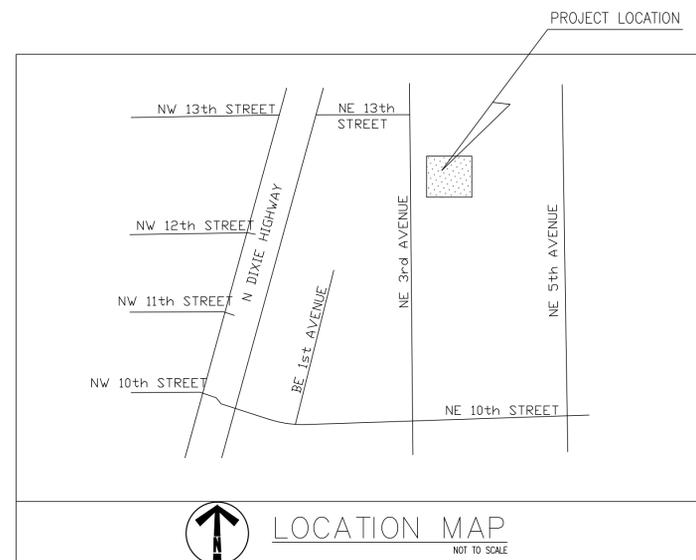


# CITY OF POMPANO BEACH WATER TREATMENT PLANT FUEL TANK REPLACEMENT

1200 N.E. 3rd AVENUE  
POMPANO BEACH, FL 33060



**LEGAL DESCRIPTION:**  
A PORTION OF THE NORTHEAST ONE-QUARTER OF SECTION 35, TOWNSHIP 48 SOUTH, RANGE 42 EAST.  
SAID LANDS LYING AND BEING IN THE CITY OF POMPANO BEACH, BROWARD COUNTY, FLORIDA.

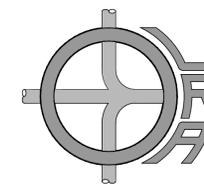
## DRAWING INDEX

SHEET No.	DRAWING No.	TITLE
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3 of 5	G-1.1	ABOVEGROUND TANK DETAILS
4 of 5	G-2.0	ELECTRICAL SITE PLAN
5 of 5	G-3.0	TANK GAUGE & LEAK DETECTION

### REVISIONS:

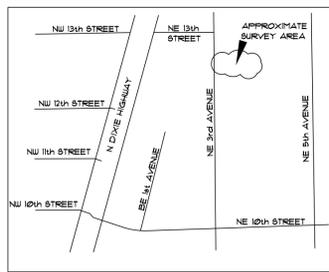
NO.	DATE	NAME	DESCRIP.

Engineer Project No.: 13192

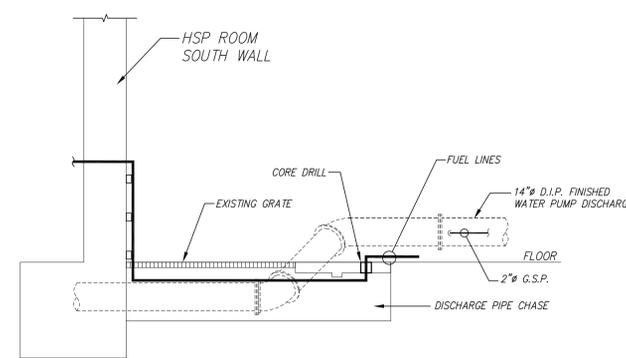
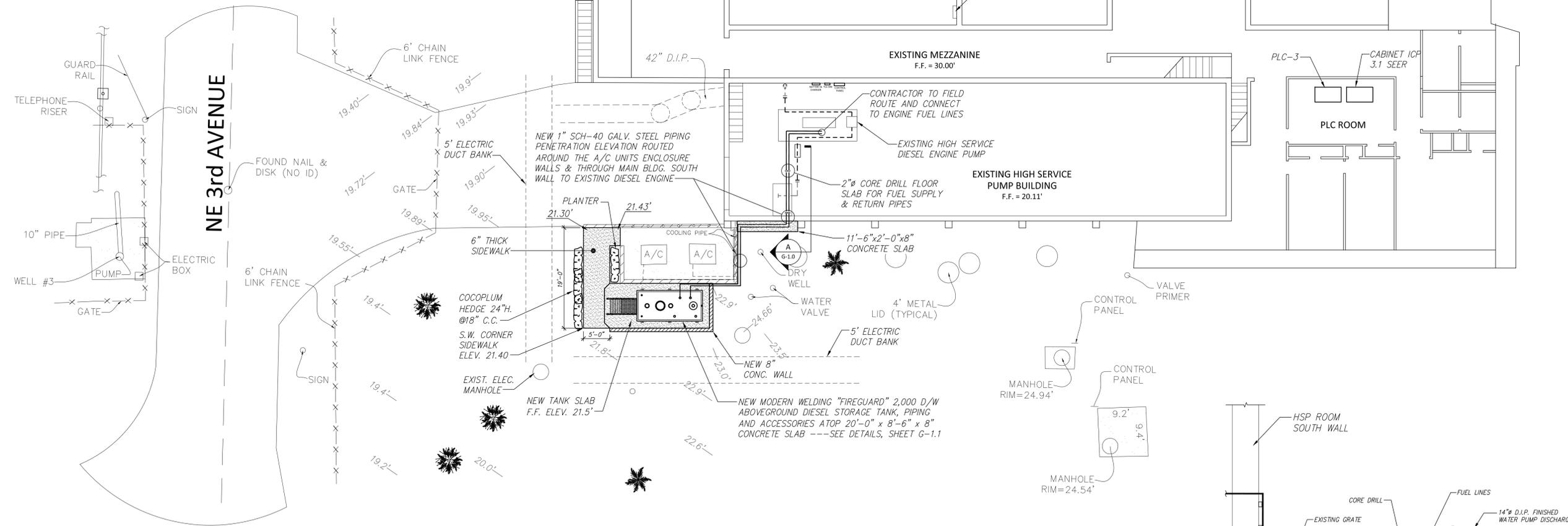


**OSCAR L. RUBIO & ASSOCIATES**

151 N. NOB HILL ROAD, SUITE 248  
PLANTATION, FLORIDA 33324  
PHONE: (954) 382-5294 FAX: (954) 382-1653  
CERTIFICATE OF AUTHORIZATION: EB4617

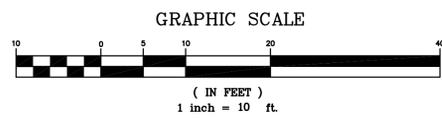


LOCATION MAP  
NOT TO SCALE



**A** HSP ROOM SECTION VIEW  
SCALE: 1/4" = 1'-0"

**TANK & PIPING PLAN**  
SCALE: 1" = 10'-0"



- SCOPE OF WORK:**
- PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE INSTALLATION OF NEW DOUBLE WALL ABOVE GROUND DIESEL STORAGE TANK (AST), PIPING, AND ACCESSORIES, SUMMARIZED AS FOLLOWS:
- PROVIDE AND MAINTAIN EROSION CONTROL AROUND WORK AREA THROUGHOUT CONSTRUCTION.
  - REMOVE TOPSOIL, GRADE LEVEL, CONDUITS, FORM AND POUR NEW AST FOUNDATION (8" THICK, 4000 PSI WITH #5 @ 12" CC/EW).
  - SET, ANCHOR & CONNECT NEW MODERN WELDING 2,000 GALLON "FIREGUARD" "PROTECTED TYPE" D/W AST AND TANK ACCESSORIES AS DETAILED HEREIN.
  - INSTALL NEW ABOVE GRADE SCH-40 GALVANIZED STEEL F.O.S. & F.O.R. LINES FROM AST & ENGINE PUMP. ROUTE ABOVE-GRADE SECURED TO OUTER COMPRESSOR EAST WALL 1" SCH 40 GALVANIZED STEEL SINGLE WALL TO NEW AST.
  - INSTALL NEW KEEDER-ROOT TLS 300 TANK GAUGING (TG), ANNUAL SPACE (AS) AND LEAK DETECTION PROBES, AND LOW (SL), HIGH (SH), AND HIGH-HIGH (SHH) FUEL LEVEL ALARMS AS DETAILED HEREIN.
  - PRECISION TEST COMPLETED AST, PIPING INSTALLATION. SUBSEQUENT TO PASSING TEST AND SIGN-OFF, START-UP AND FUEL SUPPLY OPERATIONS.
  - REPLACE/RESTORE DISTURBED DRIVEWAY AND GRASS AREAS IN KIND, AS OCCURS. MAINTAIN/MATCH EXISTING GRADES AND FLOW LINES.
  - PAINT NEW WORK (AST, ABOVEGROUND STEEL PIPING, TANK AND TANK ACCESSORIES).

