

VILLAGE OF VILLA PARK NORTH AVENUE TOWN HOMES LIFT STATION REPLACEMENT

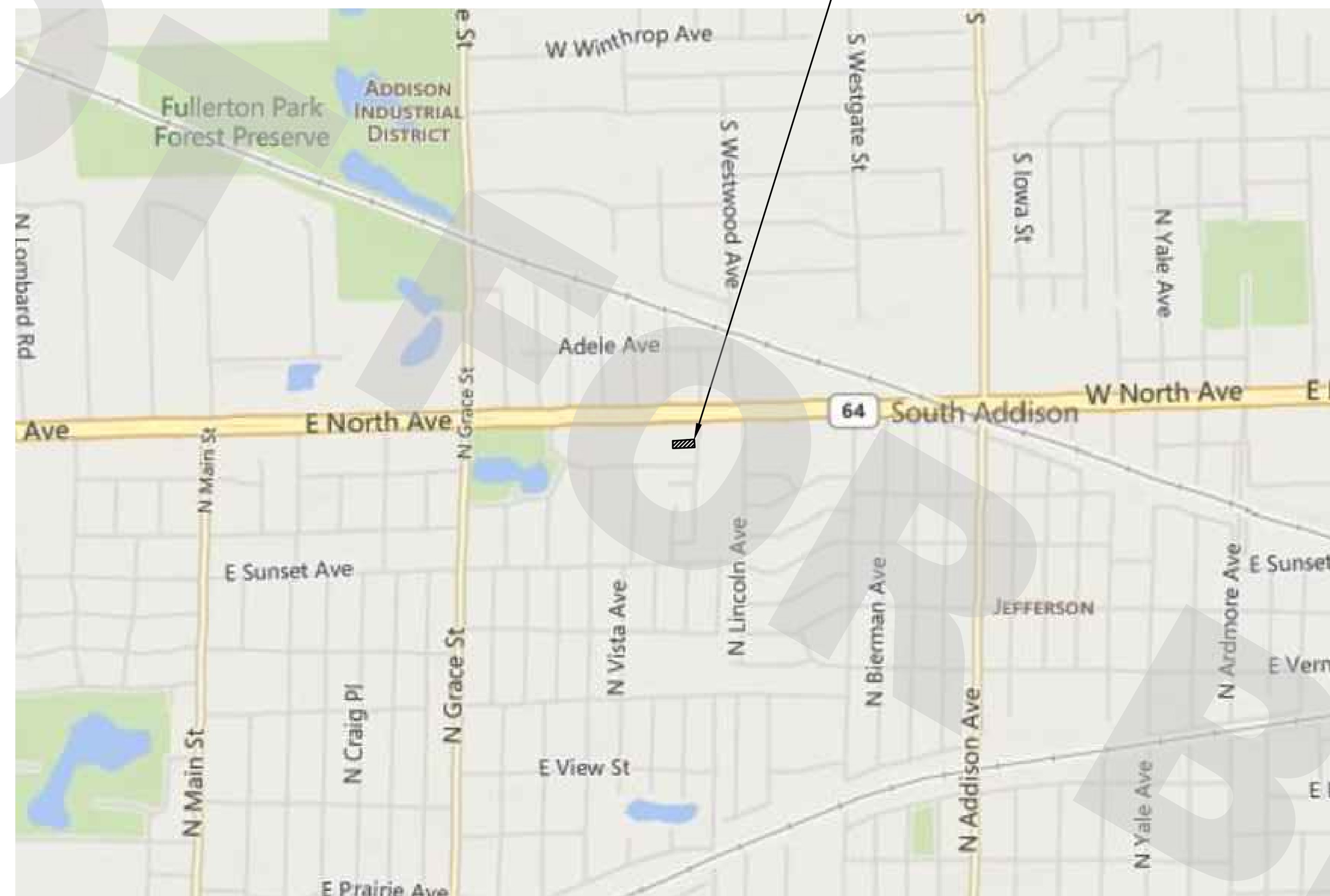
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ABBREVIATIONS

BB	BUFFALO BOX
BIT.	BITUMINOUS
C&G	CURB AND GUTTER
CB	CATCH BASIN
CONC.	CONCRETE
DIP	DUCTILE IRON PIPE
HMA	HOT-MIX ASPHALT
INV.	INVERT
MH	MANHOLE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
SAN.	SANITARY SEWER
STM	STORM SEWER
STMH	STORM MANHOLE
PCC	PORTLAND CEMENT CONCRETE
WM	WATER MAIN
VCP	VITRIFIED CLAY PIPE
VV	VALVE VAULT

LOCATION MAP
(NOT TO SCALE)



PROJECT LOCATION

LEGEND

	EXISTING	PROPOSED
B-BOX		
BUSH/SHRUB		
ELECTRIC		
FENCE		
FORCE MAIN		
GAS PIPE		
GAS VALVE		
HYDRANT		
INLET PROTECTION		
POINT REPAIR		
SAN. MANHOLE		
SAN. SEWER		
SILT FENCE		
STORM INLET/CB		
STORM MANHOLE		
STORM SEWER		
TREE - CONIFER		
TREE - DECIDUOUS		
TREE PROTECTION		
UTILITY POLE		
WATER MAIN		
VALVE VAULT		

CONTROL POINTS

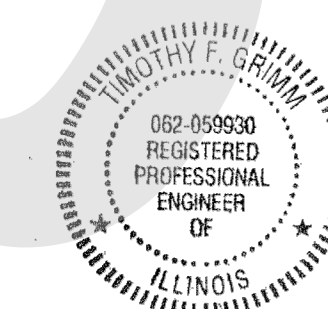
No.	DESCRIPTION	ELEVATION
CP#500	CUT CROSS ON WEST CURB OF KRAMER AVE APPROX. 30 FT SOUTH OF PROJECT LOCATION	722.13
CP#501	CUT CROSS AT NORTH END OF 713 KRAMER AVE DRIVEWAY AT INTERSECTION WITH STREET	720.41
CP#502	CUT CROSS IN SIDEWALK ADJACENT TO EAST END OF EASTMOST APARTMENT BUILDING	721.23
CP#503	CUT CROSS IN SIDEWALK AT SOUTHEAST CORNER OF INTERSECTION OF KRAMER AVE AND NORTH AVE	717.22

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES.

