

# GENERAL NOTES

- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS. ALL CONSTRUCTION SHALL BE COMPLETED FOLLOWING CURRENT CITY STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE NOTICE TO UTILITY COMPANIES A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, AS FOLLOWS:

KANSAS ONE-CALL 687-2470

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

AT&T	1-800-246-8464
BLACK HILLS ENERGY (GAS)	1-800-594-8989
CITY OF WICHITA WATER & SEWER	1-316-219-8921
CITY OF WICHITA STORMWATER	1-316-268-4090
CITY OF WICHITA TRAFFIC	1-316-268-4034
COX COMMUNICATIONS	1-888-249-3530
KANSAS GAS SERVICE	1-888-462-4950
WESTAR ENERGY	1-800-544-4857

- UTILITY SERVICE LINES, POLES, ETC. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS, IN THE OPINION OF THE ENGINEER, THAT WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WILL REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE CITY ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS NOTICE PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
- THE ENGINEERING DIVISION SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE. VALVE BOXES AND WATER METERS WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO MATCH FIELD GRADES BY THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY THE CONSULTANT ENGINEER AND TOM MASON AT 316-268-4574 WITH THE CITY OF WICHITA WITH THE ANTICIPATED CONSTRUCTION START DATE AND NOTIFY THEM OF PROJECT COMPLETION. STAKING AND INSPECTION FOR THIS PROJECT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- IF TRAFFIC WILL BE IMPACTED BY CONSTRUCTION, A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY TRAFFIC ENGINEER, BRIAN COON AT [traffic@wichita.gov](mailto:traffic@wichita.gov) BEFORE CONSTRUCTION CAN BEGIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES TO FACILITATE CONSTRUCTION. ALL CONSTRUCTION ZONE MARKINGS AND SIGNAGE SHALL CONFORM TO THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS PUBLISHED BY THE US DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. ALL COSTS ASSOCIATED WITH CONSTRUCTION MARKINGS AND SIGNAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL ELEVATIONS SHOWN ARE NAVD88.
- ALL AREAS DISTURBED DURING CONSTRUCTION THAT WILL NOT BE UNDER PROPOSED PAVEMENT SHALL BE RESTORED TO MATCH EXISTING CONDITIONS.
- ANY SIDEWALK, DRIVE APPROACH, OR STREET PAVEMENT REMOVED TO CONSTRUCT PROJECT MUST HAVE A PAVEMENT CUT PERMIT AND BE REPLACED BY CITY CONTRACTOR. PERMITS CAN BE OBTAINED BY CALLING 316-268-4501 OR 316-268-4480.
- CITY MAINTENANCE OF STORM SEWER ENDS AT THE LAST STRUCTURE IN THE EASEMENT OR RIGHT-OF-WAY.
- FOLLOW THE LINK BELOW FOR CONSTRUCTION DETAILS ON SPECIFIC CITY OF WICHITA STANDARD DETAILS: <http://www.wichita.gov/PWU/Regulations.aspx>
- CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
- EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
- A PORTION OF EXCESS EXCAVATED MATERIAL SHALL BE MOUNDING AROUND MANHOLES WHICH EXTEND MORE THAN ONE (1) FOOT ABOVE THE EXISTING GROUND. SUCH MOUND SHALL BE CONSTRUCTED WITH NEW DEVELOPMENT A SIX (6) FOOT DIAMETER FLAT TOP WITH 4 TO 1 SIDE SLOPES DOWN TO THE ORIGINAL GROUND. THE ELEVATION OF THE FLAT TOP OF THE MOUND SHALL BE 0.4 FOOT BELOW THE TOP OF THE MANHOLE.
- GEOTECHNICAL REPORT AVAILABLE UPON REQUEST.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
- THE INSPECTING FIRM SHALL SUBMIT TO THE CITY STORMWATER MAINTENANCE DIVISION A DIGITAL COPY OF THE CITY INSPECTION OF THE CONDUITS AND STRUCTURES FOLLOWING CONSTRUCTION. THE DIGITAL FILE FORMATION SHALL BE COMPATIBLE WITH THE CITY INPUT TEMPLATE. A COPY OF THE TEMPLATE IS AVAILABLE UPON REQUEST AT 316-268-4090.
- WORK DONE UNDER THIS PROJECT IS SUBJECT TO THE CITY OF WICHITA REQUIREMENTS FOR "CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENTS BY PRIVATE CONTRACT". THE CONTRACTOR SHALL BE FAMILIAR AND COMPLY WITH ALL OF THE REQUIREMENTS, INCLUDING BONDING, INSPECTION, TESTING, NOTIFICATION, PROVIDING AS-BUILT DRAWINGS, PAYING FOR ALL NECESSARY CONNECTIONS, AND/OR STREET REPAIR FEES AND PROVIDING PIPE MATERIAL AND OTHER CERTIFICATIONS.
- DEVELOPER FOR THIS PROJECT IS:  
THE INDEPENDENT SCHOOL  
8317 EAST DOUGLAS  
WICHITA, KS 67207  
CHUCK PENDRY  
417-294-0990

# PRIVATE STORM WATER SEWER

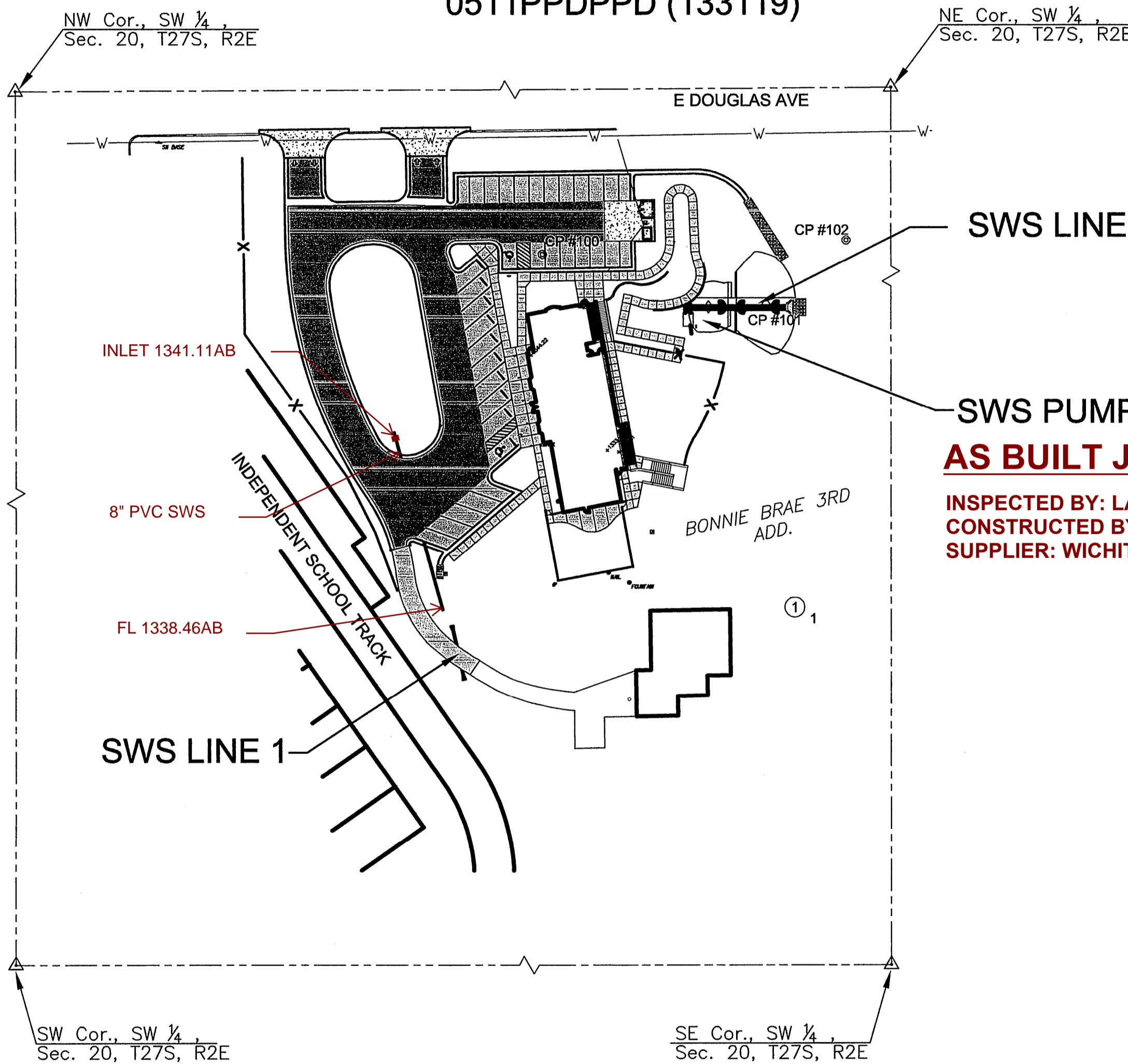
TO SERVE

# TIS - ELC

8427 E. DOUGLAS  
WICHITA, KS 67207

THE CITY OF WICHITA, KANSAS  
GARY JANZEN, P.E. - CITY ENGINEER

PROJECT NO.  
0511PPDPPD (133119)



## CONTROL POINTS

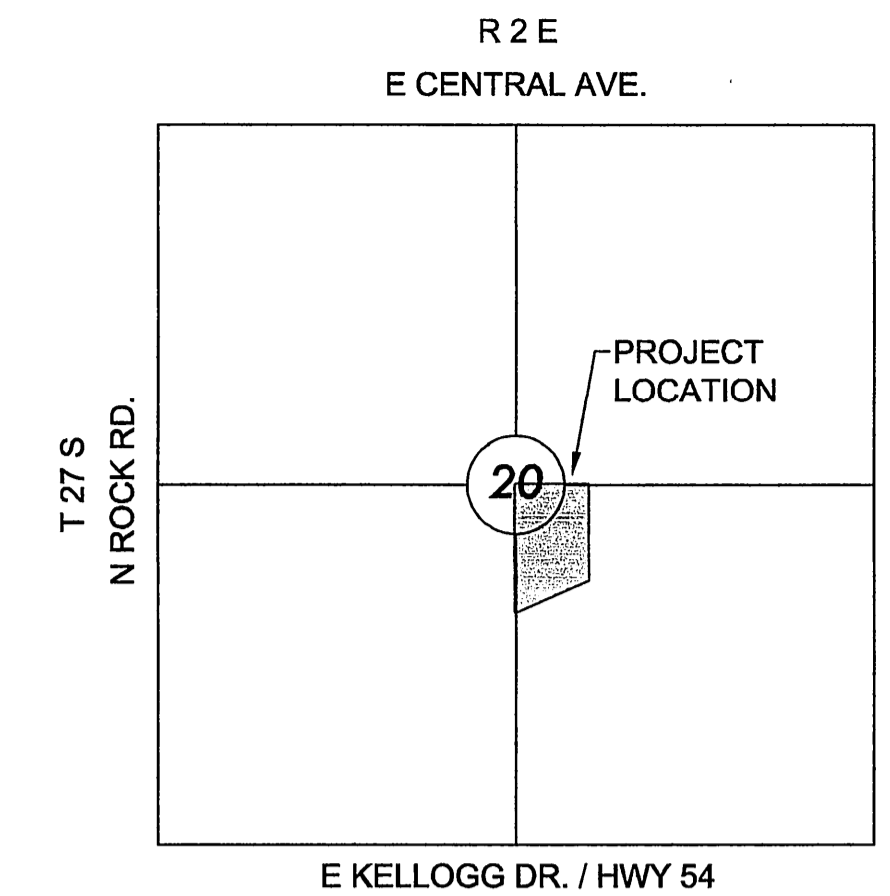
1) THE PROJECT HORIZONTAL DATUM IS BASED ON THE NAD83, KANSAS STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, (US SURVEY FEET DEFINITION), WITH A COMBINED ADJUSTMENT FACTOR (CAF) OF 1.000120014. ALL COORDINATE AND DIMENSIONS SHOWN ON THESE PLANS ARE MODIFIED TO GROUND VALUES.

THE FOLLOWING EQUATIONS CAN BE USED FOR CONVERSION:  
GROUND COORDINATES TO STATE PLANE COORDINATES = GROUND X 1/CAF  
STATE PLANE COORDINATES TO GROUND COORDINATES = STATE PLANE X CAF

2) THE VERTICAL DATUM USED IS NAVD88. CONTROL

PT. NO.	NORTH	EAST	ELEV.	DESCRIPTION
100	1686281.791	1678348.859	1344.45	PK-NAIL W/ MKEC CONTROL PT. ID WASHER
101	1686248.953	1678469.664	1332.13	5/8" REBAR W/ 2" ALUMINUM MKEC CONTROL PT. ID CAP
102	1686290.358	1678531.861	1332.82	5/8" REBAR W/ RED MKEC CONTROL PT. ID CAP
103	1686252.371	1678678.924	1338.11	PK-NAIL W/ MKEC CONTROL PT. ID WASHER
104	1686175.519	1678696.229	1337.11	PK-NAIL W/ MKEC CONTROL PT. ID WASHER

UTILITIES:  
THE UNDERGROUND UTILITIES SHOWN HEREON WERE MARKED IN THE FIELD BY THE UTILITY OWNERS IN RESPONSE TO KANSAS ONE CALL TICKET NUMBERS: 17474956 AND 17474975. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



## VICINITY MAP

No Scale

## INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SWS LINE 1
3	SWS LINE 2 & 3
4	LIFT STATION DETAILS

SEE GENERAL NOTE #13 FOR CITY OF WICHITA STANDARD BMP LINK

## LOT LEGAL DESCRIPTION

LOT 1 EXC BEG NW COR E 695 FT S 230 FT SE 125 FT SELY 338.94 FT SE 145 FT TO SELY LI SW 280 FT TO CUR WLY ALG CUR 157.17 FT NW 696.98 FT TO CUR NWLY ALG CUR 504.16 FT N 99.99 FT TO BEG BLOCK 1 BONNIE BRAE 3RD. ADD.

## Stormwater Certification: Redevelopment

These construction plans were prepared in accordance with the current Stormwater Management Regulations as set forth in the City of Wichita's Stormwater Management Ordinance 16.32 and the policies/guidelines presented in the Wichita/Sedgwick County Stormwater Manual.

