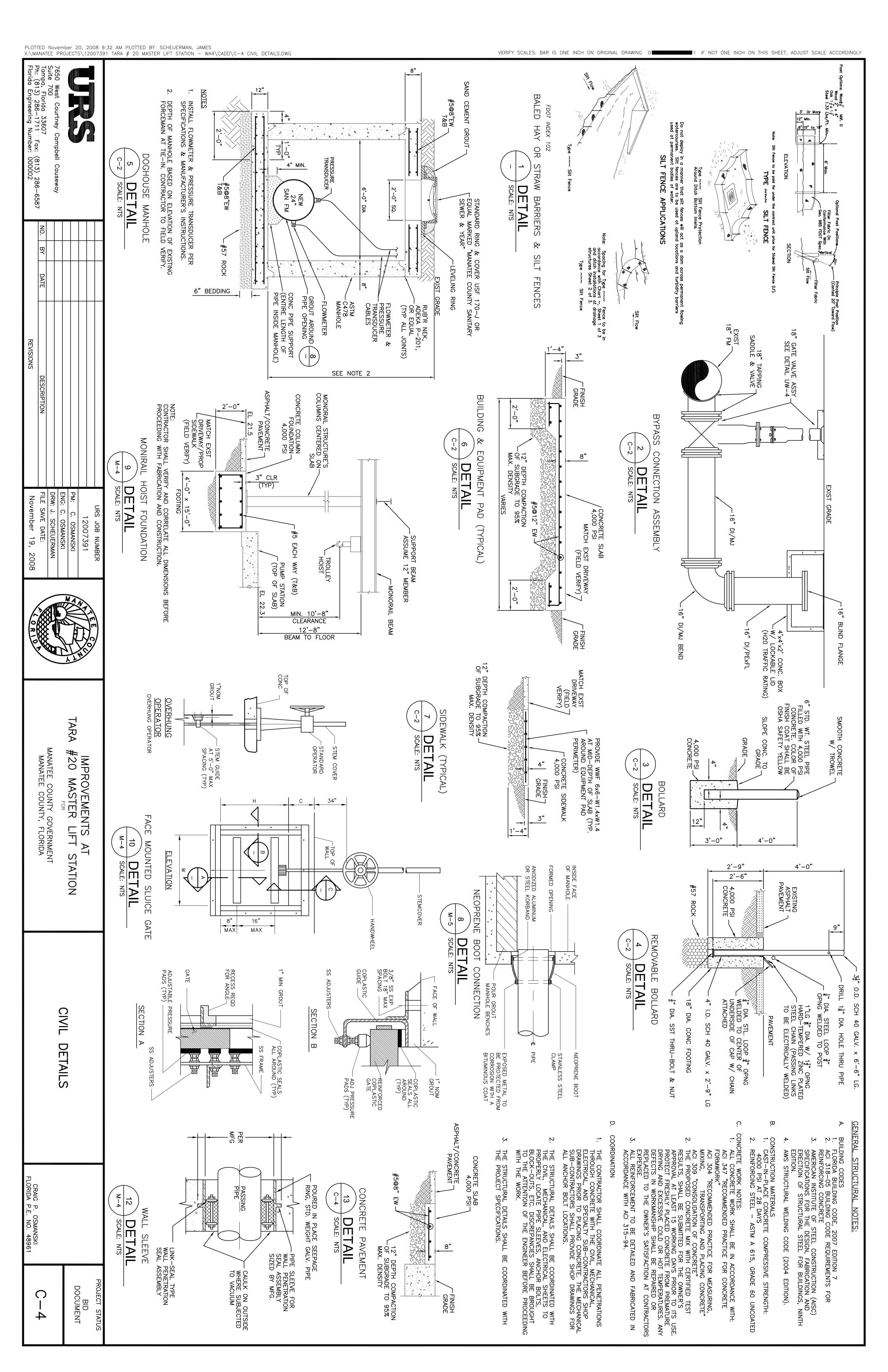
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

