RESOURCE RECOVERY LIFT STATION

WASTE WATER DISCHARGE
PEAK MANAGEMENT SYSTEM
PUMP STATION No.938 IMPROVEMENTS

6990 N.W. 97th AVENUE, MIAMI, FLORIDA 33178

AGREEMENT No.

THIS PROJECT ☐ IS ☒ IS NOT IN A CONE OF INFLUENCE

(NOT PART OF WASD NOTES NOR APPROVAL)
STANDARD REQUIREMENTS WATER AND SEWER CONSTRUCTION
(WASD GS 0.5)

SHEET 1 OF 2

NOTES ON WATER-SEWER INSTALLATION

(NOT PART OF M-DWASD NOTES NOR APPROVAL)

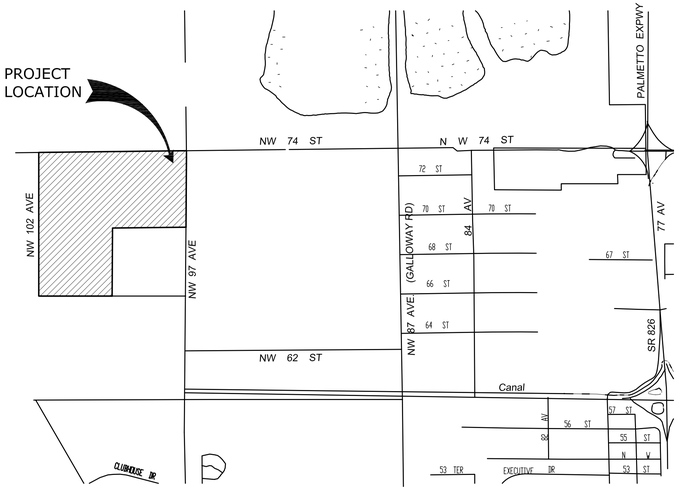
1. A HORIZONTAL DISTANCE OF AT LEAST 6 FEET, AND PREFERABLY 10 FEET (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE SEWER PIPES AND WATER PIPES. THE MINIMUM HORIZONTAL SEPARATION CAN BE REDUCED TO 3 FEET FOR VACUUM–TYPE SEWERS OR FOR GRAVITY SEWERS WHERE THE TOP OF THE SEWER PIPE IS AT LEAST 6 INCHES BELOW THE BOTTOM OF THE WATER PIPE. WHEN THE ABOVE SPECIFIED HORIZONTAL DISTANCE CRITERIA CANNOT BE MET DUE TO AN EXISTING UNDERGROUND FACILITY CONFLICT, SMALLER SEPARATIONS ARE
   - A– THE SEWER PIPES ARE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND PRESSURE TESTED AT 150 PSI.
   - B– THE SEWER IS ENCASED IN A WATERTIGHT CARRIER PIPE OR CONCRETE.
   - C– THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER PIPE.
2. A VERTICAL DISTANCE OF AT LEAST 12 INCHES (OUTSIDE TO OUTSIDE) SHALL BE MAINTAINED BETWEEN ANY WATER AND SEWER MAINS WITH SEWER PIPES PREFERABLY CROSSING UNDER WATER MAINS. THE MINIMUM VERTICAL SEPARATION CAN BE REDUCED TO 6 INCHES FOR VACUUM–TYPE SEWERS OR FOR GRAVITY SEWERS WHERE THE SEWER PIPE IS BELOW THE WATER MAIN. THE CROSSING SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST 6 FEET FROM ALL JOINTS IN GRAVITY AND PRESSURE SEWER PIPES. THE DISTANCE CAN BE REDUCED TO 3 FEET FOR VACUUM–TYPE SEWERS. WHEN THE ABOVE SPECIFIED VERTICAL DISTANCE CRITERIA CANNOT BE MET DUE TO AN EXISTING UNDERGROUND FACILITY CONFLICT, SMALLER SEPARATIONS ARE ALLOWED IF:
   - A– THE SEWER PIPES ARE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND PRESSURE TESTED AT 150 PSI.
   - B– THE SEWER IS ENCASED IN A WATERTIGHT CARRIER PIPE OR CONCRETE.
3. IN HIGHLY CONGESTED AREAS, WHERE EITHER WATER OR SEWER FACILITIES ARE EXISTING AND THE SEPARATION REQUIREMENTS CANNOT BE MET, SPECIAL CONSIDERATION MAY BE GIVEN SUBJECT TO SUBMITTAL OF DOCUMENTATION SHOWING THAT THE PROPOSED ALTERNATIVE WILL RESULT IN AN EQUIVALENT LEVEL OF RELIABILITY AND PUBLIC HEALTH
4. THE MAXIMUM ALLOWABLE EXFILTRATION RATE OF GRAVITY SANITARY SEWERS CONSTRUCTED IN A PUBLIC WELLFIELD PROTECTION AREA SHALL BE FIFTY (50) GALLONS PER INCH PIPE DIAMETER PER MILE PER DAY FOR RESIDENTIAL LAND USE AND TWENTY (20) GALLONS PER INCH PIPE DIAMETER PER MILE PER DAY FOR NON–RESIDENTIAL LAND USE.
5. FORCE MAIN SEWERS CONSTRUCTED IN A PUBLIC WELLFIELD PROTECTION AREA SHALL BE EITHER DUCTILE IRON OR REINFORCED CONCRETE PRESSURE SEWER PIPES.
   FOR DUCTILE IRON PIPE EXFILTRATION RATE SHALL NOT BE GREATER THAN THE ALLOWABLE LEAKAGE RATE SPECIFIED IN AMERICAN WATER WORKS ASSOCIATION STANDARD(AWWAS) C600–82 AT A TEST PRESSURE OF 100 PSI.
   FOR REINFORCED CONCRETE PRESSURE SANITARY SEWER EXFILTRATION RATE SHALL NOT BE GREATER THAN HALF (1/2) THE ALLOWABLE LEAKAGE RATE SPECIFIED IN AWWA C600–82 AT A TEST PRESSURE OF 100 PSI.
6. THE CONTRACTOR SHALL VERIFY NATURE, DEPTH, AND CHARACTER OF EXISTING UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
7. ALL OTHER PUBLIC OR PRIVATE UTILITY FACILITES SHALL BE CONSTRUCTED AT LEAST 5 FEET FROM ANY WATER AND SEWER MAIN AS MEASURED FROM THE OUTSIDE BELL OF THE WATER OF THE UTILITY PIPE.
8. WHEN THE 5 FEET SEPARATION BETWEEN PROPOSED AND EXISTING LINE IS NOT POSSIBLE, THE CONTRACTOR SHALL HANG DIG OR EXPOSE THE WATER AND SEWER PIPES BEFORE PROCEEDING WITH POWER EQUIPMENT EXCAVATION.
9. IN NO CASE SHALL A CONTRACTOR INSTALL UTILITY PIPES, CONDUITS, CABLES, ETC. IN THE SAME TRENCH PARALLEL AND ABOVE AN EXISTING WATER OR SEWER PIPES EXCEPT WHERE THEY CROSS. ANY DEVIATION FROM NOTES 6, 7 AND 8 SHALL BE APPROVED IN WRITING BY THE RESPONSIBLE WATER AND SEWER UTILITY.
10. A NON–RESETTABLE ELAPSED TIME METER SHALL BE INSTALLED AT EACH PUMP TO RECORD THE TOTAL NUMBER OF OPERATING HOURS OF THE STATION.

NOTE
ALL PROP WATER & FORCE MAINS AND FITTINGS TO BE RESTRAINED PER GS 2.0

LEGEND

PROPOSED		EXISTING
	FIRE HYDRANT ASSEMBLY & VALVE PER WS 4.5	
8" D.I.P.	DUCTILE IRON PIPE WATER MAIN	
	GATE VALVE	
	1" WATER SERVICE CONN. W/DUAL METER BOX PER WS 2.12	
	FLUSHING VALVE PER WS 1.61	
	1" WATER SERVICE CONN. W/SINGLE METER BOX PER WS 2.10	
	TAPPING SLEEVE & TAPPING VALVE PER GS 1.7	
	SINGLE SANITARY SEWER CONN. SS 1.0. SS2.0 OR SS 3.1	
(2)	FITTING IDENTIFICATION	
	PROPOSED MANHOLE	

LOCATION SKETCH
SCALE: 1"=300'



VICINITY MAP
SECTION 17 TOWNSHIP 53 SOUTH, RANGE 40 EAST
MIAMI-DADE COUNTY, FLORIDA

1. ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE MIAMI–DADE WATER AND SEWER DEPARTMENT AND SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS AVAILABLE AND ON FILE WITH THE DEPARTMENT. SUBMIT SHOP DRAWINGS FOR ALL MATERIALS.
2. COVER OVER WATER OR SEWER FORCE MAINS SHALL BE 4'–0" MIN.
3. ALL MAIN LINE VALVES SHALL BE INSTALLED COMPLETE WITH 10" RISER PIPES AND NO. 3 OR 53 VALVE BOXES FIRE HYDRANTS AND SERVICE VALVES SHALL BE INSTALLED COMPLETE WITH 6" RISER PIPES AND NO. 2 VALVE BOXES.
4. ALL FORCE MAIN SERVICE CONNECTIONS INTO PRESSURE TRANSMISSION MAINS SHALL HAVE A SHUT OFF VALVE AND CHECK VALVE AT THE POINT OF ENTRY.
5. ALL GRAVITY SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DEPARTMENT STANDARDS.
6. ALL WATER METERS WILL BE INSTALLED BY THE MIAMI–DADE WATER AND SEWER DEPARTMENT PROVIDING THE APPROPRIATE CHARGES HAVE BEEN PREPAID.
7. FIRE HYDRANT REQUIREMENTS (NUMBER AND LOCATION) SHALL BE AS REQUIRED BY THE MIAMI–DADE COUNTY FIRE DEPARTMENT OR THE APPROPRIATE FIRE AGENCY WITH INSTALLATION IN ACCORDANCE WITH DEPARTMENT STANDARDS.
8. CONTRACTOR MUST CALL M–DWASD INSPECTION DIVISION TO ARRANGE FOR A PRECONSTRUCTION MEETING 2 FULL BUSINESS DAYS PRIOR TO PROPOSED START OF CONSTRUCTION. CONTACT ONE CALL CENTER 48 HRS PRIOR TO EXCAVATION.
9. CONTRACT INSPECTOR WILL INSPECT ANY FACILITIES APPROVED BY THE DEPARTMENT. ALL OTHER REQUIREMENTS OF THE PERMITTING AGENCY SHALL BE IN ACCORDANCE WITH THEIR STANDARDS AND REQUIREMENTS.
10. WORK PERFORMED UNDER THIS PROJECT WILL NOT BE CONSIDERED AS COMPLETE UNTIL FINAL ACCEPTANCE OF THE SYSTEM BY THE DEPARTMENT AND UNTIL THE FOLLOWING DOCUMENTS ARE RECEIVED AND APPROVED BY THE DEPARTMENT.
    a. EASEMENTS, IF REQUIRED.
    b. CONTRACTOR'S WAIVER AND RELEASE OF LIEN.
    c. ABSOLUTE BILL OF SALE
    d. i. CONTRACTOR'S LETTER OF WARRANTY (I.E., LETTER AGREEMENT).
       ii. DEVELOPER'S CONTRACT BOND (I.E., CONTRACT AGREEMENT).
    e. "AS–BUILT" PRINTS 24"x36" SHOWING SPECIFIC LOCATIONS, DEPTH, ETC. OF ALL WATER AND SEWER FACILITIES AS LOCATED BY A LICENSED FLORIDA SURVEYOR, ALONG WITH PRINTS OF "AS–BUILT" WHICH HAVE BEEN SIGNED AND SEALED BY A REGISTERED SURVEYOR. (No. OF PRINTS: 3–FOR WATER, 4–FOR GRAVITY SEWER AND 5–FOR FORCE MAIN OR PUMP STATION PROJECTS). THE DEPARTMENT RESERVES THE RIGHT TO REQUIRE SUBMITTAL ON ELECTRONIC MEDIA IN ACCORDANCE WITH SEC. 01775 "MAGNETIC MEDIA SUBMITTAL".
    f. H.R.S. LETTER OF RELEASE REQUIRED FOR ALL WATER PROJECTS.
    g. BILL OF SALE SKETCH (8½"x11") FOR WATER AND SEWER, SEPARATELY.
11. ALL NEW CONNECTIONS FROM EXISTING DEPARTMENT MAINS TO BE MADE BY DEPARTMENT FORCES ONLY. THE CONTRACTOR TO EXCAVATE AT REQUIRED LOCATIONS, PROVIDE AND INSTALL MATERIAL WITH FITTINGS, PRIOR TO TAP.
12. AN APPROVED PAVING AND DRAINAGE PLAN MUST BE SUBMITTED TO MDWASD FOR ALL NEW SUBDIVISIONS PRIOR TO APPROVAL OF WATER AND SEWER PERMIT PLANS, UPON REQUEST.
13. UNLESS OTHERWISE SPECIFIED, ALL TAPS 20 INCHES AND SMALLER FOR CONNECTIONS TO EXISTING MAINS WILL BE DONE BY DEPARTMENT FORCES. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR BE PERMITTED TO TAP EXISTING MAINS IN THE SIZE RANGE SPECIFIED ABOVE. THE TAPPING SLEEVE AND TAPPING VALVE ARE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE INSPECTOR.

ITEM	CROSS REF.	SPEC. REF.

MIAMI-DADE COUNTY Delivering Excellence Every Day — WATER & SEWER DEPARTMENT

ISSUE DATE	APPROVED BY
03/01/2010	V.F.C.

STANDARD DETAIL
STANDARD REQUIREMENTS WATER AND SEWER CONSTRUCTION

GS 0.5 SHEET 1 OF 2

LIST OF DRAWINGS

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GUSTAVO ALONZO
Licensed Engineer no. 62466
State of Florida

PROJECT NAME
Resource Recovery Lift Station
6990 N.W. 97th AVENUE
Miami, FL 33178

CAS PROJECT NUMBER
1201

DATE
JANUARY 2013

REVISION

A	ISSUE FOR PERMIT

DRAWN BY
J.F.P.