- TANK, PIPING AND INSTALLATION NOTES:**
- ALL NEW PETROLEUM EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE FDEP APPROVED. ALL PETROLEUM EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH APPLICABLE MANUFACTURER'S INSTRUCTIONS.
  - ALL TANK AND PIPING INSTALLATION WORK IS TO BE PERFORMED BY A STATE REGISTERED POLLUTANT STORAGE SPECIALTY CONTRACTOR.
  - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE STATE, COUNTY AND MUNICIPAL REQUIREMENTS—THE 2010 FLORIDA BUILDING CODE; THE 2010 FLORIDA FIRE PREVENTION CODE; FAC CHAPTER 69A-49, UNIFORM FIRE SAFETY STANDARDS FOR SELF SERVICE GASOLINE STATIONS; AND THE FOLLOWING REFERENCE STANDARDS:
    - NATIONAL FIRE PROTECTION ASSOCIATION:
      - 30 FLAMMABLE AND COMBUSTIBLE LIQUID CODE
      - 30A AUTOMOTIVE SERVICE STATION CODE
      - 329 UNDERGROUND LEAKAGE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS
      - 70 NATIONAL ELECTRIC CODE
    - AMERICAN PETROLEUM INSTITUTE:
      - 1615 INSTALLATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS
      - 1604 RECOMMENDED PRACTICE FOR ABANDONMENT OR REMOVAL OF USED U.G. STORAGE TANKS
    - PETROLEUM EQUIPMENT INSTITUTE:
      - RP100 RECOMMENDED PRACTICES FOR INSTALLATION OF U.G LIQUID STORAGE TANKS
    - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:
      - CONSTRUCTION SAFETY AND HEALTH REGULATIONS SUBPART P, 1902.50 THRU 1926.653
    - FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION:
      - 62-761 STORAGE TANK SYSTEMS
      - 62-770 PETROLEUM CONTAMINATION SITE CLEANUP
      - 62-775 SOIL THERMAL TREATMENT FACILITIES
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING UNDERGROUND UTILITIES IDENTIFICATION BY CONTACTING SUNSHINE ONE CALL (1-800-432-4770) AND APPLICABLE MUNICIPAL JURISDICTION AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GIVING REQUIRED NOTICE(S) AND SCHEDULING APPLICABLE CITY, COUNTY AND/OR STATE INSPECTIONS AS REQUIRED FOR PERMIT CLOSE OUT(S).

- PIPING NOTES:**
- NEW ABOVEGROUND PRODUCT, FILL AND VENT PIPING TO BE ASTM A53 SCHEDULE 40 GALVANIZED.
  - PIPE TO BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS FOR PIPE INSTALLATION, DESIGN DETAILS, & SPECIFICATIONS AS SHOWN ON THESE DRAWINGS.
- TANK NOTES:**
- TANK IS FDEP APPROVED MODERN WELDING "FIRE-GUARD" 2,000 GAL D/W AST AND TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
  - TANKS TO SET LEVEL ATOP NEW FOUNDATION SLAB AND ANCHOR WITH 3/4" X 6" HILTI KBII, RED-HEAD OR EQUAL WEDGE ANCHORS -- SEE DETAIL SHEET G-1.1.
  - TIGHTNESS TESTING OF TANKS AND LINES SUBSEQUENT TO INSTALLATION TO BE PROVIDED BY FUELING SYSTEMS CONTRACTOR.
- CONCRETE NOTES:**
- TANK: 8" THICK 4000 PSI CONCRETE REINFORCED WITH #5 @ 12" CC/EW. TOP OF SLAB TO CROWN ± 3/8" AT CENTER SO TO NOT HOLD WATER.  
NOTE: TANK SLAB IS ONLY PROPOSED SITE PAVING APPROX 300 SF
- RESTORATION NOTES:**
- DISTURBED AREAS TO BE RAKED SMOOTH AND RE-SODDED WITH MATCHING GROUND COVER (ST. AUGUSTINE SOD) OR EQUAL.

**DEP EQ # SUMMARY (TANKS, PIPING AND EQUIPMENT)**

ITEM	MANUFACTURER	MODEL #	EQ #
TANKS	METAL PRODUCTS	FIREGUARD	EQ-342
PIPING	----	---	EQ-291
LEAK DETECTION	VEEDER-ROOT COMPANY	TLS 300	EQ-614
SPILL CONTAINMENT	MORRISON BROTHERS	518	EQ-345
OVERFILL PREVENTION	MORRISON BROTHERS	9095A	EQ-356
TRANSITION SUMP	OPW FUELING COMPONENTS	FLEXWORKS PTS-4021	EQ-191

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**CITY OF POMPANO BEACH**  
**WATER TREATMENT PLANT**  
**TANK & PIPING PLAN**  
1200 N.E. 3rd AVENUE  
POMPANO BEACH, FLORIDA 33060

REVISIONS:

No.	DATE	NAME	DESCRIP.

DATE: 07-08-13  
Drawn By: FDA  
Scale: 1" = 10'-0"  
Review By: O.L. RUBIO  
Job #: 13192

ENGINEER: OSCAR L. RUBIO, PE  
FLORIDA, PE 24190  
CIVIL / ENVIRONMENTAL  
CERTIFICATE OF AUTHORIZATION: EB4617

ENGINEER SIGNATURE: \_\_\_\_\_  
DATE: # \_\_\_\_\_  
THIS PLAN IS NOT VALID UNLESS SIGNED, DATED & RAISED SEAL AFFIXED BY THE ENGINEER.  
PAGE # OF # \_\_\_\_\_  
G-1.0

STATEMENT OF THE ENGINEER  
"CAUTION" PRIOR TO EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE NECESSARY PERSONNEL FOR LOCATING ANY AND ALL UTILITIES THAT MAY EXIST. CALL SUNSHINE STATE ONE CALL PRIOR TO DIGGING FOR VERIFICATION OF LOCATIONS.  
THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEVES COMPLETES WITH THE INTENT OF THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR HIGHWAYS AS ADOPTED BY THE STATE OF FLORIDA LEGISLATURE CHAPTER 72-228 FLORIDA STATUTES PERTAINING TO PUBLIC STREETS.  
NOTE: NOT VALID WITHOUT EMBOSSED SEAL.  
WE HAVE USED THE LATEST INFORMATION AVAILABLE TO SHOW ALL EXISTING UTILITIES. HOWEVER, THE ENGINEER TAKES NO RESPONSIBILITY FOR ANY INACCURACIES IN THE LOCATIONS SHOWN.