FOR UNDERGROUND UTILITY LOCATIONS CALL
J.U.L.I.E. 1-800-892-0123



MARCH 2015



REGISTERED P.E., STATE OF ILLINOIS
NOVEMBER 30, 2015
EXPIRES

rjngroup
The Choice for Collection System Solutions

LICENSE #184-000813
EXPIRES 4/30/2015

200 W. FRONT STREET
WHEATON, IL 60187

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS", LATEST EDITION; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (IMUTCD) THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS," (SSTCI), THE DETAILS IN THESE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL REFERENCE TO "STANDARD SPECIFICATIONS" THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO MEAN "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION, JANUARY 1, 2012.
- ALL REFERENCES TO "ENGINEER" SHALL BE INTERPRETED TO MEAN THE RESIDENT ENGINEER.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION.
- IF, IN THE ENGINEER'S OPINION, WORK SHOWN ON THE PLANS IS NOT REQUIRED, THE QUANTITIES AND PAYMENT TO CONTRACTOR FOR THOSE PAY ITEMS WILL BE DEDUCTED FROM THE CONTRACT.
- CONTRACTOR SHALL HAVE ONE SET OF APPROVED PLANS ON SITE AT ALL TIMES.
- THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES AND STORAGE OF EQUIPMENT OR MATERIALS TO THE AREAS SHOWN ON PLAN. ANY DAMAGE TO PRIVATE PROPERTY OR FENCES SHALL BE REPLACED IN KIND OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR, AT HIS EXPENSE, MAY BE REQUIRED TEMPORARILY TO REMOVE AND RELOCATE STREET SIGNS WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND TO RE-ERECT THEM AT THE PROPER LOCATIONS AFTER CONSTRUCTION OPERATIONS ARE COMPLETED. ANY SUCH SIGNS DAMAGED OR LOST BY THE CONTRACTOR WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- WHERE SECTION OR SUB-SECTION MONUMENTS OR BENCH MARKS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY IRON PIPES AND MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- VOIDS IN THE SUBGRADE CREATED BY THE REMOVAL OF EXISTING PAVEMENT SHALL BE BACKFILLED WITH GRANULAR FILL AT NO ADDITIONAL COST TO THE VILLAGE.
- ALL SURPLUS, UNSUITABLE AND WASTE MATERIAL SHALL BE LEGALLY DISPOSED OF, AT THE CONTRACTOR'S EXPENSE, OUTSIDE THE LIMITS OF THE PROJECT IN A MANNER THAT PUBLIC OR PRIVATE PROPERTY WILL NOT BE DAMAGED OR ENDANGERED.
- REMOVE DIRT AND DEBRIS FROM THE STREET AT THE END OF THE DAY OR AS DIRECTED BY THE ENGINEER, MECHANICAL STREET SWEEPING OF ALL AREAS DISTURBED SINCE THE LAST STREET SWEEPING MUST BE COMPLETED ONCE PER WEEK OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR WILL NOT BE ALLOWED TO START CONSTRUCTION UNTIL SURFACE CONDITION VIDEOTAPING (IN DVD FORMAT) IS COMPLETED AND THE CONTENT APPROVED BY THE CITY.
- DISTURBANCE TO ALL LAWN AREAS SHALL BE MINIMIZED. TRENCHES SHALL BE BACKFILLED TO MATCH EXISTING GRADE. SURFACE SHALL RECEIVE A MINIMUM OF 4" TOPSOIL, SEEDING, AND EXCELSIOR BLANKET.
- ALL WORK SHALL BE CONDUCTED BETWEEN THE HOURS OF 7:00 AM AND 5:00 PM PER SECTION 01570 OF THE CONTRACT DOCUMENTS
- THE CONTRACTOR SHALL PROVIDE A TEMPORARY POSTING BOARD IN A VISIBLE LOCATION FOR THE DURATION OF CONSTRUCTION DISPLAYING ALL WORKPLACE NOTICES AND POSTERS REQUIRED BY LAW

UTILITIES NOTES

- THE CONTRACTOR SHALL ARRANGE WITH THE VARIOUS UTILITY COMPANIES FOR THE LOCATION AND ANY NECESSARY ADJUSTING OF THE OVERHEAD OR UNDERGROUND UTILITIES WITHIN THE LIMITS OF CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
- THE LOCATION, SIZE AND DEPTH OF THE WATER MAINS, STORM SEWERS AND/OR VARIOUS UTILITIES, AS SHOWN ON THE PLANS, ARE FROM THE LATEST AND BEST AVAILABLE INFORMATION TO THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE UTILITIES LOCATED.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING CONSTRUCTION ACTIVITIES WITH ALL UTILITY COMPANIES IN ORDER TO MAINTAIN SERVICES DURING CONSTRUCTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT.
- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 1-800-892-0123 FOR FIELD LOCATIONS OF BURIED UTILITIES (48-HOURS NOTIFICATION IS REQUIRED)

