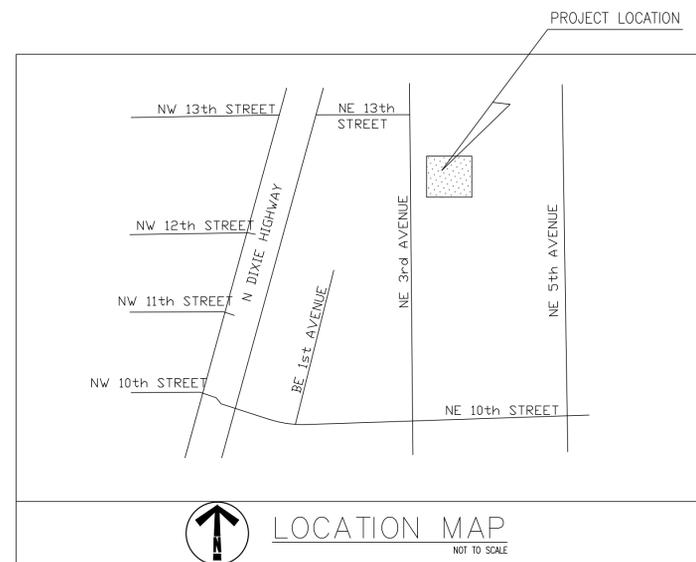


# CITY OF POMPANO BEACH WATER TREATMENT PLANT FUEL TANK REPLACEMENT

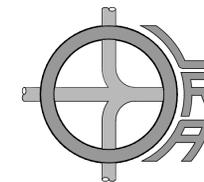
1200 N.E. 3rd AVENUE  
POMPANO BEACH, FL 33060



DRAWING INDEX		
SHEET No.	DRAWING No.	TITLE
1 of 5	CV	COVER
2 of 5	G-1.0	TANK & PIPING PLAN
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.
1	01-18-14	OLR	REMOVED FW PIPING, ENGINE WORK & CONTROL PANEL ELECTRIC WORK

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

**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.



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:

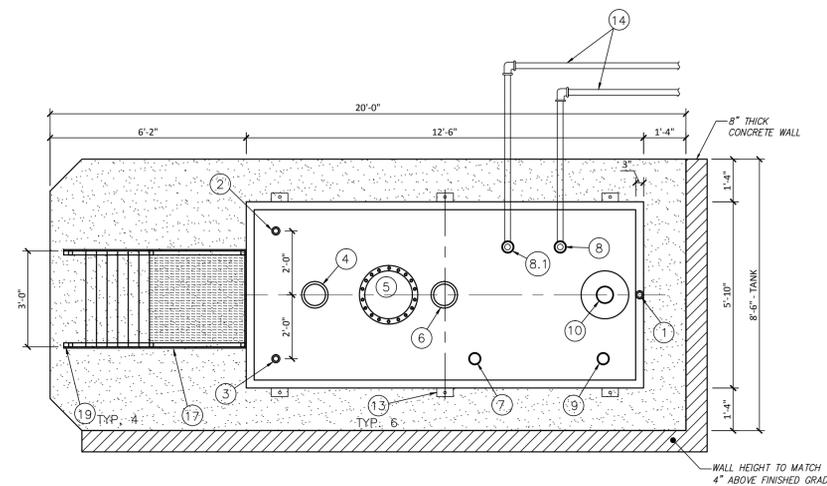
ALL CONCRETE TO ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS, AGREE GATES TO BE CLEAN AND WELL GRADED, MAXIMUM SIZE 1". CONCRETE SLUMP: 3" MIN. TO 5" MAX. VERTICAL CONCRETE DROP NOT TO EXCEED 8". CONCRETE TESTING TO BE AS PER FLORIDA BUILDING CODE. PROVIDE CURING COMPOUND TO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