Disturbed Area=1.61 Ac.  
Existing Impervious=0.66 Ac.  
Proposed New Impervious=0.66 Ac.  
Water Quality Treatment: "Offsite BMP Program"  
Downstream Channel Protection: N/A  
Detention: N/A - 10% Rule



APPROVED AS NOTED  
BY WICHITA PUBLIC WORKS ENGINEERING  
AND STORMWATER DIVISION

Engineering *Judianne Kellyman* 5-1-18  
Storm Water *Joe Frutkin PE* 4/23/18

## NOTE TO CONTRACTORS

Inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer in the state of Kansas. No work shall be performed by the Contractor without such inspection, nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the current City of Wichita Specifications and Standards and Special Provisions. (on file and available at Wichita.gov).

An approved copy of these plans signed by City staff are required on-site.



PRIVATE STORM WATER SEWER PLAN FOR  
**TIS - ELC**  
THE INDEPENDENT SCHOOL, WICHITA, KANSAS

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## TITLE SHEET

PROJECT NO.	0511PPD
DATE	03-22-18
SCALE	1"=150'

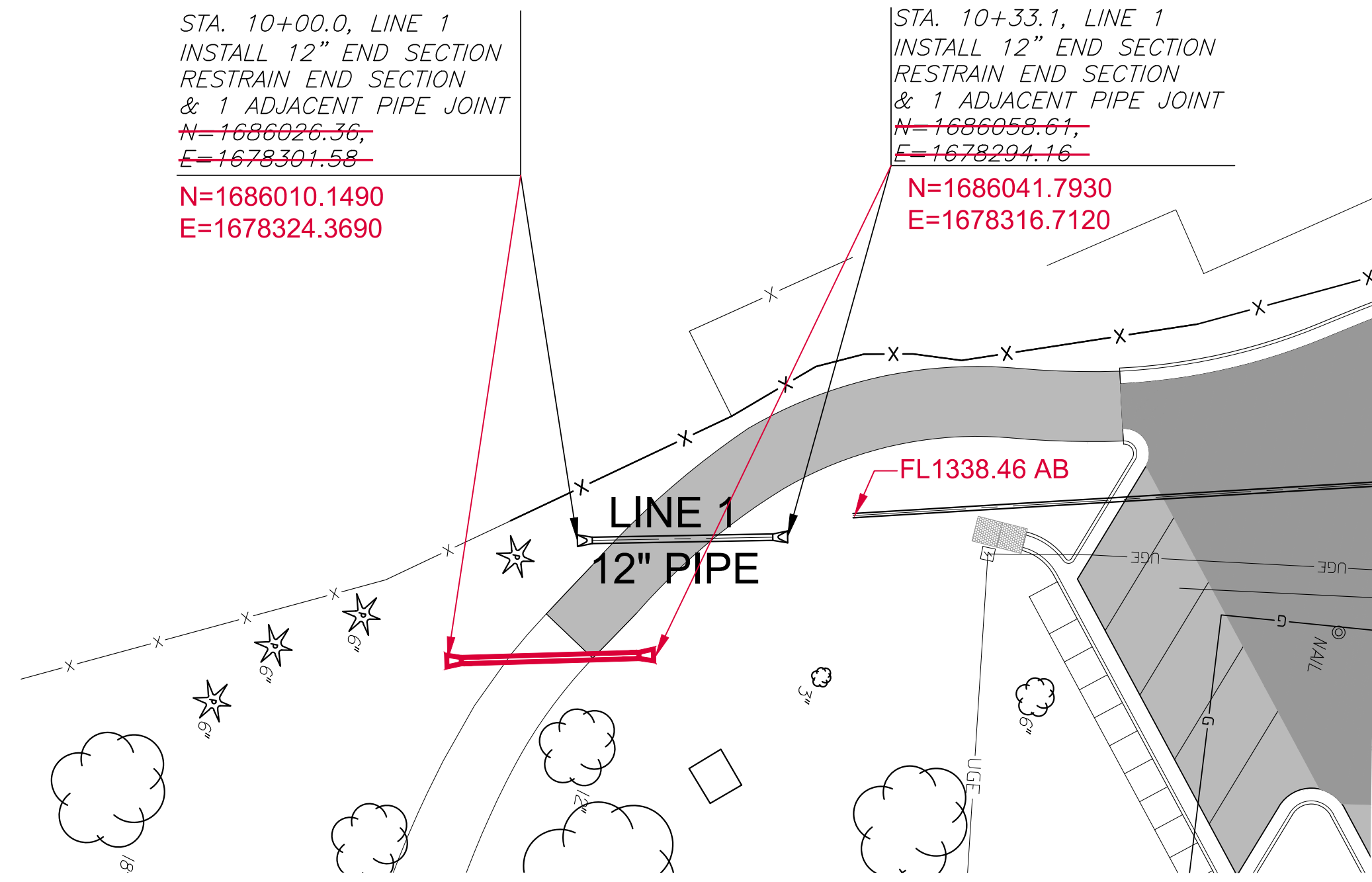
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SLF	SLF	AJK

NO.	REVISION	DATE
0	IFC	03-22-18

SHEET NO.  
01 OF 07

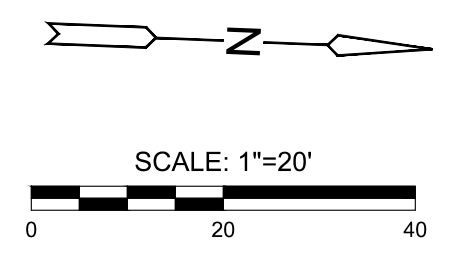
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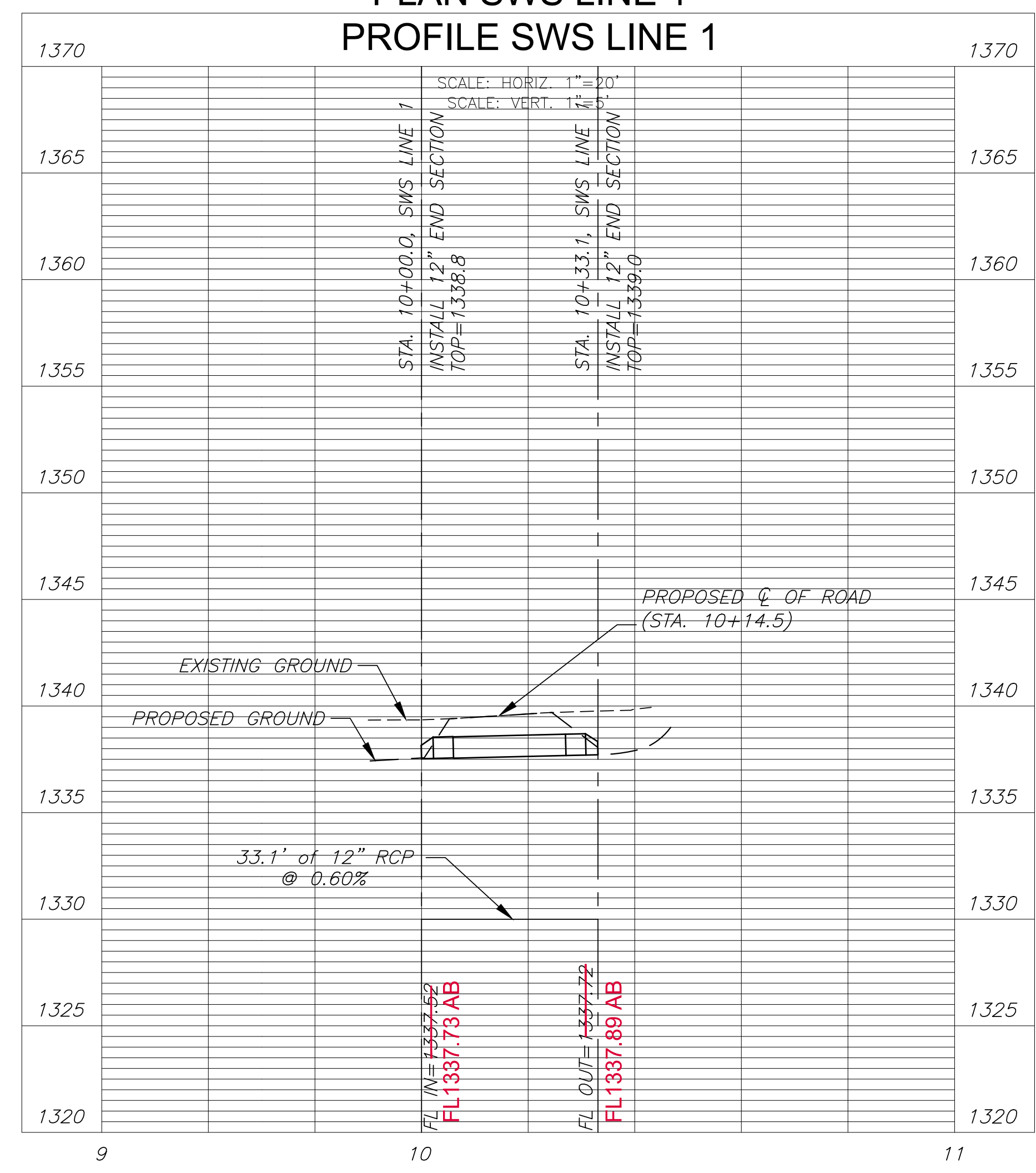