CRAIG P. OSMANSKI FLORIDA P.E. NO. 48961 (i) N

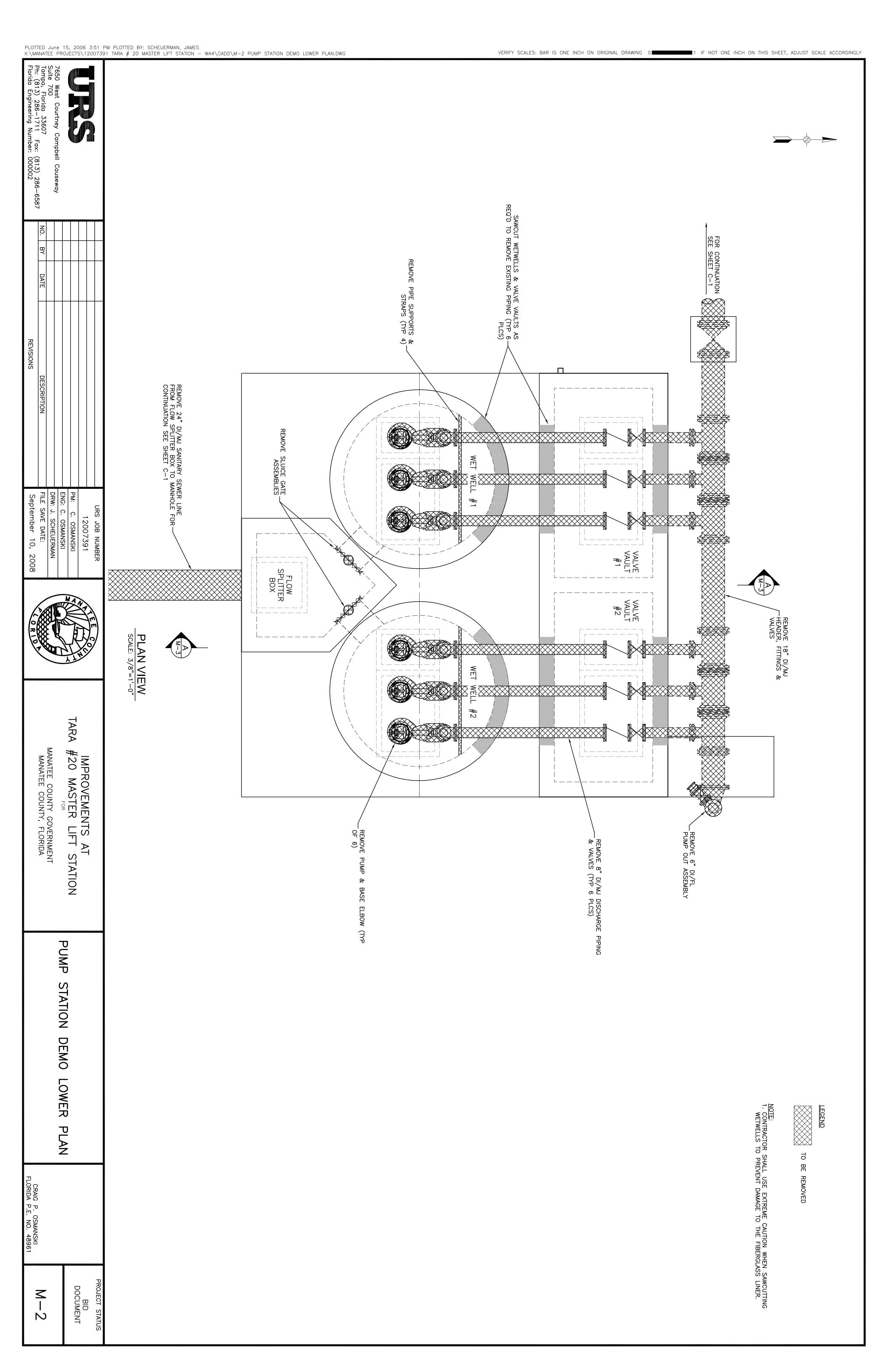








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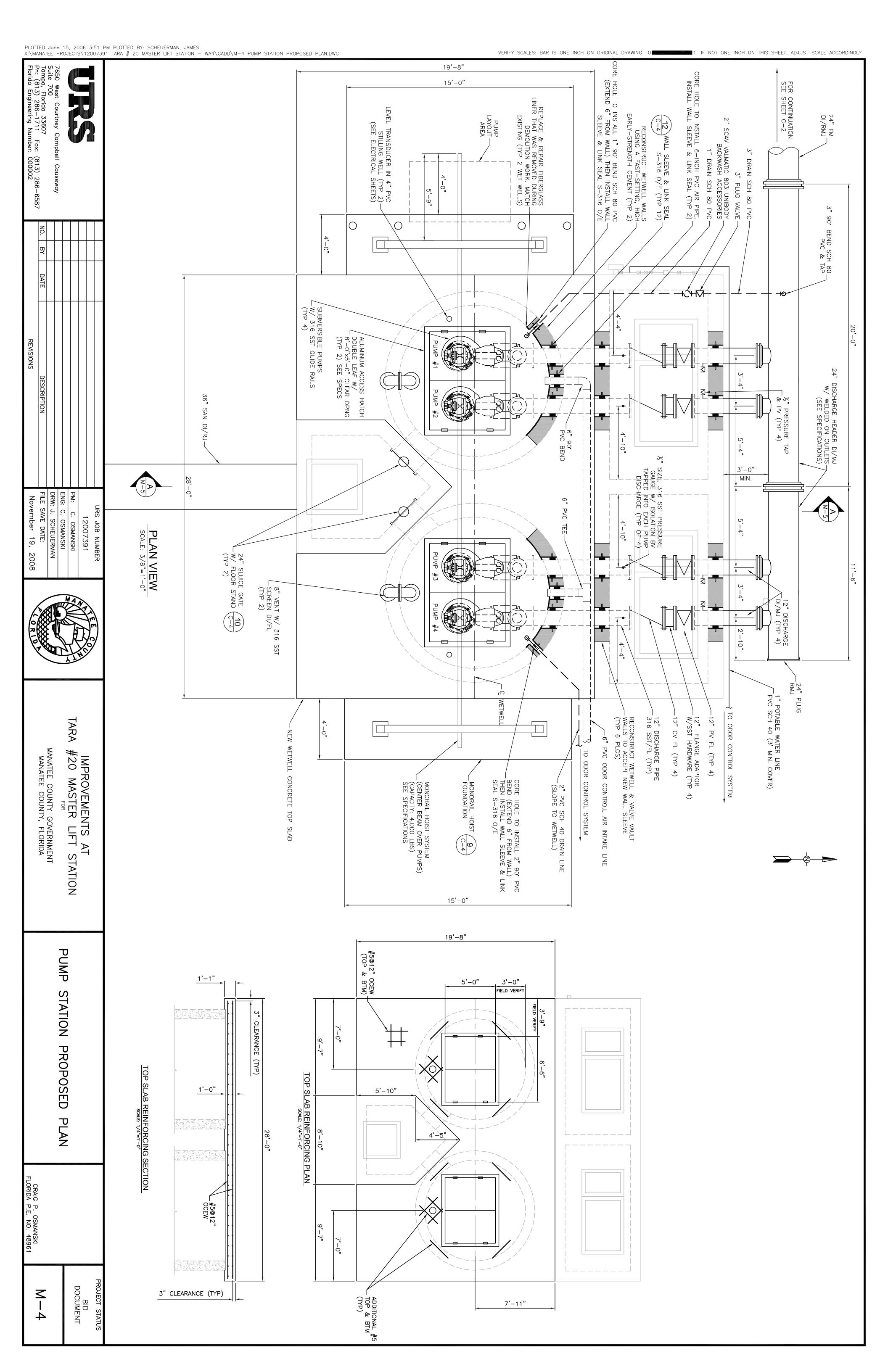