**GENERAL STRUCTURAL NOTES:**

**FOUNDATION:**

**SOIL BEARING CAPACITY STATEMENT**

**DESIGN SOIL BEARING CAPACITY:**  
THIS IS TO CERTIFY, PER F.B.C. SECTION 1818.1 THAT THE NATURE OF THE SOIL, UNDER THIS PROPOSED FUEL TANK, IS COMPOSED OF FIRM SAND AND LIMEROCK THAT MEETS, OR EXCEEDS, THE ALLOWABLE SOIL BEARING CAPACITY OF 1,500 P.S.F. SEE TECHNICAL SPECIFICATIONS FOR F.E.T. SOIL REPORT.

**ALLOWABLE SOIL BEARING CAPACITY:**  
THIS IS TO CERTIFY, PER F.B.C. SECTION 1818.2, THAT THE ALLOWABLE IN-PLACE SOIL BEARING CAPACITY OF THE FUEL TANK PAD IS 1,500 P.S.F. THIS WAS DETERMINED BY RATIONAL ANALYSIS AS THE FIRM SAND AND LIMEROCK ON THIS SITE IS COMPARABLE TO THE SOIL ON ADJACENT DEVELOPED LOTS THAT HAVE EXISTING STRUCTURES THAT HAVE BEEN IN PLACE FOR MANY YEARS AND THE EXISTING STRUCTURES ARE IN SATISFACTORY CONDITION. THEREFORE THE ALLOWABLE IN-PLACE SOIL BEARING CAPACITY MEETS, OR EXCEEDS, THE DESIGN SOIL BEARING CAPACITY.

AT THE TIME OF CONSTRUCTION THE PROFESSIONAL SHALL SUBMIT TO THE BUILDING OFFICIAL A LETTER ATTESTING THAT THE SITE HAS BEEN OBSERVED AND THE FOUNDATION CONDITIONS ARE SIMILAR TO THOSE UPON WHICH THE DESIGN IS BASED.

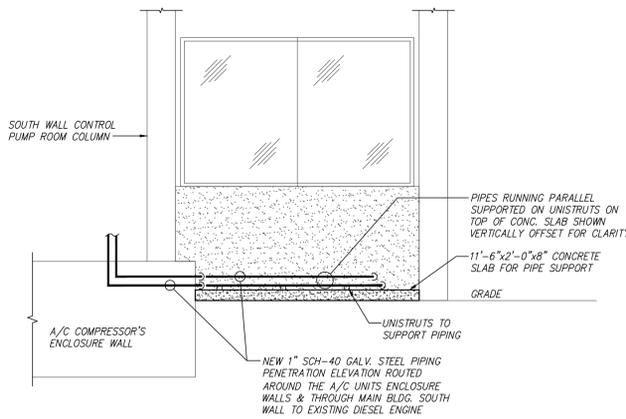
**CONCRETE:**

ALL CONCRETE TO ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS, AGREE GATES TO BE CLEAN AND WELL GRADED, MAXIMUM SIZE 1". CONCRETE SLUMP: 3" MIN. TO 5" MAX. VERTICAL CONCRETE DROP NOT TO EXCEED 8". CONCRETE TESTING TO BE AS PER FLORIDA BUILDING CODE. PROVIDE CURING COMPOUND TO ALL CONCRETE SURFACES WITHIN 24 HOURS OF PLACING OF THE CONCRETE. CONCRETE SLABS ARE TO BE SPRAYED WITH CURING COMPOUND THE SAME DAY.

- A. THE CONCRETE SHALL BE IN CONFORMANCE WITH: ACI 318/99
- B. CONCRETE TEMPERATURE SHALL NOT EXCEED 90 DEGREE F.
- C. PLACING CONCRETE SHALL BE IN CONFORMANCE WITH ACI 304R
- D. CONSOLIDATION OF CONCRETE SHALL BE IN CONFORMANCE WITH ACI 309R & FBC-1905.10.
- E. CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 308 & FBC 1905.11
- F. USE OF ADMIXTURE IN CONCRETE SHALL BE IN CONFORMANCE WITH ACI 212.3R AND ACI 212.4R.
- G. NUMBER OF TEST CYLINDERS AND FREQUENCY OF SAMPLING AND TESTING SHALL BE IN CONFORMANCE WITH FBC 1905.6.2.
- H. MIXING AND DELIVER OF CONCRETE SHALL BE IN CONFORMANCE WITH ACI 304R & FBC 1905.8.
- I. MIN. COVER FOR REINFORCEMENT: 3" BOTTOM AND SIDE, 2" TOP.

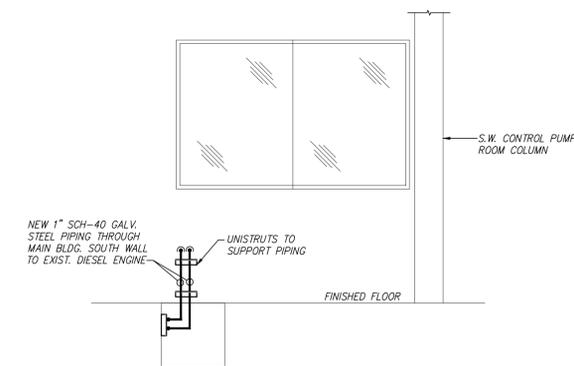
**REINFORCING STEEL:**

REINFORCING STEEL SHALL BE NEW HIGH STRENGTH BILLET STEEL DEFORMED AS PER ACI STANDARDS, GRADE 60. LAP CONTINUOUS TOP AND BOTTOM BARS 48-BAR DIAMETERS, AT MID-SPAN FOR TOP, AND AT SUPPORTS FOR BOTTOM. REINFORCING STEEL TO BE FABRICATED IN ACCORDANCE WITH "MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCING CONCRETE STRUCTURES", AND THE ACI SP-65 LATEST EDITION. PLACEMENT OF CONCRETE REINFORCEMENT SHALL BE IN CONFORMANCE WITH CRSI MANUAL OF STANDARD PRACTICE.



**PUMP ROOM SOUTH WALL ELEVATION - OUTSIDE**

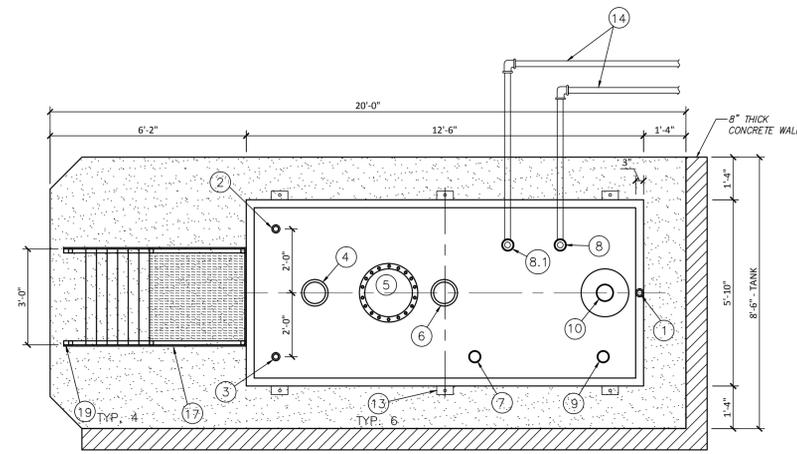
SCALE: 1/4" = 1'-0"