**NOTE:**  
CONTRACTOR TO VERIFY THE DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

**AS-BUILT PLANS - JANUARY 2020**



**PLAN SWS LINE 1  
PROFILE SWS LINE 1**



STORM WATER SEWER PLAN FOR

**TIS - ELC**

THE INDEPENDENT SCHOOL, WICHITA, KANSAS

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**SWS LINE 1**

PROJECT NO.	0511PPD	
DATE	03-22-18	
SCALE	1"=20'	
DESIGNED	DRAWN	CHECKED
SLF	SLF	AJK

NO.	REVISION	DATE
0	IFC	03-22-18

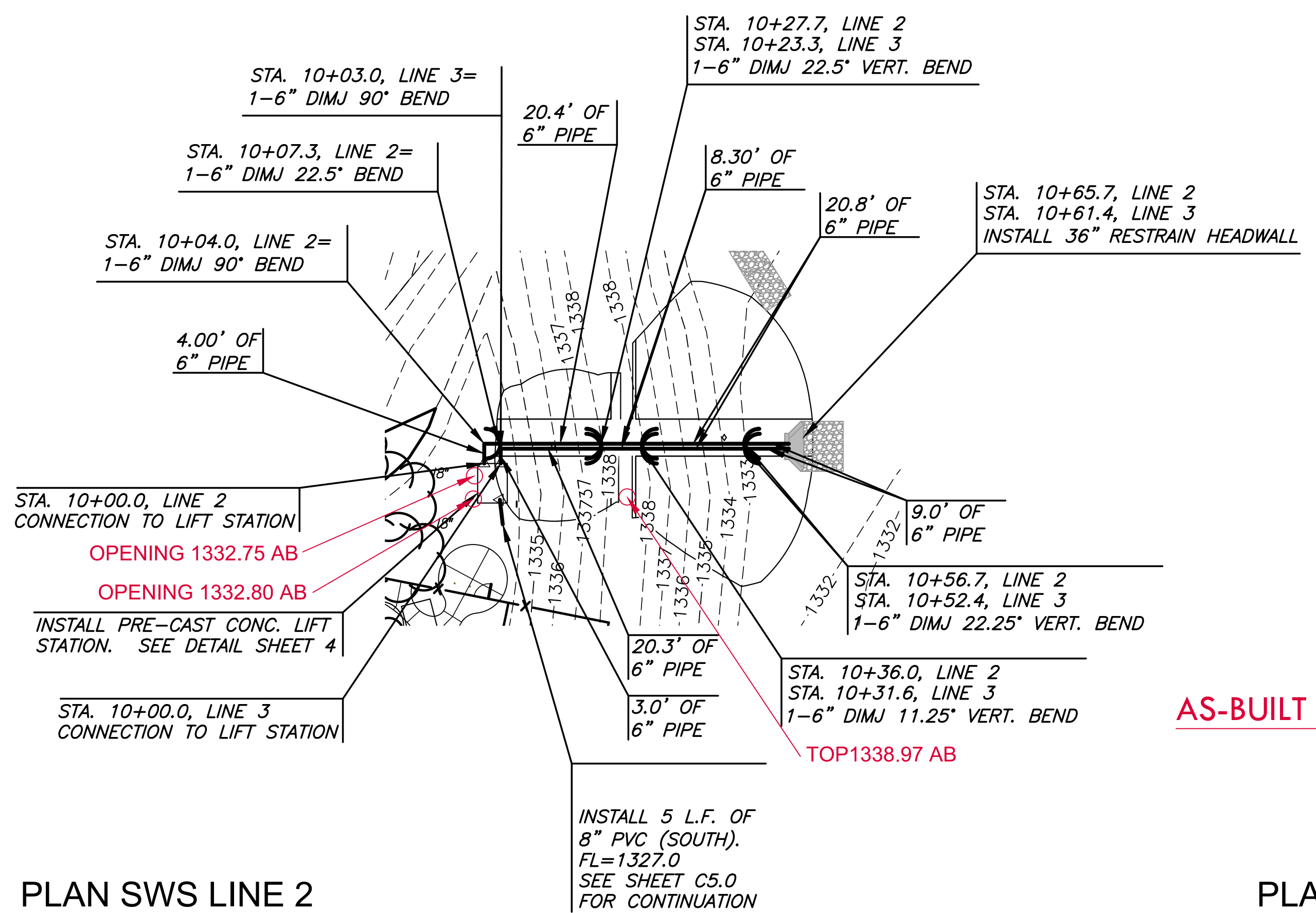
SHEET NO.  
**02 OF 07**

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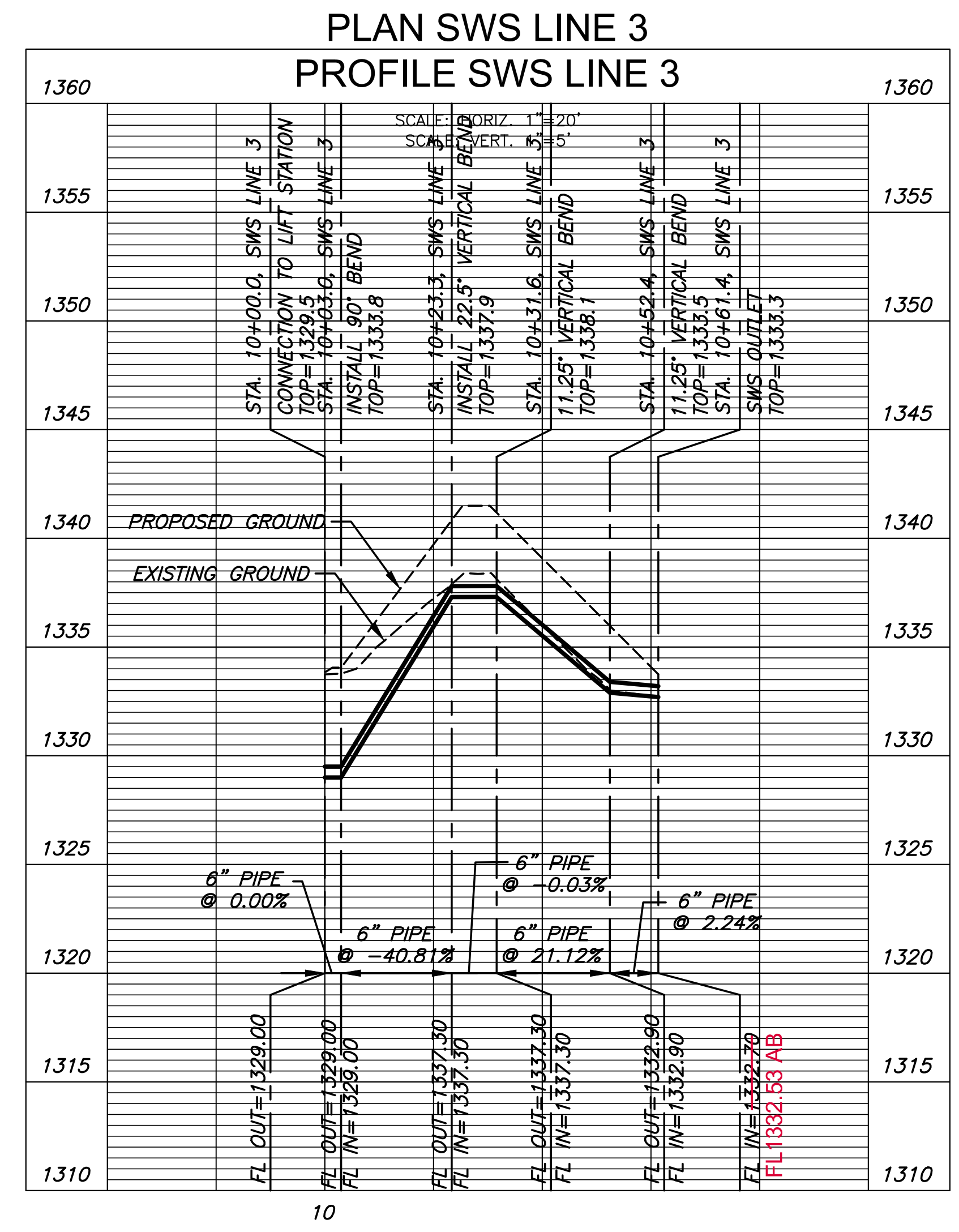
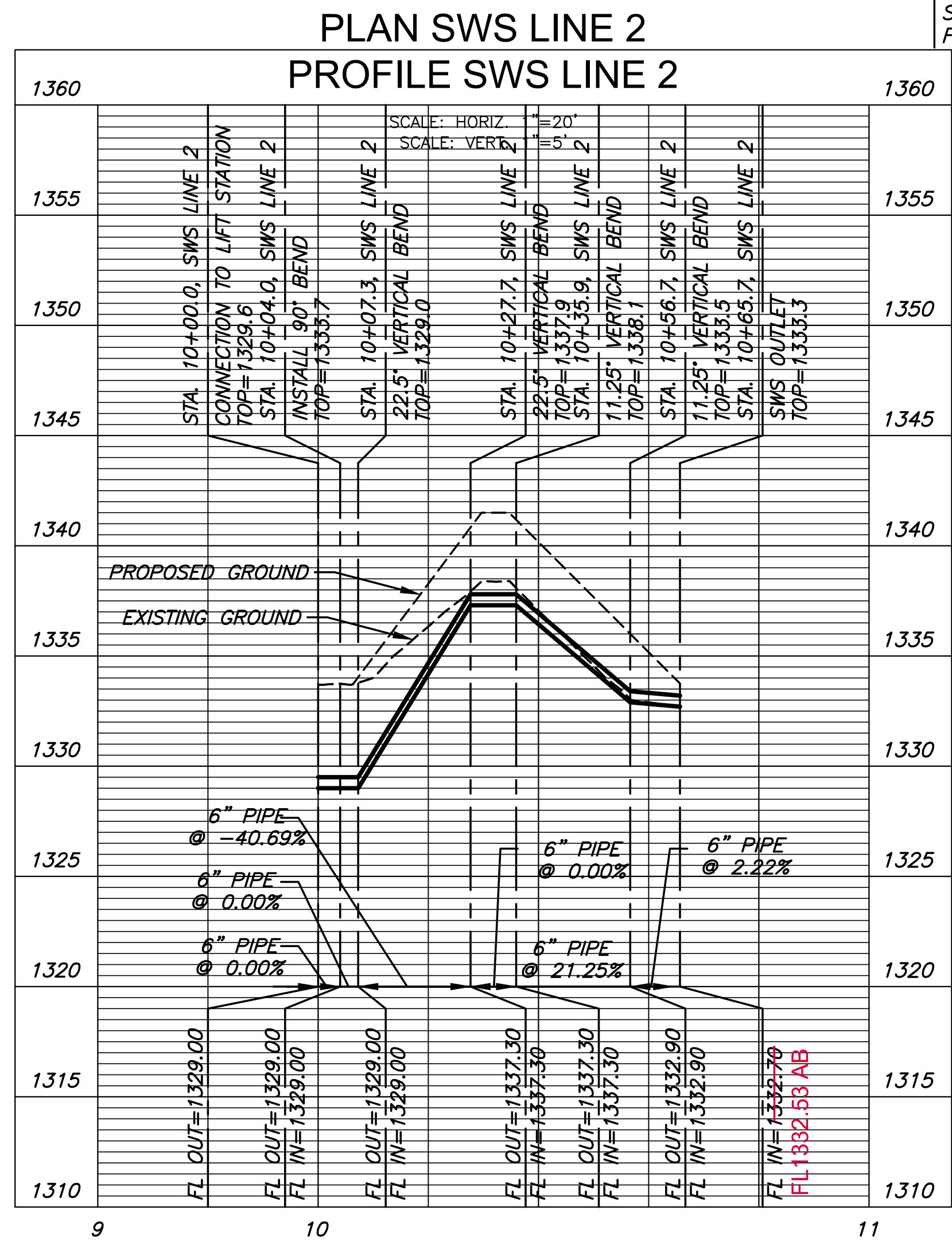
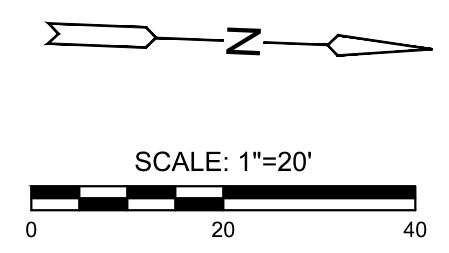
SWS LINE 2 & 3

PROJECT NO.	0511PPD	
DATE	03-22-18	
SCALE	1" = 20'	
DESIGNED	RWB	
DRAWN	RWB	
CHECKED	AJK	
NO.	REVISION	DATE
0	IFC	03-22-18

- NOTE:**
- CONTRACTOR TO VERIFY THE DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - ALL PIPE SHALL BE FULLY RESTRAINED.
  - FORCE MAIN DISCHARGE PIPES SHALL BE FITTED WITH A TIDEFLEX TF-1 OR APPROVED EQUAL CHECK VALVE TO KEEP DEBRIS RODENTS AND OTHER ITEMS FROM ENTERING THE LINE. CHECK VALVE SHOULD BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

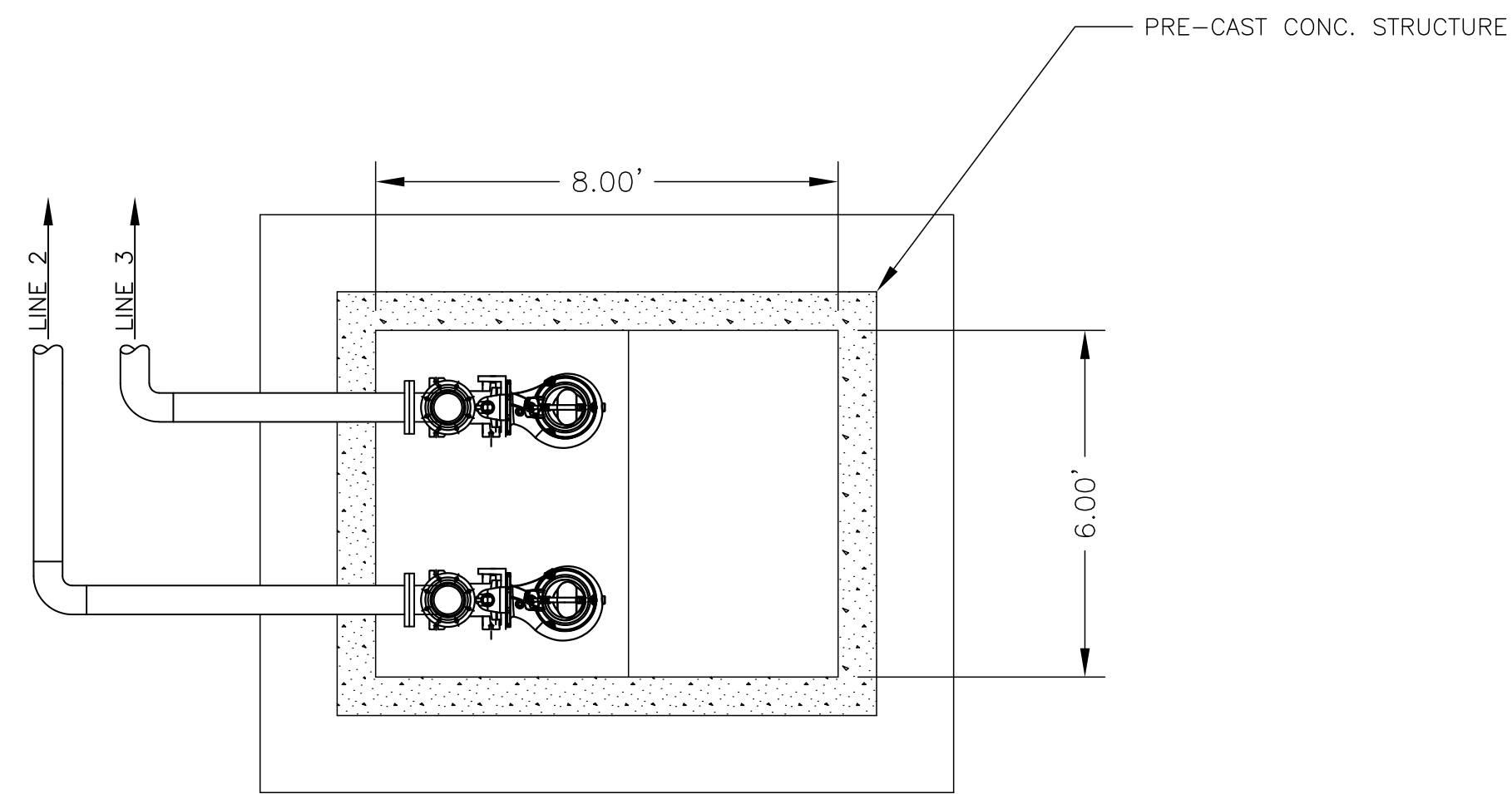


AS-BUILT PLANS - JANUARY 2020



PLOTTED: Thursday, March 29, 2018 @ 02:35PM

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**LIFT STATION  
PLAN VIEW**

SCALE: NTS

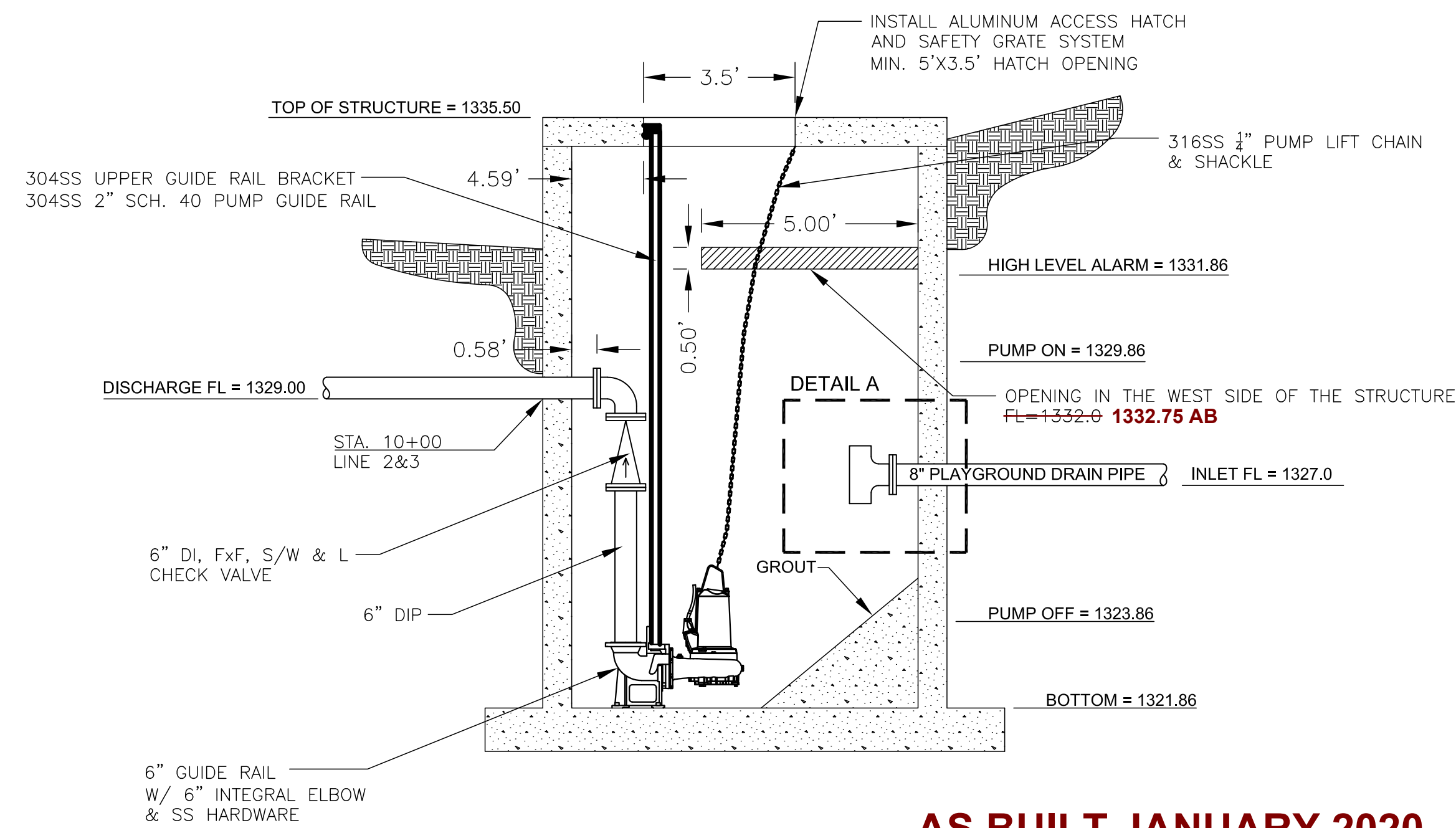
**SOIL PRESSURE**

ACTIVE: 60 PCF  
PASSIVE: 250 PCF

CONTRACTOR TO PROVIDE SEALED STRUCTURAL CALCULATIONS FOR CONCRETE VAULT DESIGN.