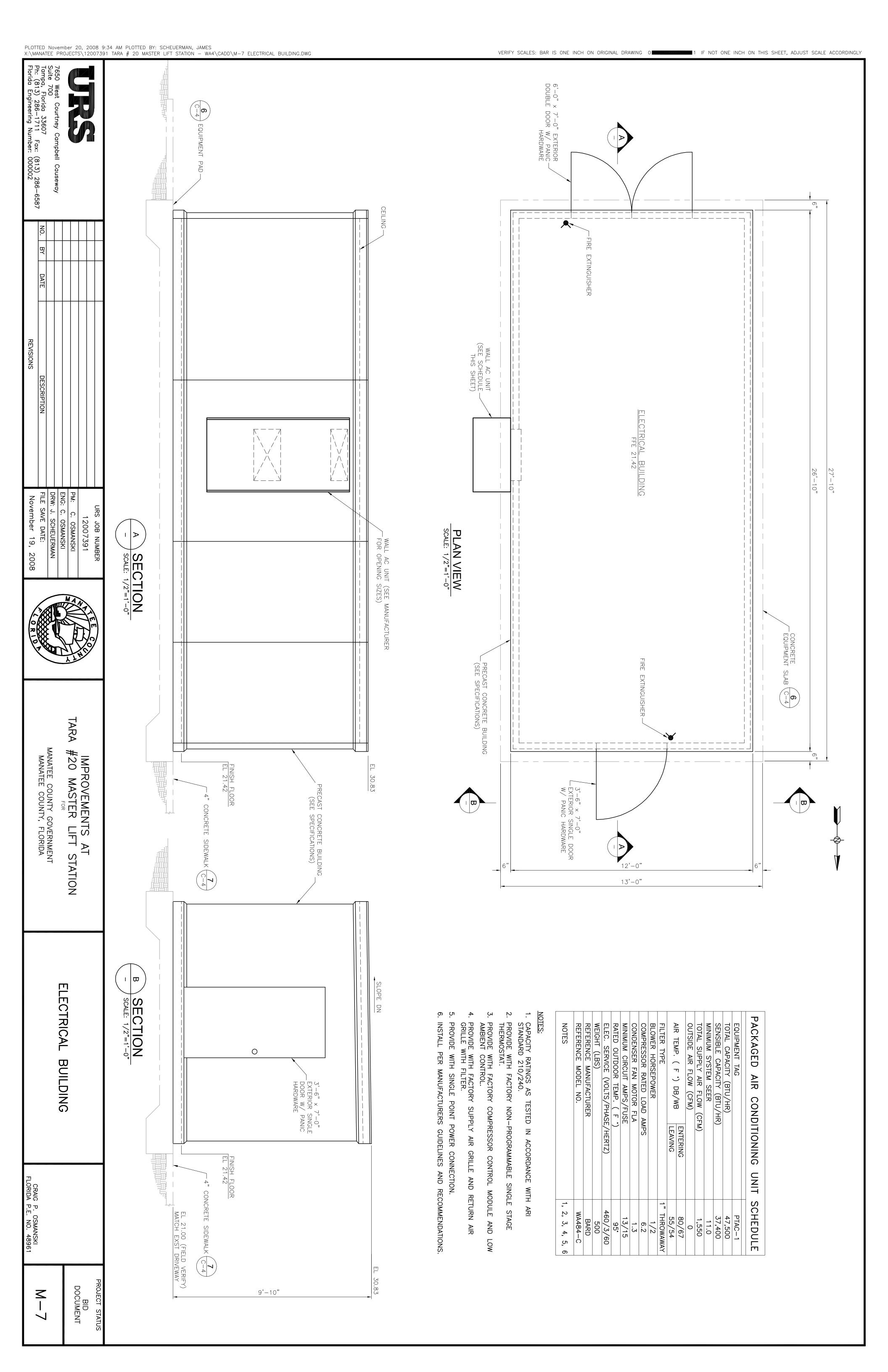
PROJECT STATUS

BID DOCUMENT

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PLOTTED Febeudity, 22,02605:5110: X:\MANATEE PROJECTS\1200739				44\CADD\E-1	ELECTRICAL AI	BREVIATIONS, SY	MBOLS LEGE	END & NOT	ES.DWG				VEI	RIFY SCALE	ES: BAR IS	ONE INCH O	N ORIGINAL	DRAWING O		1 IF N	OT ONE INC	H ON THIS S	SHEET, ADJUS	ST SCALE	ACCORDINGLY
7650 West Courtney Campbell Causeway Suite 700 Tampa, Florida 33607 Ph: (813) 286-1711 Fax: (813) 286-6587 Florida Engineering Number: 000002	EQUIP. EQUIPMENT EQUIV. EQUIVALENT EXIST. EXISTING EXP. EXPOSED	ENGINEER EMERGENCY ETHYLENE I				DC DIRECT CURRENT DED. DEDICATED DEG. DEGREES DET. DETAIL									CAT. CATALOG CATV CABLE TELEVISION CB CIRCUIT BREAKER, CATCH BASIN CEMERATE CEMERATE CEMERATE CATALOG CATALOG	BOTTOM CONDUIT, CONDUCTOR CABINET	BASIC IMPULS BUILDING BREAKER BAYONET-NIEL	BOLT			AMERICAN SOCIETY OF TESTING AND MATERIALS AMP TRIP	AMPS AMPERES APPROX. APPROXIMATE ASPH. ASPHALT AST ABOVECEDITION STORAGE TANK	AFF ABOVE FINISHED FLOOR AL ALUMINUM ALT. ALTERNATE AM AMMETER	A AMPS, AMPERE AF AMP FRAME AMP FUSE	ABBREVIATIONS:
URS JOB NUMBER 12007391 PM: C. OSMANSKI ENG: G. DAVIS DRW: G. DAVIS FILE SAVE DATE: November 20, 20	LTS LIGHTS LV LOW VOLTAGE LVMH LOW VOLTAGE MANHOLE L-G LINE-TO-GROUND L-L LINE-TO-LINE		LINEAR LOCATIONS	POUNDS LOAD CENTER LIGHT EMITTING DIODE LINEAR FEET		KILOVOLTS KILOVOLT AMPERES KILOVOLT AMPERES REACTIVE KILOWATTS	KOMII ONE THOUSAND CIRCUII AR MILS KOMII ONE THOUSAND CIRCUII AR MILS KOMII ONE THOUSAND CIRCUII AR MILS	J, JB JUNCTION BOX JCT JUNCTION JT JOINT		INCL. INCLUDING INST. INSTANTANEOUS INSTR. INSTRUMENTATION	INCHÁFS) INCHÁFS) INCHÁFS) INCHÁFS)			HID HIGH INTENSITY DISCHARGE HOA HAND-OFF-AUTOMATIC HORIZ. HORIZONTAL	H HEIGHT HD HEAVY DUTY HDPE HIGH DENSITY POLYETHYLENE		INTERRUPTER			FLEX. FLEXIBLE FLR FLOOR FLUOR. FLUORESCENT FO FIBER OPTIC	FINISHED FL	TE CONTROL		.	ABBREVIATIONS:
TARA #20 MANATE MANATE MANATE			SQUARE FOOT, SQUARE FEET	SURGE ARRESTER SCHEDULE SECONDARY, SECOND(S) SECTION	ROOI-MEAN-SQUAR REDUCED VOLTAGE REDUCED VOLTAGE RIGHT-OF-WAY	REQD REQUIRED REV. REVISION, REVISED RF RATING FACTOR RGS RIGID GALVANIZED STEEL		PWK POWER PERCENT QTY QUANTITY	TENTIAL TRANSFORMER, ANSMITTER LYVINYL CHLORIDE	PROJECT PRESSURE SENSOR, POWER POUNDS PER SQUARE INCH	3D		POWER FACTOR R Ø PHASE PROGRAMMABLE L		٠٠٠,	O.C. ON CENTER(S) O.D. OUTSIDE DIAMETER OH OVERHEAD OL OVERLOADS		NEUTRAL NOT IN CONTRACT NORMALLY OPEN NUMBER	NC NORMALLY CLOSED NE NEC NATIONAL ELECTRICAL CODE NEMA NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION	MEGAVOLT AMPER NEUTRAL	MAIN LU MOUNTEI MOTOR	VADIS US EIX	MCOV MAXIMUM CIRCUIT OPERATING VOLTAGE MECH. MECHANICAL MEMB. MEMBRANE MER MANILFACTURER	MOTOR MAXIMUM ONF THOUSAND CIRCUI AR MII	ABBREVIATIONS:
ROVEMENTS AT MASTER LIFT STATION FOR E COUNTY GOVERNMENT SY TEE COUNTY, FLORIDA								Z IMPEDANCE	XHHW HEAT AND MOISTURE RESISTANT CROSS LINKED SYNTHETIC POLYMER XP EXPLOSION PROOF	~		WH WATT-HOUR WM WATT-HOUR METER W/O WITHOUT	WATT, WIDE, WIDTH, W WASTE FUEL	VARIABLE FREQUENCT DRIVE VM VOLT METER VOL. VOLUME VT VOLTAGE TRANSFORMER	VOLTS, VOLTAGE VOLT AMPERES REACTI VERTICAL VARIABLE EBECLIENCY	UPS UNINTERRUPTABLE POWER SUPPLY UTP UNSHIELDED TWISTED PAIR UVIR ULTRAVIOLET INFRARED	UNIFORM BUILDING CODE UNDERGROUND UNDERWRITERS LABORATORY UNLESS NOTED OTHERWISE	.,		TEMP. TEMPORARY, TEMPERATURE TERM. TERMINAL THHN HEAT RESISTANT THERMOPLASTIC INSULATION			STR STRANDED SW. SWITCH SWBD SWITCHBOARD SYM SYMMETRICAL		ABBREVIATIONS:
ECTRICAL ABBREVIATIONS,								JB JUNCTION BOX	PHOTO CELL	TICK MARKS INDICATE NUMBER OF CONDUCTORS IF THERE IS MORE THAN THREE (3) CONDUCTORS; (1) INDICATES PHASE CONDUCTOR. (1) INDICATES NEUTRAL CONDUCTOR. (2)	HOMERUNS TO PANEL. PANEL &	CIRCUITING SYMBOLOGY FEEDER. SINGLE-LINE DIAGRAM FOR CON WIRE SPECIFICATION.	HPS POLE MOUNT LIGHT FIXTURE, FIXTURE SCHEDULE ON E-6 AND	INTERRUPTER. "WP" INDICATES WEATHERPROOF RATED.	GFCI WP SPECIFICATION GRADE. "GFCI" INDICATES THAT	\$#T LIGHT SWITCH, "#" INDICATES NUMBER OF WAYS FOR SWITCH, "T" INDICATES SWITCH INCLUDES TIME DELAYED AUTOMATIC SHUTOFF.	HPS WALL MOUNT LIGHT FIXTURE, B LIGHTING FIXTURE SCHEDULE ON E	A 2 X 32W FLUORESCENT LAMP PEI MOUNTED LIGHT FIXTURE, REFER T FIXTURE SCHEDULE ON E-6.	——————————————————————————————————————	→ DRIVEN GROUNDING ROD ELECTRODE◆ CONNECTION POINT	<pre>(#) DEMOLITION NOTE TAG</pre>	LEGEND: (#) REFERENCE NOTE TAG	בסובטוועסט סוא טוור - בסוא.	1. REFER TO MECHANICAL DRAWINGS FOR PROJECT LOCATION, TANK LOCATIONS AND LOCATIONS OF BLUILDINGS ON SITE PLAN	GENERAL NOTES:
GLENN H. DAVIS FLORIDA P.E. NO. 66443										OF CONDUCTORS IF THERE IS TORS; (1) INDICATES PHASE JTRAL CONDUCTOR. (1)	CATE THREE (3) CONDUCTORS,	, FEEDER. REFER TO FOR CONDUIT AND	RE, REFER TO LIGHTING ND DETAIL ON E-2.	RECEPTACLE IS	20R, INDUSTRIAL INDICATES THAT FALILT CIRCUIT	IUMBER OF WAYS TCH INCLUDES OFF.	RE, REFER TO N E-6.	PENDANT R TO LIGHTING		RODE)R PROJECT ;ATIONS OF	

PROJECT STATUS

BID DOCUMENT

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Tampa, Florida 33607 Ph: (813) 286—1711 Fax: Florida Engineering Number:

(813) 286-000002

-6587

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G. DAVIS

URS

JOB NUMBER

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OSMANSKI

TARA

#20

N_O

vember

20,

2008

DATE:

FLOW METER SENSOR ——— AND PRESSURE TRANSDUCER/TRANSMITTER

GENERAL

2

70 SINGLE LINE DIAGRAM FOR NOTES: CONDUCTOR SIZES

AND ADDITIONAL

REQUIREMENTS.

(IJ

ALL PVC UNDERGROUND CONDUITS SHALL TRANSITION TO RGS CONDUIT PRIOR TO CONDUIT TRANSITION FROM HORIZONTAL TO VERTICAL. ALL EXTERIOR VERTICAL CONDUITS ARE RGS.

REFERENCE

COORDINATE WITH UTILITY FOR TERMINATION IN VIILITY

 $\left(\right)$

(3)

- PROVIDE THE TERMINATION PROVIDE THREE (3) 4 IN. AND 'MCB' IN ELECTRICAL FOLLOWING IN CABINETS AND SCHEDULE BUILDING. 80 PVC CONDUITS BETWEEN OO BETWEEN WETWELL ALITILO
- FOR PUMP SCHEDULE ELECTRICAL MOTOR 80 PVC CONDUIT BUILDING: POWER CONDUCTORS.
- Z FOR LEVEL TRANSMITTER CONTROL CABLE

(0)

WIRING. FOR PUMP MANUFACTURER'S MONITORING AND STATUS

PROVIDE REFERENCE (2)NOTES CONTINUED:

PROVIDE ONE AND CONTROL TWO (1) 2 IN. CONCRETE ENCASED PVC CONDUIT UG BETWEEN GENERATOR CONTROL PANEL CABINET IN ELECTRICAL BUILDING. Ē CONCRETE ENCASED PVC CONDUIT UG BETWEEN GENERATOR FUEL TANK AND IN GENERATOR ENCLOSURE ELECTRICAL BUILDING.

250W HPS SH TYPE FIXTURE W FT. MOUNTING

SHOEBOX E WITH 25 1G HEIGHT.