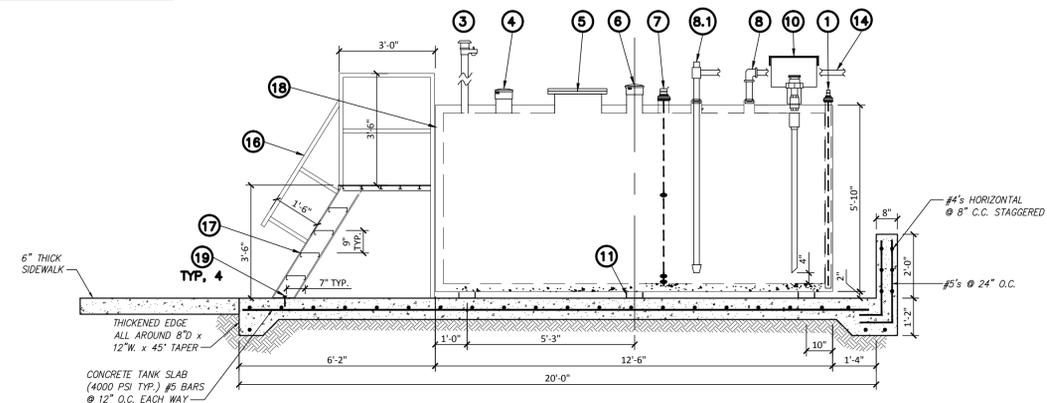
**PUMP ROOM SOUTH WALL ELEVATION - INSIDE**

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

ITEM	DESCRIPTION
1	2" INTERSTITIAL MONITOR
2	2" NPT FITTING MORRISON BROTHERS CLOCK GAUGE 918
3	2" NPT ATMOSPHERIC VENT AND MORRISON BROTHERS 354 CAP
4	6" SECONDARY EMERGENCY VENT - MORRISON BROTHERS 2446
5	18" I.D. ACCESS MANWAY
6	6" PRIMARY EMERGENCY VENT
7	4" NPT TANK GAUGE AND HIGH LEVEL ALARM
8	DOUBLE TAP BUSHING AND 1" F.O.R. PIPING CONNECTION
8.1	DOUBLE TAP BUSHING AND 1" F.O.S. PIPING CONNECTION W/MORRISON BROTHERS 710 (N.C.) ANTISIPHON VALVE, 1" SUCTION TUBE AND FOOT VALVE
9	4" NPT FITTING "SPARE"
10	3" TIGHT FILL CONNECTION W/MORRISON BROTHERS 518 SPILL CONTAINMENT, MORRISON BROTHERS 9095A OVER FILL PREVENTION AND 61FT DROP TUBE
11	C-CHANNEL SUPPORTS (C6 x 8.2) (Typ. of 8)
12	3" UL 2085 INSULATING CONCRETE
13	3/4" x 6" HILTI KB II, RED HEAD OR EQUAL WEDGE ANCHORS
14	1" SCHEDULE 40 GALVANIZED STEEL ABOVE GRADE F.O.R./F.O.S. PIPING
15	N/A
16	RAILINGS PER OSHA STD. 1910.23
17	TANK FILL ACCESS-STAIRS & PLATFORM PER OSHA STD. 1910.24
18	TANK PLACARD AND WARNING SIGNAGE (POSTED ON TANK)
19	3/8" x 4" HILTI KB II, RED HEAD OR EQUAL WEDGE ANCHORS



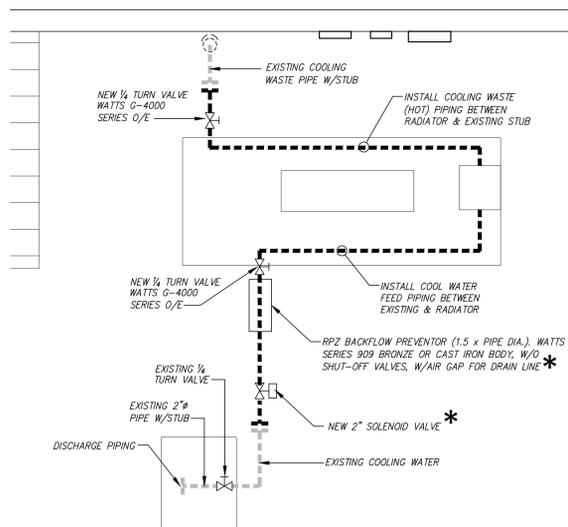
**2,000 GAL. FIREGUARD AST AND FOUNDATION LAYOUT**



**2,000 GAL. FIREGUARD AST AND FOUNDATION PROFILE**

**AST LAYOUT AND ACCESSORY DETAILS**

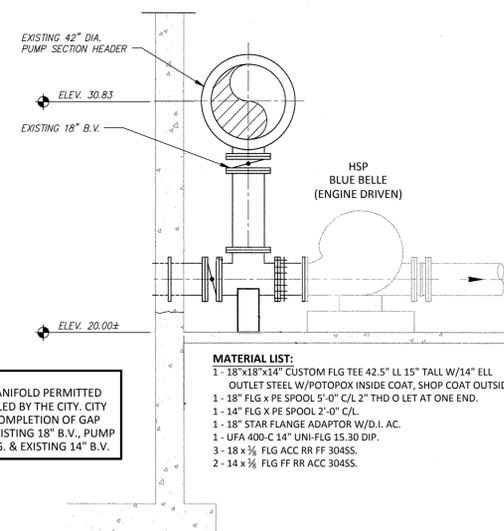
SCALE: 3/8" = 1'-0"



**ENGINE COOLING PIPING DETAIL**

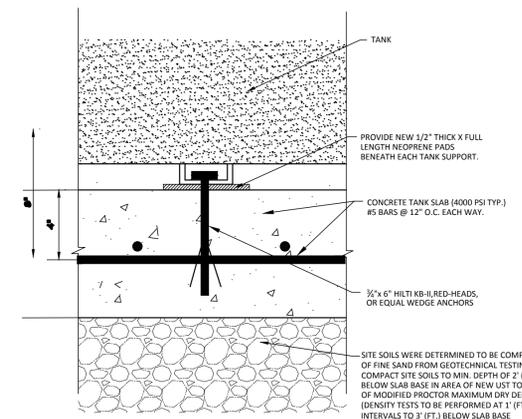
SCALE: 1/4" = 1'-0"

\* LOCATIONS ARE TO BE FIELD DETERMINED ALONG 2"Ø COOL WATER PIPE



**SUCTION MANIFOLD SECTION**

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



**CONCRETE SECTION ANCHOR BOLT DETAIL**

SCALE: NTS

- MATERIAL LIST:**
- 1- 18"x18"x14" CUSTOM FLG TEE 42.5" LL 15" TALL W/14" ELL OUTLET STEEL W/POTPOX INSIDE COAT, SHOP COAT OUTSIDE.
  - 1- 18" FLG X PE SPOOL 5'-0" C/L 2" THD O LET AT ONE END.
  - 1- 14" FLG X PE SPOOL 2'-0" C/L
  - 1- 18" STAR FLANGE ADAPTOR W/D.I. AC.
  - 1- UFA 400-C 14" UNI-FLG 15.30 DIP.
  - 3- 18 x 3/8 FLG ACC RR FF 30455.
  - 2- 14 x 3/8 FLG RR ACC 30455.