SANITARY NOTES

- ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", PUBLISHED JULY 2009, AND IN ACCORDANCE WITH CITY REQUIREMENTS EXCEPT AS MODIFIED HEREIN OR BY ANY PUBLIC AGENCY PERMITS ISSUED FOR THIS WORK. IN CASE OF CONFLICT, THE MORE RESTRICTIVE PROVISIONS SHALL APPLY.
- THE COST OF DEWATERING TRENCHES DUE TO RAINFALL OR GROUNDWATER SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF FORCE MAIN (OPEN CUT).
- ALL MANHOLES AND PIPES SHALL BE THOROUGHLY CLEANED OF DIRT AND DEBRIS, AND ALL VISIBLE LEAKAGE ELIMINATED, BEFORE FINAL INSPECTION AND ACCEPTANCE.
- COARSE AGGREGATE TRENCH BACKFILL WILL BE REQUIRED FOR THE FULL TRENCH DEPTH WITHIN FIVE (5) FEET OF PROPOSED OR EXISTING PAVEMENTS, UTILITIES, DRIVEWAYS, AND SIDEWALKS. THE TRENCH BACKFILL SHALL CONSIST OF GRANULAR MATERIAL MEETING IDOT CA-6 OR CA-7 GRADATION FOR PVC PIPE. THE TRENCH BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- LEAKAGE TESTING OF ALL SEWER INSTALLED WILL BE REQUIRED. THE PROCEDURE SHALL BE AS SPECIFIED IN THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS."
- IF SANITARY SEWER INSTALLATION FAILS TO MEET THE TEST REQUIREMENTS SPECIFIED, THE CONTRACTOR SHALL DETERMINE THE CAUSE OR CAUSES OF THE DEFECT AND SHALL, AT HIS OWN EXPENSE, REPAIR OR REPLACE ALL MATERIALS AND WORKMANSHIP AS MAY BE NECESSARY TO COMPLY WITH THE TEST REQUIREMENTS.
- THE CONTRACTOR SHALL FURNISH RECORD DRAWINGS. IF FINAL MEASUREMENTS INDICATE DEFICIENCIES, THE CONTRACTOR, AT HIS OWN COST, WILL ADJUST MANHOLES AND/OR SEWERS TO PROPER ELEVATIONS AND OTHERWISE CORRECT THE DEFICIENCIES.
- FRAME ELEVATIONS GIVEN ON THE PLANS ARE ONLY TO ASSIST THE CONTRACTOR IN DETERMINING THE APPROXIMATE OVERALL HEIGHT OF THE STRUCTURE. THE ADJUSTMENT OF FRAMES ON ALL NEW STRUCTURES SHALL BE TO THE PROPOSED SURFACE ELEVATION WITH IDOT APPROVED PLASTIC ADJUSTMENT RINGS IN PAVED AREAS. TEMPORARY BITUMINOUS EDGE TREATMENT NEEDED AROUND FRAMES BETWEEN COURSE LIFTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL PAYMENT SHALL BE MADE TO THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN FLOWS THROUGH EXISTING SEWER SYSTEMS AT ALL TIMES. THE EXISTING STRUCTURES SHALL BE INSPECTED BEFORE CONSTRUCTION STARTS. ANY ACCUMULATION OF MATERIAL IN THE STRUCTURE DUE TO CONSTRUCTION OPERATIONS SHALL BE REMOVED BY THE CONTRACTOR AT HIS EXPENSE.
- WHEN EXISTING DRAINAGE FACILITIES ARE DISTURBED, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY OUTLETS AND CONNECTIONS FOR ALL PRIVATE OR PUBLIC DRAINS, SEWERS OR STRUCTURES. HE SHALL PROVIDE FACILITIES TO TAKE IN ALL STORM WATER WHICH WILL BE RECEIVED BY THESE DRAINS AND SEWERS, AND DISCHARGE THE SAME. HE SHALL PROVIDE AND MAINTAIN AN EFFICIENT PUMPING PLANT, IF NECESSARY, AND A TEMPORARY OUTLET. HE SHALL BE PREPARED AT ALL TIMES TO DISPOSE OF THE WATER RECEIVED FROM TEMPORARY CONNECTIONS UNTIL SUCH TIME AS THE PERMANENT CONNECTIONS WITH SEWERS ARE BUILT AND IN SERVICE.
- THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY FOR DEWATERING TRENCH EXCAVATIONS AS WELL AS SHORING TRENCH WALLS DURING CONSTRUCTION. COMPLIANCE WITH THE ABOVE WILL BE INCIDENTAL TO THE COST OF CONSTRUCTION.
- THE WORK INVOLVED IN CONNECTING PROPOSED SEWERS TO EXISTING MANHOLES OR CONSTRUCTING PROPOSED MANHOLES OVER EXISTING SEWERS OR RECONNECTING EXISTING LATERALS TO PROPOSED SEWERS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE ITEM BEING CONSTRUCTED.
- CASTINGS TO BE USED ON STRUCTURES ARE:
TYPE 1 - MANHOLE FRAME AND COVER: EAST JORDAN 00102158. COVER SHALL BE MARKED: "SANITARY."
- DEBRIS DEPOSITED IN THE FLOW LINE OF ANY STRUCTURES SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CLOSE OF CONSTRUCTION OPERATIONS ALL STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCIDENTAL TO THE CONTRACT.
- ALL MANHOLES SHALL BE TESTED FOR WATERTIGHTNESS IN ACCORDANCE WITH ASTM C969-94 13/32 "STANDARD PRACTICE FOR INFILTRATION AND EXFILTRATION ACCEPTANCE TESTING OF INSTALLED PRE-CAST CONCRETE PIPE SEWER LINES", VOL. 04.05, CHEMICAL RESISTANT MATERIALS, VITRIFIED CLAY, CONCRETE, FIBER-CEMENT PRODUCTS; MORTARS; MASONRY (1996) (NO LATER EDITIONS OR AMENDMENTS) OR ASTM C1244-93 "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE PRESSURE (VACUUM) TEST", VOL. 04.05, CHEMICAL RESISTANT MATERIALS, VITRIFIED CLAY, CONCRETE, FIBER-CEMENT PRODUCTS; MORTARS; MASONRY (1996) (NO LATER EDITIONS OR AMENDMENTS) PRIOR TO PLACING INTO SERVICE.
- ALL BENDS IN FORCE MAIN PIPE WORK SHALL BE PROVIDED WITH THRUST BLOCK AND RESTRAINED PVC PIPE CONFORMING TO AWWA C900, CLASS 150.
- PIPE SHALL BE RESTRAINED WITH MEGALUGS OR APPROVED EQUAL.

EROSION CONTROL

- SOIL EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL IN ILLINOIS" AND AS DIRECTED BY THE VILLAGE/ENGINEER.
- ALL STREETS ADJACENT TO THE WORK SITE SHALL BE KEPT FREE OF DIRT, MUD AND DEBRIS.
- NO SEDIMENT WILL BE ALLOWED TO ENTER ADJACENT DITCHES OR STORM SEWERS. INLET FILTERS SHALL BE INSTALLED AND PROPERLY MAINTAINED DURING THE PROJECT.
- UNLESS SOIL EROSION ITEMS ARE SPECIFICALLY REFERRED TO IN THE SPECIFICATIONS AS BID ITEMS (SUCH AS SILT FENCE, SOD, ETC.) THEY SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONTRACT.
- ANY SOIL EROSION CONTROL MEASURES THAT ARE DEEMED NECESSARY BY THE CITY ENGINEER SHALL BE IMPLEMENTED IMMEDIATELY BY THE CONTRACTOR.

TRAFFIC CONTROL AND STAGING

- THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH IDOT SPECIFICATIONS, THE SPECIAL PROVISIONS, AND AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. NO WORK SHALL COMMENCE UNTIL TRAFFIC CONTROL REQUIREMENTS ARE MET TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR SHALL ENSURE THAT ALL TRAFFIC CONTROL DEVICES ARE OPERATIONAL AND EFFECTIVE 24 HOURS A DAY, INCLUDING SUNDAYS AND HOLIDAYS.
- ALL TRAFFIC CONTROL AND PROTECTION DEVICES SHALL BE CLEANED AND MAINTAINED AS NECESSARY THROUGHOUT THE DURATION OF THE CONTRACT. THIS SHALL BE CONSIDERED AS INCIDENTAL TO OTHER BID ITEMS FOR TRAFFIC CONTROL.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO EMERGENCY VEHICLES AND RESIDENTS AT ALL TIMES. AT LEAST ONE LANE OF TRAFFIC MUST BE OPEN AT ALL TIMES.
- DURING CONSTRUCTION STAGING OPERATIONS, THE AFFECTED RESIDENTS SHALL BE GIVEN 48 HOURS NOTICE OF INTENDED WORK VIA TEMPORARY SIGNAGE PER ARTICAL 720 OF THE IDOT STANDARD SPECIFICATIONS, AND FULL RESTORATION OF PROPERTY SHALL BE CARRIED OUT UPON COMPLETION OF WORK. PAVEMENT FOR TEMPORARY SIGNAGE SHALL BE BY PAY ITEM - SIGN PANEL.
- EXCEPT FOR PERIODS OF SHORT DURATION, THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT. THIS WORK SHALL BE INCLUDED IN THE OVERALL COST OF THE CONTRACT.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL TWO WEIGHTED SAND BAGS ON EACH TYPE I OR TYPE II BARRICADE USED. ONE WEIGHTED SAND BAG SHALL BE USED ACROSS EACH BOTTOM RAIL.
- EXCAVATIONS OUTSIDE OF PAVEMENTS REMAINING OPEN OVERNIGHT SHALL BE PROTECTED EACH NIGHT; THIS MAY BE ACHIEVED BY BACKFILLING TO GRADE OR LIGHTED BARRICADES AND FENCING ON ALL SIDES.