PROVIDE THE FOLLOWING CONCRETE ENCASED PVC CONDUIT UG BETWEEN GENERATOR ENCLOSURE AND ELECTRICAL

- NOTES:
- \bigcirc \bigcirc \sim Ē FOR FLOAT CONTROL CABLES

ONE

- TWO (2) CONTROL ONE
- (∞)
- HANDHOLE

HANDHOLE

- TWO (2)
- ONE (1) 1-1/4 IN. FOR PANEL IN. FOR GENERATOR POWER CONDUCTORS 'FPG' IN GENERATOR ENCLOSURE POWER CONDUCTORS. BUILDING:
- PROVIDE ONE IN DOGHOUSE PROVIDE GROUND RODS ON MAXIMUM 100 FT. CENTERS BETWEEN DUCTBACK TERMINATIONS AT MANHOLES/HANDHOLES BUILDINGS. BOND COUNTERPOISE GROUNDING CONDUCTOR TO GROUND ROD VIA EXOTHERMIC WELDING PROCESS. 1 IN. CONCRETE ENCASED SCHEDULE 40 PVC CONDUIT UG BETWEEN PUMP CONTROL CABINET AND JUNCTION BOX MANHOLE FOR FLOW METER AND PRESSURE TRANSDUCER/TRANSMITTER CONTROL WIRING.
- "FINAL GRADE" SHALL BE UNDERSTOOD TO REFER TO THE "FINAL EARTHEN GRADE" ORIGINAL CONDITION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT (" OR "TOP OF PAVEMENT SURFACE", GOVERNING SURFACE RESTORATION. WHICHEVER
- REINFORCING UNCOATED. STEEL SHALL BE DEFORMED BARS OF NEW BILLET STEEL MEETING THE REQUIREMENTS OF ASTM A 615, GRADE 60,

25'

6" SQ. ALUM. POLE, RATED FOR 130 MPH WIND LOAD

DARK BRONZE

FINISH

HANDHOLE

)BASE

COVER

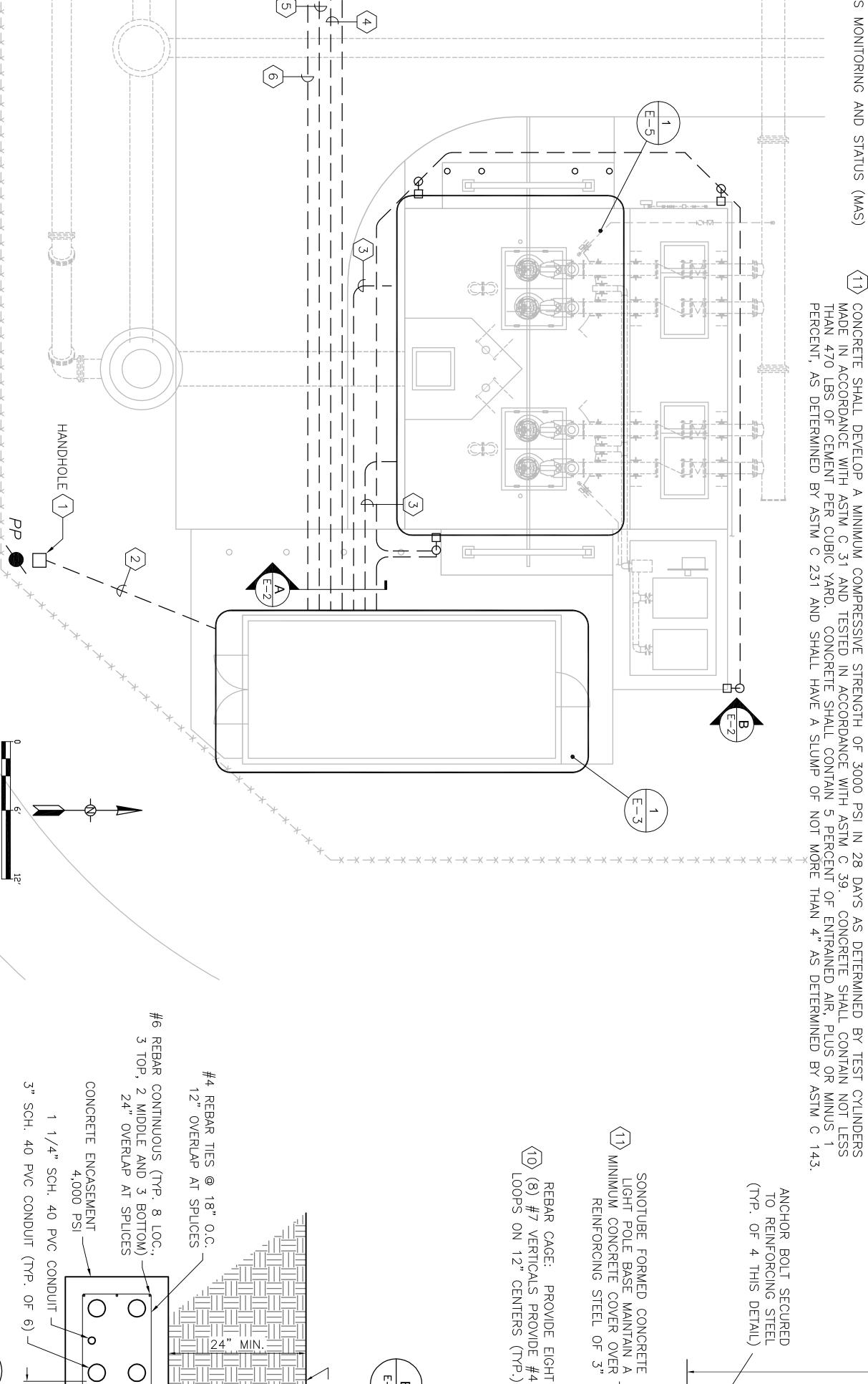
CHAMFER

(TYP.

 $\mathbb{A} \mathbb{L}$

AROUND)

FINISHED GRADE



 \Box

POLE MOUNTED SCALE: NTS

AREA LUMINAIRE

30

3/4" DIA. X 10 COPPER-CLAD GROUNDING ELECTRODE.

STEEL

24"

 \leq

EXOTHERMIC

WELD

12"

 \leq

#6 AWG BARE STR.
TINNED CU GROUNDING
ELECTRODE CONDUCTOR

FINAL GRADE $\langle 9 \rangle$

T LINE MARKING TAPE (T

(TYP.)

10

BARE

GROUNDING CONDUCTOR (8)

40

PVC

CONDUIT

(TYP.

웃

5)

MANATEE COUNTY GOVERNMENT MANATEE COUNTY, FLORIDA **IMPROVEMENTS MASTER** \geq STATION ELEC. TRICAL SITE

PLAN

SECTION

3½"

(TYP)

;

SCH.

40

PVC CONDUIT (TYP. OF

9" (TYP)

0

0

Q

-4" CLR (TYP. ALL

AROUND)

 $\overline{\mathsf{O}}$

O

JO

3" CLR · (TYP. AI

 \mathbb{ALL}

AROUND)