NOTES:

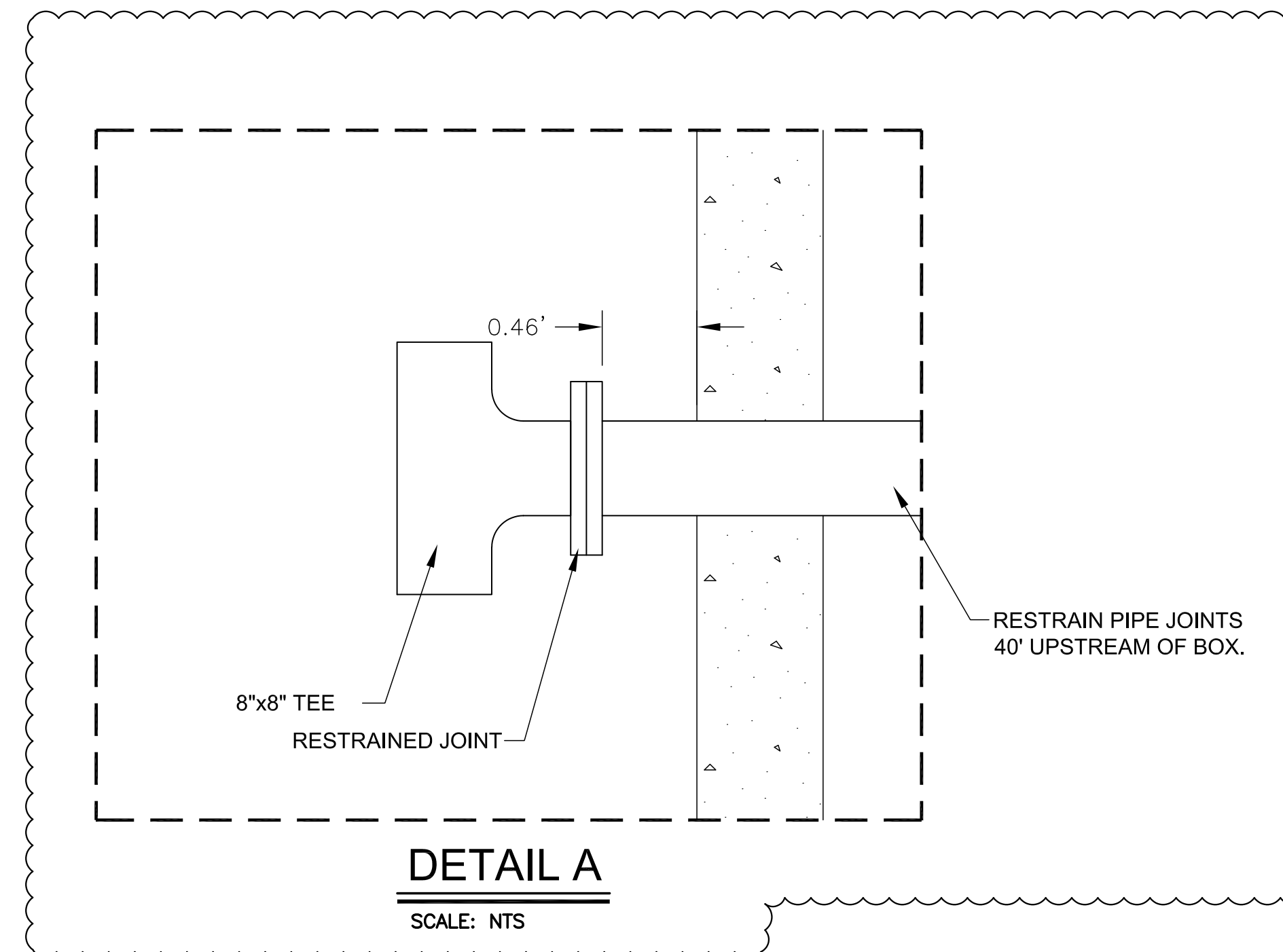
1. FLOAT SWITCHES SHALL BE MOUNTED ON A SS FLOAT SWITCH MOUNTING BRACKET WITH HEVCO STYLE STRAIN RELIEF BUSHINGS OR CORD GRIPS.
2. ALL PIPE INSTALLED INSIDE OF WET WELL AND VALVE VAULT TO BE 6" DUCTILE IRON (CLASS 52) UNLESS OTHERWISE NOTED ON THIS DRAWING. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SUPPORTING THE PIPES WITHIN THE VAULT.
3. ANY SOIL USED FOR BACKFILL AROUND THE WET WELL MUST BE COMPACTED TO 95% STD. DENSITY IN NO MORE THAN 12" LIFTS.
4. VAULT WET WELL ACCESS HATCHES SHALL BE EAST JORDAN IRON WORKS ALUMINUM.
5. SS PUMP LIFTING CHAINS SHALL BE INSTALLED FOR EACH PUMP.



**AS BUILT JANUARY 2020**

**LIFT STATION  
ELEVATION VIEW**

SCALE: NTS



**DETAIL A**

SCALE: NTS

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**LIFT STATION  
DETAIL**

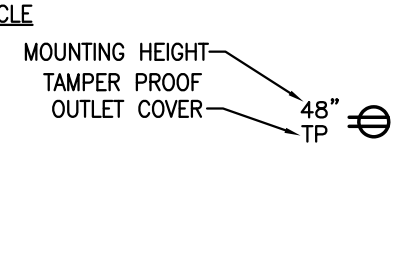
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DATE	03-22-18	
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DESIGNED	DRAWN	CHECKED
AK	RWB	AJK
NO.	REVISION	DATE
0	IFC	3-22-18

SHEET NO.

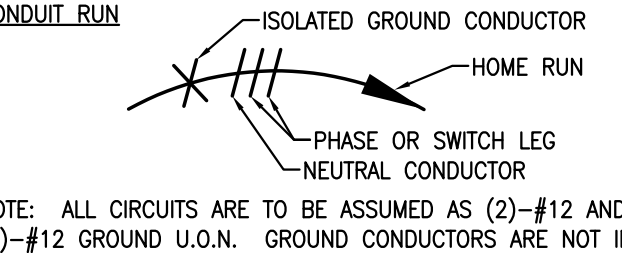
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DATE	03-22-18	
SCALE	NO SCALE	
DESIGNED	DRAWN	CHECKED
JA	JA	JRBW
0	IFC	03-22-18
NO.	REVISION	DATE

### CIRCUITING LEGEND

**DUPLEX RECEPTACLE**



**CONDUIT RUN**



NOTE: ALL CIRCUITS ARE TO BE ASSUMED AS (2)-#12 AND (1)-#12 GROUND U.O.N. GROUND CONDUCTORS ARE NOT INDICATED AND ARE ASSUMED TO BE PROVIDED WITH ALL CIRCUITS.

### BRANCH VOLT DROP TABLE

FOR COPPER SINGLE PHASE 3% VOLTAGE DROP, 20 A CIRCUIT BREAKER

MAXIMUM DISTANCE	PHASE AND NEUTRAL SIZE	EQUIPMENT GROUND SIZE
120V	208V	
100'	150'	#12
175'	225'	#10
275'	400'	#8
475'	650'	#6

**VOLTAGE DROP TABLE NOTES:**

- DISTANCE GIVEN IS THE MAXIMUM FOR THE LONGEST RUN FOR ANY BRANCH, PANEL TO LOAD.
- THE DISTANCES ARE FOR THE ENTIRE RUN IN THE GIVEN WIRE SIZE.
- WIRE REDUCTIONS (WHERE REQUIRED BY DEVICE CONSTRUCTION) SHALL BE MADE WITHIN 3 FEET OF THE SOURCE OR LOAD, AND SHALL BE ONLY DOWN TO THE LARGEST WIRE SIZE THE DEVICE ALLOWS.
- OTHER NEC DERATING FACTORS ARE NOT INCLUDED IN THE WIRE SIZES IN THIS TABLE.

### ELECTRICAL CONTACTS

<b>ELECTRICAL:</b>	<b>ELECTRICAL:</b>
JOEL WHEELER, P.E. EMAIL: JWHEELER@MKEC.COM PHONE: 316.684.9600x1255	JONATHAN ARAIZA EMAIL: JARAIZA@MKEC.COM PHONE: 316.684.9600x1220

### CODE INFORMATION

**ELECTRICAL:**  
2017 NATIONAL ELECTRICAL CODE

### ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION	MOUNTING OR AS INDICATED
	DUPLEX RECEPTACLE (20 AMP)	WALL - 18" AFF
	QUAD-PLEX RECEPTACLE	WALL - 18" AFF
	GFI DUPLEX RECEPTACLE (20 AMP)	WALL - 18" AFF
	JUNCTION BOX	AS NOTED
	PULL BOX	AS NOTED
	SAFETY SWITCH (NON-FUSED)	6"-0" AFF TO TOP
	SAFETY SWITCH (FUSED)	6"-0" AFF TO TOP
	COMBINATION STARTER	WALL
	STARTER	WALL
	EMERGENCY STOP--MUSHROOM HEAD MAINTAINED PUSH BUTTON	44" AFF OR AFG
	MOTOR	AS NOTED
	ELECTRICAL PANELBOARD (SURFACE MTD.)	48" AFF TO CENTER UON
	ELECTRICAL PANELBOARD (FLUSH MTD.)	48" AFF TO CENTER UON
	ELECTRICAL UTILITY METER	AS NOTED

**SYMBOLS LIST NOTES:**

- ALL MOUNTINGS APPLY UNLESS OTHERWISE NOTED.
- LIGHT FIXTURE CAPITAL LETTER DESIGNATIONS KEY TO MATCHING ENTRIES IN THE LIGHTING FIXTURE SCHEDULE.
- LIGHT FIXTURE SMALL CASE LETTER DESIGNATIONS (IF SHOWN) REPRESENT SWITCHING REQUIREMENTS.
- ALL MOUNTING HEIGHTS SHALL BE TO CENTERLINE OF DEVICE U.O.N.

### LINETYPES LEGEND

————— EXISTING/REFERENCE      ————— WORK TO BE DONE  
- - - - - EXISTING TO BE DEMOLISHED

### ABBREVIATIONS

	DESCRIPTION		DESCRIPTION
A	AMPERES	KW	KILOWATT
AD	AREA DRAIN	LTG	LIGHTING
AFB	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AFG	ABOVE FINISHED GRADE	MCA	MINIMUM CIRCUIT AMPACITY
AIC	AMPERES INTERRUPTING CAPACITY (K IS *1000)	MCOP	MAXIMUM OVERCURRENT PROTECTION
ATS	AUTOMATIC TRANSFER SWITCH	MCP	MOTOR CIRCUIT PROTECTOR (MAGNETIC TRIP)
BFC	BELOW FINISHED CEILING	MFS	MAXIMUM FUSE SIZE
BFG	BELOW FINISHED GRADE	(N)	NEW
C	CONDUIT	NC	NORMALLY CLOSED
CB	CIRCUIT BREAKER	NL	NIGHT LIGHT
CT	MOUNTED 6" ABOVE COUNTER TOP	NO	NORMALLY OPEN
DN	DOWN	NTS	NOT TO SCALE
(E)	EXISTING	OC	OVERCURRENT PROTECTION
EC	ELECTRICAL CONTRACTOR	P	POLE
EM	INDICATES DEVICE ON EMERGENCY CIRCUIT OR WITH AN EMERGENCY BATTERY	PH	PHASE
FD	FIRE DAMPER	RLA	RUNNING LOAD AMPS
FLA	FULL LOAD AMPS	SPD	SURGE PROTECTIVE DEVICE
FP	FIRE PROTECTION	SR	SAFETY RECEPTACLE
FPC	FIRE PROTECTION CONTRACTOR	T-STAT	THERMOSTAT
FPI	FINS PER INCH	TCC	TEMPERATURE CONTROLS CONTRACTOR
FPM	FEET PER MINUTE	TP	TAMPER PROOF / SAFETY OUTLET OR COVERS
FPS	FEET PER SECOND	TYP	TYPICAL
FSD	FIRE/SMOKE DAMPER	UCT	MOUNTED UNDER COUNTER WITHIN 12" OF TOP
GC	GENERAL CONTRACTOR	UON	UNLESS OTHERWISE NOTED
GFI/GFCI	GROUND FAULT INTERRUPTER	V	VOLTS
GND	GROUND	VFD	VARIABLE FREQUENCY DRIVE
HOA	HAND-OFF-AUTO SELECTOR SWITCH	W	WIRE
HP	HORSE POWER	WP	WEATHER PROOF
IG	ISOLATED GROUND	WPI	WP IN SERVICE (WITH PLUG INSERTED)
J-BOX	JUNCTION BOX	WR	WEATHER RESISTANT TYPE DEVICE

**ABBREVIATION SCHEDULE NOTES:**

- SOME MAY NOT BE USED IN THIS SET OF PLANS.
- ABBREVIATIONS MAY BE WITH OR WITHOUT PERIODS.