PAVING NOTES

- ALL PAVING MATERIALS INCORPORATED INTO THE PROJECT SHALL BE FROM ILLINOIS DEPARTMENT OF TRANSPORTATION APPROVED STOCKPILES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ALL REFERENCES IN THESE PLANS TO BITUMINOUS MATERIALS SHALL BE INTERPRETED TO MEAN HOT- MIX ASPHALT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL SAW CUT PAVEMENT, CURB & GUTTER AND DRIVEWAYS TO BE REMOVED AS INDICATED ON THE PLANS. SAWCUT SHALL BE PERFORMED BY MEANS OF AN APPROVED SAW TO FULL- DEPTH OF THE MATERIAL BEING REMOVED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED AS INCLUDED IN THE UNIT COST OF THE REMOVAL ITEM INVOLVED.
- NO CONCRETE SHALL BE PLACED UNTIL ALL THE FORMS HAVE BEEN INSPECTED FOR LINE, GRADE AND SUBGRADE CONDITIONS BY THE RESIDENT ENGINEER. INSPECTIONS SHALL BE ARRANGED AT LEAST TWENTY- FOUR HOURS IN ADVANCE OF ANY CONCRETE PLACEMENT.
- PROTECTIVE COAT SHALL BE APPLIED TO ALL NEW GUTTER FLAGS, FACES AND TOPS OF CURBS; NEW P.C.C. SIDEWALKS, CONCRETE EDGING AND P.C.C. DRIVEWAY PAVEMENT, IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS" AND AS DIRECTED BY THE ENGINEER.

DESIGNED: Y GALLIN	
DRAWN: R JOHNSON	
CHECKED: T GRIMM	
DATE: MARCH 5, 2015	



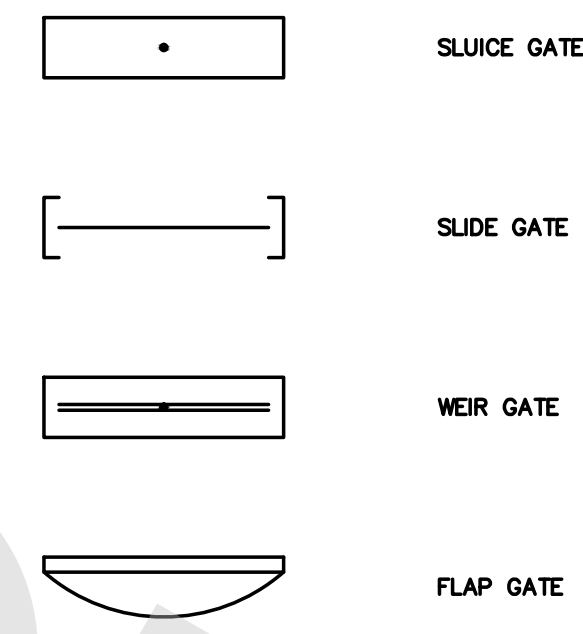
VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

GENERAL NOTES

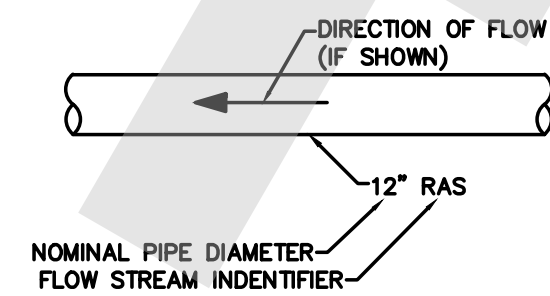
SCALES		COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL:	-	DUPAGE	16	2
VERTICAL:	-	STA. - TO STA.	-	-
PROJECT NO. 11-2783-00				

ABBREVIATIONS	
AVG	AVERAGE
B/	BOTTOM OF
BB	BUFFALO BOX
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BIT.	BITUMINOUS
C&G	CURB & GUTTER
CB	CATCH BASIN
C	CENTERLINE
CO	CLEAN OUT
CONC.	CONCRETE
CONT	CONTINUATION
CPVC	CHLORINATED POLYVINYL CHLORIDE
DEG OR °	DEGREE
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWFM	DRY WEATHER FORCE MAIN
DWG	DRAWING
ECC	ECCENTRIC
EL	ELEVATION
ELL	ELBOW
ESO	EMERGENCY SEWER OVERFLOW
EXIST	EXISTING
EXP	EXPANSION
FCA	FLANGED COUPLING ADAPTER
FLG	FLANGE
FL	FLOOR
GALV	GALVANIZED
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT-MIX ASPHALT
HP	HIGH POINT
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
INV	INVERT
LP	LOW POINT
LR	LONG RADIUS
LWL	LOW WATER LEVEL
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
PCC	PORTLAND CEMENT CONCRETE
PCP	PRESTRESSED CONCRETE PIPE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
SAN.	SANITARY SEWER
SR	SHORT RADIUS
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STM	STORM SEWER
STMH	STORM MANHOLE
T/	TOP OF
TYP	TYPICAL
VCP	VITRIFIED CLAY PIPE
VV	VALVE VAULT
W/	WITH
W/O	WITHOUT
WL	WATER LEVEL
WM	WATER MAIN
WWM	WET WEATHER FORCE MAIN
YR	YEAR