SCALE
AS SHOWN

SHEET TITLE
Cover

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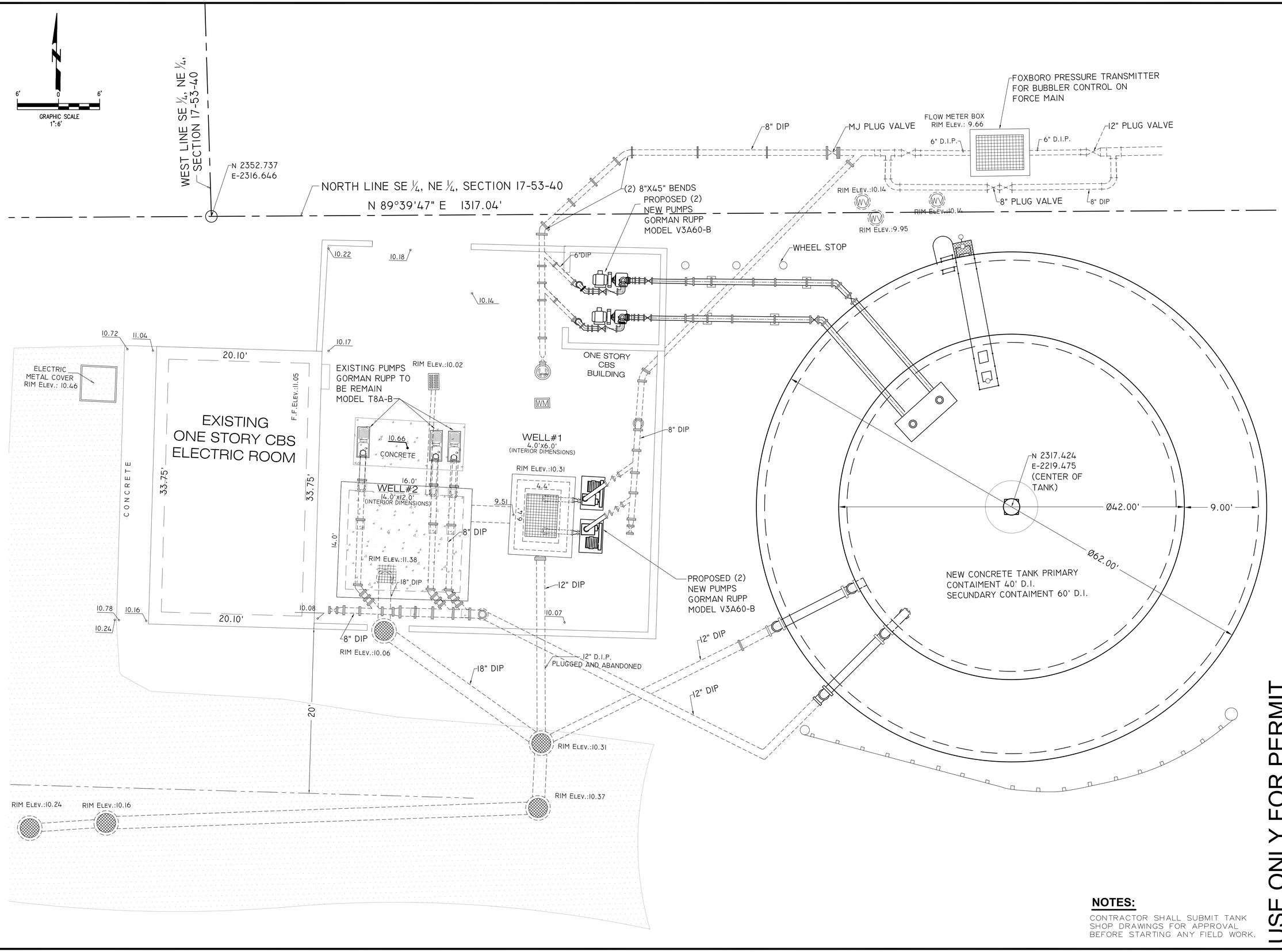

NOTES:

CONTRACTOR SHALL SUBMIT TANK SHOP DRAWINGS FOR APPROVAL BEFORE STARTING ANY FIELD WORK.

USE ONLY FOR PERMIT

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J.F.

SCALE
AS SHOWN

SHEET TITLE

SP-1

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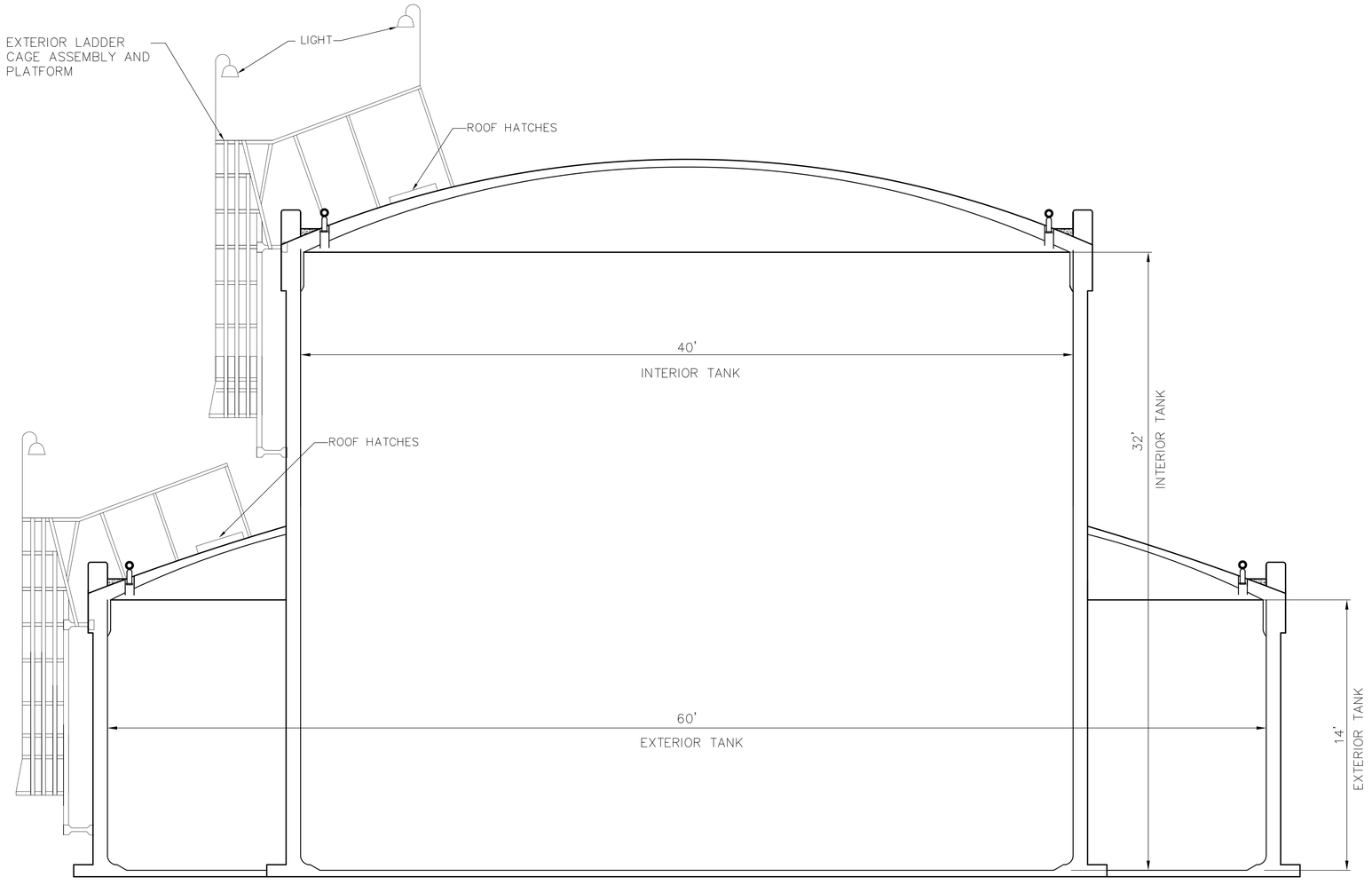

TANK ELEVATION

N.T.S.

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SCALE
AS SHOWN

SHEET TITLE
STORAGE TANK ELEVATION & DETAIL

SHEET NUMBER
T-1

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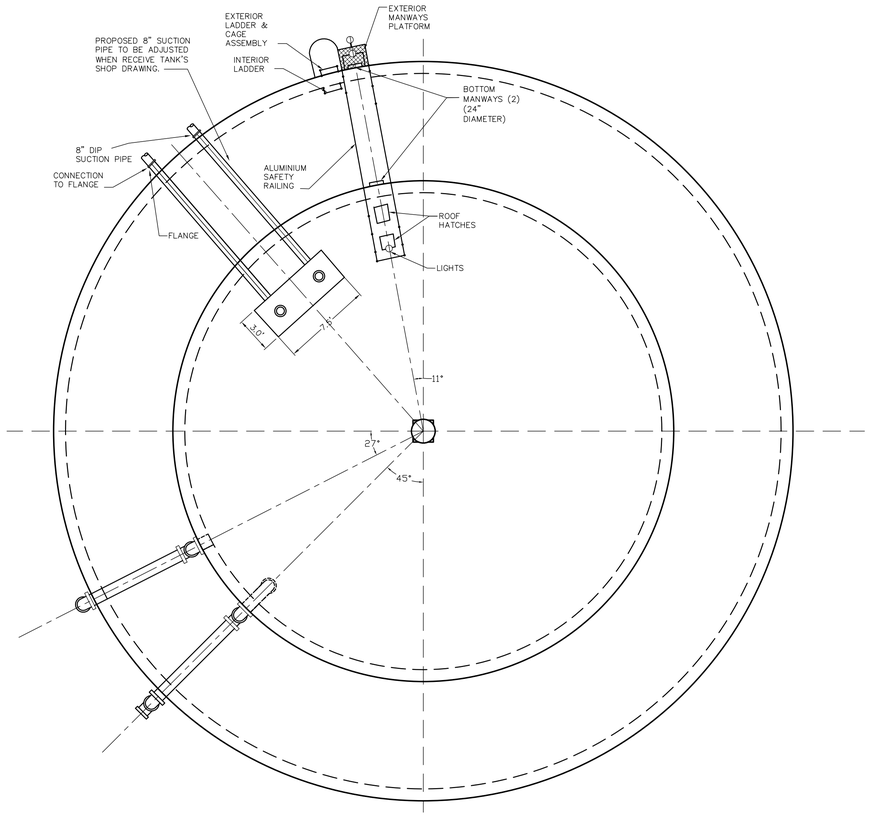
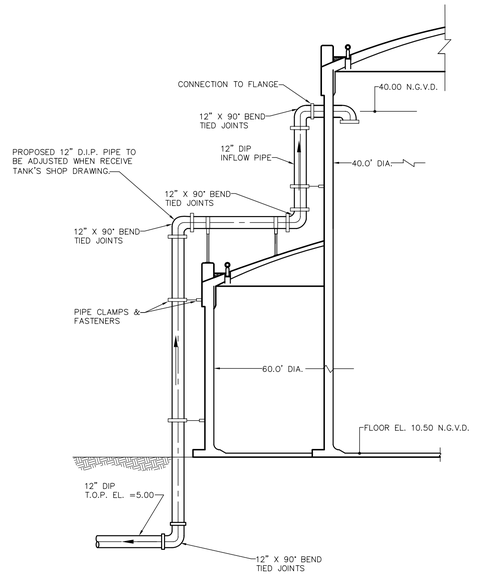
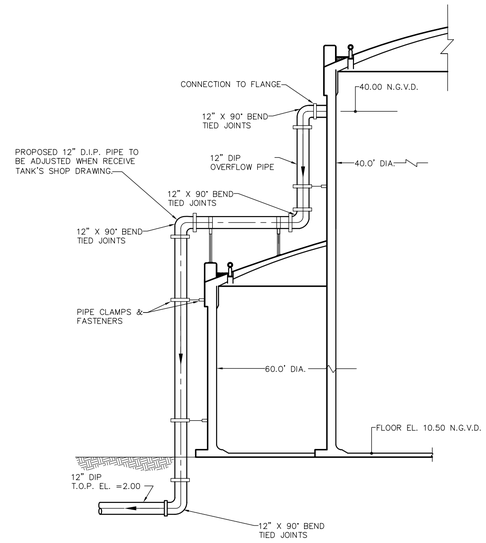


PLAN VIEW
N.T.S.



INFLOW DETAIL
N.T.S.



WEIR DETAIL
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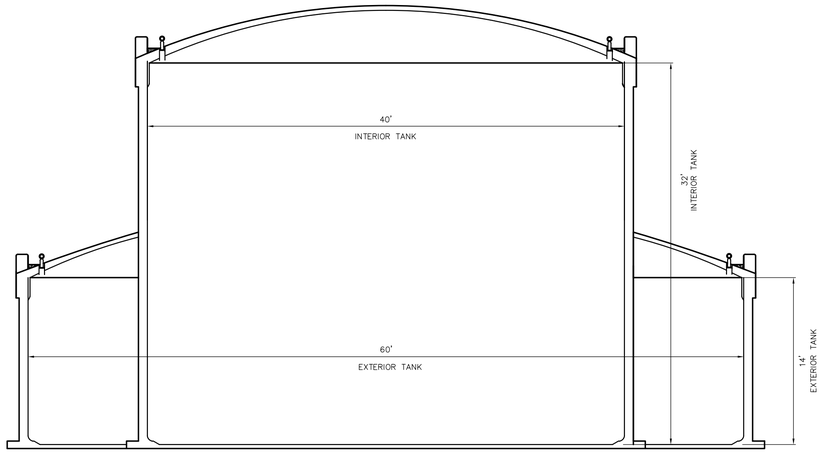
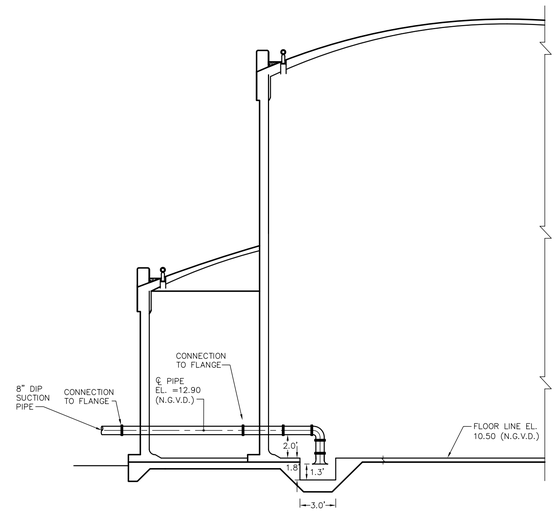


LATERAL VIEW
N.T.S.