0

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OSMANSKI

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MASTER

STATION

IMPROVEMENTS

A

MANATEE COUNTY GOVERNMENT MANATEE COUNTY, FLORIDA

O₀

vember

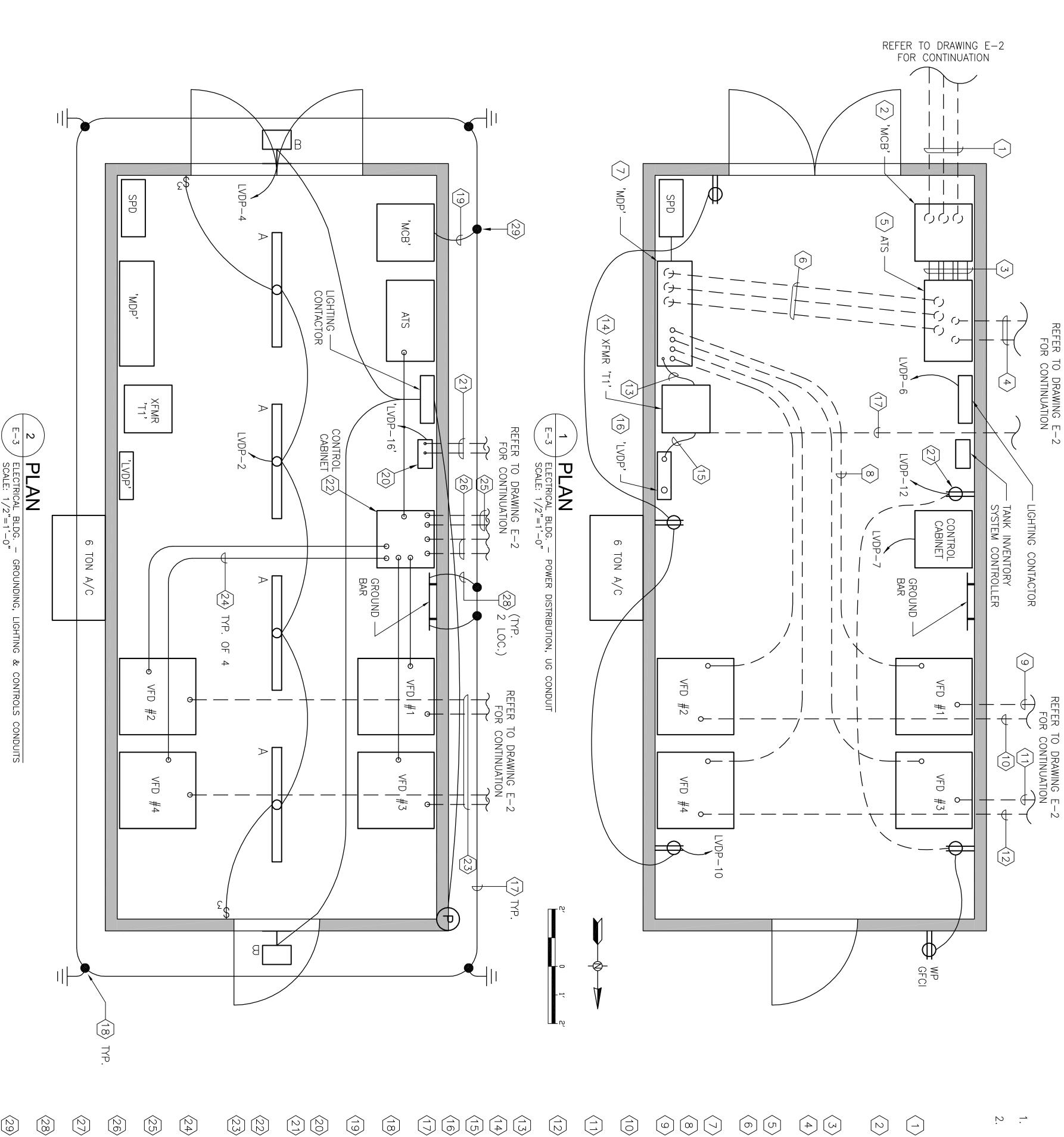
20,

2008

SAVE DATE:

7650 West Courtney Suite 700

Campbell Causeway



GENERAL NOTES:

- REFER TO SINGLE LINE DIAGRAM FOR CONDUCTOR SIZES AND ADDITIONAL REQUIREMENTS.
- ALL PVC UNDERGROUND CONDUITS SHALL TRANSITION TO RGS CONDUIT PRIOR TO CONDUIT TRANSITION FROM HORIZONTAL TO VERTICAL. ALL EXTERIOR VERTICAL CONDUITS ARE RGS.

REFERENCE NOTES:

- PROVIDE THREE (3) 4IN. SCHEDULE AND 'MCB'. 80 PVC CONDUITS UG, 2 ACTIVE, 1 SPARE BETWEEN THE UTILITY HANDHOLE
- PROVIDE 1200A ,
 TO ENCLOSURE V
 2: SERVICE NO. : 'MCB' IN A FLOOR MOUNT NEMA TYPE 12 ENCLOSURE. PROVIDE PERMANENT PLAQUE MOUNTED WITH CONTRASTING COLORS AND MINIMUM OF 2IN. HIGH LETTERING THAT STATES "SERVICE 1 OF 2 'GCB' IS LOCATED IN GENERATOR ENCLOSURE".
- PROVIDE THREE (3) 4IN. RGS CONDUIT EXPOSED BETWEEN 'MCB' AND THE ATS.
- PROVIDE TWO (2) 3IN. CONCRETE ENCASED SCHEDULE 40 PVC CONDUITS UG BETWEEN 'GCB' IN GENERATOR ENCLOSURE AND ATS IN ELECTRICAL BUILDING.
- PROVIDE 1000A ATS ON 4IN. HOUSEKEEPING PAD IN A NEMA TYPE 12 ENCLOSURE.
- PROVIDE THREE (3) 4IN. CONCRETE ATS AND 'MDP'. ENCASED SCHEDULE 40 PVC CONDUITS UG, 2 ACTIVE, 1 SPARE
- PROVIDE 1200A SURFACE MOUNTED PANELBOARD IN A NEMA TYPE 12 ENCLOSURE.
- PROVIDE ONE 2<u>N</u>. SCHEDULE 80 P\ /C CONDUIT UG BETWEEN PANEL 'MDP' AND VFD.
- WELL 2IN. #1. SCHEDULE 80 PVC CONDUIT UG BETWEEN 'VFD-1' AND TERMINATION CABINET 'TC-1' ADJACENT