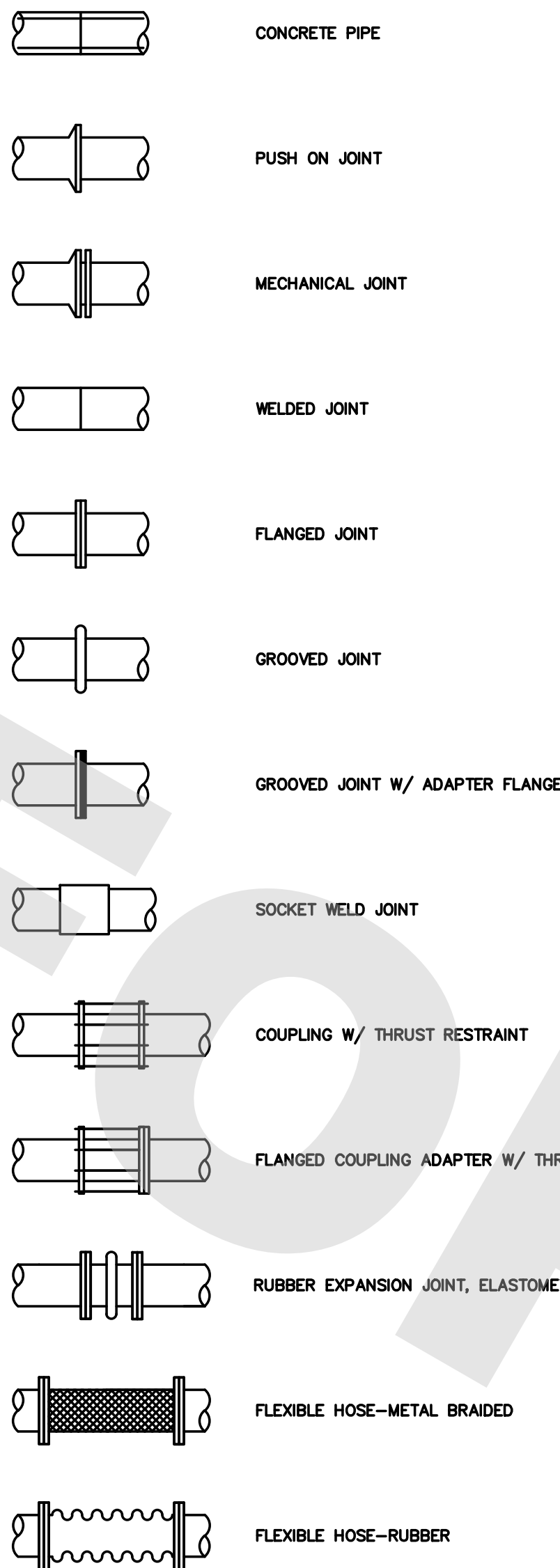
GATE IDENTIFICATION



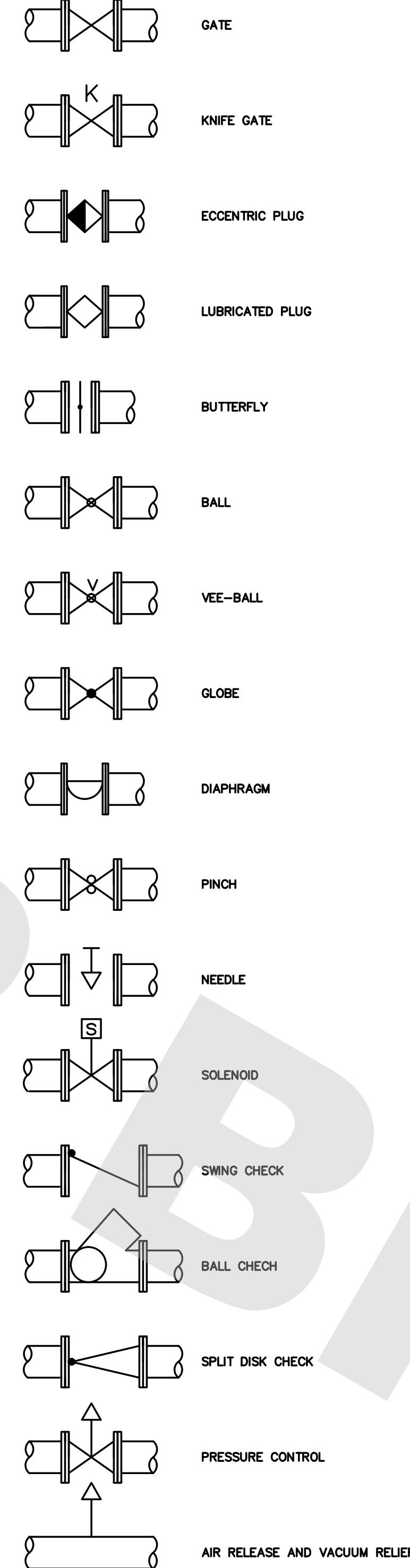
PIPE IDENTIFICATION



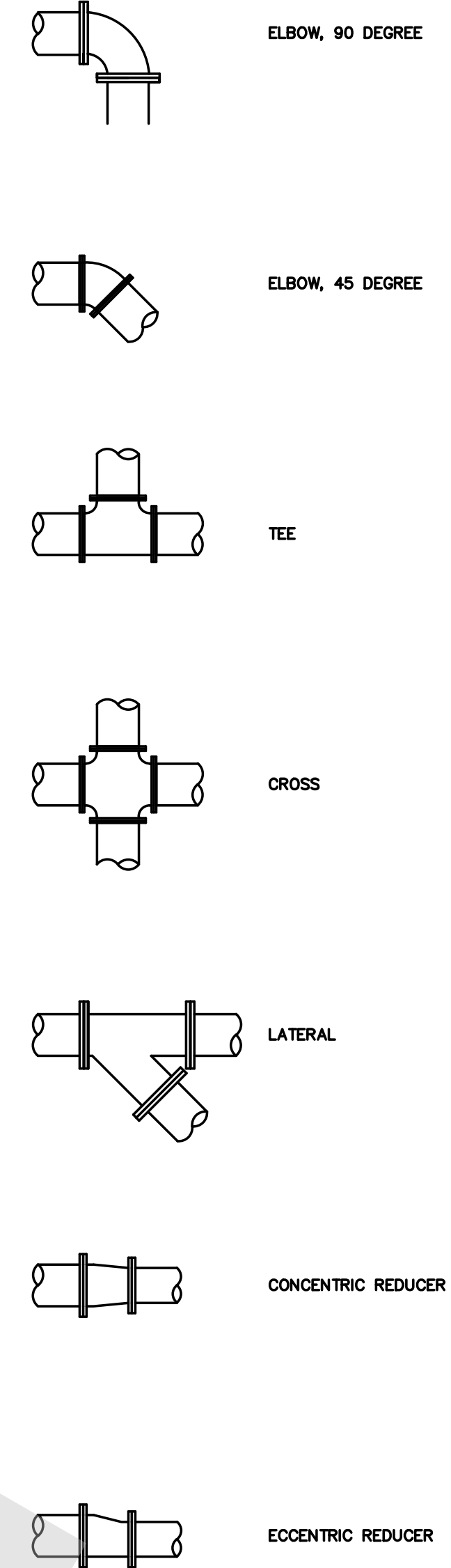
PIPE & JOINT SYMBOLS



VALVE SYMBOLS



CONNECTION SYMBOLS



Q:\VillaPark_IL\11278300_Villa Park North Ave TH Lift.stn\04_CAD\Sheets\C-PIPE SYMBOLS.dwg