SUCTION DETAIL
N.T.S.

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SCALE
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SHEET TITLE
STORAGE TANK

SHEET NUMBER
T-2

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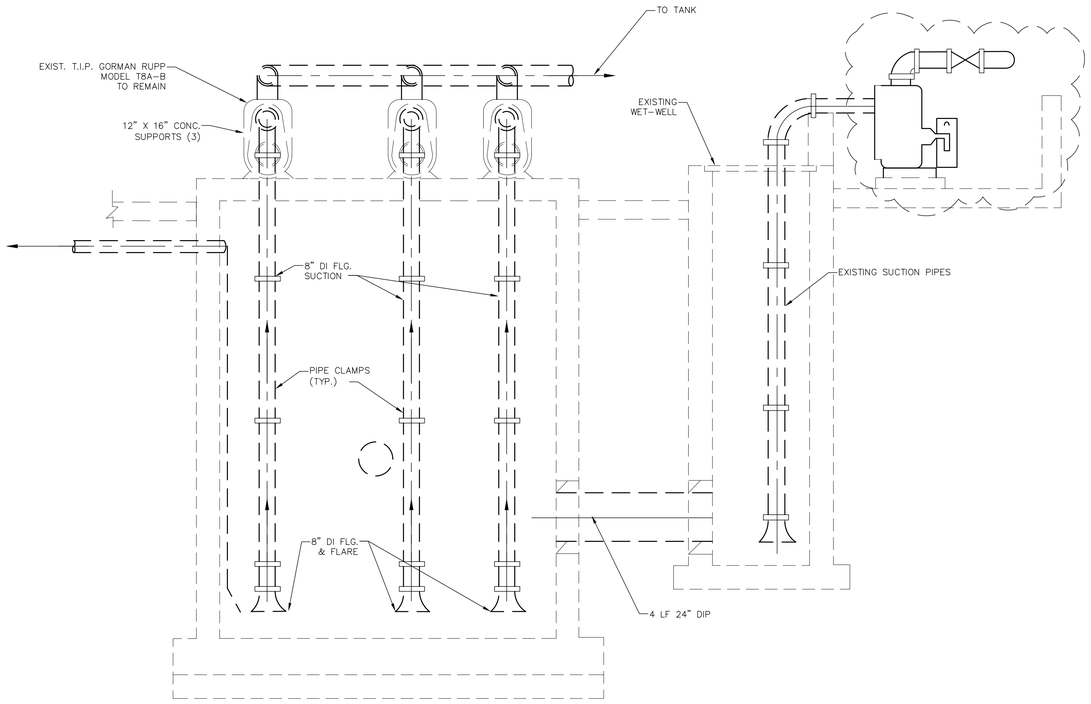

SECTION

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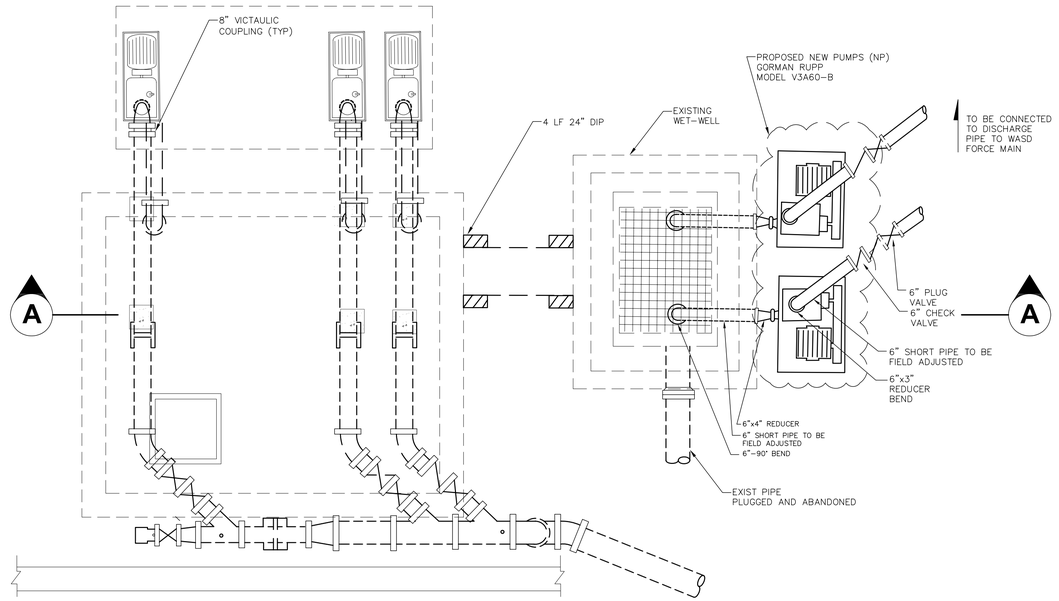

PLAN VIEW

N.T.S.

NOTE:

T.I.P= TANK INFLOW PUMP

NP= NEW PUMP TO DISCHARGE WASD FORCE MAIN

NOTES:

CONTRACTOR SHALL SUBMIT TANK SHOP DRAWINGS FOR APPROVAL BEFORE STARTING ANY FIELD WORK.

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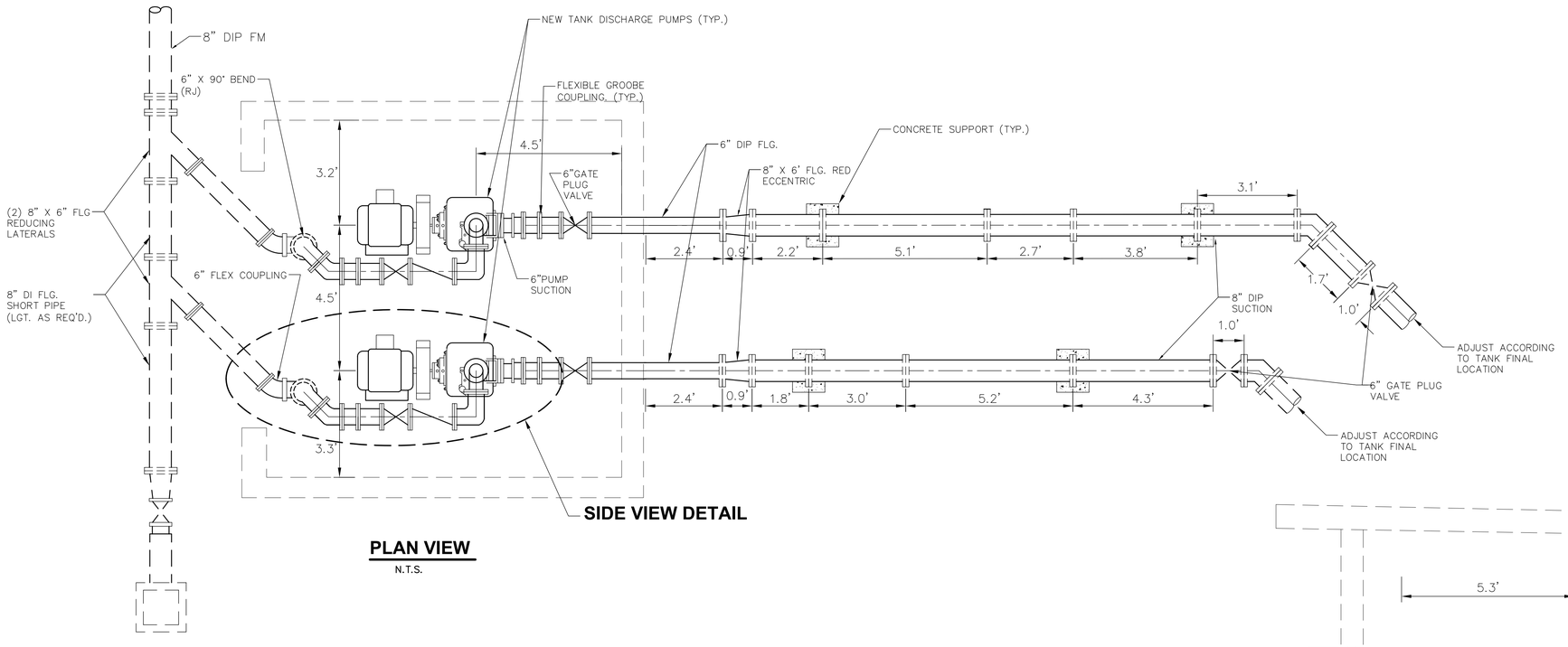
SHEET TITLE

PUMP DISCHARGING TO MD-WASD FORCE MAIN

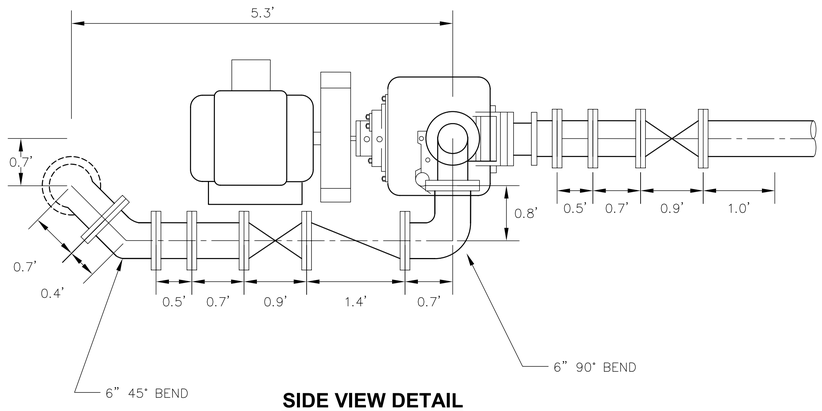
M-1



PLAN VIEW

N.T.S.

SIDE VIEW DETAIL



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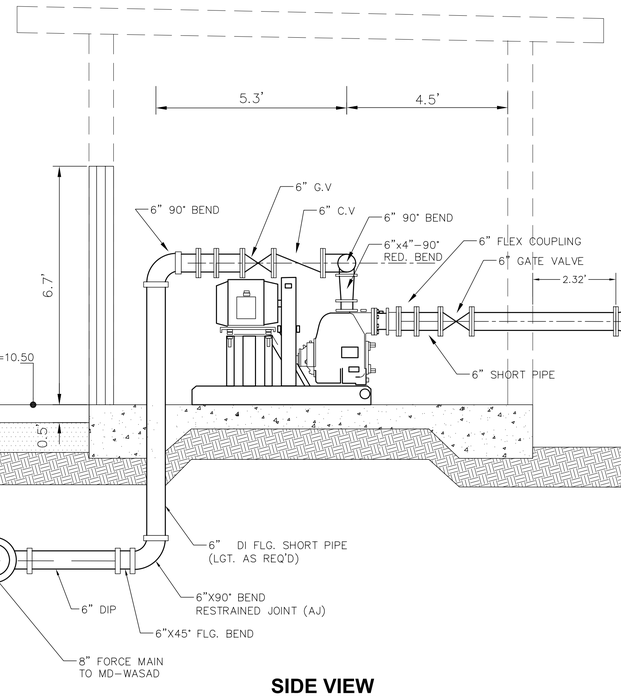

SIDE VIEW

N.T.S.

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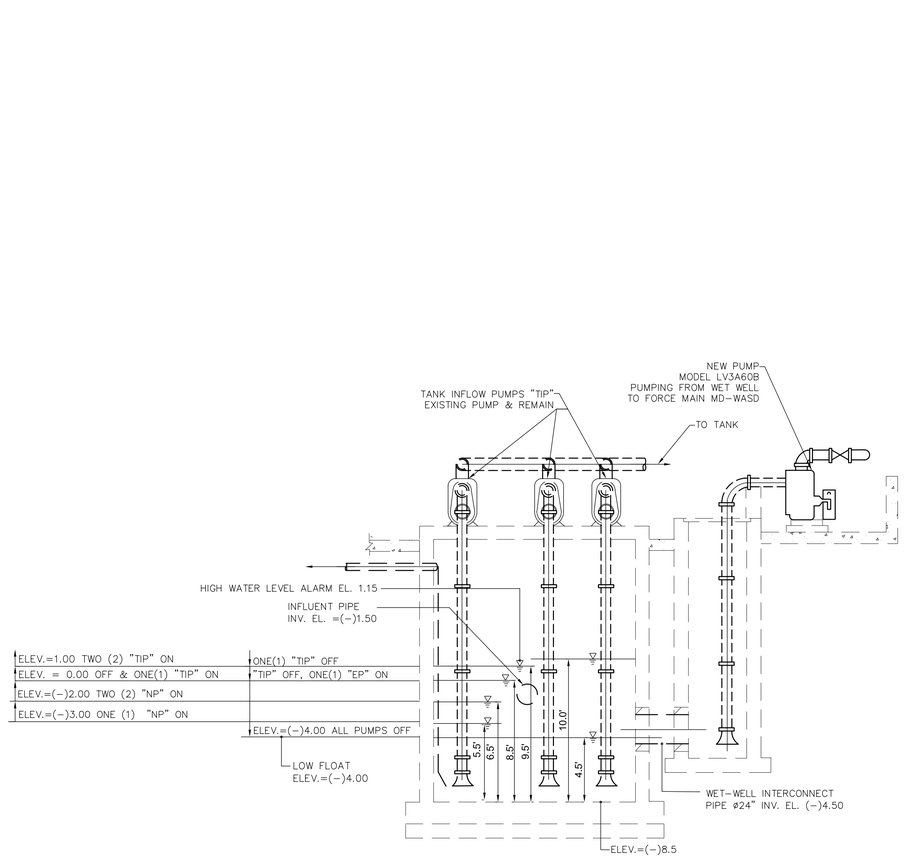
SHEET TITLE