### PROJECT GENERAL NOTES

- ALL WORK SHALL COMPLY WITH CURRENT FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES AS WELL AS THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL REPORT ANY CONFLICTS TO THE ENGINEER AS SOON AS THEY ARE DISCOVERED.
- THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE A.D.A.A.G. (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES).
- THE CONTRACTOR SHALL REVIEW THE DRAWINGS PRIOR TO BIDDING JOB AND DURING CONSTRUCTION. EXCEPT AS OTHERWISE NOTED, THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR FOR A COMPLETE PROJECT AS SHOWN IN THE DRAWINGS. DRAWINGS CARRY EQUAL IMPORTANCE AND ITEMS LISTED IN EITHER SHALL BE FURNISHED AS IF LISTED IN BOTH. ALSO REVIEW DETAILS AND RISER DIAGRAMS FOR ADDITIONAL ITEMS/INSTRUCTIONS WHETHER SPECIFICALLY REFERRED TO ON PLANS OR NOT.
- THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL, INCLUDING THE EXTENT OF DEMOLITION AND CONFLICTS WITH PLANS.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW THE GENERAL INSTALLATION OF EQUIPMENT AND MATERIALS IN RELATIONSHIP TO STRUCTURE AND OTHER TRADES. THEY MAY NOT SHOW EVERY REQUIRED OFFSET, FITTING, ETC.
- CONTRACTOR SHALL FIELD VERIFY ACTUAL JOB CONDITIONS AND COORDINATE WORK WITH OTHER TRADES PRIOR TO BIDDING JOB AND PRIOR TO ORDERING EQUIPMENT, FABRICATION OF MATERIALS, OR STARTING WORK. CONTRACTOR SHALL NOT SCALE THE DRAWINGS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL ITEMS THAT AFFECT OTHER DISCIPLINES WITH THE CORRESPONDING CONTRACTOR AND THE GENERAL CONTRACTOR IF EQUIPMENT, MATERIALS, ETC. OTHER THAN THOSE SCHEDULED AND SPECIFIED (PENDING PRE-APPROVAL) ARE FURNISHED.
- CHANGE ORDERS WILL NOT BE GRANTED DUE TO LACK OF COORDINATION WITH JOB CONDITIONS AND/OR OTHER CONTRACTORS.
- EXISTING EQUIPMENT, FIXTURES, DEVICES, AND CIRCUITS ARE SHOWN FOR REFERENCE ONLY. ADJUST EXACT INSTALLATION AND CONNECTION OF NEW ITEMS ACCORDING TO ACTUAL CONDITIONS.
- G.C. SHALL CUT AND PATCH FLOOR, WALLS, AND ROOF AS REQUIRED FOR INSTALLATION/DEMOLITION OF ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STORAGE OF RELOCATED EQUIPMENT AND MATERIALS DURING CONSTRUCTION. ITEMS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- UPON COMPLETION OF THE PROJECT THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS TO THE OWNER, ARCHITECT, AND ENGINEER SHOWING EQUIPMENT, FIXTURES, DEVICES, CIRCUITS, ETC. THAT DIFFERS FROM CONSTRUCTION DOCUMENTS AS THEY ARE ACTUALLY INSTALLED.
- THE RESPONSIBILITY OF EACH CONTRACTOR IS NOT LIMITED TO THEIR SPECIFIC DISCIPLINE'S DRAWING SHEETS. REFER TO OTHER DISCIPLINES' DRAWING SHEETS AS REQUIRED FOR ADDITIONAL INFORMATION/INSTRUCTIONS.
- FIRE STOP ALL PENETRATIONS THROUGH RATED WALLS. SLEEVE IN ENTIRETY WITH APPROPRIATE SLEEVE MATERIAL.

### ELECTRICAL GENERAL NOTES

- COORDINATION WITH OTHER TRADES:**
- ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECT LOAD/HP WITH MECHANICAL AND ALL OTHER CONTRACTORS PRIOR TO WIRING OF ALL EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES OR FEED SIZE PER THE NATIONAL ELECTRICAL CODE, APPLICABLE VERSION.
- ALL TEMPERATURE CONTROL WIRING SHALL BE FURNISHED AND INSTALLED BY OTHERS. INSTALL CONDUIT FOR CABLE IN EXPOSED AREAS. REFER TO MECHANICAL PLANS AND THE TEMPERATURE CONTROLS CONTRACTOR FOR EXACT LOCATION OF MECHANICAL EQUIPMENT AND THERMOSTAT LOCATIONS.
- CONDUIT AND WIRE:**
- ALL POWER WIRING OF ALL SYSTEMS SHALL BE COPPER WITH INSULATED GROUND WIRE IN STEEL CONDUIT AND STEEL BOXES UNLESS SPECIFICALLY NOTED OTHERWISE.
- RACEWAYS SHALL BE ROUTED OVERHEAD UNLESS OTHERWISE NOTED ON THE DRAWINGS. UNDERSLAB RACEWAYS ARE ALLOWED FOR PANEL FEEDERS ONLY UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL PANEL BOARD BRANCH CIRCUITS SHALL BE ROUTED OVERHEAD WHERE POSSIBLE.
- ALL CONNECTIONS TO EQUIPMENT SUBJECT TO MOVEMENT OR VIBRATIONS SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT, NOT LESS THAN 12" IN LENGTH, NOR GREATER THAN 36" IN LENGTH.
- MULTIPLE CIRCUITS ON THE SAME PHASE SHALL NOT BE COMBINED IN A SINGLE RACEWAY UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS. SINGLE PHASE BRANCH CIRCUIT HOME RUNS MAY BE COMBINED AT THE CONTRACTOR'S DISCRETION NOT GREATER THAN THREE CIRCUITS CONSISTING OF (3) PHASE CONDUCTORS, (3) NEUTRAL CONDUCTORS, AND GROUNDING CONDUCTOR.
- THE MINIMUM WIRE SIZE SHALL BE #12 FOR ALL POWER CIRCUITS. EACH CIRCUIT SHALL HAVE A SEPARATE AND DEDICATED NEUTRAL FROM THE PANEL. SEE BRANCH CIRCUIT VOLTAGE DROP TABLE FOR SIZING OF CONDUCTORS.
- THE MINIMUM CONDUIT SIZE IS 1".
- ALL EXPOSED CONDUIT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR, AND SHALL BE RIGID GALVANIZED UNLESS OTHERWISE NOTED.
- EXTERIOR EXPOSED CONDUIT RUNS WILL NOT BE PERMITTED. (EXCEPT FOR NEW SERVICE ENTRANCES FOR POWER OR TELEPHONE, OR NOTED OTHERWISE ON PLAN.)
- UNDER-SLAB CONDUIT SHALL NOT BE IN THE SLAB, BUT BELOW IT IN THE DENSE GRADE AGGREGATE, AND PARALLEL TO THE SLAB.
- DEVICES AND BOXES:**
- WHERE SEVERAL DEVICES ARE GANGED TOGETHER, THE COVERPLATE SHALL BE OF THE GANGED STYLE FOR THE NUMBER OF DEVICES USED.
- RECEPTACLES SHALL NOT BE WIRED TO THE LOAD SIDE OF A GFCI RECEPTACLE.
- WEATHERPROOF WHILE IN USE RECEPTACLE COVERS SHALL BE METAL, AND PAINTABLE UNLESS OTHERWISE NOTED.
- ELECTRICAL-OTHER:**
- ALL PANELS SHALL BE PANELBOARD CONSTRUCTION WITH BOLT ON BREAKERS. TANDEM BREAKERS SHALL NOT BE USED.

### EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	UNIT VOLTAGE	PHASE	FULL LOAD AMPS	MOCP	CIRCUIT NUMBER	POLES	DISCONNECT			STARTER			FEEDER			CONTROLLER	REMARKS
								TYPE	ENCL. RATING (NEMA)	FUSE SIZE AMPS*	TYPE	ENCL. RATING (NEMA)	NEMA SIZE	WIRE AND CONDUIT	WIRE AND CONDUIT	WIRE AND CONDUIT		
P-1	PUMP-1	208	3	25.3	50	E1-1,3,5	3		(1)		VFD		1	(3)-#6, (1)-#10G IN 1".		CONTROL PANEL		
P-2	PUMP-2	208	3	25.3	50	E1-2,4,6	3		(1)		VFD		1	(3)-#6, (1)-#10G IN 1".		CONTROL PANEL		

**REMARKS AND TABLE ABBREVIATIONS:**

<b>GENERAL</b>	<b>ENCLOSURE</b>	<b>STARTERS</b>	<b>DISCONNECTS</b>
<b>ENCL -</b>	ENCLOSURE	<b>MS -</b>	MAGNETIC OR SOLID STATE
<b>PWE -</b>	PROVIDED WITH EQUIPMENT. WIRING CONNECTIONS BY EC.	<b>2 -</b>	2-SPEED, ADDED TO PREVIOUS
<b>PBO -</b>	PROVIDED BY OTHERS.	<b>VFD -</b>	VARIABLE FREQUENCY DRIVE
<b>* -</b>	SEE SPECIFICATIONS FOR TYPE.	<b>C -</b>	COMBINATION STYLE
		<b>R -</b>	INTERPOSING RELAY
		<b>M (OR T) -</b>	MANUAL - SEE DISCONNECT FOR T.

**REMARKS**  
(1) DISCONNECT PROVIDED IN PUMP CONTROL PANEL.

### GENERATOR SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	VOLTAGE	PHASE / WIRE	CIRCUIT BREAKER	POWER FACTOR	SITE KW RATING (STANDBY)	FUEL SYSTEM	ENCLOSURE	NOTES
G1	CUMMINS	C20 N6	120/208V	3/4	70	0.8	20	NATURAL GAS	NEMA 3R	1-13

**NOTES:**

- E/M SHALL PROVIDE BATTERY CHARGER PREWIRED TO GENERATOR CONNECTION BOX.
- E/M SHALL PROVIDE A MINIMUM 1000W BLOCK HEATER PREWIRED TO GENERATOR CONNECTION BOX.
- E/M SHALL PROVIDE A ALTERNATOR STRIP HEATER PREWIRED TO GENERATOR CONNECTION BOX.
- E/M SHALL PROVIDE A SINGLE POINT 120V/1 PHASE CONNECTION FOR BATTERY CHARGER, BLOCK HEATER, AND ALTERNATOR STRIP HEATER.
- E/M SHALL PROVIDE (1) REMOTE ANNUNCIATOR.
- PROVIDE WEATHERPROOF AND SOUND ATTENUATION LEVEL 2 ENCLOSURE CAPABLE OF 74 DBA AT 7 METERS (FULL LOAD).
- PROVIDE GENERATOR SET TO COMPLY WITH AHJ EMISSIONS REQUIREMENTS.
- PROVIDE GENERATOR SET TO COMPLY WITH TIER 3 EPA REGULATIONS AND MEET 2009 EPA EMISSIONS REGULATIONS.
- PROVIDE (1) MAIN CIRCUIT BREAKERS MOUNTED ON GENERATOR SET.
- PROVIDE GENERATOR WITH ENGINE CRANKCASE VENTILATION ASSEMBLY.
- PAINT COLOR SHALL BE STANDARD MANUFACTURER PAINT COLOR.
- PROVIDE WITH REMOTE E-STOP SWITCH TO BE FIELD INSTALLED BY E.C. STOP SWITCH SHALL BE INSTALLED A MINIMUM OF 20 FEET FROM GENERATOR.
- MAINTAIN ALL REQUIRED CLEARANCES AROUND GENERATOR PER MANUFACTURER'S REQUIREMENTS.
- EC MAY SUBMIT SEPARATE GENERATOR APPROVED BY ENGINEER/OWNER.
- PROVIDE GENERATOR WITH ESB EXCITATION SYSTEM.

GENERATOR/ALTERNATOR COMBINATION SHALL BE SIZED TO PROPERLY SERVE THE FOLLOWING LOAD STEP SCHEDULE:

STEP #	LOAD DESCRIPTION	LOAD	PERMITTED FREQUENCY	PERMITTED VOLTAGE	NOTES
<b>GENERATOR G-1</b>					
1.1	7.5HP PUMP P-1	9.11KW	10	10	
1.2	7.5HP PUMP P-2	9.11KW	10	10	
1.3	GENERATOR HEATERS, CHARGER	1.78KW	10	10	
1.4	RECEPTACLE	0.18KW	10	10	

### PANEL 'E1' BRANCH PANELBOARD - NORMAL POWER

<b>LOCATION:</b> FED FROM MOUNTING ENCLOSURE	<b>EXTERIOR:</b> ATS-1 Surface Type 3R	<b>VOLTAGE:</b> 208/120	<b>ALC:</b> 10000A	<b>Load Type:</b> L=Lighting, R=Receptacle, M=Motors, Ho= Hospital, K=Kitchen, H=Heat, Mi=Misc
		<b>PHASE:</b> Three	<b>MAINS:</b> 100A	
		<b>WIRES:</b> 4W + G	<b>MCB:</b> 70A	

CKT	LOAD DESCRIPTION	TRIP	POLE	TYPE	PHASE	A	B	C	TYPE	POLE	TRIP	LOAD DESCRIPTION	CKT
1	PUMP P-1	50	3	M	3038	3038	3038	3038	M	3	50	PUMP P-2	2
3													4
5													6
7	EXTERIOR RCPT	20	1	R	180	1760			H	1	20	HEATERS, BATTERY CHARGER	8
9	SPARE	20	1							1	20	SPARE	10
11	SPARE	20	1							1	20	SPARE	12
TOTAL LOAD (KVA)						8.016	6.076	6.076					
TOTAL AMPS/PHASE						66.80	50.63	50.63					