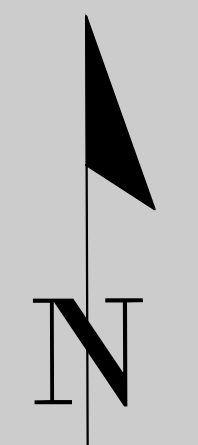
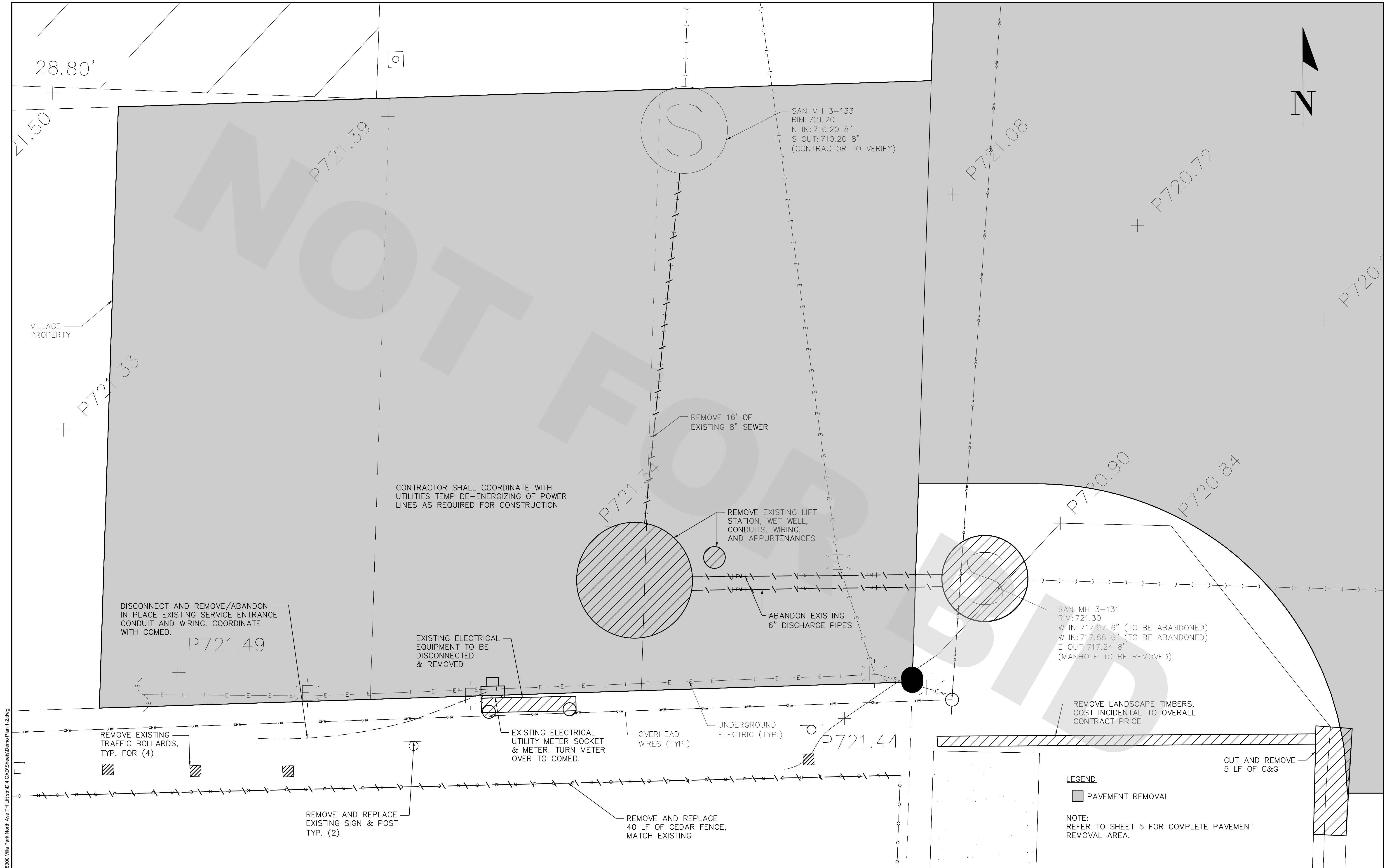
DESIGNED: Y GALLIN
DRAWN: R JOHNSON
CHECKED: T GRIMM
DATE: MARCH 5, 2015



VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

PIPE SYMBOLS
& ABBREVIATIONS

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL:	DUPAGE	16	3
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			



LEGEND
 ■ PAVEMENT REMOVAL
 NOTE:
 REFER TO SHEET 5 FOR COMPLETE PAVEMENT
 REMOVAL AREA.

Q:\VillaPark_IL\11278300_Villa Park North Ave TH Lift.sml\04_CAD\Sheets\Demo Plan 1,2.dwg
 3/5/2015

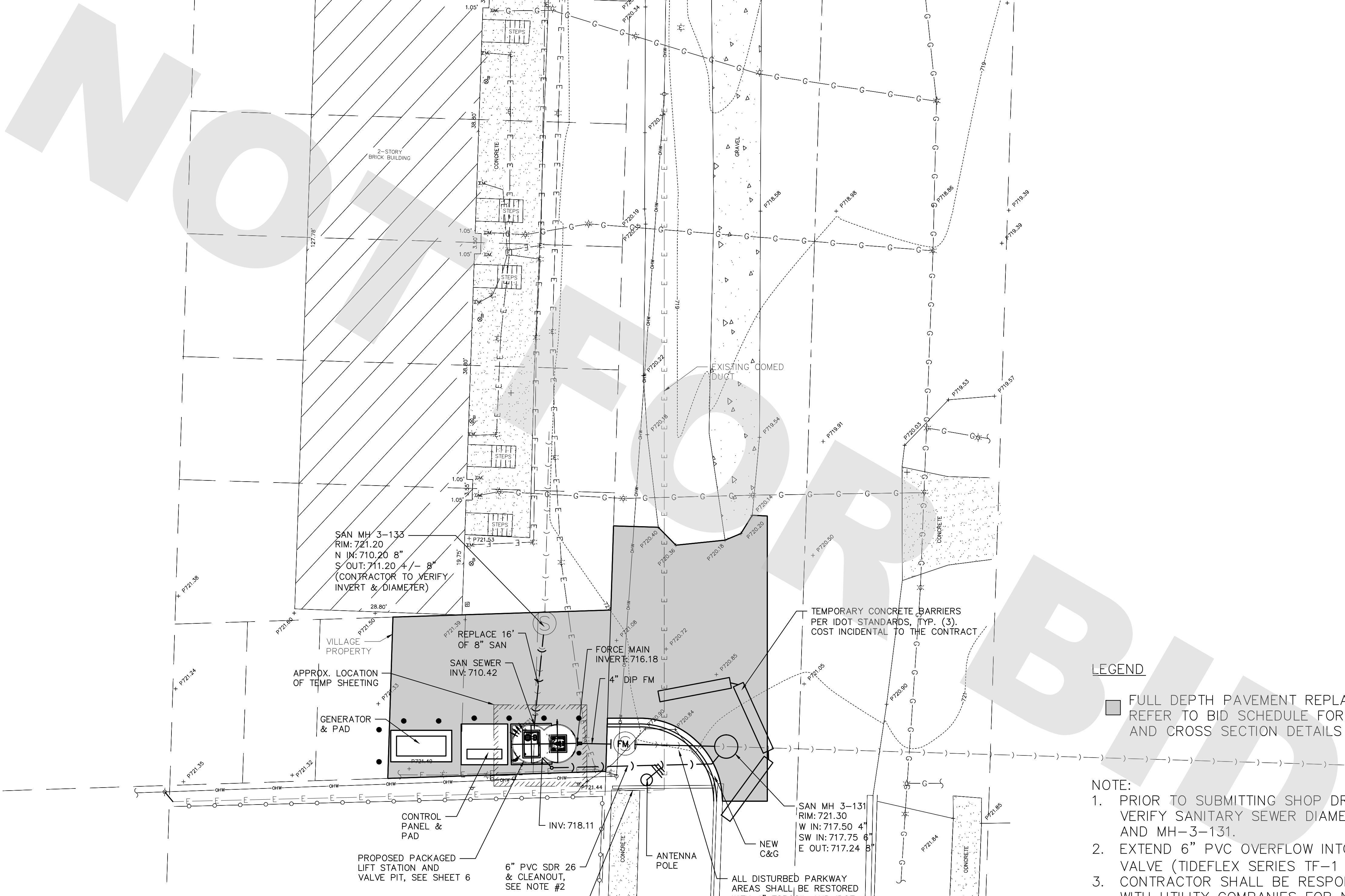
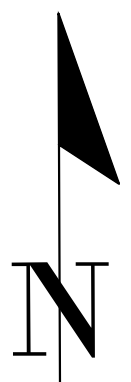
DESIGNED: Y GALLIN	
DRAWN: R JOHNSON	
CHECKED: T GRIMM	
DATE: MARCH 5, 2015	



**VILLAGE OF VILLA PARK
 LIFT STATION REPLACEMENT**

**EXISTING CONDITIONS &
 DEMOLITION SHEET**

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: 1"=2'	DUPAGE	16	4
VERTICAL: -	STA. - TO STA. -		
PROJECT NO. 11-2783-00			



LEGEND

- FULL DEPTH PAVEMENT REPLACEMENT, REFER TO BID SCHEDULE FOR PAY ITEMS AND CROSS SECTION DETAILS ON SHEET 8.