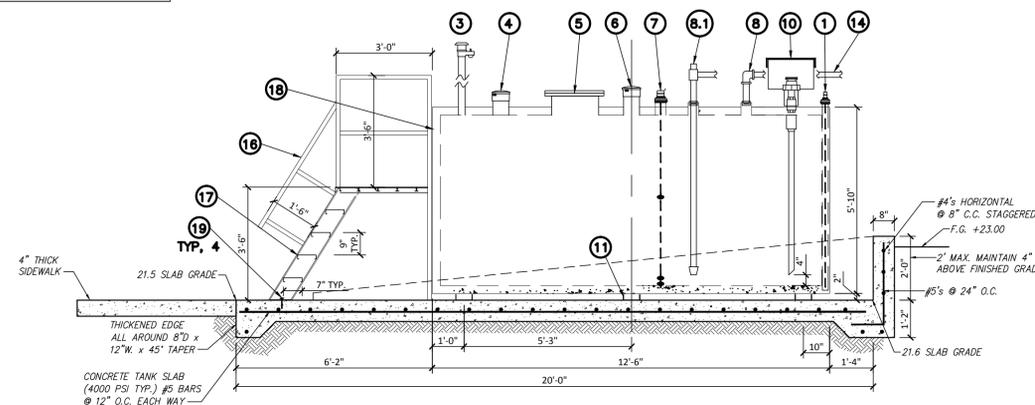
REINFORCING STEEL:

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.

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 BLACK IRON 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



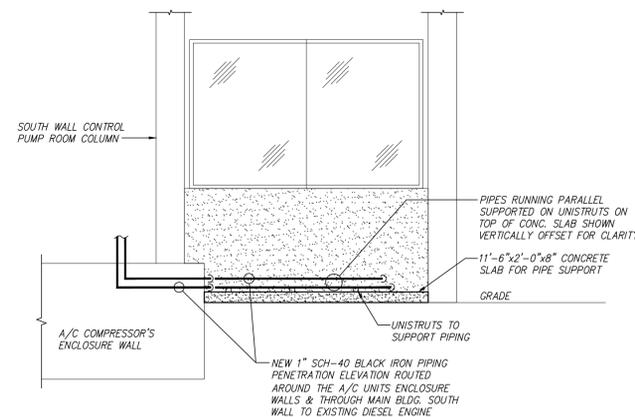
2,000 GAL. FIREGUARD AST AND FOUNDATION PROFILE

AST LAYOUT AND ACCESSORY DETAILS

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

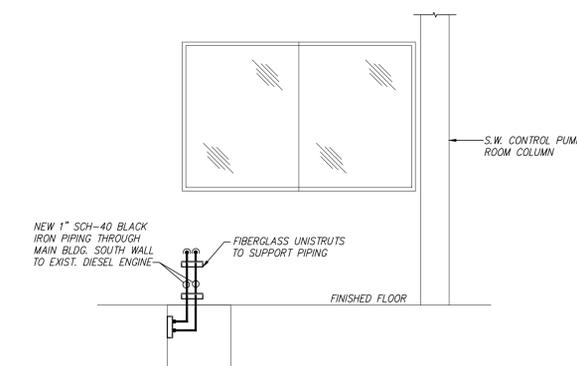
NOTE:

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



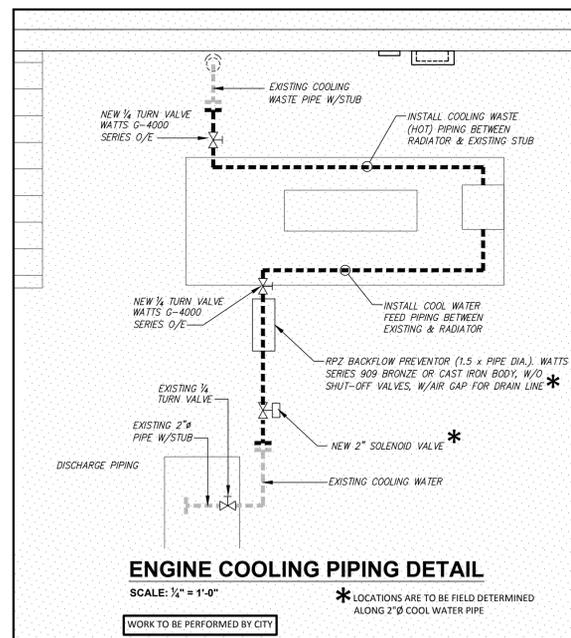
PUMP ROOM SOUTH WALL ELEVATION - OUTSIDE