TANK DISCHARGE PUMP

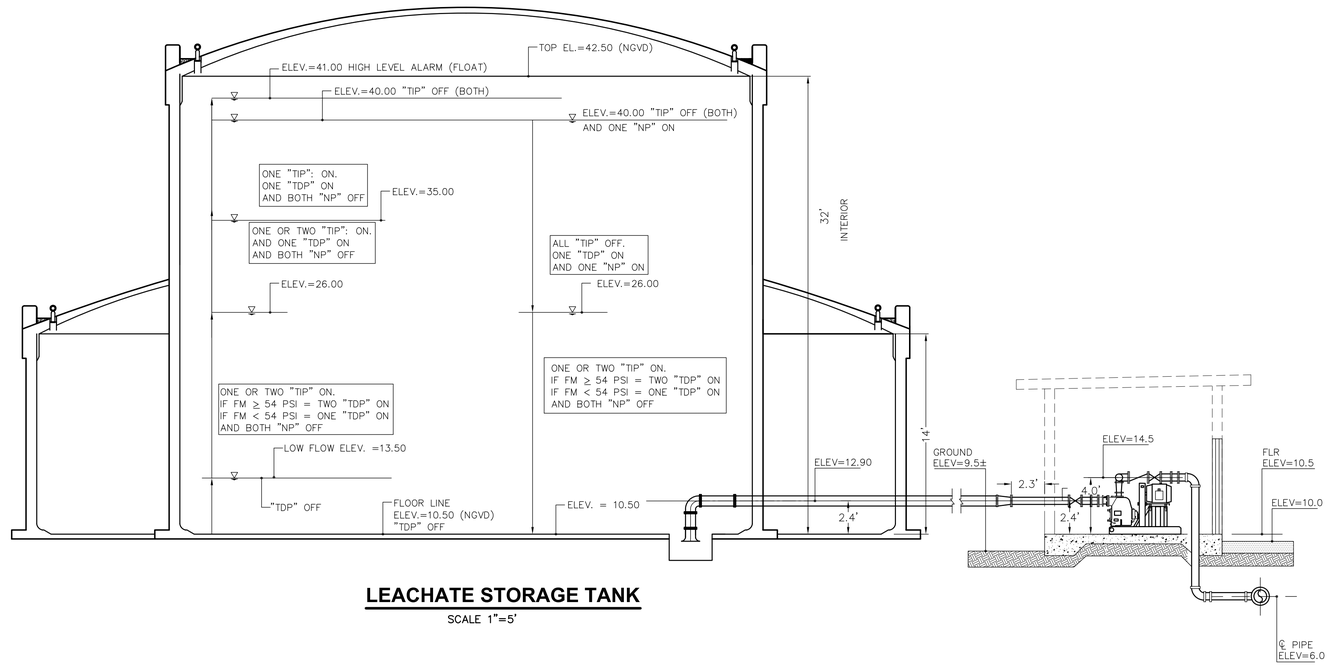
SHEET NUMBER

M-2



WET-WELL

SCALE 1"=5'



LEACHATE STORAGE TANK

SCALE 1"=5'

LEGEND

"TIP" = TANK INFLOW PUMP (EXISTING)
"TDP" = TANK DISCHARGE PUMP

NOTES:

1. DURING TANK LOW LEVEL PERIODS, THE NUMBER OF ACTIVE TANK INFLOW PUMPS "TIP" AND NEW PUMPS "NP" TO WILL BE DETERMINED BY THE WET-WELL LEVELS. THE NUMBER OF ACTIVE TANK DISCHARGE PUMPS WILL BE DETERMINED BY FORCE MAIN PRESSURE.
   - IF FM PRESSURE <125 FT (54 PSI) = ONE "TDP" ON
   - IF FM PRESSURE >125 FT (54 PSI) = TWO "TDP" ON
2. DURING TANK HIGH LEVEL PERIODS, THE NUMBER OF ACTIVE TANK INFLOW PUMPS "TIP" AND NEW PUMPS "NP" WILL BE DETERMINED BY TANK LEVEL AND THE NUMEBR OF ACTIVE TANK DISCHARGE PUMPS WILL BE ONE.
3. WET-WELL PUMP LEVEL CONTROL OVERRIDE ELEVATION IS 50.00.
   - FROM TANK LEVEL 35.00 TO 40.00 ONLY ONE "TIP" IS ON.
   - FROM TANK LEVEL 40.00 TO 26.00 BOTH "TIP" ARE OFF.
4. WHEN TANK LEVEL DECREASES TO ELEVATION 26.00 WET WELL PUMP LEVEL CONTROL IS RESUMED.
5. WET WELL AND TANK TO BE PROVIDED WITH AIR BUBBLER LEVEL CONTROL SYSTEMS AND BACKUP HIGH LEVEL ALARM FLOAT CONTROL SYSTEMS.
6. AIR BUBBLE TUBE TO BE MOUNTED TO TANK AND WET WELL PER MANUFACTURER RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL.
7. WET WELL PUMPS LEVEL CONTROL SHOWN ABOVE OVERRIDDEN DURING TANK HIGH LEVEL PERIODS WHEN TANK INFLOW PUMPS "TIP" WILL BE TURNED OFF AND NEW PUMPS "NP" ARE ON.

NOTES:

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J.F.P.

SCALE
AS SHOWN

SHEET TITLE
CONTROL LEVEL SCHEDULE FOR PUMP ON-OFF

SHEET NUMBER
M-3

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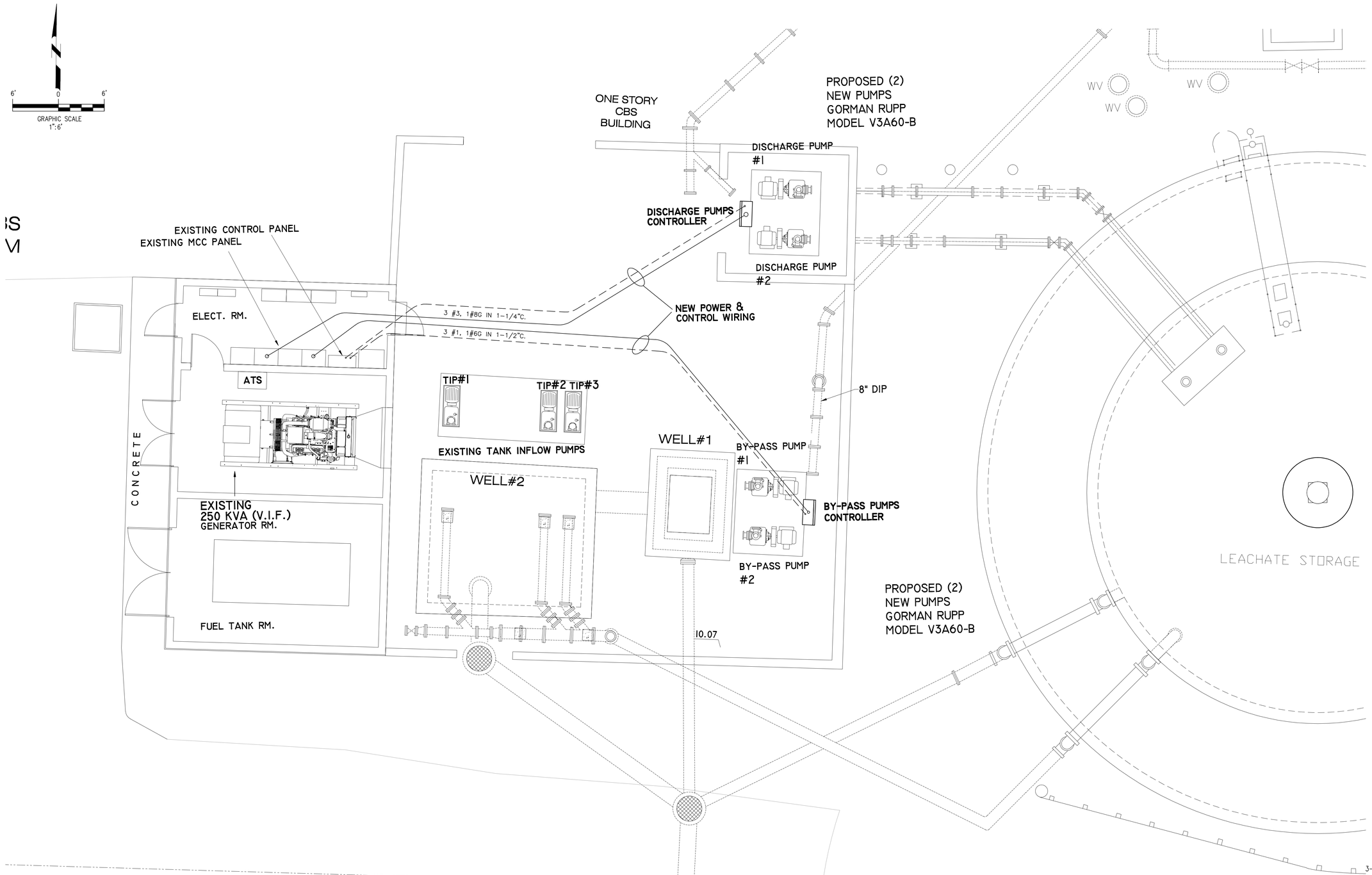

3-11-13
I.L.A. project # 1310.00

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REVISION

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J.F.

SCALE
AS SHOWN

SHEET TITLE

E-1

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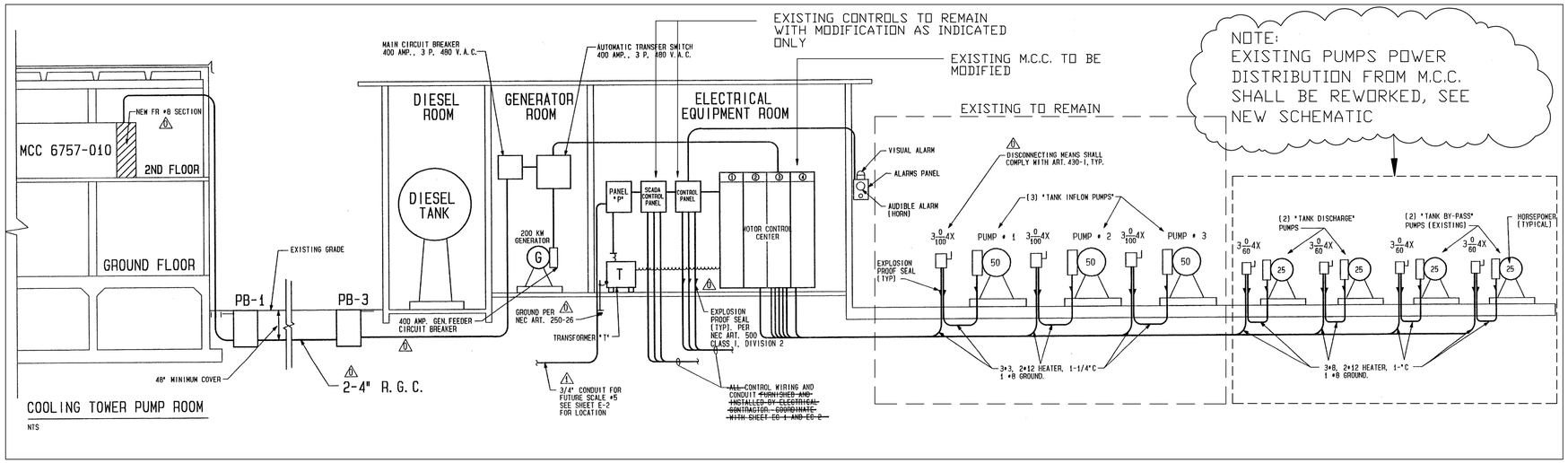
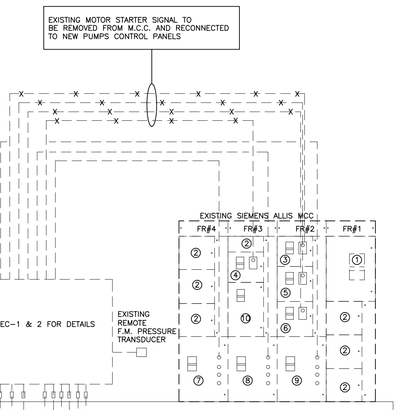


EXISTING POWER DISTRIBUTION PER AS-BUILT

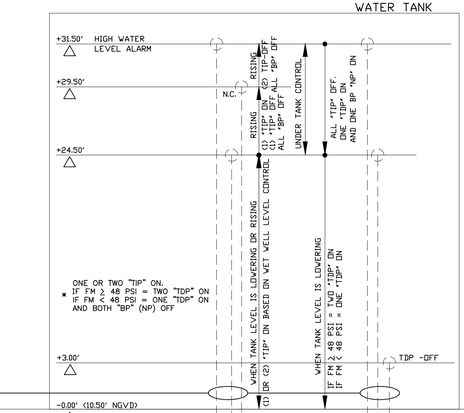
INFORMATION SHOWN ABOVE IS SUBJECT TO FIELD VERIFICATION BEFORE ANY WORK IS DONE.

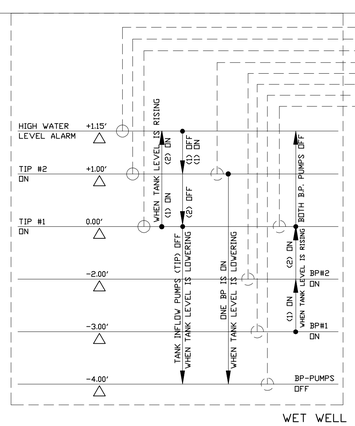
NO SCALE



EXISTING MCC KEY LEGEND:

1. EXISTING 3P/600 AMPS MAIN SECTION FED FROM 3P/400 AMPS. MCC 6757-10 VIA ATS & GENERATOR. (277/480/3P) (600 AMPS BUS)
2. EXISTING BLANK SPACES
3. EXISTING TDP#2 20 H.P. (3P/40A) RATED FULL VOLTAGE NON REVERSING COMBINATION STARTER (TO BE REMOVED AND REPLACED)
4. EXISTING TDP#1 20 H.P. (3P/40A) RATED FULL VOLTAGE NON REVERSING COMBINATION STARTER (TO BE REMOVED AND REPLACED)
5. EXISTING BP#1 25 H.P. (3P/50A) RATED FULL VOLTAGE NON REVERSING COMBINATION STARTER (TO BE REMOVED AND REPLACED)
6. EXISTING BP#2 25 H.P. (3P/50A) RATED FULL VOLTAGE NON REVERSING COMBINATION STARTER (TO BE REMOVED AND REPLACED)
7. EXISTING TIP #1 50 H.P. (3P/100A) RATED AUTO TRANSFORMER REDUCED VOLTAGE COMBINATION STARTER (REMAINS)
8. EXISTING TIP #2 50 H.P. (3P/100A) RATED AUTO TRANSFORMER REDUCED VOLTAGE COMBINATION STARTER (REMAINS)
9. EXISTING TIP #3 50 H.P. (3P/100A) RATED AUTO TRANSFORMER REDUCED VOLTAGE COMBINATION STARTER (REMAINS)
10. EXISTING 3P/45A. BREAKER FOR 30 KVA STEP DOWN TRANSFORMER





EXISTING SINGLE LINE SYSTEM CONTROL SCHEMATIC.