**NOTE:**  
EXTERIOR WARNING SIGNS & LABELS SHALL CONFORM TO APPLICABLE CODE REQUIREMENTS. TANK SHALL BE MARKED ON ALL SIDES WITH WARNING SIGNS "FLAMMABLE", "NO SMOKING", DIESEL FUEL, AND COLOR CODED FIRE PLACARD



STATEMENT OF THE ENGINEER  
"CAUTION" PRIOR TO EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE NECESSARY PERSONNEL FOR LOCATING ANY AND ALL UTILITIES THAT MAY EXIST. CALL SUNSHINE STATE ONE CALL PRIOR TO DIGGING FOR VERIFICATION OF LOCATIONS.  
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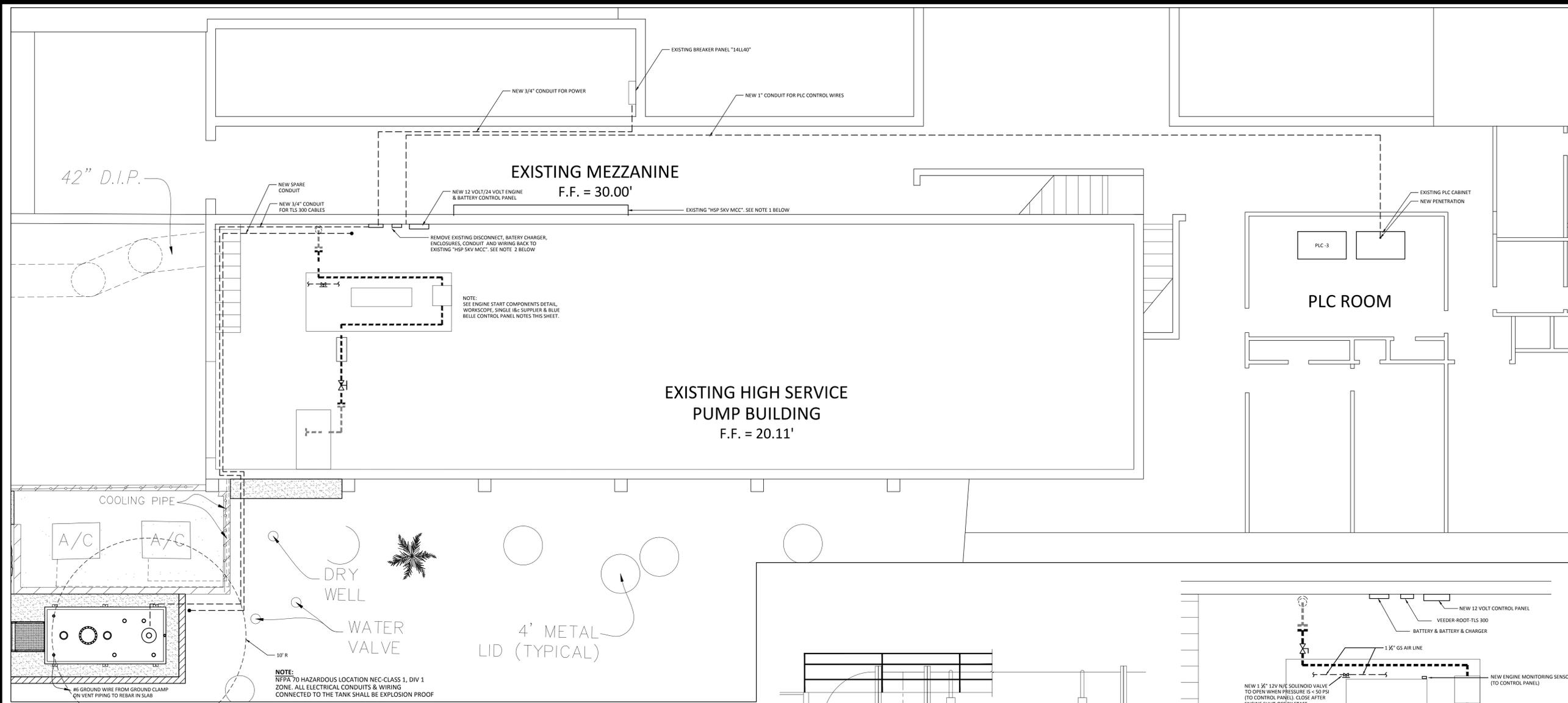
**CITY OF POMPANO BEACH  
WATER TREATMENT PLANT  
TANK DETAILS  
1200 N.E. 3rd AVENUE  
POMPANO BEACH, FLORIDA 33060**

REVISIONS:	NO.	DATE	NAME	DESCRIP.

DATE:	07-08-13
Drawn By:	FDA
Scale:	AS NOTED
Review By:	O.L. RUBIO
Job #	13192

ENGINEER: OSCAR L. RUBIO, PE  
FLORIDA, PE 24190  
CIVIL / ENVIRONMENTAL  
CERTIFICATE OF AUTHORIZATION: EB4617

ENGINEER SIGNATURE: \_\_\_\_\_  
DATE: # \_\_\_\_\_  
THIS PLAN IS NOT VALID UNLESS SIGNED, DATED & RAISED SEAL AFFIXED BY THE ENGINEER.  
PAGE # OF # \_\_\_\_\_  
G-1.1



## ELECTRICAL SITE PLAN

SCALE: 3/16" = 1'-0"

### ELECTRICAL NOTES:

- FOR DEMOLITION WORK MAKE SAFE FROM ELECTRICAL SHOCK HAZARD ANY ELECTRICAL CONDUITS, WIRE, ETC. WITH GREATER EMPHASIS ON THE CURRENT FEED FROM THE "HSP SKV MCC".
- COORDINATE DEMOLITION OF EXISTING "HSP SKV MCC" ELECTRICAL EQUIPMENT WITH THE CITY'S PROJECT MANAGER, PLANT SUPERINTENDENT AND CHIEF MAINTENANCE SUPERVISOR.
- COORDINATE INSTALLATION OF NEW ELECTRICAL EQUIPMENT WITH THE CITY'S PROJECT MANAGER, PLANT SUPERINTENDENT AND CHIEF MAINTENANCE SUPERVISOR.
- NEW POWER, CONTROL AND VEEDER-ROOT CONDUITS ARE SHOWN FOR GRAPHICAL REPRESENTATION. CONTRACTOR TO DETERMINE ROUTING AND SUPPORTING NEEDS.

### WORK SCOPE:

1. The electrical and instrumentation and control (I&C) WORK to be done is described as follows:

Power to the TLS 300, battery charger and control panel shall be brought from Panel 14LL40 inside the transformer room on the mezzanine to the wall mounted electrical equipment.

The Control Panel is to receive a start-low pressure signal (<50 psi) from a pressure switch located on the 2" diameter cool water line exiting the pump discharge manifold piping. Said pressure switch shall signal the battery to send a 12 Volt signal and open a n/c air solenoid valve for the Blue Bell's engine start. A second 12 Volt signal shall open a n/c 2" solenoid valve on the cool water line close to the connection to the existing line from the discharge manifold piping. The engine operational alarms shall be routed from engine sensors or relays to the control panel via 12 Volt circuits. The panel alarm readings shall be sent to PLC-3 via 24 Volts.

The TLS 300 unit is self contained and the alarm signal from said unit shall be routed to the PLC-3 via a 24Volt circuit.

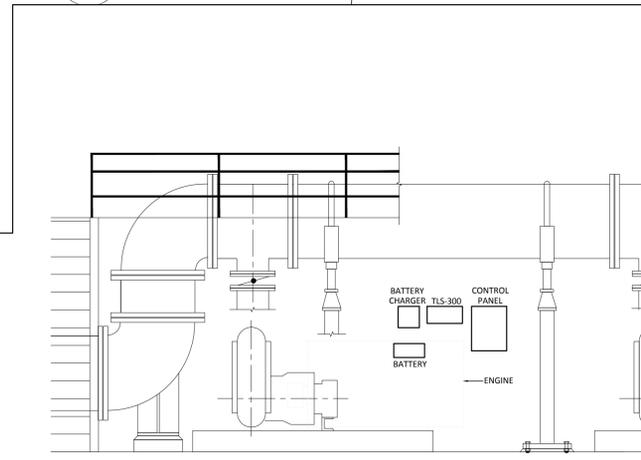
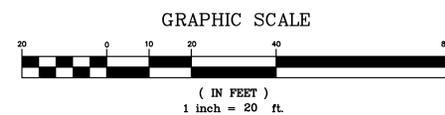
It is highly recommended that the I&C panel vendor/supplier work with a Detroit Diesel engine representative.