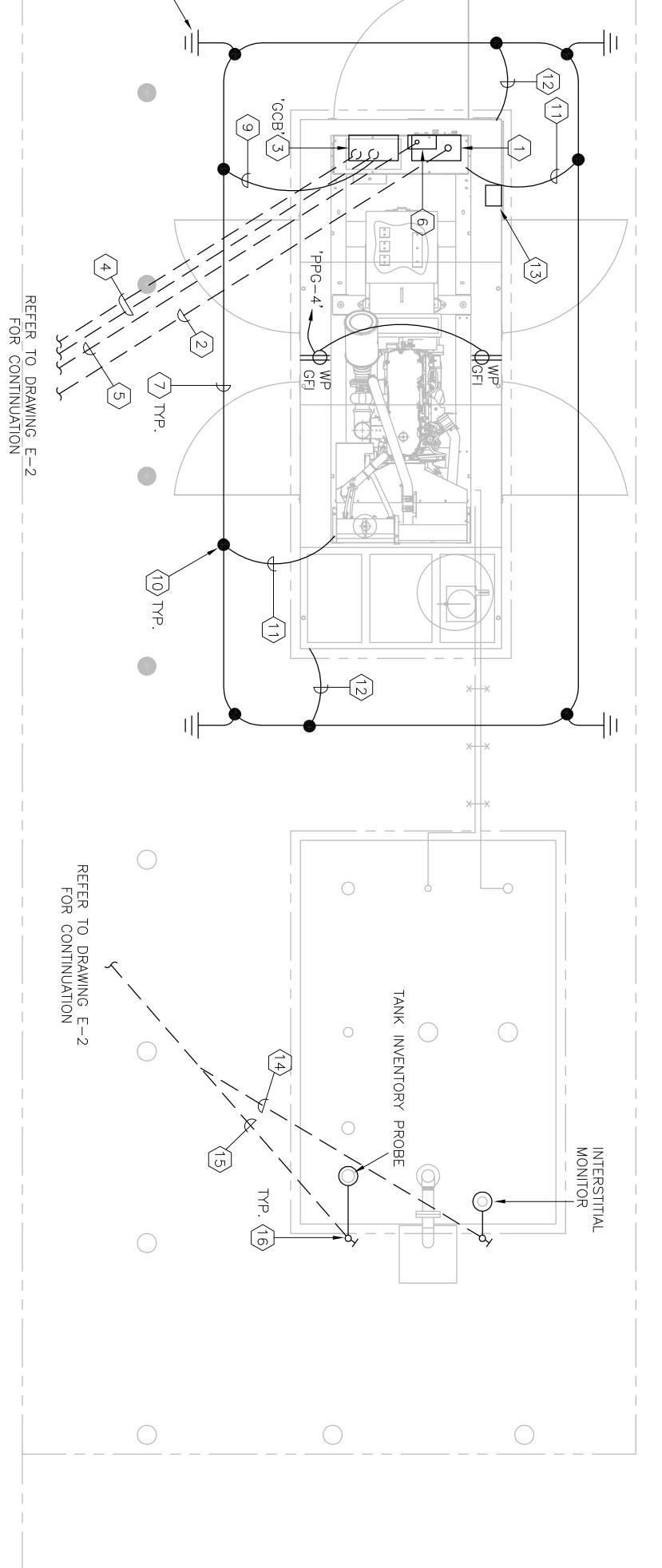
PROVIDE TO WET

- PROVIDE ONE TO WET WELL 2N. SCHEDULE 80 PVC CONDUIT UG BETWEEN 'VFD-2' AND TERMINATION CABINET 'TC-1' ADJACENT
- PROVIDE TO WET WELL 2IN. #2. SCHEDULE 80 PVC CONDUIT UG BETWEEN 'VFD-3' AND TERMINATION CABINET 'TC-2' ADJACENT SCHEDULE CONDUIT UG BETWEEN 'VFD-4' AND TERMINATION CABINET 'TC-2' ADJACENT
- PROVIDE ONE TO WET WELL 2IN. #2. 80 PV
- PROVIDE ONE 1-1/2IN. LFMC BETWEEN PANEL 'MDP' AND TRANSFORMER 'T1'.
- PROVIDE 45kVA GENERAL PURPOSE FLOOR MOUNTED TRANSFORMER ON A 41N. HOUSEKEEPING
- PROVIDE ONE 2IN. LFMC BETWEEN TRANSFORMER 'T1' AND PANEL 'LVDP'
- PROVIDE 225A SURFACE MOUNTED PANELBOARD IN A NEMA TYPE 12 ENCLOSURE
- PROVIDE BURIED / E #4/0 AWG BARE STRANDED A MINIMUM OF 30IN. BELOW TINNED COPPER COUNTERPOISE GROUNDING ELECTRODE CONDUCTOR DIRECT FINISHED GRADE.
- PROVIDE GROUND ROD. INSTALL GROUND ROD SO THAT TOP IS A MINIMUM OF 30IN. BELOW FINISHED GRADE. BOND GROUND ROD TO GROUNDING ELECTRODE CONDUCTOR VIA THE EXOTHERMIC WELDING PROCESS.
- PROVIDE #4/0 AWG BARE STRANDED TINNED COPPER GROUNDING CONDUCTOR IN PVC CONDUIT BETWEEN 'MCB' AND COUNTERPOISE GROUNDING ELECTRODE CONDUCTOR. BOND GROUNDING CONDUCTOR TO 'MCB' GROUND BUS.
- PROVIDE TANK INVENTORY SYSTEM CONTROLLER.
- PROVIDE TWO (2) 1IN. CONCRETE ENCASED PVC CONDUIT, ONE BETWEEN TANK INVENTORY SYSTEM CONTROLLER AND INTERSTITIAL MONITOR, ONE BETWEEN TANK INVENTORY SYSTEM CONTROLLER AND TANK INVENTORY PROBE.
- OWNER FURNISHED CONTROL CABINET.
- PROVIDE (TC-1 & PROVIDE FOUR (4) 2 IN. SCHEDULE (TC-1 & TC-2). PROVIDE 12 #4 AV MANUFACTURER'S MONITORING AND S LE 80 PVC CONDUIT UG BETWEEN CONTROL CABINET AND TERMINATION CABINETS AWG CONTROL WIRING AND 1 #12 GND IN EACH CONDUIT FOR PUMP STATUS (MAS).
- PROVIDE ONE 2IN. EMT ROUTED EXPOSED BETWEEN CONTROL CABINET AND VFD ENCLOSURE FOR CONTROL WIRING.
- PROVIDE . & TC-2) TWO (2) 2IN. SCHEDULE 80 PVC CONDUIT BETWEN CONTROL CABINET AND TERMINATION CABINETS (TC-1) FOR FLOAT CONTROL CABLES.
- PROVIDE TWO (2) 2IN. SCHEDULE 80 PVC CONDUIT BETWEN CONTROL CABINET AND TERMINATION CABINETS (TC-1 & TC-2) FOR LEVEL TRANSMITTER CONTROL CABLES.
- PROVIDE #4/0 AWG. BARE STRANDED TINNED COPPER GROUNDING CONDUCTOR IN PVC CONDUIT BETWEEN GROUND BAR AND COUNTERPOISE LOOP. PROVIDE UPS WITH RATED TO PROVIDE 20A AT 120V FOR A MINIMUM OF 20 MINUTES. INSTALL UPS BETWEEN DEDICATED RECEPTACLE AND CONTROL CABINET.
- EXOTHERMICALLY WELD GROUND CONNECTIONS TO COUNTERPOISE LOOP

ELECTR CAL BUILDING PLAN

PROJECT STATUS

BID DOCUMENT



REFERENCE NOTES:

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(3)

- PROVIDE GENERATOR CONTROL PANEL MOUNTED IN GENERATOR ENCLOSURE.
- PROVIDE ONE (1) 2 IN. CONCRETE ENCASED PVC CONDUIT UNDERGROUND BETWEEN GENERATOR CONTROL PANEL AND CONTROL CABINET IN ELECTRICAL ROOM.
- PROVIDE GENERATOR CIRCUIT BREAKER 'GCB' IN GENERATOR ENCLOSURE. PROVIDE PERMANENT PLAQUE MOUNTED TO ENCLOSURE WITH CONTRASTING COLORS AND MINIMUM OF 2IN. HIGH LETTERING THAT STATES "SERVICE 2 OF 2: SERVICE NO. 1 'MCB' IS LOCATED IN ELECTRICAL BUILDING".
- PROVIDE 'GCB' ANI DE TWO (2) 3IN. CONCRETE ENCASED PVC CONDUIT UNDERGROUND BETWEEN AND THE ATS LOCATED IN THE ELECTRICAL BUILDING.
- PROVIDE ONE (1) 1-1/4IN. CONCRETE ENCASED PVC CONDUIT UNDERGROUND BETWEEN PANEL 'PPG' AND PANEL 'LVDP' LOCATED IN THE ELECTRICAL BUILDING.
- PROVIDE #4/0 AWG BARE STRANDED TINNED COPPER COUNTERPOISE GROUNDING ELECTRODE CONDUCTOR DIRECT BURIED A MINIMUM OF 30IN. BELOW FINISHED GRADE. PROVIDE 100A, 208Y/120V, 3PH., 4W, 12 CIRCUIT LOAD CENTER WITH 60A MAIN CIRCUIT BREAKER IN A NEMA TYPE 3R ENCLOSURE.

(b)

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5

PROVIDE GROUND ROD. INSTALL GROUND ROD SO THAT TOP IS A MINIMUM OF 30IN. BELOW FINISHED GRADE. BOND GROUND ROD TO GROUNDING ELECTRODE CONDUCTOR VIA THE EXOTHERMIC WELDING PROCESS.

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- PROVIDE #4/0 PVC CONDUIT B CONDUCTOR. E) AWG BARE STRANDED TINNED COPPER GROUNDING CONDUCTOR IN BETWEEN 'GCB' AND COUNTERPOISE GROUNDING ELECTRODE BOND GROUNDING CONDUCTOR TO 'GCB' GROUND BUS.
- EXOTHERMICALLY WELD GROUNDING CONDUCTOR TO COUNTERPOISE ELECTRODE CONDUCTOR. GROUNDING

PROVIDE #2/0 PVC CONDUIT B CONDUCTOR. E

PROVIDE #2/0 AWG BARE STRANDED TINNED COPPER GROUNDING CONDUCTOR EXPOSED BETWEEN ENCLOSURE STRUCTURE AND COUNTERPOISE GROUNDING ELECTRODE CONDUCTOR. EXOTHERMIC ALLY WELD GROUNDING CONDUCTOR TO ENCLOSURE STRUCTURE.) AWG BARE STRANDED TINNED COPPER GROUNDING CONDUCTOR IN BETWEEN GENERATOR SKID AND COUNTERPOISE GROUNDING ELECTRODE EXOTHERMICALLY WELD GROUNDING CONDUCTOR TO GENERATOR SKID. TO

 $\left(\frac{1}{2}\right)$

- (1<u>4</u>) $\overline{3}$ PROVIDE ONE (1) 1 IN. CONCRETE ENCASED PVC CONDUIT UNDERGROUND BETWEEN INTERSTITIAL MONITOR ON FUEL TANK AND TANK INVENTORY SYSTEM CONTROLLER IN ELECTRICAL ROOM. CONDUCTORS ARE TO MAINTAIN INTRINSICALLY SAFE REQUIREMENTS AS PER NEC ARTICLE 504. LOCATE BATTERY CHARGER ON SAME SIDE OF GENERATOR AS BATTERY TRAY.

 LOCATION SHOWN FOR BATTERY CHARGER ON PLAN IS FOR DIAGRAMMATIC PURPOSES
- (15)PROVIDE ONE (1) 1 IN. CONCRETE ENCASED PVC CONDUIT UNDERGROUND BETWEEN TANK INVENTORY PROBE ON FUEL TANK AND TANK INVENTORY SYSTEM CONTROLLER IN ELECTRICAL ROOM. CONDUCTORS ARE TO MAINTAIN INTRINSICALLY SAFE REQUIREMENTS AS PER NEC ARTICLE 504.

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

PROVIDE EXPLOSIONPROOF SEAL FITTING(S) LISTED BY THE MANUFACTURER AS SUITABLE FOR USE IN CL.1, DIV. 1 & 2, GROUPS ABCDE CLASSIFIED HAZARDOUS ENVIRONMENTS. LOCATE AT 18" ABOVE GRADE WHERE CONDUITS EMERGE FROM GRADE.

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MANATEE COUNTY, FLORIDA IMPROVEMENTS 120 MASTER LIF A **STATION**

TARA

#20

PM: ENG: DRW: FILE

C. OSMANSKI G. DAVIS

vember 20,

2008

SAVE DATE:

URS JOB NUMBER

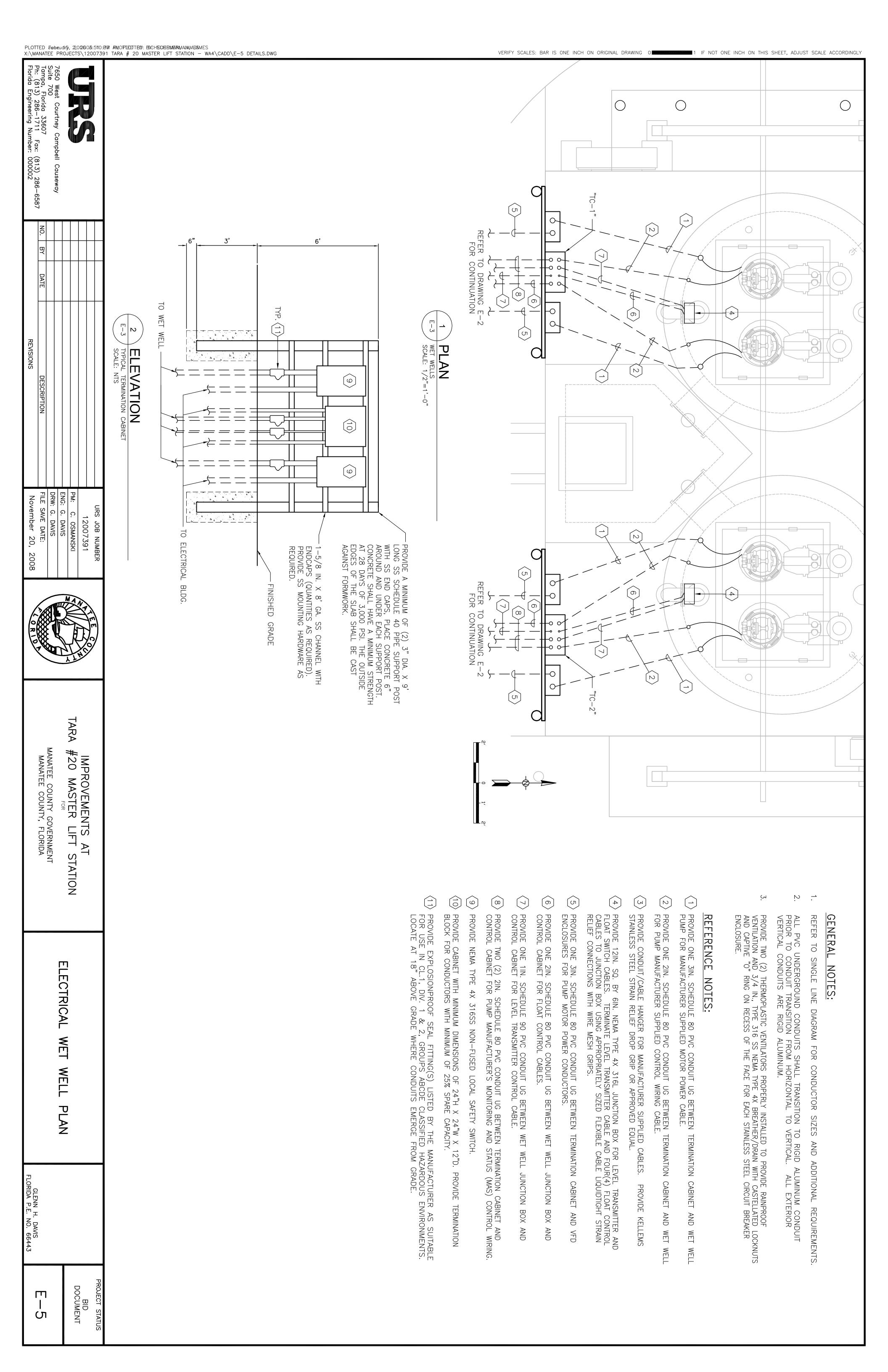
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GENERATOR **ENCLOSURE** PLAN

PROJECT STATUS

DOCUMENT

4



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POLE

MOUNTED

SITE

FIXTURE

SPAULDING #CM1-MAF-

S40-H3

Q

. DB

-F4

250W

120

25' MTG. POLE

HT./CONC.

LIGHTING CLASSIFICATION

TOTAL

CURRENT

 \bigcirc

@

480V,

3PH.

918A

FUTURE

CAPACITY

(610.3kVA @

125%)

SUB-TOTAL

K\\

PUMP/VFD-

100HP

(128.9kVA

0

100%)

128.9

610.3

762.9

PUMP/VFD-

Ċ

100HP

(128.9kVA

0

100%)

128.9

 ∞

PNL 60A MCB

YPE

 \triangleright

 \Box

WALL MOUNTED HPS, CUTOFF, DIE CAST ALUMINUM HOUSING WITH ENCLOSED, GASKETED, ANODIZED ALUMINUM REFLECTOR, TEMPERED GLASS BOTTOM, TAMPER RESISTANT HARDWARE AND UL LISTED 1598, SUITABLE FOR USE IN WET LOCATIONS.

GE LIGHTING WALLIGHTER

SYSTEMS, INC. -250 CUTOFF SERIES

 \bigcirc

70W HPS

120

SURFACE

 $Z \in X$

PUMP/VFD-2

100HP

(128.9kVA

@

100%)

128.9

PUMP/VFD-1

100HP

(128.9kVA @

125%)

161.1

EXISTING

LIGHTING,

POWER,

AND SMALL

MOTOR LOADS

62.5

0

125%)

DESCRIPTION:

ERVICE

OAD

SUMMARY

LOAD

(KVA)

4

PROVIDE SEPERATELY MOUNTED SURGE PROTECTIVE DEVICE (SUNIT LISTED AS SUITABLE FOR INSTALLATION ON 480Y/277V, 60HZ, SUPPLY RATED FOR A MINIMUM OF 160kA PER PHASE AND 80kA PER MODE L—L, L—N, L—G AND N—G.

(

PROVIDE 125 HEFREE STANDING,

HP, 480V, PWM HEAVY DUTY USE IG, NEMA TYPE 12 ENCLOSURE.

RATED

VFD

Z ≻

(3)

PROVIDE NEMA TYPE DISCONNECTS.

4 ×

316SS

NON-FUSED

200A

LOCAL

(SPD)

PNL "LVDP" 150A MCB

4.2kA AVAIL.

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2

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4

TRANS. T-45kVA PRI: 480V SEC: 120/

120/240V

4

50A/2P 480V

23.4

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AVAIL.

0

NEW

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METER

UTILITY TRANSFORMER SEC: 480/277

480/277V

ALITILA

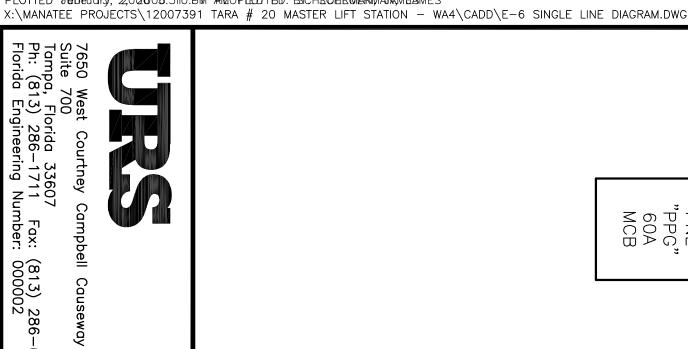
"MCB"

MAIN

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1200AF/1000AT/480V 100% RATED/42 KAIC ENTRANCE RATED



-6587

REVISIONS

ENG: DRW:

C. OSMANSKI G. DAVIS G. DAVIS

N_O

vember

20,

2008

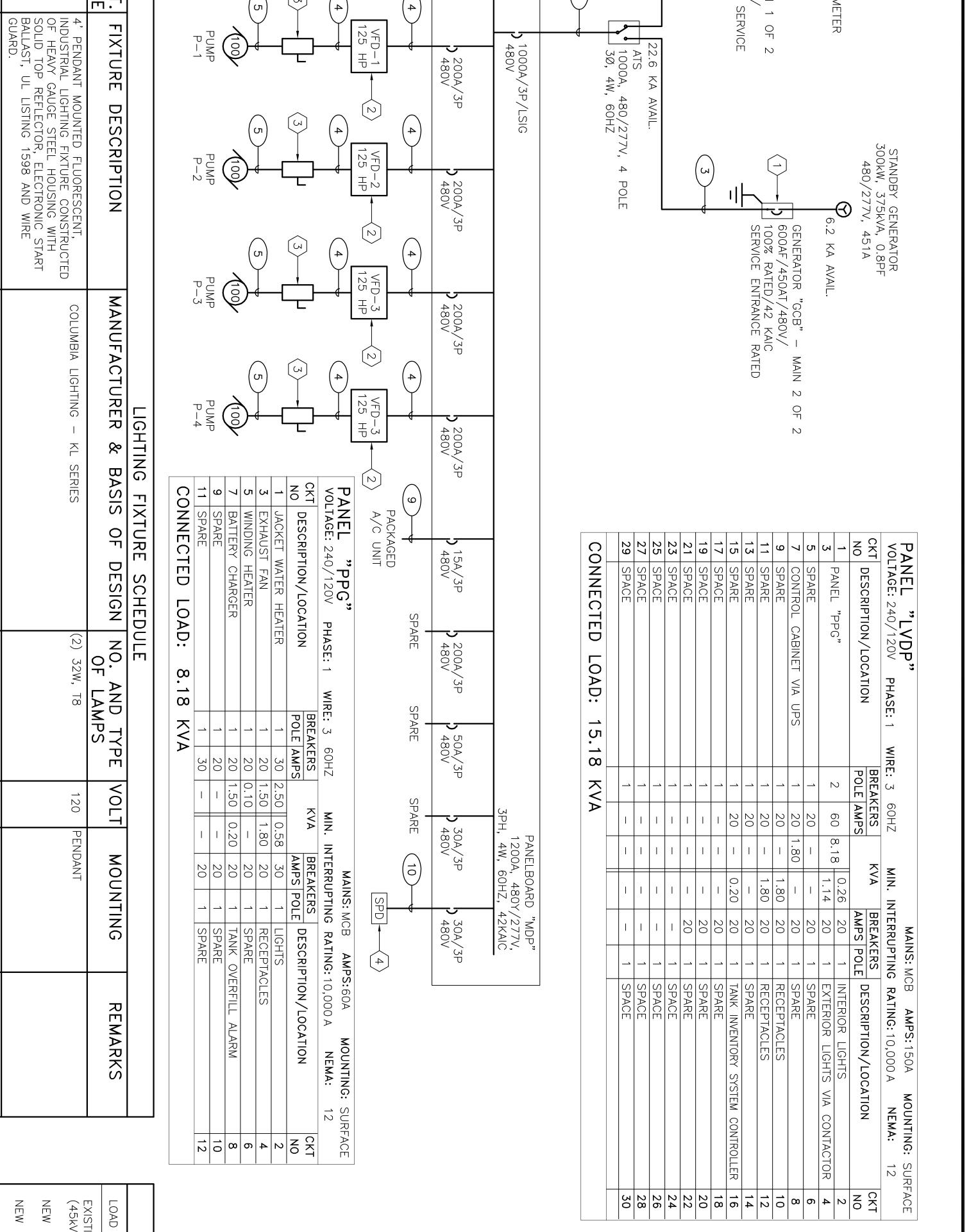
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JOB NUMBER