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



PUMP ROOM SOUTH WALL ELEVATION - INSIDE

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

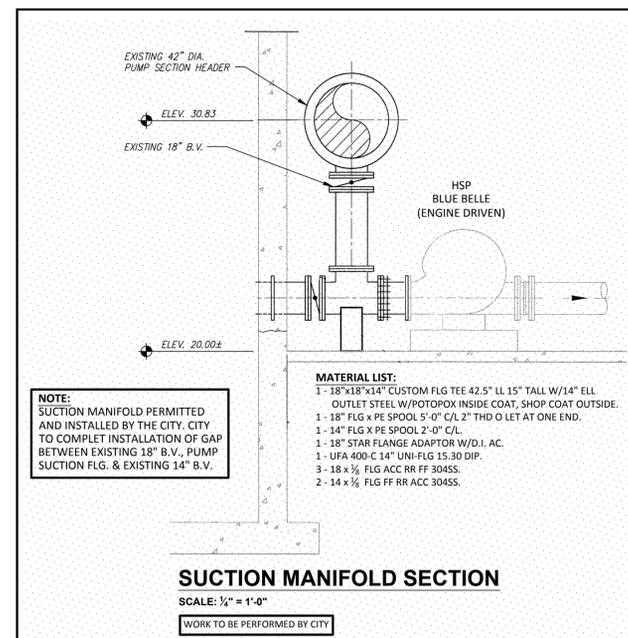


ENGINE COOLING PIPING DETAIL

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

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

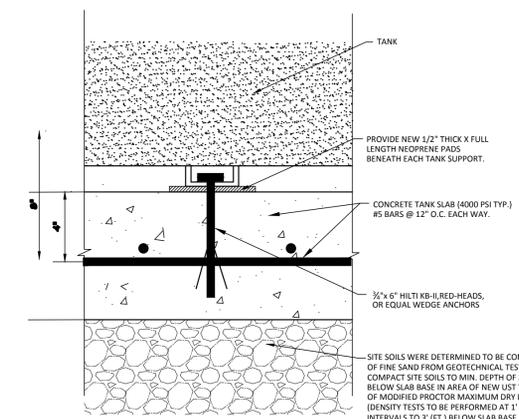
WORK TO BE PERFORMED BY CITY



SUCTION MANIFOLD SECTION

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

WORK TO BE PERFORMED BY CITY



CONCRETE SECTION ANCHOR BOLT DETAIL

SCALE: NTS