NOTE:

1. PRIOR TO SUBMITTING SHOP DRAWINGS, CONTRACTOR SHALL VERIFY SANITARY SEWER DIAMETER AND INVERTS AT MH 3-133 AND MH-3-131.
2. EXTEND 6" PVC OVERFLOW INTO MANHOLE AND INSTALL CHECK VALVE (TIDEFLEX SERIES TF-1 OR APPROVED EQUAL).
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH UTILITY COMPANIES FOR NEW SERVICE CONNECTIONS INCLUDING COMED & NICOR.
4. PAVEMENT FINISHED GRADE SHALL MATCH EXISTING.
5. PROPOSED TOP OF P.C.C. GENERATOR AND CONTROL PANEL PAD SHALL BE SET AT 721.80'.

Q:\VillaPark_IL\11278300_Villa Park North Ave TH Lift Station CAD\Sheets\Proposed Plan 1-10.dwg
 3/5/2015

DESIGNED: Y GALLIN	
DRAWN: R JOHNSON	
CHECKED: T GRIMM	
DATE: MARCH 5, 2015	

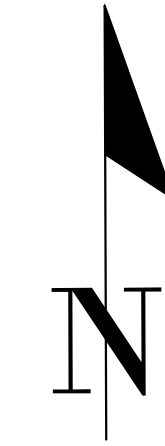


VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

PROPOSED SITE PLAN

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: 1"=10'	DUPAGE	16	5
VERTICAL: -	STA. - TO STA. -		
PROJECT NO. 11-2783-00			

28.80'



VILLAGE PROPERTY

P.C.C. GENERATOR PAD,
SEE STRUCTURAL DETAILS,
SHEET 7

P.C.C. CONTROL PANEL PAD,
SEE STRUCTURAL DETAILS,
SHEET 7

STAND-BY GENERATOR,
SEE ELECTRICAL DETAILS
AND SPECIFICATIONS

OVERHEAD
WIRES (TYP.)

UNDERGROUND
ELECTRIC (TYP.)

PROPOSED LOCATION
OF COMED BURIED
PRIMARY CABLE

SAN MH 3-133
RIM: 721.20
N IN: 710.20 8"
S OUT: 711.20 +/- 8" (SEE NOTE #1)

CONNECT TO
EXISTING MANHOLE

PROPOSED PACKAGED LIFT
STATION & VALVE PIT,
SEE SHEET 6

REPLACE 16'
OF 8" SAN.

APPROX. LOCATION OF
TEMP. SHEETING

SAN SEWER
INVERT: 710.42

FORCE MAIN
INVERT: 716.18

4" DIP
DISCHARGE

INVERT: 718.11

CLEANOUT

BOLLARD,
TYP. (9)

F/G: 721.30 +/-
B/ELEC: 716.97
T/FM: 716.6

SAN MH 3-131
RIM: 721.30
W IN: 717.50 4"
SW IN: 717.75 6"
E OUT: 717.24 8" +/-

NEW C&G TO MATCH
EXISTING GRADE AND
EXISTING C&G,
COORDINATE LOCATION
WITH ENGINEER

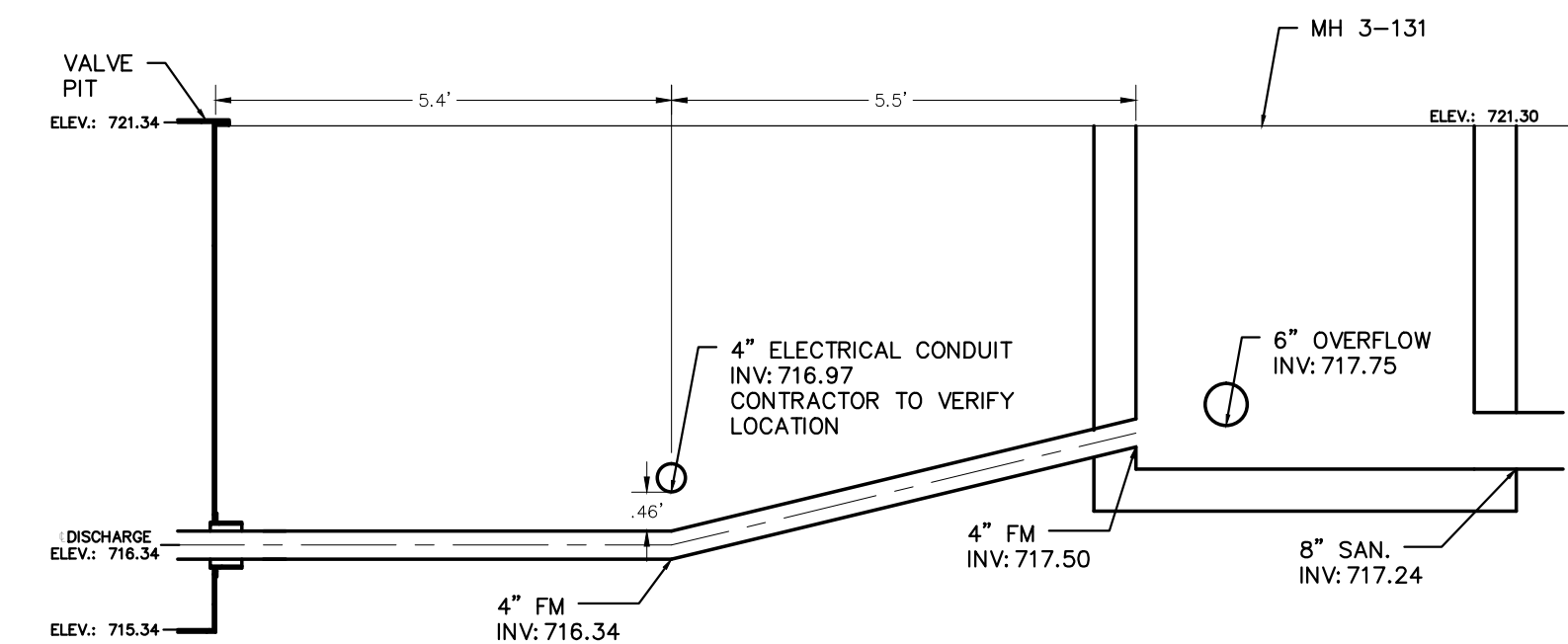
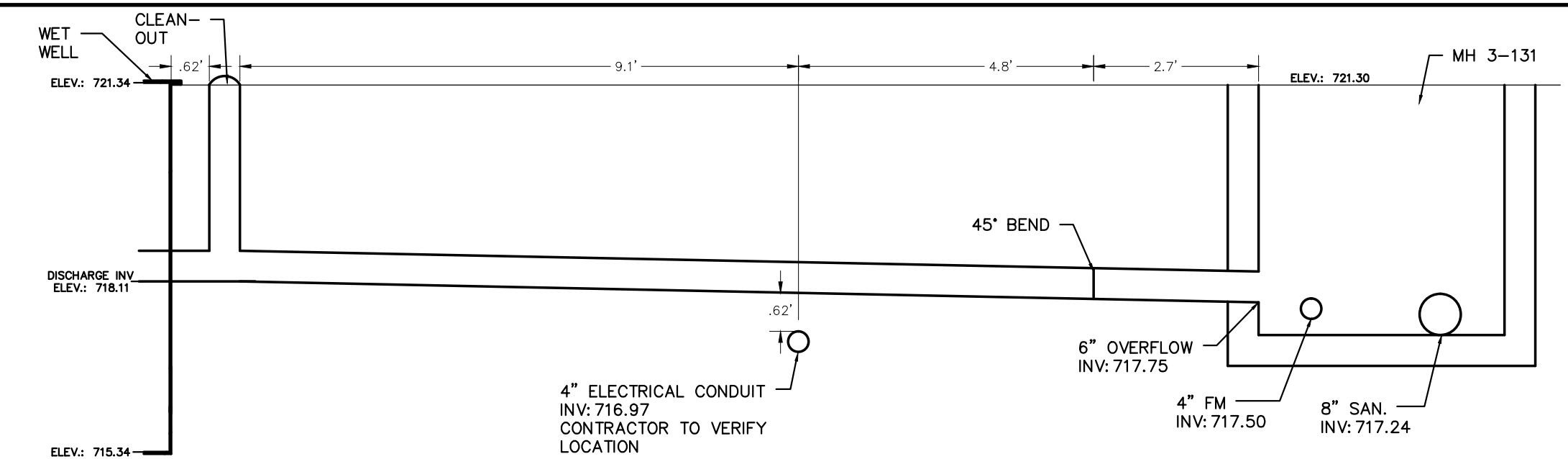
F/G: 721.30 +/-
B/SAN: 718.0
T/ELEC: 717.3