### SINGLE INSTRUMENT AND CONTROL (I&C) SUPPLIER

- The CONTRACTOR shall assign to a Single Instrument and Control (I&C) vendor/supplier full responsibility for the functional operation of all new control & instrumentation (I&C) systems. The CONTRACTOR shall have said supplier perform all engineering necessary to select, to furnish, to supervise installation, connection, to calibrate, to place into operation all sensors, instruments, alarm equipment, control panels, accessories and all other equipment as described in the WORK SCOPE.
- The foregoing shall enable the CONTRACTOR and the OWNER to be assured that the full responsibility for the requirements of this section will reside in an organization which is qualified and experienced in the water treatment field and its process technology on a functional system basis.
- The I&C supplier shall be a UL 508 or UL 698A listed manufacturer, Champion Controls or approved equal.

### BLUE BELLE CONTROL PANEL

- I&C supplier shall construct the control panel to properly control the Blue Belle engine start and operation monitoring as described above. No attempt is made to specify or indicate on plans, all required equipment but rather to set forth the minimum requirements.
- I&C supplier shall provide system engineering and produce detailed fully engineered, coordinated and completed shop drawings.
- The CONTRACTOR shall have a technical field representative of the I&C supplier to instruct these installation personnel on any and all installation requirements; thereafter the technical field representatives shall be readily available by telephone to answer questions and to provide clarification when needed by installation personnel.
- Where primary elements (supplied by the I&C supplier) will depend or be part of a Mechanical system such as the Blue Belle engine, the I&C supplier shall coordinate the installation of the primary elements (sensors or relays) with the mechanical system (Blue Belle engine).

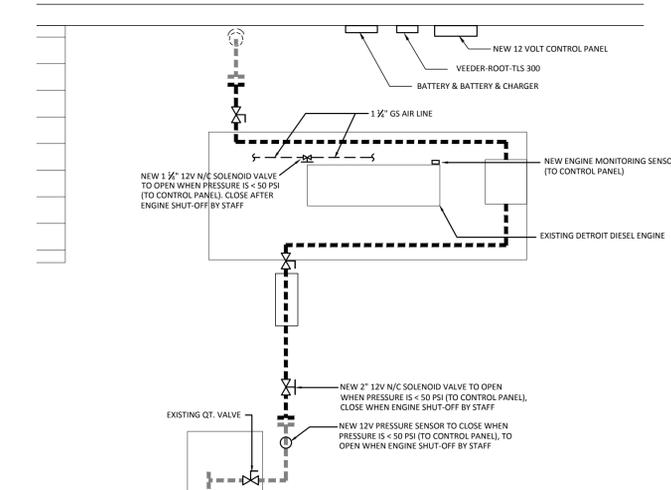


## HSP ROOM NORTH WALL MOUNTED EQUIPMENT ELEVATION

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

GENERAL ELECTRIC		120/240 1-PHASE		PANEL 14LL40 EXISTING								SURFACE-NEMA 1					
60 AMP MAIN BREAKER		VA LOAD		CIRCUIT								VA LOAD			CIRCUIT DESCRIPTION		
DESCRIPTION	*	A	C	N	Brk.	Wire	Cond.	Num.	Cond.	Wire	Brk.	N	A	C	*	DESCRIPTION	
SAMPLE PH1	1	600		600	20/1	12		1	2		12	20/1	720	720		2 EXTERIOR ELECTRIC ROOM LIGHTS	
SAMPLE PH2	1		600	600	20/1	12		3	4		12	20/1	720	720		2 PUMP RM LIGHTS & RECEPT	
RECEPTACLE	1	180		180	20/1	12		5	6		12	20/1	720	720		2 ELECTRIC MCC LIGHTS & RECEPT	
ART 4 93	1		600	600	20/1	12		7	8							SPARE	
LIGHT	2	360		360	20/1	12		9	10		12	20/1	180	180		1 SMOKE DETECTOR	
TIF 4 94	1		600	600	20/1	12		11	12		12	20/1	720	720		1 NOT IDENTIFIED	
NOT IDENTIFIED	1	720		720	20/1	12		13	14		12	20/1	720	720		1 NOT IDENTIFIED	
DIESEL ENGINE TLS 300	1		240	240	20/1	12	.75"	15	16	.75"	12	20/1	720	720		1 DIESEL ENGINE BATTERY CHARGER	
DIESEL ENGINE CONTROL PANEL	1	180		180	20/1	12	.75"	17	18								
CONNECTED VA (A)		2040		2040		4080						4500		2340		2160	
CONNECTED VA (C)		4380															
CONNECTED VA (A,C)		4200															
		8580															
NON-CONTINUOUS		CONNECTED		DEMAND													
CONTINUOUS		*1 6060		100%		6060										TOTAL NEUTRAL LOAD: 8,580 / 240 = 35.8 AMPS	
KITCHEN EQUIPMENT		*2 2520		125%		3150										TOTAL DEMAND LOAD: 9,210 / 240 = 38.4 AMPS	
SUBTOTAL		*3 0		65%		0											
NON-COINCIDENTAL		8580				9210											
TOTAL		0				0											
		8580				9210											

\* NEW CIRCUIT



## ENGINE START COMPONENTS DETAIL

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



Know what's below.  
Call before you dig.

STATEMENT OF THE ENGINEER

"CAUTION" PRIOR TO EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE NECESSARY PERSONNEL FOR LOCATING ANY AND ALL UTILITIES THAT MAY EXIST. CALL SUNSHINE STATE ONE CALL PRIOR TO DIGGING FOR VERIFICATION OF LOCATIONS.

THIS PLAN WAS PREPARED UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE AND BELIEVES COMPLIES WITH THE INTENT OF THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR HIGHWAYS AS ADOPTED BY THE STATE OF FLORIDA LEGISLATURE CHAPTER 72-228 FLORIDA STATUTES PERTAINING TO PUBLIC STREETS.

NOTE: NOT VALID WITHOUT EMBOSSED SEAL.

WE HAVE USED THE LATEST INFORMATION AVAILABLE TO SHOW ALL EXISTING UTILITIES. HOWEVER THE ENGINEER TAKES NO RESPONSIBILITY FOR ANY INACCURACIES IN THE LOCATIONS SHOWN.

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CERTIFICATE OF AUTHORIZATION: EB4617



CITY OF POMPANO BEACH  
WATER TREATMENT PLANT  
ELECTRICAL SITE PLAN  
1200 N.E. 3rd AVENUE  
POMPANO BEACH, FLORIDA 33060

REVISIONS:	DATE	NAME	DESCRIP.
No.			

DATE: 07-08-13  
Drawn By: FDA  
Scale: AS NOTED  
Review By: O.L. RUBIO  
Job #: 13192

ENGINEER: OSCAR L. RUBIO, PE  
FLORIDA, PE 24190  
CIVIL / ENVIRONMENTAL  
CERTIFICATE OF AUTHORIZATION: EB4617

ENGINEER SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

THIS PLAN IS NOT VALID UNLESS SIGNED, DATED & RAISED SEAL AFFIXED BY THE ENGINEER.

PAGE # OF #

###

G-2.0

# VEEDER-ROOT TLS-300 SYSTEM WIRING DIAGRAM

IMPORTANT: THIS IS A CONTROL DRAWING ONLY AND DOES NOT REFLECT THE ACTUAL LOCATIONS OF CONDUIT ENTRY (SEE NOTE 7 BELOW).

VEEDER-ROOT REQUIRES THAT ONE INSTALLING OUR EQUIPMENT BE LEVEL 1 CERTIFIED FOR MORE INFORMATION REGARDING THE HOMESTUDY INSTALLING COURSE CONTACT 203-651-2762.