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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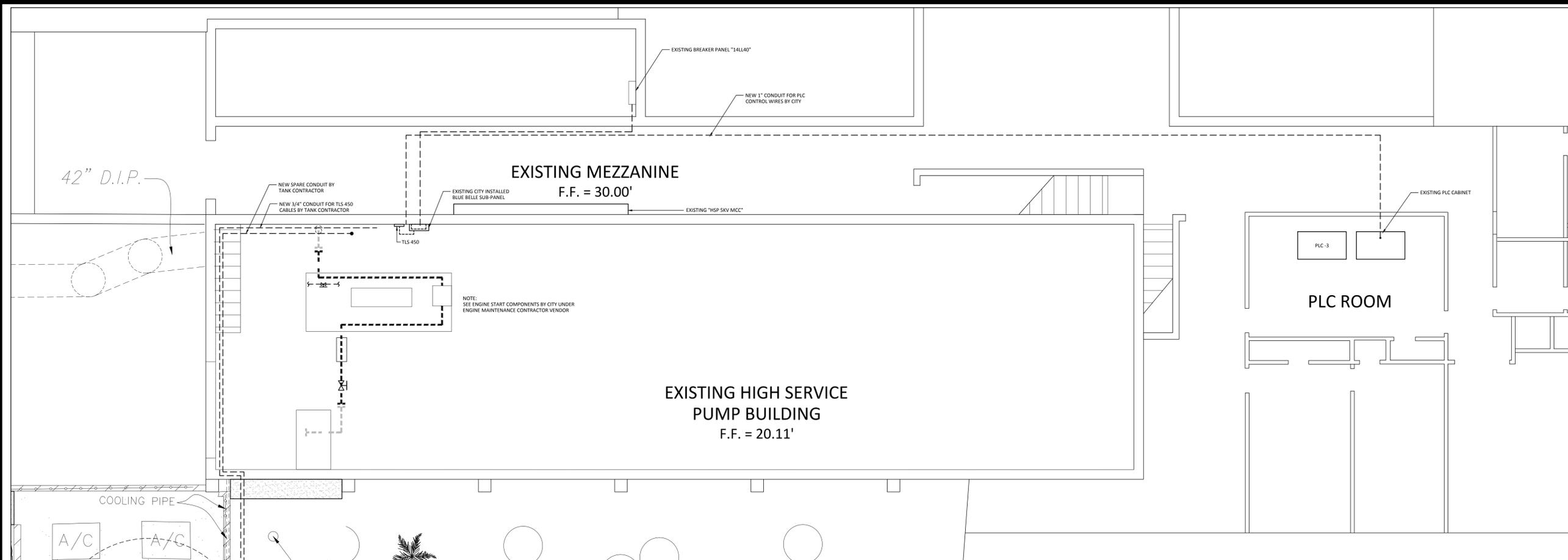
CITY OF POMPANO BEACH  
WATER TREATMENT PLANT  
TANK DETAILS  
1200 N.E. 3rd AVENUE  
POMPANO BEACH, FLORIDA 33060

REVISIONS:	No.	DATE	NAME	DESCRIP.
	1	1-13-14	FA/OUR	REFLECT WORK PERFORMED BY CITY

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:**
- CITY NEW POWER, CONTROL AND VEEDER-ROOT CONDUITS ARE SHOWN FOR GRAPHICAL REPRESENTATION. CONTRACTOR TO DETERMINE ROUTING AND SUPPORTING NEEDS.
  - CONDUITS SHALL BE PVC COATED RGS.
  - COORDINATE INSTALLATION OF TLS-450 WITH CITY'S PROJECT MANAGER, PLANT SUPERINTENDENT AND CHIEF MAINTENANCE SUPERVISOR.