**NOTES:**  
(1) PROVIDE PANELBOARD WITH HINGED FRONT COVER

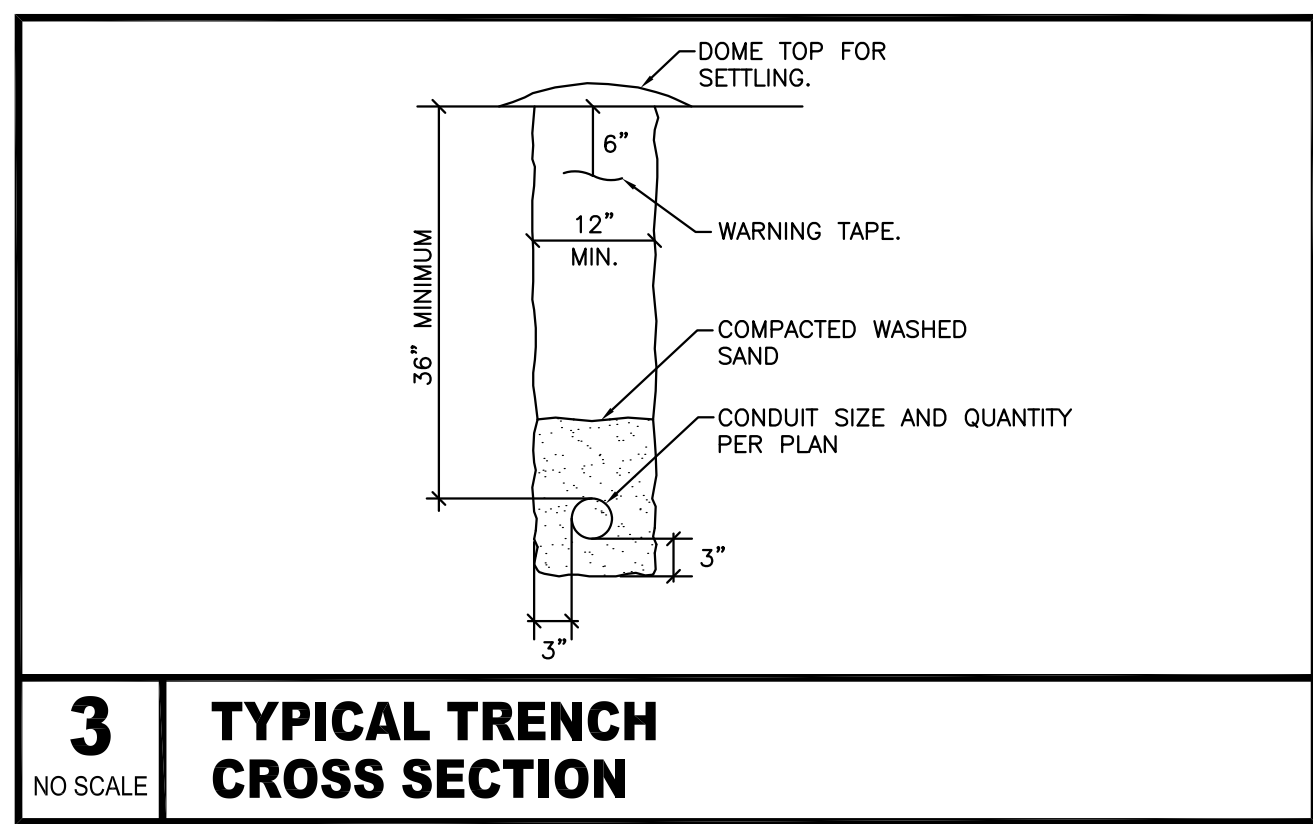
### AUTOMATIC TRANSFER SWITCH SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	VOLTAGE	CONT. AMP RATING	POLES	SWITCHED NEUTRAL	NEMA ENCLOSURE	ACCESSORIES
ATS-1	CUMMINS	OTEC70	208	70A	3	NO	3R	SP,IL,ES,IPM,EG,FA,RA,OT

**ACCESSORIES:**

- SP SWITCH POSITION CONTACTS
- IL INDICATOR LAMPS
- ES ENGINE START CONTACTS
- IPM IN-PHASE MONITOR
- EG EQUIPMENT GROUND LUG
- FA FRONT ACCESS ONLY SWITCH
- RA PROVIDE REMOTE ANNUNCIATOR TO SERVE TRANSFER SWITCH ASSOCIATED WITH GENERATOR.
- OT OPEN TRANSITION SWITCH

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PLOTTER: Thursday, March 29, 2018 @ 02:39PM

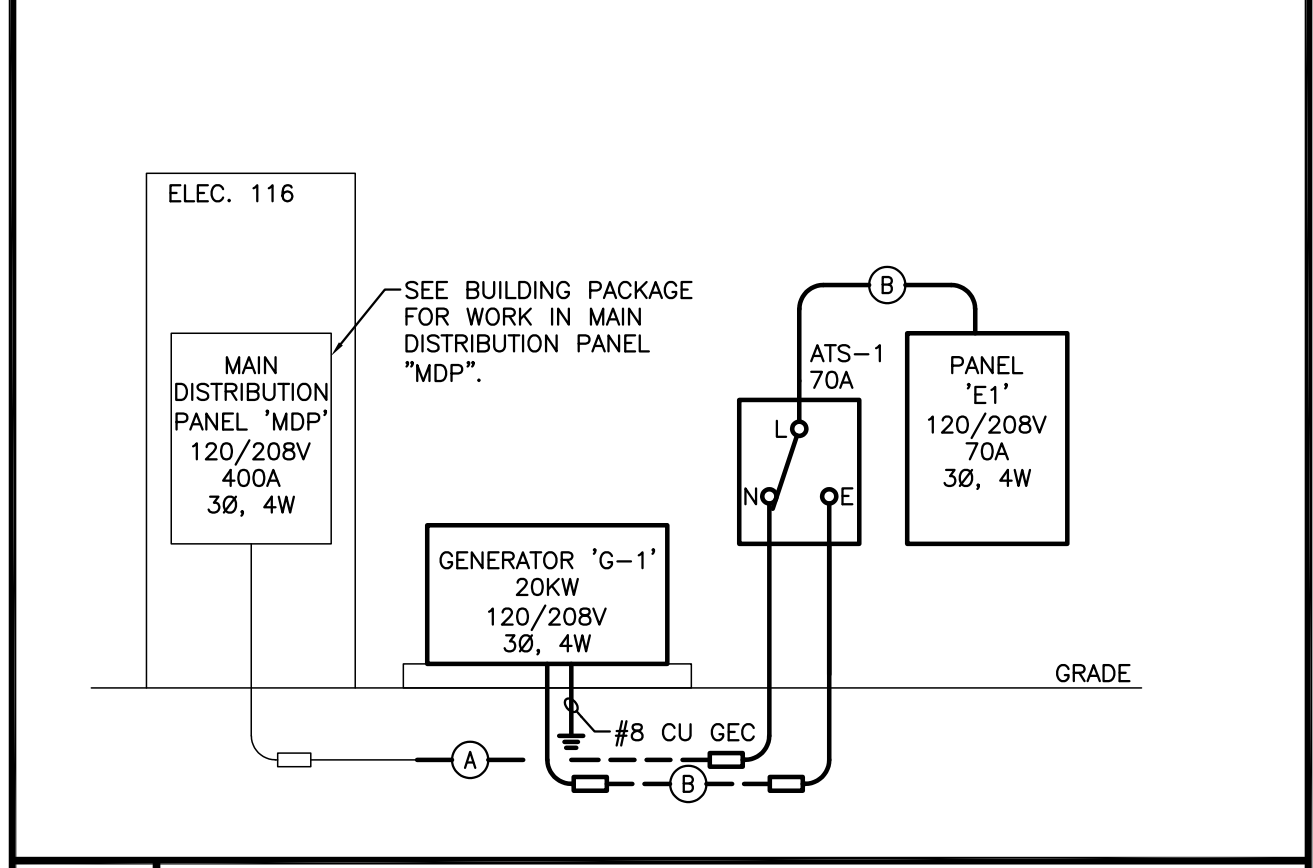


- GENERAL NOTES**
- EXISTING CONDITIONS SHOWN ON THE DRAWINGS WERE TAKEN FROM ORIGINAL DOCUMENTS AND FIELD OBSERVATIONS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING CONDITIONS. E.C. SHALL VISIT THE JOBSITE PRIOR TO BID AND VERIFY ALL EXISTING CONDITIONS.
  - UPON COMPLETION OF PROJECT, E.C. SHALL PROVIDE A FULL TYPED AND UPDATED PANEL DIRECTORY FOR EACH PANELBOARD AFFECTED BY THE SCOPE OF THIS PROJECT.
  - FEEDER ROUTING INDICATED ON THE DRAWINGS DOES NOT INDICATE NEC CODE REQUIRED PULL BOXES. E.C. SHALL BE RESPONSIBLE FOR LOCATING AND INSTALLING REQUIRED PULL BOXES FOR EACH FEEDER.