INFORMATION SHOWN ABOVE IS SUBJECT TO FIELD VERIFICATION BEFORE ANY WORK IS DONE.

NO SCALE

3-11-13
I.L.A. project # 1310.00

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GUSTAVO ALONZO
Licensed Engineer no. 62466
State of Florida

PROJECT NAME

Resource Recovery Lift Station
6990 N.W. 97th AVENUE
Miami, FL 33178

CAS PROJECT NUMBER
1201

DATE
JANUARY 2013

REVISION

A	**ISSUE FOR PERMIT**

DRAWN BY
J.F.

SCALE
AS SHOWN

SHEET TITLE

E-2

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EXISTING MCC KEY LEGEND:

1. EXISTING 3P/600 AMPS MAIN SECTION FED FROM 3P/400 AMPS MCC 6757-10 VIA ATS & GENERATOR. (277/480/3P) (600 AMPS BUS)
2. EXISTING BLANK SPACES
3. EXISTING TIP #1 50 H.P. (3P/100A) RATED AUTO TRANSFORMER REDUCED VOLTAGE COMBINATION STARTER (REMAINS)
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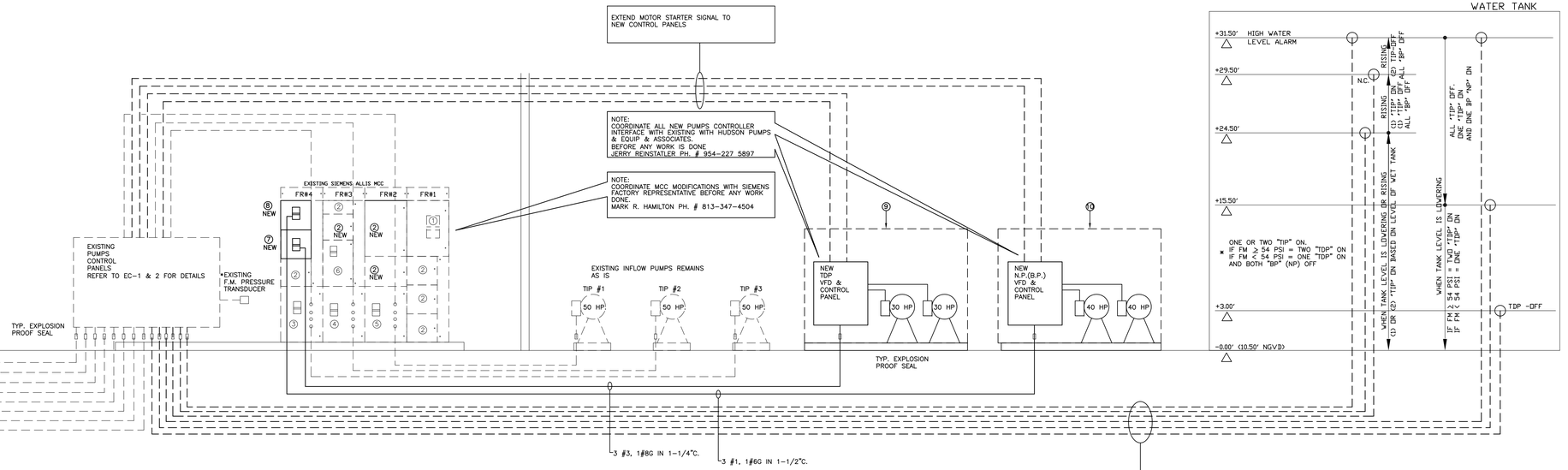
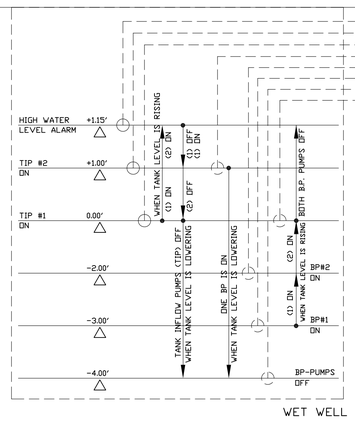
5. EXISTING TIP #3 50 H.P. (3P/100A) RATED AUTO TRANSFORMER REDUCED VOLTAGE COMBINATION STARTER (REMAINS)
6. EXISTING 3P/45A. BREAKER FOR 30 KVA STEP DOWN TRANSFORMER
7. NEW 3P/100 AMPS BREAKER (SIZE 4) VERIFY AVAILABILITY AND REQUIRED SLOT SIZE WITH MANUFACTURER BEFORE ANY WORK IS DONE, INFORM ENGINEER IF NOT ABLE TO OBTAINED BREAKER OR UNABLE TO INSTALL AS SHOWN.
8. NEW 3P/125 AMPS BREAKER (SIZE 4) VERIFY AVAILABILITY AND REQUIRED SLOT SIZE WITH MANUFACTURER BEFORE ANY WORK IS DONE, INFORM ENGINEER IF NOT ABLE TO OBTAINED BREAKER OR UNABLE TO INSTALL AS SHOWN.

   VERIFY REQUIRED NEW BREAKERS WITH PUMPS MANUFACTURER BEFORE ANY ORDERING IS DONE.
9. NEW VARIABLE FREQUENCY DRIVE TANK DISCHARGE DUPLEX PUMPS REFER TO MECHANICAL DRAWINGS FOR DETAILS. CONTROLLER SHALL BE PROVIDED WITH PUMPS O.C.P.D. AND CONTROLS TO RECEIVE SIGNAL FROM WET WELL/ TANK CONTROL PANEL EACH PUMP SHALL BE CAPABLE OF OPERATING INDEPENDENTLY TO PER REQUITED CONTROLLED SYSTEM. (PACKAGE SHALL BE PRE-ASSEMBLED AND PRE-WIRED TO RECEIVED POWER FROM NEW BREAKER IN M.C.C. AND CONTROL WIRING FROM EXISTING WET WELL/ TANK LEVELS CONTROL PANEL)
10. NEW VARIABLE FREQUENCY DRIVE BY-PASS (NP) DUPLEX PUMPS REFER TO MECHANICAL DRAWINGS FOR DETAILS. CONTROLLER SHALL BE PROVIDED WITH PUMPS O.C.P.D. AND CONTROLS TO RECEIVE SIGNAL FROM WET WELL/ TANK CONTROL PANEL EACH PUMP SHALL BE CAPABLE OF OPERATING INDEPENDENTLY TO PER REQUITED CONTROLLED SYSTEM. (PACKAGE SHALL BE PRE-ASSEMBLED AND PRE-WIRED TO RECEIVED POWER FROM NEW BREAKER IN M.C.C. AND CONTROL WIRING FROM EXISTING WET WELL/ TANK LEVELS CONTROL PANEL) (W.P. ENCLOSURE)





* EXISTING PRESSURE TRANSDUCER IN FORCE MAIN IS SET FOR LOWER PRESSURE, PRESSURE TRANDUCER SHALL BE RESET FOR NEW PRESSURES INDICATED ABOVE.

NEW SINGLE LINE SYSTEM CONTROL & POWER SCHEMATIC.
NO SCALE

EXISTING
TO BE MODIFIED

TYPE MOTOR CONTROL CENTER
MOUNTING FREE STANDING
LOCATION PUMP STATION CONTROL ROOM

MOTOR CONTROL CENTER AT ELECTRICAL EQUIPMENT ROOM

MAINS 600 AMPS MAIN CIRCUIT BREAKER
BUS RATING 600 AMPS
VOLTAGE 277/480 V., 3Ø, 4W

UNIT LOCATION NO.	UNIT LOCATION ALPHA	DESCRIPTION	HP	AMPS	Ø	FRAME	POLES	WIRE SIZE	COND	TRIP	VOLTS	NEMA SIZE	REMARKS
1	A	TRANSFORMER T	-	36	3	60	3	6	1"	45	480	-	PANEL P
1	B	~~TANK DISCHARGE PUMP NO. 1~~	~~25~~	~~33~~	~~3~~	~~60~~	~~3~~	~~6~~	~~1"~~	~~50~~	~~480~~	~~2~~	
1	C	TANK INFLOW PUMP NO. 1	50	65	3	100	3	3	1-1/4	100	480	3	
2	A	~~TANK DISCHARGE PUMP NO. 2~~	~~25~~	~~33~~	~~3~~	~~60~~	~~3~~	~~6~~	~~1"~~	~~50~~	~~480~~	~~2~~	
2	B	~~TANK BY-PASS PUMP NO. 1~~	~~25~~	~~33~~	~~3~~	~~60~~	~~3~~	~~6~~	~~1"~~	~~50~~	~~480~~	~~2~~	
2	C	TANK INFLOW PUMP NO. 2	50	65	3	100	3	3	1-1/4	100	480	3	NON-COINCIDENT LOAD
3	A	~~TANK BY-PASS PUMP NO. 2~~	~~25~~	~~33~~	~~3~~	~~60~~	~~3~~	~~6~~	~~1"~~	~~50~~	~~480~~	~~2~~	
3	B	SPACE	-	-	-	-	-	-	-	-	-	-	
3	C	TANK INFLOW PUMP NO. 3	50	65	3	100	3	3	1-1/4	100	480	3	
4	A	MAIN CIRCUIT BREAKER	-	600	3	600	3	600 MCM	4"	600	480	-	
4	B	SPACE	-	-	-	-	-	-	-	-	-	-	
SEE SCH.		NEW BP BREAKER	--	119.6	3	125	3	1	1-1/2	125	480	4	NEW BP DUPLEX PUMPS
SEE SCH.		NEW TDP BREAKER	--	86.0	3	100	3	3	1-1/4	100	480	4	NEW TDP DUPLEX PUMPS
		TOTALS		~~298~~ *									

* MAXIMUM SIMULTANEOUS HIGHEST LOAD BASED ON CONTROL SYSTEM.
SHALL BE PER WET WELL
2-TIP = 65 AMPS + 65 AMPS = 130 AMPS (THIRD PUMP NOT PERMITTED TO RUN SIMULTANEOUS)
2-BP = 119.6 AMPS
TDP = OFF (NO LOAD)
TRANSFORMER = 36.0 AMPS
TOTAL = 285.6 AMPS ← HIGHEST SIMULTANEOUS LOAD
2-TIP = 65 AMPS + 65 AMPS = 130 AMPS (THIRD PUMP NOT PERMITTED TO RUN SIMULTANEOUS)
2-TDP= 86.0 AMPS
BP = OFF (NO LOAD)
TRANSFORMER = 36.0 AMPS
TOTAL = 252.0 AMPS
ONLY A COMBINATION OF (4) PUMPS ARE ALLOWED TO OPERATE SIMULTANEOUSLY
285.6 AMPS = 237.0 KVA < AVAILABLE 250 KVA GENERATOR.
285.6 AMPS + (25% LARGEST MOTOR LOAD = 16.0 AMPS) = 301.6 AMPS < 400 AMPS NORMAL SERVICE

NOTE TO CONTRACTOR

THE NATURE OF THIS CONTRACT INVOLVES REPAIRING AND RETROFITTING OF EXISTING FACILITIES. EXISTING EQUIPMENT, DEVICES, WIRING, ETC ARE INDICATED ON THE PLANS IN THEIR APPROXIMATE LOCATIONS FOR THE CONVENIENCE OF THE CONTRACTOR; THEY DO NOT SHOW IN DETAILS THE FULL EXTEND OF THE WORK AND MATERIALS FOR THE JOB. CONTRACTOR MUST INSPECT THE EXISTING CONDITIONS AT THE JOB SITE AND BECOME ACQUAINTED WITH THE CONDITIONS THAT WILL AFFECT THE WORK. IF DISCREPANCIES ARE FOUND BETWEEN THE PLANS AND EXISTING CONDITIONS, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND/OR ARCHITECT SO THAT AN ADDENDUM MAY BE ISSUED IN ORDER TO INCLUDE ALL NECESSARY WORK IN THE BASE BID.

INFORMATION SHOWN IS BASED ON VISUAL INSPECTION AS-BUILT AVAILABLE AND MAY NOT BE ACCURATE, CONTRACTOR SHALL VERIFY AND INFORM ENGINEER IF DIFFERENT BEFORE ANY WORK IS DONE.

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E-3

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ELECTRICAL SPECIFICATIONS

GENERAL

A. SEE DRAWINGS FOR ADDITIONAL SPECIFICATIONS

B. COORDINATE WITH ALL TRADES TO AVOID INTERFERENCE AMONG MECHANICAL, ELECTRICAL ARCHITECTURAL AND STRUCTURAL ITEMS. PROVIDE ALL NECESSARY OFFSETS AND FITTINGS IN CIRCUITRY AND OTHER ITEMS REQUIRED TO INSTALL THE WORK WITHOUT INTERFERENCES.

C. ALL EQUIPMENT INSTALLED SHALL BE NOW AND SHALL CONFORM IN ALL RESPECTS TO THE LATEST APPROVED STANDARDS OF EFF., ANSI, NEMA AND UNDERWRITERS LABORATORIES, INC. UNLESS INDICATED OTHERWISE. SUBSTITUTIONS SHALL ONLY BE ACCOMPLISHED AT THE DISCRETION OF THE ENGINEER.