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 $\left(\mathbf{5}\right)$

CONDUCTORS PROVIDED BY SPD MANUFACTURER.

(3)#12 AWG PH. AND (1)#12 AWG GND. IN 3/4

REFERENCE

NOTES:

PROVIDE NEUTRAL TO GROUND BOND. GROUNDING ELECTRODE CONDUCTOR (GEC) TO CONSIST OF #4/0 AWG FROM N-G BOND IN CIRCUIT BREAKER ENCLOSURE AND EXTENDED UNBROKEN TO TWO (2) 3/4" DIA. BY 10'-0" L COPPER CLAD STEEL VERTICALLY DRIVEN GROUND RODS IN ACCORDANCE WITH NEC 250.104. ROUTE EXTERIOR EXPOSED PORTIONS OF GEC IN PVC ALL CONCEALED CONNECTIONS SHALL BE BY EXOTHERMIC WELD

9

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(2)#4 AWG PH., (1)#4 AWG NEUT. 1-1/4IN. CONDUIT.

AND

(1)#10 AWG

GND.

CONDUIT.

5

CABLE PROVIDED BY PUMP MANURACTURER.

(3)#4/0 AWG PH., (1)#6 AWG GND. IN 2IN.

CONDUIT.

4

(W

SETS;

(3)#4/0 AWG PH., (1)#4/0 AWG NEUT. AND (1)#2 IN 3IN. CONDUIT.

 (\sim)

(3) SETS; #2/0 AWG

(3) 500KCMIL PH., (1) 500KCMIL GND. IN 4IN. CONDUIT.

NEUT.

AND (1)

_

FEEDER

SCHEDULE:

(3) SETS; (3) 500KCMIL SERVICE CONDUCTOR IN

PH. AND (1) 500KCMIL 4IN. CONDUIT.

GROUNDED

တ

(2)#1/0 AWG

РН.,

(1)#6 AWG GND. IN

1-1/

2"

CONDUIT.

(2)#4/0 2IN. CON

CONDUIT.

AWG PH., (1)#4/0 AWG NEUT.

AND

(1)#6

AWG

GND.

MANATEE COUNTY, FLORIDA **IMPROVEMENTS** \nearrow STATION

TARA

#20

MASTER

SING Ш

DIAGRAM

PROJECT DOCUMENT STATUS

GLENN H. DAVIS FLORIDA P.E. NO. 66443

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SCHEDULE

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ax: (813) 286-638/ ver: 000002	(017) 000 0507	,	npbell Causeway			
	NO.					
	ВҮ					
	DATE					
REVISIONS	DESCRIPTION					

	10007701
	1200/391
	PM: C. OSMANSKI
	ENG: G DAVIS
	[10. 0. DAVIO
	DRW: G. DAVIS
DESCRIPTION	FILE SAVE DATE:
REVISIONS	November 19, 2008

IMPROVEMENTS AT
TARA #20 MASTER LIFT STATION MANATEE COUNTY GOVERNMENT MANATEE COUNTY, FLORIDA

PLC INPUT-OUTPUT SCHEDULE

E-7

PROJECT STATUS BID DOCUMENT

	PUMP 4 MAS CONTROLLER/VFD	24VDC	D	PUMP FAULT	PUMP 4 FAULT
		24VDC	DI	PUMP FAULT	PUMP 3 FAULT
	PUMP 2 MAS CONTROLLER/VFD	24VDC	DI	PUMP FAULT	PUMP 2 FAULT
	MAS CONTROLL	24VDC	D	PUMP FAULT	PUMP 1 FAULT
	TANK GAUGING CONTROLLER	24VDC	DI	GEN FUEL TANK LEAK CONTACT	GEN FUEL TANK LEAK
SET AT <25%	TANK GAUGING	24VDC	DI	GEN FUEL TANK LOW CONTACT	GEN FUEL TANK LOW
		24VDC	D	ATS IN EMERGENCY POSITION CONTACT	ATS - EMERGENCY
	ATS CONTROLLER	24VDC	D	ATS IN NORMAL POSITION CONTACT	ATS - NORMAL
	ATS	24VDC	D	ATS LOSS OF POWER CONTACT	L03
		24VDC	D	FLOAT CONTACT	WELL 2 LOW LEVEL
	WELL 2 HIGH LEVEL FLOAT	24VDC	D	FLOAT CONTACT	WELL 2 HIGH LEVEL
		24VDC	DI	FLOAT CONTACT	WELL 1 LOW LEVEL
	WELL 1 HIGH LEVEL FLOAT	24VDC	DI	FLOAT CONTACT	WELL 1 HIGH LEVEL
	GENERATOR CONTROL PANEL	24VDC	DI	GENERATOR SUMMARY ALARM	GEN ALARM
	GENERATOR CONTROL PANEL	24VDC	DI	GENERATOR RUN STATUS CONTACTS	GEN RUNNING
4-20 mA		ı	≥	FLOW TRANSMITTER	FLOW SENSOR
4-20 mA		1	≥	PRESSURE TRANSMITTER	DISCHARGE PRESSURE
4-20 mA		ı	≥	WELL 2 LEVEL TRANSMITTER	WELL 2 LEVEL
4-20 mA		ı	<u>≯</u>	WELL 1 LEVEL TRANSMITTER	WELL 1 LEVEL
		1	A	VFD 4 SPEED RUNNING 0-100%	VFD 4 SPEED RUNNING
4-20 mA		1	<u>≯</u>		VFD 3 SPEED RUNNING
4-20 mA		1	<u>≯</u>	VFD 2 SPEED RUNNING 0-100%	VFD 2 SPEED RUNNING
4-20 mA			≥	VFD 1 SPEED RUNNING 0-100%	VFD 1 SPEED RUNNING
4-20 mA		1	AO	VFD 4 SPEED CONTROL 0-100%	VFD 4 SPEED CONTROL
4-20 mA		1	AO	VFD 3 SPEED CONTROL 0-100%	VFD 3 SPEED CONTROL
4-20 mA		ı	AO	VFD 2 SPEED CONTROL 0-100%	VFD 2 SPEED CONTROL
4-20 mA		I	AO	VFD 1 SPEED CONTROL 0-100%	VFD 1 SPEED CONTROL
	PUMP 4 H-O-A SW ON	24VDC	DI	H-O-A SW LOCAL/REMOTE	PUMP 4 IN AUTO
	PUMP 3 H-O-A SW ON CONTROL	24VDC	DI	H-O-A SW LOCAL/REMOTE	PUMP 3 IN AUTO
	PUMP 2 H-O-A SW ON CONTROL	24VDC	DI	H-O-A SW LOCAL/REMOTE	PUMP 2 IN AUTO
	PUMP 1 H-O-A SW ON CONTROL CABINET	24VDC	DI	H-O-A SW LOCAL/REMOTE	PUMP 1 IN AUTO
DRY CONTACT	VFD 4	1	DO	STOP/START	PUMP 4 S/S
DRY CONTACT	VFD 3	ı	DO	STOP/START	PUMP 3 S/S
DRY CONTACT	VFD 2	1	DO	STOP/START	
DRY CONTACT	VFD 1	ı	DO	STOP/START	PUMP 1 S/S
	VFD 4	24VDC	DI	STOPPED/RUNNING	PUMP 4 RUNNING
	VFD	24VDC	DI	STOPPED/RUNNING	PUMP 3 RUNNING
	VFD 2	24VDC	DI	STOPPED/RUNNING	PUMP 2 RUNNING
	VFD 1	24VDC	DI	STOPPED/RUNNING	PUMP 1 RUNNING
ON REMARKS	ASSOCIATED EQUIPMENT and/or LOCATION	PE VOLTAGE	TYPE	DEVICE TYPE / DESCRIPTION	I/O DESIGNATION
		- H	-		