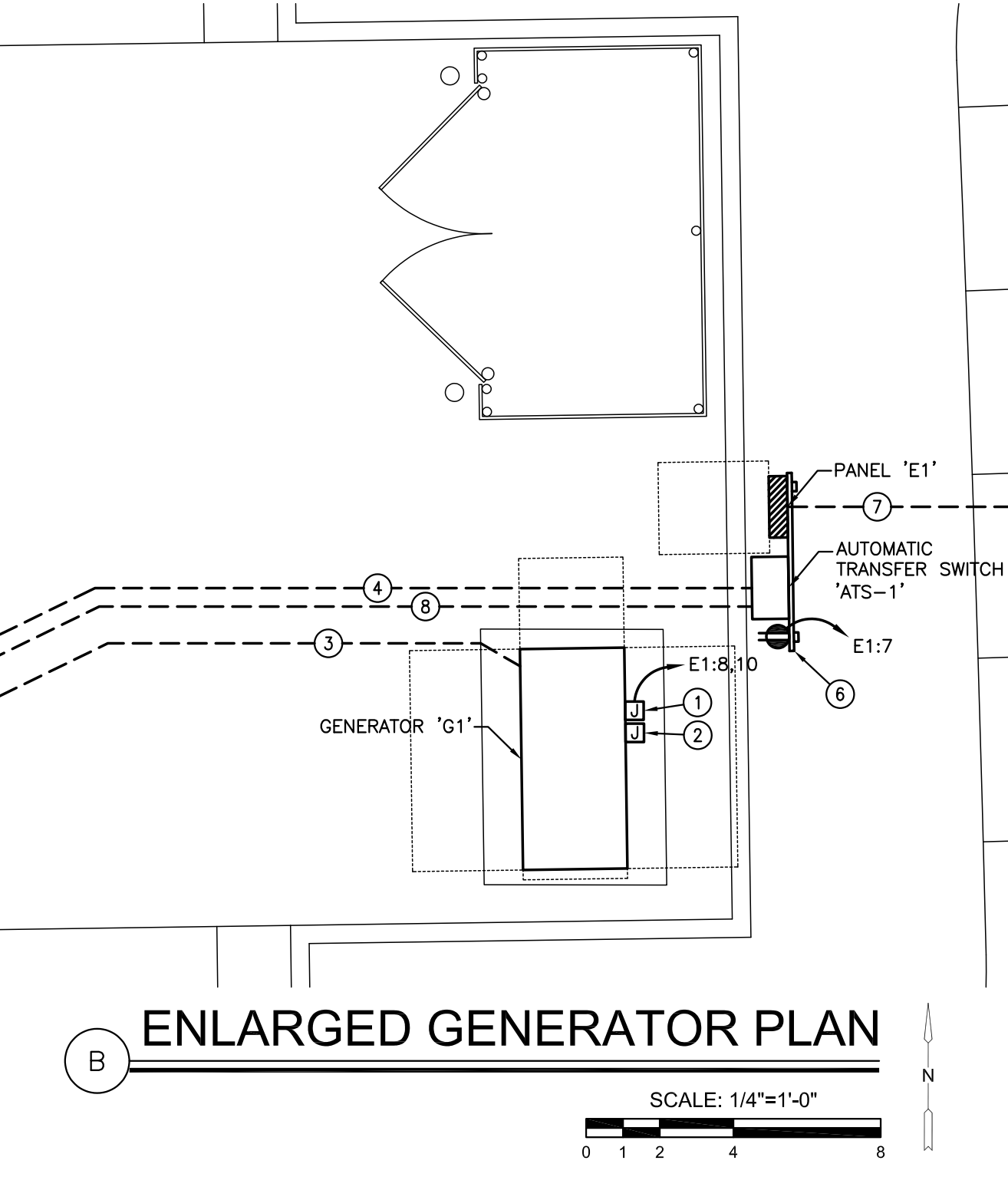
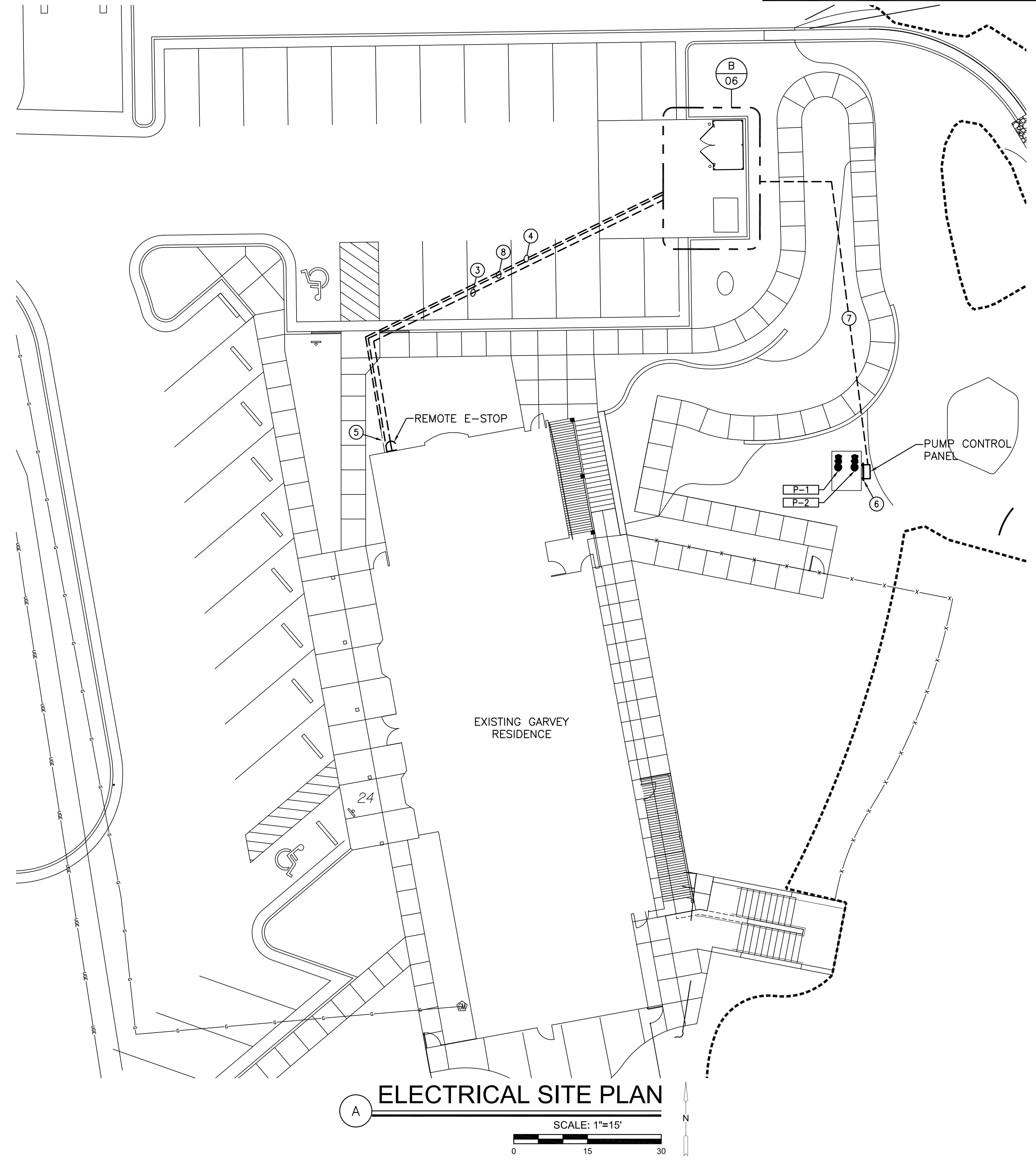
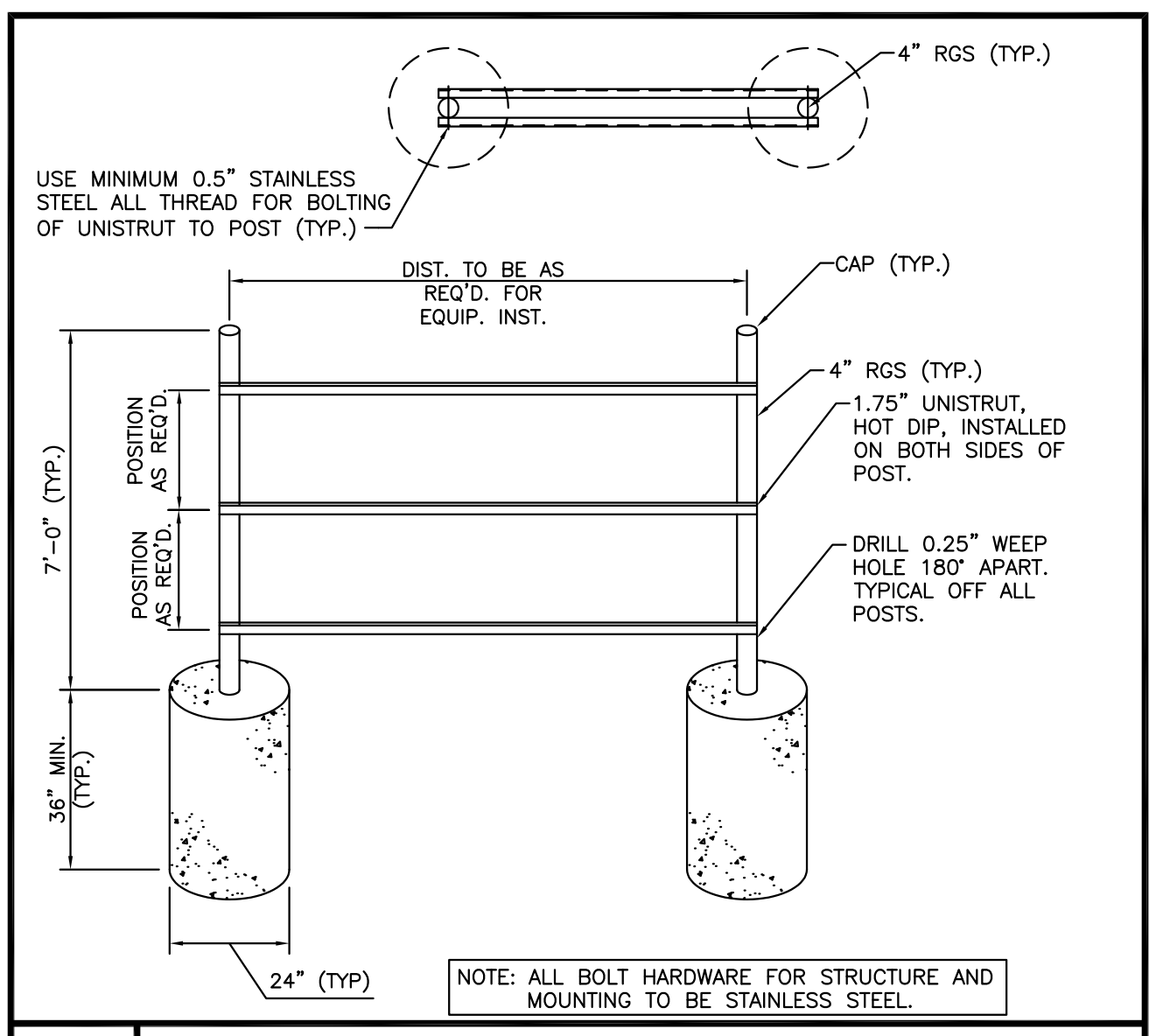
- KEYED NOTES**
- ROUTE (1) 1" CONDUIT FROM PANEL 'E1' TO GENERATOR CONNECTION BOX FOR ENGINE BLOCK HEATER, BATTERY CHARGER, AND ALTERNATOR STRIP HEATER. FINAL CONNECTION SHALL BE A SINGLE POINT CONNECTION. COORDINATE WITH GENERATOR MANUFACTURER. CIRCUIT WITH (3)-#10, #10GND. TRENCHING BY E.C.
  - ROUTE (1) 1.25" CONDUIT FROM GENERATOR LOCATION TO ATS-1 FOR CONTROL AND COMMUNICATION CABLING. COORDINATE WITH GENERATOR AND TRANSFER SWITCH MANUFACTURERS. TRENCHING BY E.C.
  - PROVIDE GENERATOR WITH REMOTE E-STOP SWITCH TO BE FIELD INSTALLED BY E.C. STOP SWITCH SHALL BE INSTALLED A MINIMUM OF 20 FEET FROM GENERATOR. ROUTE (1) 1" CONDUIT WITH (2)-#12 FOR CONTROL CABLING FROM GENERATOR LOCATION TO REMOTE E-STOP SWITCH. TRENCHING BY E.C. COORDINATE FINAL LOCATION WITH OWNER.
  - E.C. SHALL UTILIZE EXISTING 1.25" CONDUIT STUB OUT OF BUILDING TO EXTEND 1.25" CONDUIT FROM MAIN DISTRIBUTION PANEL 'MDP' INSIDE BUILDING TO ATS-1 LOCATION. FIELD VERIFY CONDITIONS AND ROUTE CONDUIT AS REQUIRED. TRENCHING BY E.C.
  - EXISTING CONDUIT STUB OUT OF BUILDING. SEE SEPARATE DRAWING PACKAGE FOR EXACT LOCATION.
  - PROVIDE AND INSTALL STRUT STAND PER DETAIL 2/THIS SHEET.
  - E.C. SHALL ROUTE (2) 1" CONDUITS TO PUMP CONTROL PANEL FOR 208V CIRCUIT FOR PUMPS 'P-1' AND 'P-2'. ROUTE CIRCUIT WITH (3)-#6, (1)-#10GND. TRENCHING BY E.C.
  - E.C. SHALL ROUTE (1) 1.25" CONDUIT FROM ATS TO INSIDE OF BUILDING FOR ANNUNCIATOR. COORDINATE ANNUNCIATOR LOCATION WITH OWNER.

**FEEDER SCHEDULE**

A	(4)-#2, (1)-#4 FROM MAIN DISTRIBUTION PANEL 'MDP' INSIDE BUILDING TO ATS-1 LOCATION. EXTEND CONDUIT AS REQUIRED. CONDUCTORS UPSIZED FOR VOLTAGE DROP.
B	(4)-#4, (1)-#8 IN 1.25" C.