D. N/A

E. N/A

F. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL CIRCUITRY, EQUIPMENT, DEVICES, ETC. NOT NOTED AS EXISTING TO REMAIN OR TO BE RELOCATED, SHALL BE NEW. CONTRACTOR MAY REUSE ALL EXISTING WALL RECEPTACLES, AND FLOOR BOXES AND OUTLETS WHICH THE ENGINEER DEEMS ARE IN REUSABLE CONDITION. REMOVE ALL DEVICES AND CIRCUITRY NOT BEING REUSED. CIRCUITRY TO BE REMOVED SHALL BE REMOVED BACK TO THE SOURCE AND ALL HOLES SHALL BE REPAIRED TO CONFORM TO FINISHED SURFACE. ALL CIRCUITS THAT ARE TO REMAIN IN SERVICE UPON COMPLETION OF THIS PROJECT WHICH ARE PRESENTLY FED MUST BE CONTINUED IN SERVICE. OUTAGES EXISTING CIRCUITS TO REMAIN SHALL BE COORDINATED WITH THE OWNER.

G. PROJECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER DEMOLITION OPERATIONS ARE COMPLETE.

H. LOCATE, IDENTIFY AND PROTECT ELECTRICAL SERVICES PASSING THROUGH DEMOLITION AREA AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.

I. THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE NEC 2008 AND ALL OTHER RULES AND REGULATIONS OF THE LOCAL ELECTRICAL AND BUILDING CODES 2010 ED.

J. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL.

K. ALL EQUIPMENT TO BE PROVIDED BY THE CONTRACTOR SHALL BE MANUFACTURED BY SEIMENS OR SQUARE-D COMPANY, ONLY ONE OF THE MANUFACTURE'S ABOVE SHALL BE PERMITTED TO BE SELECTED.

L. PROVIDE TEMPORARY SERVICE AS DIRECTED FOR LIGHTING AND POWER EQUIPMENT (DRILLS, SAWS, ETC.) VERIFY TEMPORARY REQUIREMENTS WITH GENERAL CONTRACTOR, TEMPORARY LIGHTING AND POWER SHALL MEET OSHA REQUIREMENTS AND LOCAL CODES. TEMPORARY POWER SHALL BE 120V.

M. ADVANCE NOTICE SHALL BE GIVEN TO OWNER BEFORE COMMENCEMENT OF WORK ON ANY ELECTRICAL CIRCUITRY, WHETHER OR NOT A OUTAGE IS REQUIRED.

N. UNLESS SPECIFICALLY NOTED ON THE PLANS, ALL CIRCUITRY, EQUIPMENT, DEVICES, ETC.. NOT NOTED "EXISTING TO REMAIN" OR "TO BE RELOCATED" SHALL BE NEW.

O. ALL FEEDER RACEWAYS, ELECTRICAL PANELS AND ALL MAJOR PIECES OF EQUIPMENT SHALL BE CLEARLY LABELED WITH MINIMUM 1" HIGH LETTERS.

P. ALL WORKMANSHIP, MATERIALS AND EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF AREA OF TENANT.

Q. THE CONTRACTOR SHALL VISIT EXISTING SITE AND DETERMINE CONDITIONS WHICH MAY AFFECT HIS OR HER BID.

S. THE CONTRACTOR SHALL RESTORE ALL AREAS AND SYSTEMS DISTURBED BY HIS WORK TO THE SATISFACTION OF THE PROJECT MANAGER.

T. THE WORK SHALL CONFORM TO THE LATEST EDITION OF THE LOCAL UNIFORM STATEWIDE BUILDING CODE AND THE AUTHORITIES DESIGN MANUAL. A LICENSED QUALIFIED ELECTRICIAN SHALL BE ON THE JOB SITE AT ALL TIMES DURING THE EXECUTION OF ANY ELECTRICAL WORK.

U. EXCEPT AS OTHERWISE NOTED, ALL EXISTING ELECTRICAL WORK WHICH WILL NOT BE RENDERED ABSOLUTE AND WHICH MAY BE DISTURBED DUE TO ANY CHANGES REQUIRED UNDER THIS CONTRACT SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION.

V. FINAL TESTING AT THE TIME OF FINAL INSPECTION AND TESTS. ALL CONNECTIONS AT PANELBOARDS, DEVICES AND EQUIPMENT AND ALL SPLICES MUST BE COMPLETED. EACH BRANCH CIRCUIT AND ITS RESPECTIVE, CONNECTED EQUIPMENT MUST TEST FREE OF SHORT CIRCUITS.

W. UPON COMPLETION OF THE WORK, CLEAN AND POLISH ALL EXPOSED SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

JOB RESPONSIBILITY:

A. PROVIDE ADEQUATE STORAGE FACILITIES FOR MATERIAL AND EQUIPMENT DURING THE PROCESS OF THE WORK.

B. BE RESPONSIBLE FOR THE CONDITION OF ALL MATERIAL AND EQUIPMENT EMPLOYED IN THE ELECTRICAL INSTALLATION UNTIL FINAL ACCEPTANCE BY THE OWNER. PROJECT SAME FROM ANY CAUSE WHATSOEVER.

C. BE RESPONSIBLE FOR THE REPLACEMENT OF ALL DAMAGED OR DEFECTIVE WORK, MATERIALS EQUIPMENT. DO NOT INSTALL SENSITIVE OR DELICATE EQUIPMENT UNTIL MAJOR CONSTRUCTION WORK IS COMPLETED.

D. OBSERVE AND CONFORM TO APPLICABLE SAFETY REGULATIONS, INCLUDING THOSE REQUIRED BY THE OWNER'S REPRESENTATIVES.

E. ERECT AND MAINTAIN SUITABLE BARRIERS, PROTECTIVE DEVICES, LIGHTS AND WARNING SIGNS FOR THE PROTECTION OF NEGLIGENCE, STRIKES, VIOLENCE OR THEFT UP TO THE TIME OF FINAL ACCEPTANCE BY THE OWNER.

G. BE RESPONSIBLE FOR ANY LOSS OR INJURY TO PERSONS OR PROPERTY RESULTING FORM NEGLECT OR ANY OTHER CAUSES ON THE PAINT OF THE EMPLOYEES.

H. DO NOT LEAVE ANY ELECTRICAL WORK IN HAZARDOUS CONDITION, EVEN TEMPORARY.

I. ERECT, MAINTAIN AND FINALLY REMOVE ALL SCAFFOLDS, STAGING, FORMS, PLATFORMS AND LADDERS REQUIRED FOR THE ELECTRICAL INSTALLATION.

J. DO NOT INSTALL WORK FOR WHICH AN EXTRA CHARGE IS TO BE MADE WITHOUT WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE AND THE OWNER. A WRITTEN REQUEST FOR EXTRA WORK SHALL STATE THE NATURE OF THE WORK, BY WHOM REQUESTED AND THE PRICE TO BE CHARGED.

RACEWAYS, BOXES, CONDUITS.

1. WIRING METHODS: a. EXPOSED CONDUIT b. CONCEALED CONDUIT OR AS APPROVED ARMOR-CLAD (MC) CABLE.

2. ALL CIRCUITRY IN FINISHED AREAS SHALL BE RUN CONCEALED. MINIMUM SIZES CONDUIT SHALL BE 1/2".

3. CONDUIT CONNECTIONS AND COUPLINGS SHALL BE OF THE ALL-STEEL COMPRESSION TYPE WITH INSULATED THROAT.

4. EXPOSED AND CONCEALED CIRCUITRY (WHETHER CONDUIT AND WIRE OR CABLE) SHALL BE RUN TIGHT TO CEILING SLAB (AS HIGH AS POSSIBLE TO MAXIMIZE HEADROOM) IN A NEAT, WORKMANLIKE MANNER ALL RUNS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING WALLS.

5. ALL CIRCUITRY RUNS INDICATED ARE DIAGRAMMATIC. THE CONTRACTOR SHALL DETERMINE IN THE FIELD THE MOST SUITABLE ROUTES.

6. ALL EMPTY RACEWAYS SHALL CONTAIN A DRAG WIRE. EMPTY RACEWAYS 2" OR LARGER IN SIZE SHALL HAVE A MAXIMUM OF 3-90 DEGREE BENDS. PROVIDE 3/4" CONTROL WIRING CONDUITS

7. OUTLET BOXES SHALL BE A MINIMUM OF 4" SQUARE WITH THE APPROPRIATE PLASTER RING OR TILE COVER.

8. WHERE EXISTING WALLS ARE FURRED OUT AND DEVICES ARE NOT NOTED TO BE REMOVED PROVIDE EXTENSION BOXES TO BRING FACE OF DEVICES FLUSH WITH NEW FINISH SURFACE AND CONTINUE IN SERVICE.

9. FINAL CONNECTION TO ALL MOTORS OR VIBRATING EQUIPMENT SHALL BE WITH FLEXIBLE CONDUIT.

10. PROVIDE PULL, JUNCTION, OUTLET AND FLOOR BOXES WHERE SHOWN AND REQUIRED. SIZE AS REQUIRED BY THE NEC AND OTHER APPLICABLE STATE AND LOCAL CODES.

11. ALL JUNCTION BOXES SHALL BE OF CODE GAUGE AND OF THE SIZE REQUIRED TO ACCOMMODATE CONDUCTORS SHOWN.

WIRE AND CABLE:

1. ALL CONDUCTORS SHALL BE COPPER, MINIMUM #12 (EXCEPT CONTROL CONDUCTORS AND LIGHTING TIPS AS PERMITTED BY NEC, CONDUCTORS FOR SWITCHING LIGHTS SHALL NOT BE CONSIDERED CONTROL CONDUCTORS) WITH 600 VOLT TYPE "THHN-THWN" INSULATION. CONDUCTORS #10 AND LARGER SHALL BE STRANDED.

2. ALL MOTOR CONNECTIONS OUTSIDE SHALL BE DONE WITH FLEXIBLE SEALITE CONDUIT.

DISCONNECTS

1. PROVIDE SAFETY SWITCHES INDICATED AND AS REQUIRED BY CODE WITH RATINGS AS REQUIRED BY THE SYSTEM VOLTAGE, PHASE AND LOAD SERVED.

2. PROVIDE NON-FUSED SAFETY SWITCHES UNLESS SPECIFICALLY NOTED FUSED AND NEMA 1 ENCLOSURES UNLESS NOTED OTHERWISE. PROVIDE NEMA 3R ENCLOSURES IN ALL EXTERIOR OR DAMP LOCATIONS AND NEMA 4 ENCLOSURES IN ALL WET LOCATIONS STARTING SHALL HAVE OVERLOAD PROTECTION IN EACH PHASE FOR MOTORS 1/3HP OR LARGER.

3. LOCATE DISCONNECT SWITCH FOR MECHANICAL EQUIPMENT TO PERMIT SERVICING OF EQUIPMENT. PROVIDE FUSES IF REQUIRED BY MANUFACTURER OF EQUIPMENT FOR U.L. APPROVAL CHECK MOTORS FOR PROPER ROTATION. CONNECT CONDUCTORS AS REQUIRED BY MANUFACTURER.

4. EACH SAFETY SWITCH SHALL BE LABELED TO INDICATE THE EQUIPMENT SERVED AND TO INDICATE THE PANEL AND CIRCUIT BREAKER(S) SUPPLYING THE SAFETY SWITCHES MOUNTED INDOORS SHALL BE LABELED WITH LAMINATE PRESSURE SENSITIVE LABELS WITH BLACK LETTERS ON WHITE BACKGROUND. LETTER HEIGHT IS 1/8 ". SAFETY SWITCHES MOUNTED OUTDOORS SHALL BE LABELED WITH ENGRAVED BAKELITE WITH WHITE LETTERS ON BLACK BACKGROUND. LETTER HEIGHT IS 1/4"

EXECUTION

A. PROVIDE ALL WORK, EQUIPMENT AND MATERIALS INDICATED

B. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC REQUIREMENTS AND ANY ADDITIONAL LOCAL CODES.

C. ELECTRICAL IDENTIFICATION

1. PROVIDE COLOR CODING FOR FEEDERS AND BRANCH CIRCUIT CONDUCTORS AS FOLLOWS

208/120 VOLTS	PHASE	480/277 VOLTS
BLACK	A	BROWN
RED	B	ORANGE
BLUE	C	YELLOW
WHITE	NEUTRAL	GRAY
GREEN	GROUND	GREEN

2. APPLY CIRCUIT DESIGNATION LABELS OF ENGRAVED PLASTIC LAMINATED FOR DISCONNECT SWITCHES, BREAKERS, PUSHBUTTONS, PLOT LIGHTS, AND SIMILAR ITEMS FOR POWER DISTRIBUTION AND CONTROL COMPONENTS ABOVE.

D. GROUNDING

1. GROUNDING ELECTRICAL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH NEC EXCEPT WHERE GROUNDING IN EXCESS OF NEC REQUIREMENTS IS INDICATED.

2. ALL CIRCUITS SHALL CONTAIN AN INSULATED GROUNDING CONDUCTOR. THIS SHALL APPLY WHETHER INDICATED ON THE DRAWINGS OR NOT.

3. SEPARATELY DERIVED SYSTEMS REQUIRED BY NEC TO BE GROUNDED SHALL BE GROUNDED AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.