**WARNING:** IN INSTALLATION AND USE OF THIS PRODUCT, COMPLY WITH THE NATIONAL ELECTRICAL CODE, FEDERAL, STATE AND LOCAL CODES. IN ADDITION, TURN OFF POWER AND TAKE OTHER NECESSARY PRECAUTIONS DURING INSTALLATION, SERVICE AND REPAIR TO PREVENT PERSONAL INJURY, PROPERTY LOSS AND EQUIPMENT DAMAGE.

**WARNING:** DISCONNECT ALL POWER BEFORE MAKING ANY CONNECTIONS TO PREVENT DEATH, SERIOUS INJURY, EXPLOSION, OR ELECTRICAL SHOCK. MONITOR MUST NEVER BE OPERATED UNLESS THE FRONT COVER IS CLOSED OVER THE BARRIER TERMINALS IN THE INTRINSICALLY SAFE AREA.

**NOTES:**  
1. THE WIRES BETWEEN THE MONITOR AND EACH SENSOR LOCATION MUST BE OF A TYPE DESIGNED FOR USE IN THE PRESENCE OF GASOLINE AND OIL AND MUST BE BETWEEN AWG 14 AND AWG 18. SHIELDED CABLE SHOULD BE USED FOR PVC CONDUIT OR FOR METAL CONDUIT THAT IS NOT PROPERLY SEALED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES AND THE AUTOMOTIVE AND MARINE SERVICE STATION CODES SINCE THEY PASS FROM A CLASS 1, DIVISION 1 OR DIVISION II AREA INTO A NONHAZARDOUS AREA.

2. CONNECT WITH #12 AWG (OR LARGER) CONDUCTOR THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL.

3. (C) DENOTES FIELD WIRING CONNECTION USING WATERPROOF CONNECTORS SUPPLIED WITH THE PROBE(S) AND SENSOR(S).

4. INTRINSICALLY SAFE WIRING SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 504-20 OF THE NEC ANSI/NFPA 70, 1990.

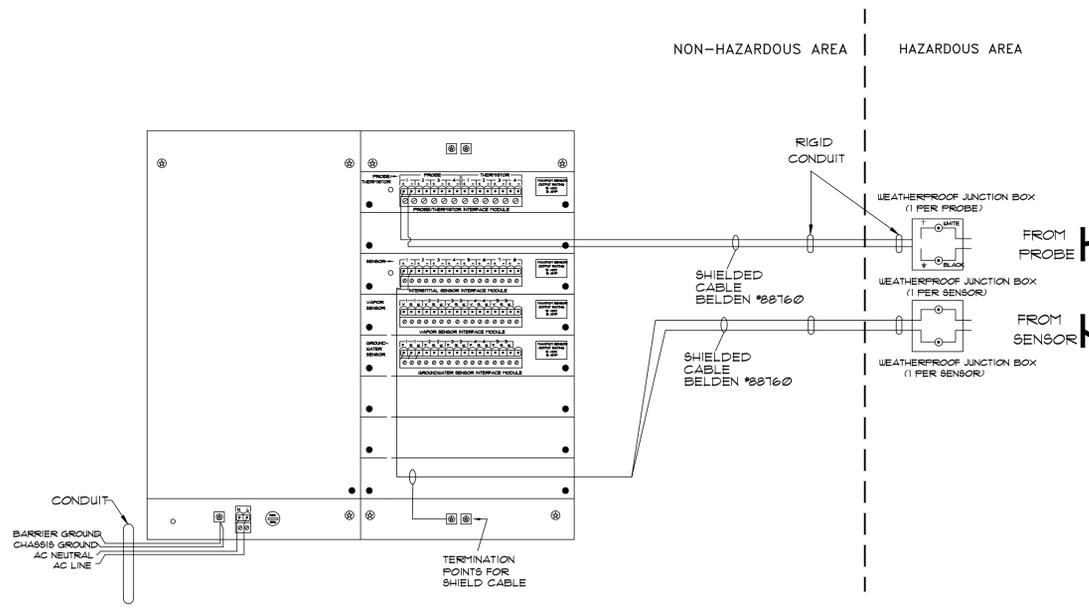
5. TO MAINTAIN INTRINSIC SAFETY AND PROPER SYSTEM OPERATION, PROBE AND SENSOR WIRING MUST BE INSTALLED WITHIN SEALED CONDUIT OR USING BURIAL METHOD.

6. ELECTRICAL RATING POWER INPUT -120 VAC, 50/60 HZ, 600 WATTS MAXIMUM.

7. REFER TO "SITE PREPARATION AND INSTALLATION INSTRUCTIONS," MANUAL NO. 576013-622 FOR ACTUAL LOCATION OF CONDUIT ENTRY INTO TLS-300 MONITOR.

8. FOR VOLUMETRIC LINE LEAK INSTALLATION, REFER TO LINE LEAK DETECTOR "SITE PREPARATION AND INSTALLATION INSTRUCTIONS," MANUAL NO. 576013-873.

9. FOR PLLD INSTALLATION, REFER TO "SITE PREPARATION AND INSTALLATION INSTRUCTIONS," MANUAL NO. 576013-902. THIS SENSOR REQUIRES SHIELDED CABLE.



ABOVEGROUND STORAGE TANK MONITORING SYSTEM

### ENVIRONMENTAL COMPLIANCE MONITORING NETWORK INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL A NEW VEEDER-ROOT MODEL TLS-300 ABOVEGROUND STORAGE TANK (AST) MONITORING SYSTEM. THE AST MONITORING SYSTEM SHALL PROVIDE AN AUDIBLE AND REMOTE SIGNAL TO THE PLC-3 INDICATION OF ALL SYSTEM, IN-TANK LEAK DETECTION (0.1GPH), PRODUCT LINE LEAK DETECTION (0.1 GPH) ON A CONTINUOUS 24-HOUR BASIS. THE SYSTEM SHALL PROVIDE THE OPERATOR WITH AN ACKNOWLEDGMENT SWITCH AND AN AUDIBLE ALARM THAT CAN BE REMOTELY DISABLED; HOWEVER, THE ACKNOWLEDGMENT SWITCH SHALL NOT BE DISABLED UNTIL THE ALARM CONDITION HAS BEEN CORRECTED. ADDITIONALLY, THE SYSTEM SHALL HAVE THE ABILITY TO STORE UP TO THREE ALARM OCCURRENCES IN MEMORY.

### VEEDER-ROOT MODEL TLS-300 CONFIGURATION

THE VEEDER-ROOT MODEL TLS-300 CONFIGURATION SHALL INCLUDE BUT NOT BE LIMITED TO THE COMPONENTS LISTED BELOW. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE SYSTEM THAT WILL PERFORM THE REQUESTED FUNCTIONS ABOVE UNDER ENVIRONMENTAL COMPLIANCE MONITORING NETWORK INSTALLATION.

### CONSOLE

THE CONSOLE SHALL BE EQUIPPED WITH A TWO LINE 24-CHARACTER LIQUID CRYSTAL DISPLAY FOR ALARM INFORMATION, A 24-BUTTON FRONT PANEL KEYBOARD FOR PROGRAMMING, AND A THERMAL REPORT PRINTER WITH BUILT-IN TAKE-UP SPOOL FOR HARD COPY DOCUMENTATION OF INVENTORY, LEAK DETECTION, AND ALARM INFORMATION.

### MODULE ENHANCEMENTS

THE MODULE ENHANCEMENTS SHALL PROVIDE CONTINUOUS STATISTICAL LEAK DETECTION (CSLD) FOR 24-HOURS WITHOUT TANK SHUT-DOWN AND CONTINUOUSLY TRACK PRODUCT INVENTORY THROUGH THE FUEL MANAGER AND CSLD MODULES.