**WORK SCOPE:**

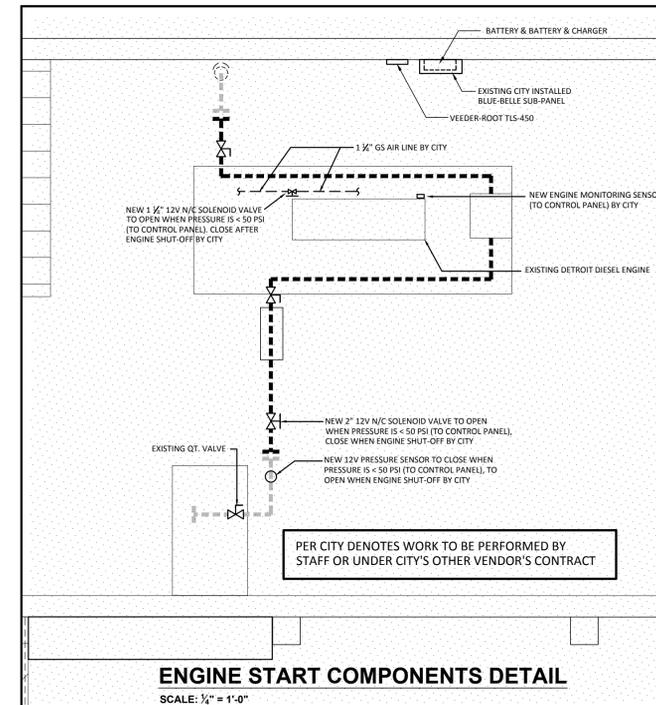
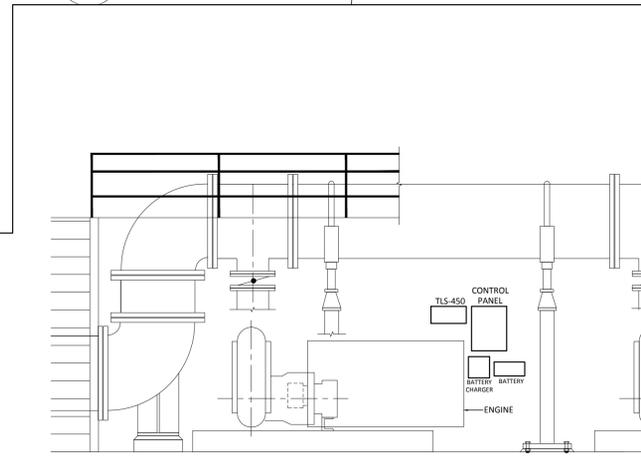
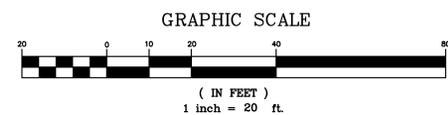
- The electrical and instrumentation and control (I&C) WORK to be done is described as follows:  
Power to the TLS 450 shall be from breaker inside installed city panel.  
The TLS 450 unit is self contained and the alarm signal from said unit shall be routed to the PLC-3 via a 24VOLT circuit by city.

**BLUE BELLE CONTROL PANEL BY CITY**

- 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 Belle'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.
- 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.

**NOTE:**

- ALL WIRING TO THE PRESSURE SENSOR AND SOLENOIDS VALVES SHALL BE IN PVC COATED RGS CONDUITS CONNECTED WITH FLEXIBLE CONDUITS TO THE SWITCH OR ACTUATOR WITH A WATER PROOF CONNECTION.



CIRCUIT DESCRIPTION	VA LOAD			Brk.	Wire	Cond.	Num.	Cond.	Wire	Brk.	SURFACE-NEMA 3R			CIRCUIT DESCRIPTION		
	A	C	N								N	A	C		*	
60 AMP MAIN BREAKER																
BLOCK HEATER	1	950	950	20/1	12	1	2	75"	12	20/1	240	240	960	1	TLS TANK MONITORING	
LUBE PUMP	1	960	960	20/1	12	3	4	75"	12	20/1	960	960	960	1	SPARE	
	1					5	6	75"	12	20/1	720	720		1	RECEPTACLE & LIGHT	
	1					7	8							1		
	1					9	10							1		
	1					11	12							1		
	1					13	14							1		
CONNECTED VA (A)	1910			950	2860				1920			960	960			
CONNECTED VA (C)	2870															
Connected VA (C)	1910															
CONNECTED VA (A, C)	4780															
NON-CONTINUOUS	*1			2300	100%	2300										
CONTINUOUS	*2			2140	125%	2675										
OTHER LOADS	*3			0	65%	0										
SUBTOTAL				4440		4975										
NON-COINCIDENTAL				0		0										
TOTAL				4440		4975										
											TOTAL NEUTRAL LOAD: 4,780 / 240 = 19.9 AMPS					
											TOTAL DEMAND LOAD: 4,975 / 240 = 20.7 AMPS					



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

REVISIONS	No.	DATE	NAME	DESCRIP.
	1	11-28-14	PAOLU	REFLECT WORK PERFORMED BY CITY

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

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G-2.0