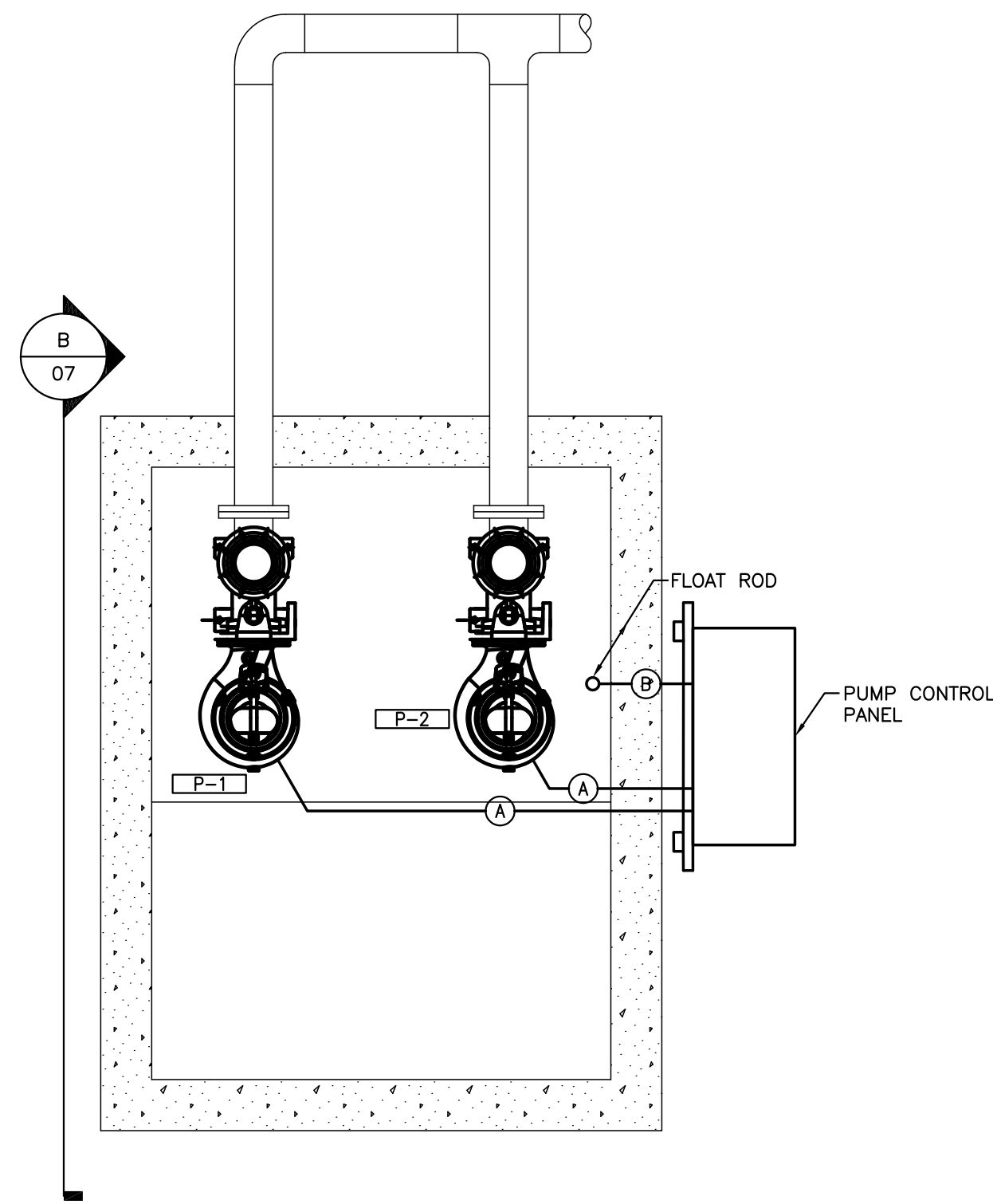


**1 ONE LINE DIAGRAM**  
NO SCALE



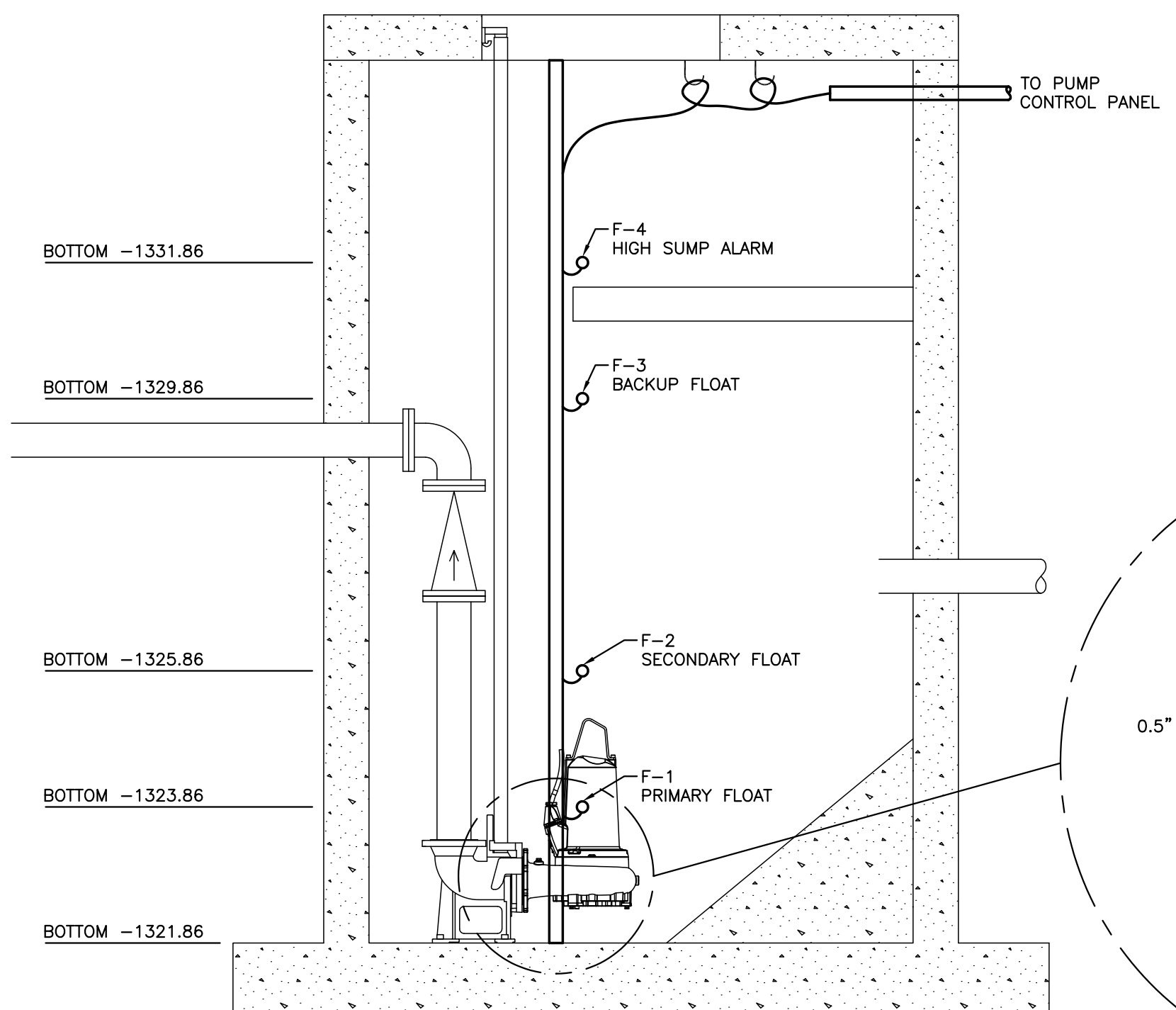
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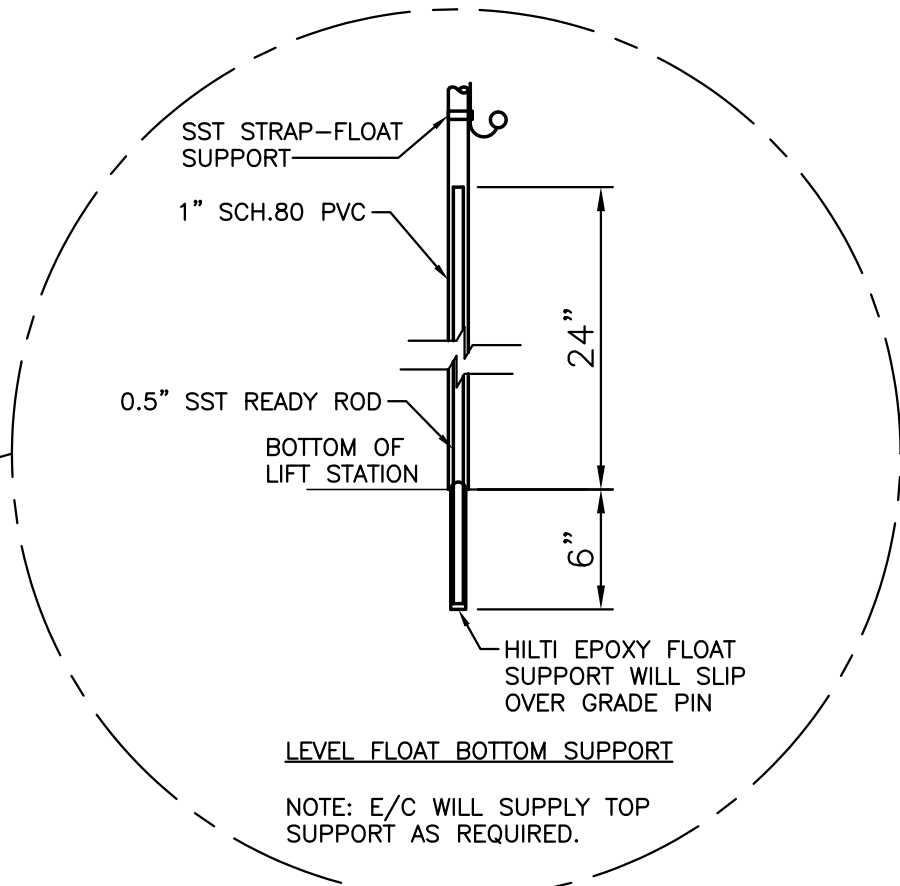
**LIFT STATION AREA PLAN**

SCALE: 1/2"=1'-0"  
0 1 2 4

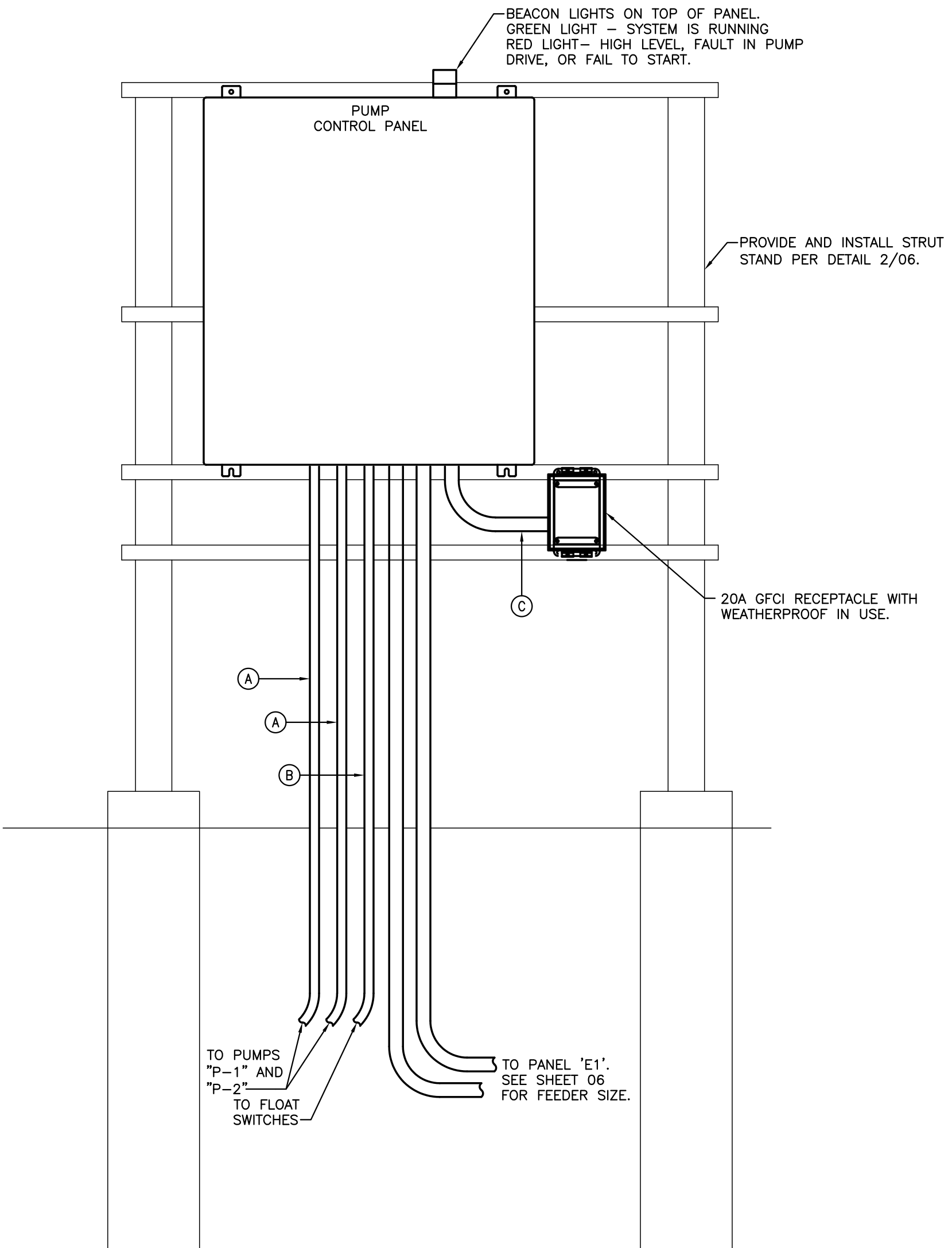


**LIFT STATION SECTION PLAN**

SCALE: 1/2"=1'-0"  
0 1 2 4



NOTE: E/C WILL SUPPLY TOP SUPPORT AS REQUIRED.



**EQUIPMENT RACK ELEVATION**

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

**GENERAL NOTES**

1. ALL CONDUIT IS GRC UNLESS NOTED OTHERWISE.
2. ALL WET WELL AND VAULT PIPE AND CONDUIT PENETRATIONS SHALL BE WATERTIGHT USING LINK SEAL AND GROUT.
3. ALL CONDUITS FROM SUMP TO PANEL WILL BE SEALED BETWEEN EXITING THE EARTH AND ENTERING THE PANEL TO PREVENT VAPOR TRANSFER. DUCT SEAL OR SILICONE.
4. CONTRACTOR WILL LOOP EXTRA CABLE IN VAULT TO FACILITATE REMOVED OF FLOATS AND PUMPS.
5. EXTRA CABLE HOOKS WILL BE ACCESSIBLE FROM PUMP ACCESS HATCH.
6. PUMP FLOAT SUPPORT WILL BE REMOVABLE FROM PUMP ACCESS HATCH. IF SUBMERSIBLE TRANSMITTAL IS USED IT WILL ALSO BE REMOVABLE FROM PUMP HATCH.
7. E.C. IS REQUIRED TO HIRE AN OUTSIDE PARTY FOR STARTUP, PROGRAMING AND COMMISSIONING FOR PUMP CONTROL PANEL.

**FEEDER SCHEDULE**

LETTER	DESCRIPTION
(A)	1.5" GRC. PULL PUMP CABLES IN CONDUIT TO CONTROL PANEL. CABLING PROVIDED BY PUMP CONTROL PANEL MANUFACTURER.
(B)	1.5" GRC. PULL FLOAT CABLES FROM SUMP TO PUMP CONTROL PANEL. CABLING PROVIDED WITH FLOAT.
(C)	3/4" GRC CONDUIT WITH (2)-#12, (1)-#12GND.

**SEQUENCE OF OPERATIONS**

PUMP-1 (LEAD) WOULD COME ON WITH THE FIRST ON FLOAT AT 50% OR FIELD ADJUSTED MID RANGE SPEED.  
 PUMP-1 (LEAD) WOULD GO UP TO FULL SPEED WITH THE SECOND ON FLOAT.  
 PUMP-2 (LAG) WOULD GO UP AT FULL SPEED WITH THE THIRD ON FLOAT.  
 ALL PUMPS WOULD GO OFF WITH THE LOWEST FLOAT OR OFF FLOAT. THAT WOULD SET THE ALTERNATOR TO SWITCH LEAD PUMPS.  
 NEXT CYCLE UPON RISING PIT LEVELS:  
 PUMP #2 (LEAD) WOULD COME ON WITH THE FIRST ON FLOAT AT 50%, ETC AND SO ON UNTIL SWITCH BACK TO PUMP #1 AS THE LEAD PUMP.

**PUMP CONTROL PANEL SCHEDULE**

MANUFACTURER	MODEL NUMBER	VOLTAGE	MOTOR(S)	ENCLOSURE	NOTES
ENVIRONMENTAL PROCESS SYSTEMS, INC.	DUPLEX VFD PUMP CONTROL PANEL	208V	(2) 7.5HP	NEMA 4	1-28

- NOTES:**
- (1) 2 VFDs WITH TWO INPUTS FOR PUMP SPEED OPTIONS (50% AND 100% SPEED)
  - (2) LAG PUMP LEVEL WILL HAVE BOTH PUMPS OPERATING AT 100% SPEED.
  - (3) VFD DISPLAY VIEWABLE THROUGH INNER PANEL DOOR.
  - (4) ENCLOSURE NEMA 4 STEEL FOR OUTDOOR RACK MOUNT, PADLOCKABLE.
  - (5) INNER DEAD FRONT PANEL DOOR.
  - (6) RUN LIGHTS, SEAL LIGHTS, OT LIGHTS FOR EACH PUMP.
  - (7) SEAL/OT RELAYS FOR EACH PUMP.
  - (8) HOUR METERS FOR EACH PUMP.
  - (9) HOA SWITCHES FOR EACH PUMP.
  - (10) ADJUSTABLE TIME DELAY FOR LAG PUMP START.
  - (11) ALTERNATOR WITH 1-AUTO-2 SWITCH TO ALTERNATE PUMPS AFTER OFF CYCLE.
  - (12) LIGHTS & SWITCHES 22 MM WITH CHROME METAL BEZEL.
  - (13) PUSH-TO-TEST PANEL LIGHTS.
  - (14) CONTROL RELAYS - ILLUMINATED WHEN POWERED TYPE.
  - (15) IDEC BRAND PREFERRED FOR LIGHTS, SWITCHES, RELAYS.
  - (16) MAIN CIRCUIT BREAKER
  - (17) PUMP CIRCUIT BREAKERS, ONE FOR EACH PUMP.
  - (18) CONTROL & ACCESSORIES, PANEL HEATER CBS
  - (19) FUSED POWER MONITOR.
  - (20) PANEL HEATER & THERMOSTAT FOR CONDENSATION.
  - (21) RELAYS, TERMINALS, DIN RAIL, COVERED WIRE TRAYS, ETC.
  - (22) MULTIPLE FLOAT SWITCHES OR LEVEL ROD SYSTEM. IF LEVEL TRANSMITTER PLEASE STATE TYPE.
  - (23) THE ADDITIONAL LEVELS WOULD RAMP THE PUMP UP TO A HIGHER SPEED UPON RISING WATER LEVEL.
  - (24) TERMINALS AT THE BOTTOM OF THE PANEL ON 45 DEG ANGLE FOR POWER, PUMPS, LEVEL SWITCHES & ALARM OUTPUT.
  - (26) UL LABEL ON CONTROL PANEL.
  - (27) THE PANEL TO HAVE TWO BEACONS ON TOP (1 - RED & 1 - GREEN). RED LIGHT WILL FLASH. GREEN LIGHT WILL BE STEADY.
  - (28) PANEL SHALL BE PROVIDED WITH CONVENIENCE OUTLET IN PANEL.
  - (29) EC TO FOLLOW PUMP CONTROL PANEL SHOP DRAWINGS TO PROPERLY CONNECT POWER TO PANEL.
  - (30) FLOATS SHAL HAVE FREE TRAVEL AND NOT CONTACT PUMP, PUMP SUPPORT OR FLOAT SUPPORT.
  - (31) PANEL WILL BE EQUIPPED WITH A TVSS-2KVA, NON-FUSED-MV-400P
- CONTACT RON OLENDORFF AT ENVIRONMENTAL AND PROCESS SYSTEMS, INC (913-338-0311) FOR BUDGET PRICING AND MORE INFORMATION.



ELECTRICAL PLANS FOR  
**TIS - ELC**  
 THE INDEPENDENT SCHOOL, WICHITA, KANSAS

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**LIFT STATION PLANS AND SECTIONS**

PROJECT NO.	0511PPD	
DATE	03-22-18	
SCALE	NO SCALE	
DESIGNED	DRAWN	CHECKED
JA	JA	JRBW
NO.	REVISION	DATE
0	IFC	03-22-18