### IN-TANK PROBES FOR USE WITH CSLD SOFTWARE ENHANCEMENT

THE SYSTEM REQUIRES MAGNETOSTRICTIVE PROBES WHICH HAVE BEEN THIRD PARTY TESTED AND CERTIFIED TO PERFORM BETTER THAN US EPA STANDARDS FOR BOTH 0.1 GPH VOLUMETRIC TANK TIGHTNESS TESTING AND 0.2GPH AUTOMATIC TANK GAUGING.

PROBE INSTALLATION KITS, INTERFACE MODULE AND 4 INCH RISER CAPS AND RING KITS SHALL BE COMPATIBLE WITH THE IN-TANK MAGNETOSTRICTIVE PROBES AND IN-TANK PRODUCT TYPE (GASOLINE AND DIESEL)

### INTERSTITIAL SENSOR INTERFACE MODULE AND UNIVERSAL SENSOR MOUNTING KITS

SHALL BE COMPATIBLE WITH THE INTERSTITIAL SENSOR.

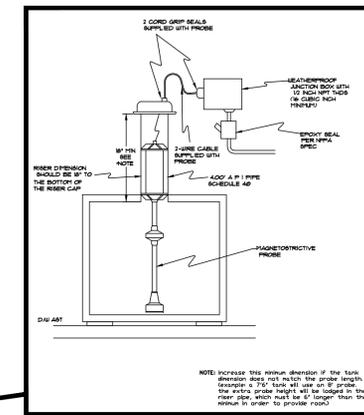
OVERFILL ALARM, OVERFILL ALARM ACKNOWLEDGMENT SWITCH AND INTERFACE MODULE. THE ALARM SHALL BE AUDIBLE AND VISUAL AND ACTIVATED WHEN IN-TANK LEAK (0.1 GPH), LINE LEAK (0.1 GPH), AND SENSOR FAILURE OCCURS. THE ALARM SHALL PROVIDE THE OPERATOR WITH THE ABILITY TO ACKNOWLEDGE THE ALARM AND DISABLE THE AUDIBLE INDICATOR. THE EXTERNAL ALARM BOX AND ACKNOWLEDGMENT SWITCH SHALL INTERFACE TO THE TANK MONITORING SYSTEM (CONSOLE) VIA AN INTERNAL RELAY MODULE.

### SYSTEM START-UP:

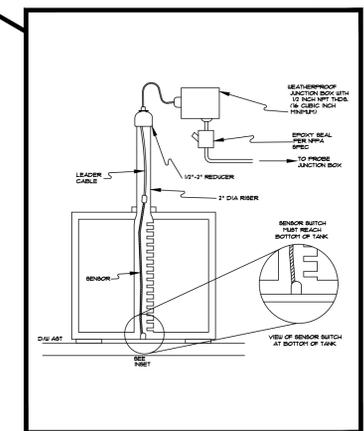
1. THE CONTRACTOR SHALL ADAPT AND PROGRAM THE PARAMETER DRIVEN SOFTWARE TO THE ON-SITE TANK SPECIFICATIONS IN THE ASSIGNED FIELDS AT THE TIME OF SYSTEM START-UP.
2. THE CONTRACTOR SHALL SET-UP ALL THE REQUIRED PARAMETERS, INTERFACE MODULES AND COMMUNICATIONS NECESSARY TO OPERATE THE FUEL MANAGEMENT SYSTEM AND ENVIRONMENTAL COMPLIANCE MONITORING NETWORK, IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND RECOMMENDATIONS.
3. UPON INSTALLATION, THE SYSTEM SHALL PERFORM IN ACCORDANCE WITH SUBPART D OF 40CFR 280, AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AND THE APPLICABLE CITY/COUNTY REGULATORY AGENCIES.
4. ANY/ALL SURFACE OR SUBSURFACE AREAS WHICH WERE ALTERED DUE TO THE CONSTRUCTION OR INSTALLATION PHASE OF THIS PROJECT SHALL BE BROUGHT BACK TO ITS ORIGINAL CONDITION BY THE CONTRACTOR AND AT NO COST TO THE CITY.
5. UPON COMPLETION OF INSTALLATION, THE CONTRACTOR, WITH THE CITY REPRESENTATIVE PRESENT, SHALL MEET A BCEPD INSPECTOR TO INSURE ANY/ALL DOCUMENTS (I.E., AS-BUILTS, TIGHTNESS TESTS, ETC.) HAVE BEEN REGISTERED WITH BCEPD AND THAT PROJECT COMPLIANCE HAS BEEN ACHIEVED, IN ACCORDANCE WITH CURRENT STATE AND COUNTY REGULATIONS. THE COMPLETION OF THE PROJECT REQUIRES (A) THAT ALL OF THE SPECIFICATIONS HAVE BEEN MET, (B) THAT A BCEPD OPERATIONAL PERMIT HAS BEEN OBTAINED AND (C) THE SUCCESSFUL OPERATION OF THE NEW FUEL SYSTEM AND NEW ENVIRONMENTAL COMPLIANCE MONITORING NETWORK IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND GUIDELINES.

### SYSTEM TRAINING AND WARRANTY

1. A CERTIFIED FACTORY REPRESENTATIVE(S) FOR THE FUEL MANAGEMENT SYSTEM AND ENVIRONMENTAL MONITORING SYSTEM SHALL PROVIDE TWO (2) HOURS OF ON-SITE TRAINING TO CITY REPRESENTATIVES ON THE PROGRAMMING AND TROUBLESHOOTING OF THE INSTALLED SYSTEMS. ADDITIONAL, FREE TELEPHONE SUPPORT SHALL BE AVAILABLE FOR UP TO ONE (1) YEAR FROM THE DATE OF INSTALLATION.
2. THE NEW FUEL MANAGEMENT SYSTEM AND NEW ENVIRONMENTAL COMPLIANCE MONITORING NETWORK SHALL BE WARRANTED FOR A MINIMUM OF ONE (1) YEAR TO INCLUDE 100% OF PARTS AND LABOR WITH ALL WORK PERFORMED ON-SITE BY AN AUTHORIZED MANUFACTURER'S REPRESENTATIVE(S).
3. FIVE COMPLETE SETS OF MANUALS FOR THE TLS-300 SHALL BE PROVIDED TO THE CITY.
4. IN ADDITION TO THE STANDARD ONE YEAR MANUFACTURER'S WARRANTY, THE CONTRACTOR SHALL PROVIDE AN ALTERNATE BID FOR A MANUFACTURER'S ONE YEAR EXTENSION WARRANTY CONTRACT AT AN ADDITIONAL COST TO THE CITY. THE CITY SHALL HAVE THE OPTION TO PURCHASE THIS EXTENDED WARRANTY CONTRACT PRIOR TO THE EXPIRATION DATE OF THE ORIGINAL ONE YEAR WARRANTY.



(1) MAGNETOSTRICTIVE PROBE



(1) INTERSTITIAL LIQUID SENSOR

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**CITY OF POMPANO BEACH**  
**WATER TREATMENT PLANT**  
**TANK GAUGING & LEAK DETECTION**  
**1200 NE 3rd AVENUE**  
**POMPANO BEACH, FLORIDA 33060**

REVISIONS:	No.	DATE	NAME	DESCRIP.

DATE: 07-08-13  
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ENGINEER: OSCAR L. RUBIO, PE  
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DATE: #

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PAGE # OF #

REV: G-3.0

## TANK GAUGING & LEAK DETECTION

NOT TO SCALE



Know what's below.  
Call before you dig.

STATEMENT OF THE ENGINEER  
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