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E-4

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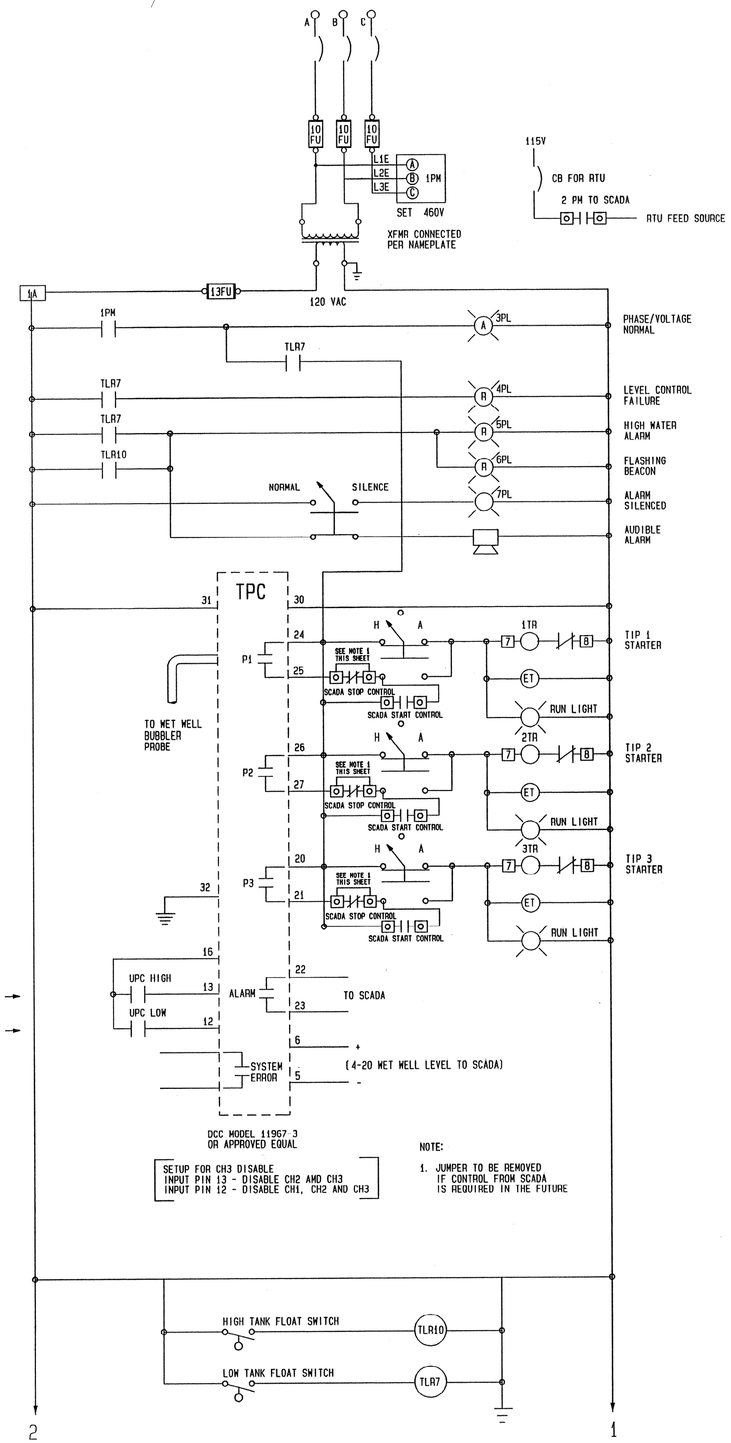
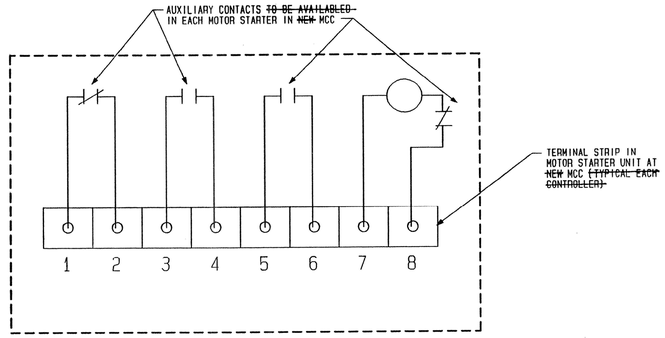
ENGINEER OF RECORD CERTIFICATION:

I HEREBY CERTIFY THAT THIS "AS-BUILT PLAN" IS A TRUE AND CORRECT REPRESENTATION OF THE CONSTRUCTION OF THIS PROJECT AS DESIGNED BY ME.
THIS CERTIFICATION IS BASED UPON MY PERIODIC FIELD INSPECTIONS DURING CONSTRUCTION, ATTENDANCE TO WEEKLY PROJECT CONSTRUCTION MEETING SAND REVIEW OF PRODUCT SUBMITTALS AND CONTRACTOR'S RECORD DRAWINGS.

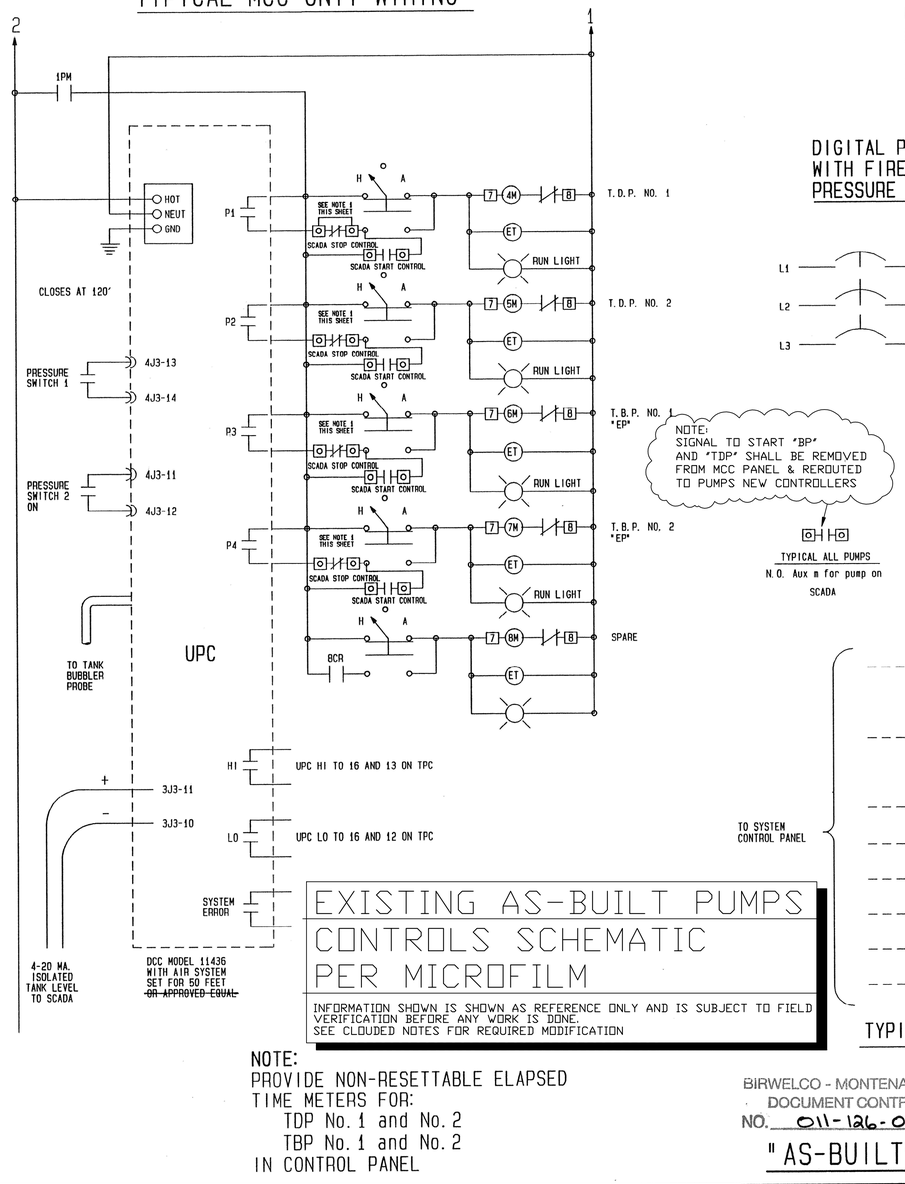
DATE: 8/11/97 BY: Rodolfo J. Vargas, PE # 35648

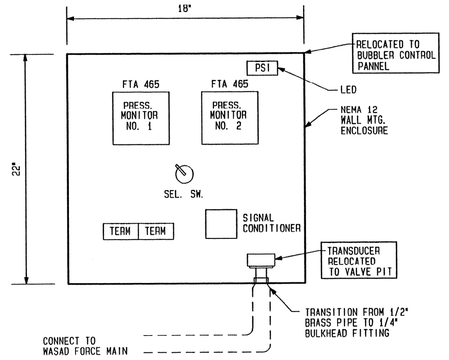
TO MCC -480V





TYPICAL MCC UNIT WIRING





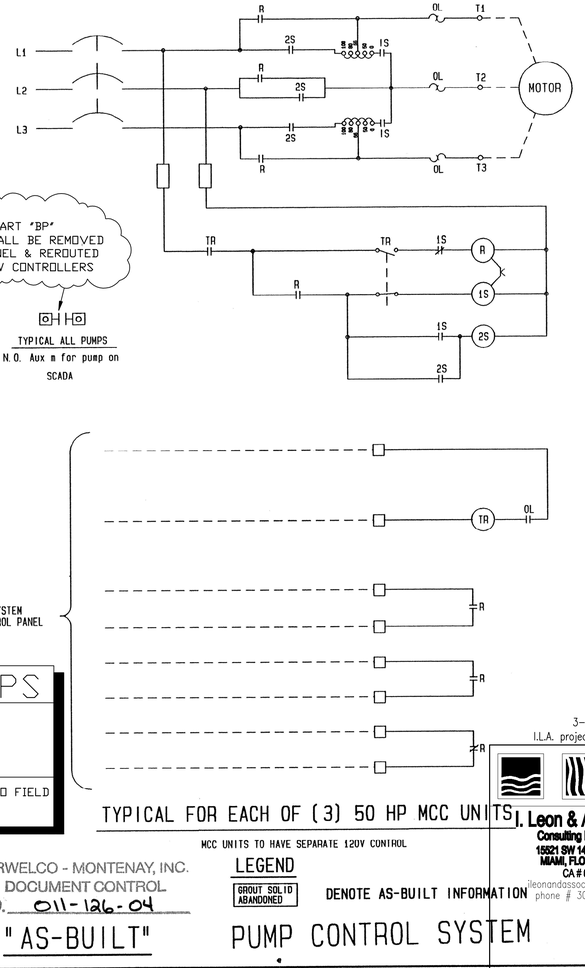
PRESSURE MONITOR SETTINGS

	LEAD	LAG
CONTACT CLOSES (PSI)	46	46
CONTACT OPENS (PSI)	48	48
MIN. RUN TIME (MIN.)	10	10

NOTE:
1. CONTINOUS DUTY LEAD PUMP
2. LAG PUMP CYCLES ON BASED ON DECLINING PRESSURE CYCLES OFF AFTER MIN. RUN TIME.

NOTE:
PRESSURE TRANSDUCER SHALL BE RESET FOR NEW F.M. WORKING PRESSURES
CONTACT CLOSES - 52 PSI
CONTACT OPENS - 54 PSI

DIGITAL PRESSURE CONTROL PANEL WITH FIRETROL (2) FTA 465 PRESSURE MONITOR (OR APPROVED EQUAL)



EXISTING AS-BUILT PUMPS CONTROLS SCHEMATIC PER MICROFILM

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SEE CLOUDED NOTES FOR REQUIRED MODIFICATION

NOTE:
PROVIDE NON-RESETTABLE ELAPSED TIME METERS FOR:
TDP No. 1 and No. 2
TBP No. 1 and No. 2
IN CONTROL PANEL

TYPICAL FOR EACH OF (3) 50 HP MCC UNITS

MCC UNITS TO HAVE SEPARATE 120V CONTROL

BIRWELCO - MONTENAY, INC.
DOCUMENT CONTROL
NO. 011-126-04
"AS-BUILT"

LEGEND
GROUT SOLID ABANDONED
DENOTE AS-BUILT INFORMATION

PUMP CONTROL SYSTEM

3-11-13
I.L.A. project # 1310.00

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GUSTAVO ALONZO
Licensed Engineer no. 62466
State of Florida

PROJECT NAME

Resource Recovery Lift Station
6990 N.W. 97th AVENUE
Miami, FL 33178

CAS PROJECT NUMBER
1201

DATE
JANUARY 2013

REVISION

A	ISSUE FOR PERMIT

DRAWN BY
J.F.

SCALE
AS SHOWN

SHEET TITLE

EC-1

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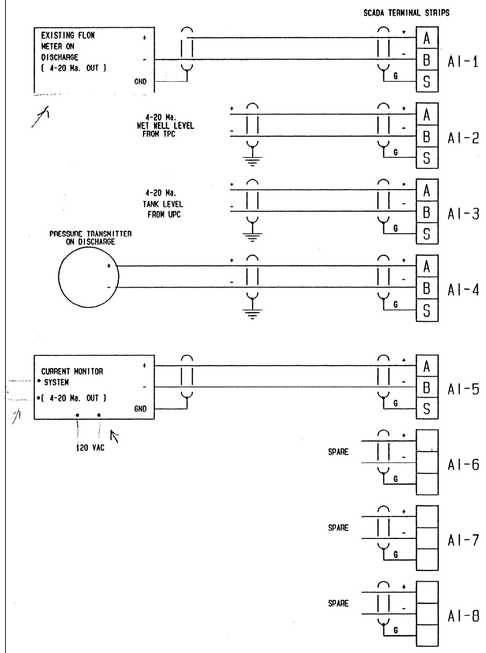
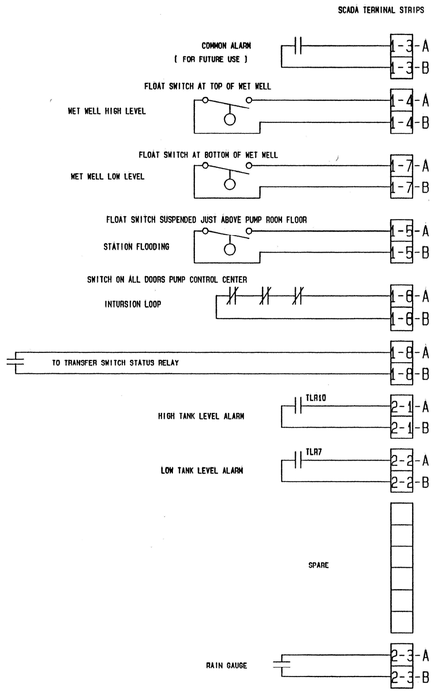




SCADA SYSTEM REQUIREMENTS:

ANALOG STATUS

A. I.

WETWELL LEVEL	4-20 ma
LEACHATE STORAGE TANK LEVEL	4-20 ma
FORCE MAIN PRESSURE	4-20 ma
FLOW METER	4-20 ma
AMP TRANSMITTER	4-20 ma (TO SHOW CURRENT ON NORMAL OR EMERGENCY POWER)

D. O.

ALL PUMPS	PUMP ON	N. O. IN PARRALLEL WITH AUDIO CONTROL CONTACT
	PUMP OFF	N.C. IN SERIES WITH STOP CIRCUIT BUT NOT TO INTERFERE WITH LOCAL HAND OPERATION OR ANY SAFETY DEVICE

COMMON ALARM RESET N. O.

RTU 115V SOURCE THROUGH PHASE MONITOR N. O. CONTACT

CB — PM — RTU

PEAK MANAGEMENT SYSTEM
RESOURCE RECOVERY

THE FOLLOWING STATUS PRINTS WILL BE REQUIRED

D. I.

EXISTING PUMP #1 ON	N. O. CONTACT	N AUX CONTACT
EXISTING PUMP #2 ON	N. O. CONTACT	N AUX CONTACT
TANK INFLOW PUMP #1	N. O. CONTACT	N AUX CONTACT
TANK INFLOW PUMP #2	N. O. CONTACT	N AUX CONTACT
TANK INFLOW PUMP #3	N. O. CONTACT	N AUX CONTACT
GENERATOR RUN (FROM AUX OF TRANSFER SWITCH TO PROVE NOT ONLY RUNNING BUT ENERGIZED AND TRANSFERRED		N. O. CONTACT

ALARM POINTS
D. I.

HIGH LEVEL ALARM (WETWELL)	N. O.
LOW LEVEL ALARM (WETWELL)	N. O.
HIGH LEVEL ALARM (LEACHATE TANK)	N. O.
LOW LEVEL ALARM (LEACHATE TANK)	N. O.
COMMON ALARM	N. O.

SEQUENCE OF OPERATION:

REFER TO "PUMP LEVEL CONTROL SCHEMATICS" ON SHEET M-5

1. NORMAL OPERATION:

PUMP OPERATION DURING THIS CONDITION A & B IS GOVERNED BY THE "WET WELL LEVEL CONTROL SYSTEM" AND TANK LEVEL CONTROL SYSTEM.

CONDITION "A":

DURING DRY PERIODS WHEN THE WET WELL LEVEL FLUCTUATES BETWEEN ELEVATION (-) 1.50 NGVD AND ELEVATION 0.00, THE FLOWS FROM THE SYSTEM WILL BY-PASS THE TANK BY TURNING "ON" ONE OF THE EXISTING TANK BY-PASS PUMPS.

CONDITION "B":

IF DURING MODERATE RAINFALL EVENTS THE WET WELL LEVEL EXCEEDS ELEVATION 0.00, THE TANK BY-PASS PUMP IS TURNED "OFF" AND ALL THE FLOW WILL BE DIRECTED TO THE TANK BY TURNING "ON" ONE (1) TANK INFLOW PUMP.

IF DURING INTENSE RAINFALL EVENTS THE WET WELL LEVEL EXCEEDS ELEVATION 1.00, ALL THE FLOW WILL BE DIRECTED TO THE TANK BY TURNING "ON" TWO (2) TANK INFLOW PUMPS.

DURING CONDITION "B" THE TANK LEVEL WILL BEGIN TO RISE. WHEN THE TANK LEVEL REACHES ELEVATION 11.50, THE TANK DISCHARGE PUMP(S) WILL BE ACTIVATED ACCORDING TO THE FOLLOWING CRITERIA:

a) WHENEVER TANK LEVEL IS BELOW ELEVATION 35.00, TANK DISCHARGE PUMPS "TDP" WILL BE ACTIVATED ACCORDING TO FORCE MAIN PRESSURE.

IF FM PRESSURE < 48 PSI = ONE "TDP" ON
IF FM PRESSURE > 48 PSI = TWO "TDP" ON

b) WHENEVER TANK LEVEL REACHES OR EXCEEDS ELEVATION 35.00, ONLY ONE TANK DISCHARGE PUMP WILL BE "ON".

DURING CONDITION "B" THE TANK LEVEL WILL FLUCTUATE AS DETERMINED BY INFLOW AND OUTFLOW RATES.
DURING LESSER RAINFALL EVENTS TANK LEVEL WILL EVENTUALLY DROP TO ELEVATION 10.50 AND THE TANK DISCHARGE PUMP(S) WILL TURN "OFF" AS THE RAINFALL EVENT RECEDES. DURING INTENSE STORM EVENTS THE TANK LEVEL WILL CONTINUE TO RISE.

2. TANK HIGH LEVEL OPERATION:

PUMP OPERATION DURING THIS CONDITION IS DETERMINED BY THE "TANK LEVEL CONTROL SYSTEM".

CONDITION "C"

WHEN THE TANK LEVEL REACHES ELEVATION 50.00 THE WET WELL LEVEL CONTROL SYSTEM IS OVERRIDDEN. ONLY ONE (1) TANK INFLOW PUMP REMAINS "ON", ONE TANK DISCHARGE PUMP WILL REMAIN "ON" AND THE TANK BY-PASS PUMPS REMAIN "OFF".

CONDITION "D":

IF TANK LEVEL REACHES ELEVATION 58.00 ALL TANK INFLOW PUMPS WILL BE TURNED "OFF", ONE TANK DISCHARGE PUMP WILL CONTINUE TO OPERATE, AND ONE TANK BY-PASS PUMP WILL BE TURNED "ON". TANK LEVEL SHOULD BEGIN TO DROP AT THIS POINT.

CONDITION "E": (EMERGENCY)

IF TANK LEVEL CONTINUES TO RISE AFTER ELEVATION 58.00 IS REACHED, IT IS AN INDICATION OF A BUBBLER SYSTEM FAILURE AND THE TANK INFLOW PUMPS WERE NOT TURNED "OFF" DURING CONDITION "D". IF TANK LEVEL REACHES ELEVATION 59.00 THE BACK-UP FLOAT LEVEL SYSTEM AT THE TANK WILL ANNOUNCE A HIGH LEVEL CONDITION AND THE TANK INFLOW PUMPS SHOULD BE IMMEDIATELY TURNED "OFF" BY AN OPERATOR. AT THIS POINT THE TANK OVERFLOW PIPE SHOULD BE FLOWING FULL, ONE TANK DISCHARGE PUMP WILL BE "ON", AND ONE TANK BY PASS PUMP WILL BE "ON". OPERATOR MUST INSURE THAT ONE TANK DISCHARGE PUMP AND ONE TANK BY-PASS PUMP ARE "ON".
BUBBLER LEVEL CONTROL SYSTEM MUST BE THOROUGHLY CHECKED AND REPAIRED.

CONDITION "F":

IF LEVEL CONTROL SYSTEM PERFORMED CORRECTLY DURING CONDITION "D", THE TANK LEVEL WILL DROP. WHEN TANK LEVEL REACHES ELEVATION 35.00 THE SYSTEM WILL AUTOMATICALLY RESUME TO THE "WET WELL LEVEL CONTROL SYSTEM" AND THE SYSTEM WILL AUTOMATICALLY REVERT TO CONDITION "B".

MANUAL OPERATION:

IN THE EVENT OF FAILURE OF THE DIGITAL CONTROL SYSTEM DURING AN INTENSE RAINFALL EVENT, THE FOLLOWING STEPS MUST BE TAKEN IN ORDER TO MANUALLY OPERATE THE PUMPS UNTIL AUTOMATIC OPERATION CAN BE RESUMED.

STEP 1: SYSTEM OPERATOR MUST VERIFY THE LEVEL AT THE TANK. THIS SHOULD BE DONE BY DIRECT READING OF THE TANK LEVEL INDICATOR.

STEP 2: IF THE TANK IS LESS THAN ONE HALF (1/2) FULL, TWO (2) TANK INFLOW PUMPS MUST BE MANUALLY TURNED "ON" AND TWO (2) TANK DISCHARGE PUMPS MUST BE MANUALLY TURNED "ON". EXISTING TANK BY-PASS PUMPS MUST BE TURNED "OFF".

IF TANK LEVEL REACHES THE ONE HALF (1/2) LEVEL HIGHER IMMEDIATELY FOLLOW DIRECTIONS ON STEP 3.

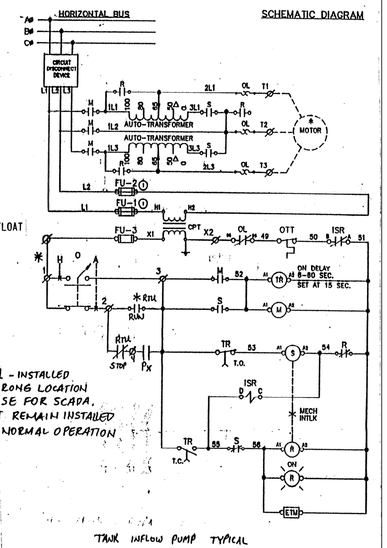
STEP 3: TANK LEVEL MUST BE MONITORED FREQUENTLY DURING MANUAL OPERATION. IF TANK REACHES THE ONE HALF (1/2) FULL LEVEL OR HIGHER, ALL TANK INFLOW PUMPS MUST BE MANUALLY TURNED "OFF". TWO TANK DISCHARGE PUMPS MUST REMAIN "ON" AND ONE OF THE EXISTING TANK BY-PASS PUMPS MUST BE TURNED "ON". TANK LEVEL SHOULD BEGIN TO DROP AT THIS TIME.

STEP 4: WHEN TANK LEVEL REACHES THE ONE THIRD (1/3) FULL LEVEL, STEP 2 MUST BE REPEATED. THE TANK LEVEL WILL AGAIN RISE.

STEPS 1 THRU 4 MUST BE FOLLOWED FOR AS LONG AS THE INTENSE RAINFALL EVENT CONTINUES. IF THE RAINFALL EVENT ENDS, THEN THE CONDITION ON STEP 3 MUST REMAIN UNTIL THE TANK IS EMPTY, AT WHICH TIME THE TANK DISCHARGE PUMPS MUST BE TURNED "OFF" AND ONLY THE TANK BY-PASS PUMP WILL REMAIN "ON"

THE TANK AND WET WELL AUTOMATIC LEVEL CONTROL SYSTEMS MUST BE IMMEDIATELY CHECKED AND REPAIRED IN ORDER TO RESUME AUTOMATIC MODE AS SOON AS POSSIBLE.

SCHEMATIC DIAGRAM



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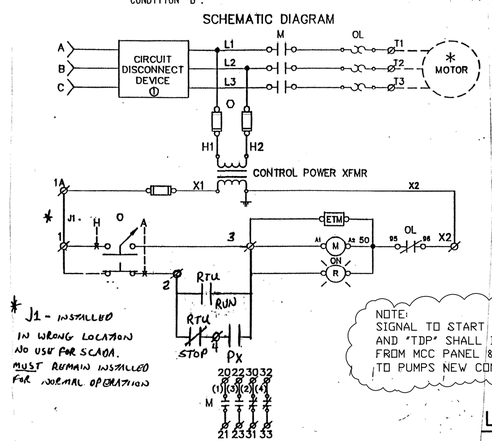

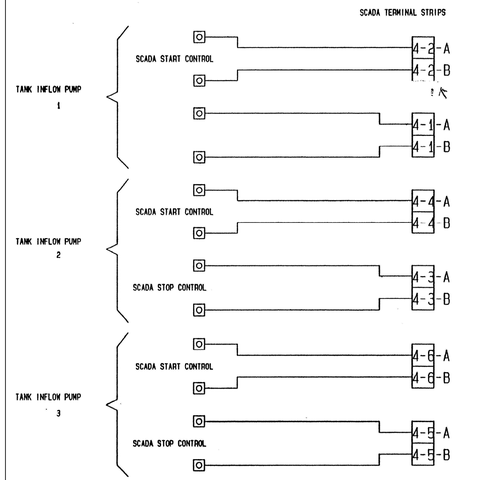

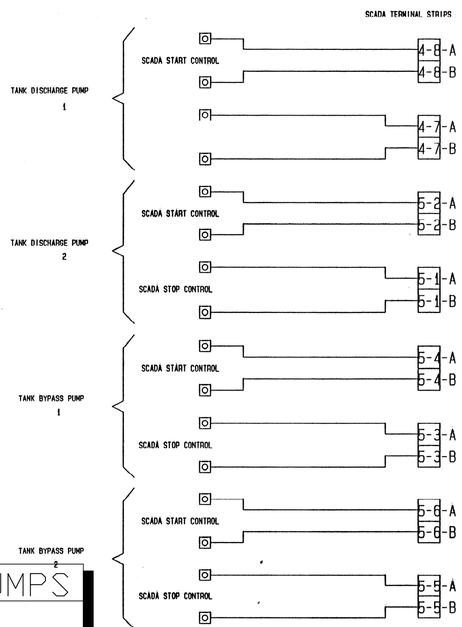

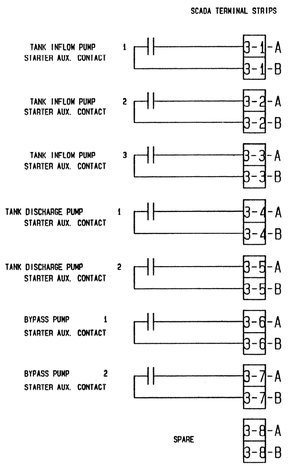

RAIN GAUGE — RTU

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SEE CLOUDED NOTES FOR REQUIRED MODIFICATION

ENGINEER OF RECORD CERTIFICATION:

**I HEREBY CERTIFY THAT THIS "AS-BUILT PLAN" IS A TRUE AND CORRECT REPRESENTATION OF THE CONSTRUCTION OF THIS PROJECT AS DESIGNED BY ME.
THIS CERTIFICATION IS BASED UPON MY PERIODIC FIELD INSPECTIONS DURING CONSTRUCTION, ATTENDANCE TO WEEKLY PROJECT CONSTRUCTION MEETINGS AND REVIEW OF PRODUCT SUBMITTALS AND CONTRACTOR'S RECORD DRAWINGS.**

DATE: 8/11/07 BY: Rodolfo J. Vargas PE # 35548

"AS-BUILT"

LEGEND

GROUT SOLID ABANDONED

DENOTE AS-BUILT INFORMATION

3-11-13
I.L.A. project # 1310.00

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BIRWELCO - MONTEREY, INC.
DOCUMENT CONTROL
NO. 011-129-03

PUMP CONTROL SYSTEM

Ismael Leon, P.E., # 40168

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GUSTAVO ALONZO
Licensed Engineer no. 62466
State of Florida

PROJECT NAME

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Miami, FL 33178

CAS PROJECT NUMBER
1201

DATE
JANUARY 2013

REVISION

A	ISSUE FOR PERMIT

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J.F.

SCALE
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SHEET TITLE

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