6" PVC SDR 26
OVERFLOW,
SEE NOTE #2

ANTENNA POLE,
COORDINATE FINAL
LOCATION IN THE
FIELD W/ ENGINEER

NOTE:

1. PRIOR TO SUBMITTING SHOP DRAWINGS, CONTRACTOR SHALL VERIFY SANITARY SEWER DIAMETER AND INVERTS AT MH 3-133 AND MH-3-131.
2. EXTEND 6" PVC OVERFLOW INTO MANHOLE AND INSTALL CHECK VALVE (TIDEFLEX SERIES TF-1 OR APPROVED EQUAL).
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH UTILITY COMPANIES FOR NEW SERVICE CONNECTIONS INCLUDING COMED & NICOR.



Q:\VillaPark_IL\11278300_Villa Park North Ave TH Lift.stn\10.4_CAD\Sheets\Proposed Plan 1,2.dwg

DESIGNED: Y GALLIN	
DRAWN: R JOHNSON	
CHECKED: T GRIMM	
DATE: MARCH 5, 2015	

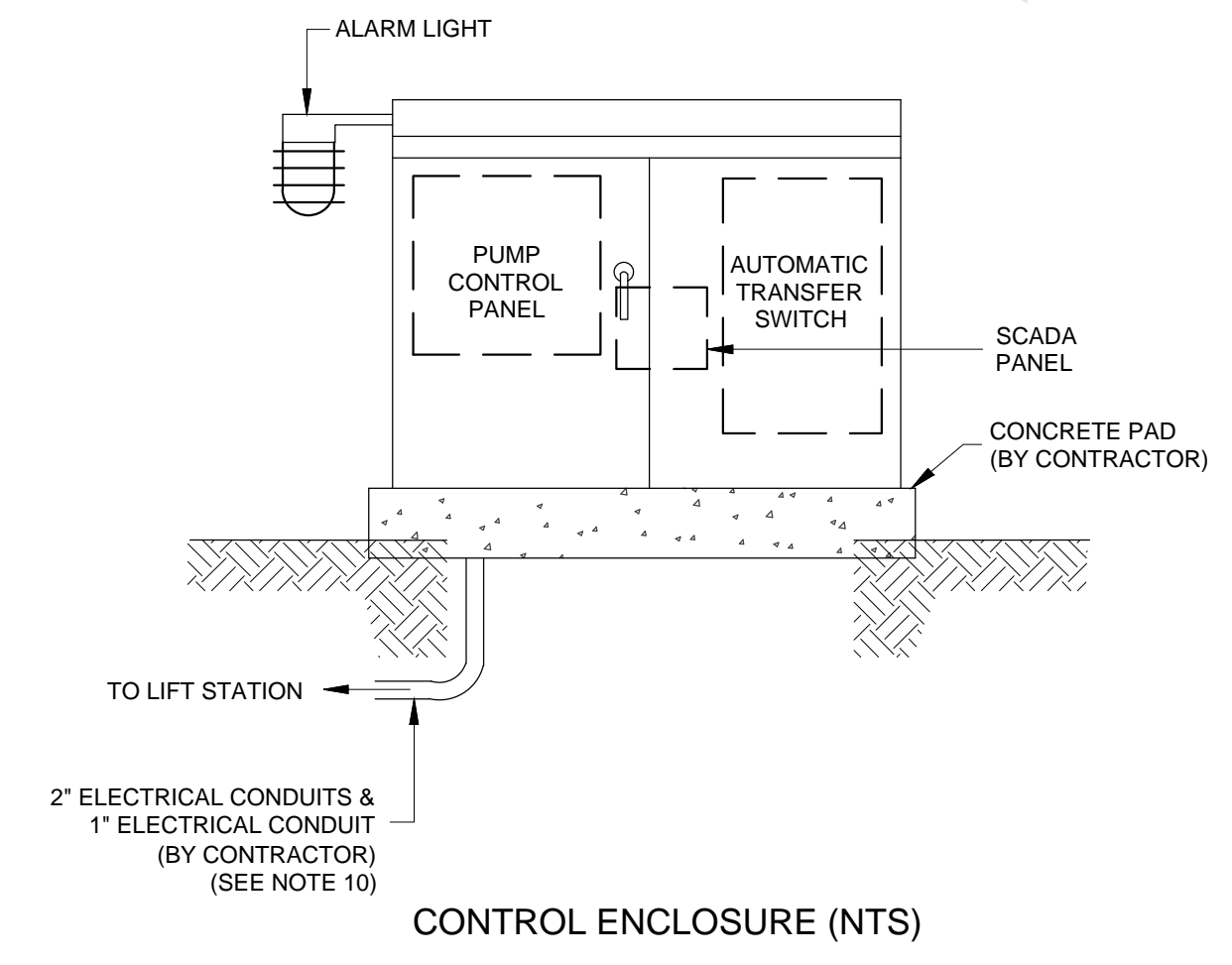
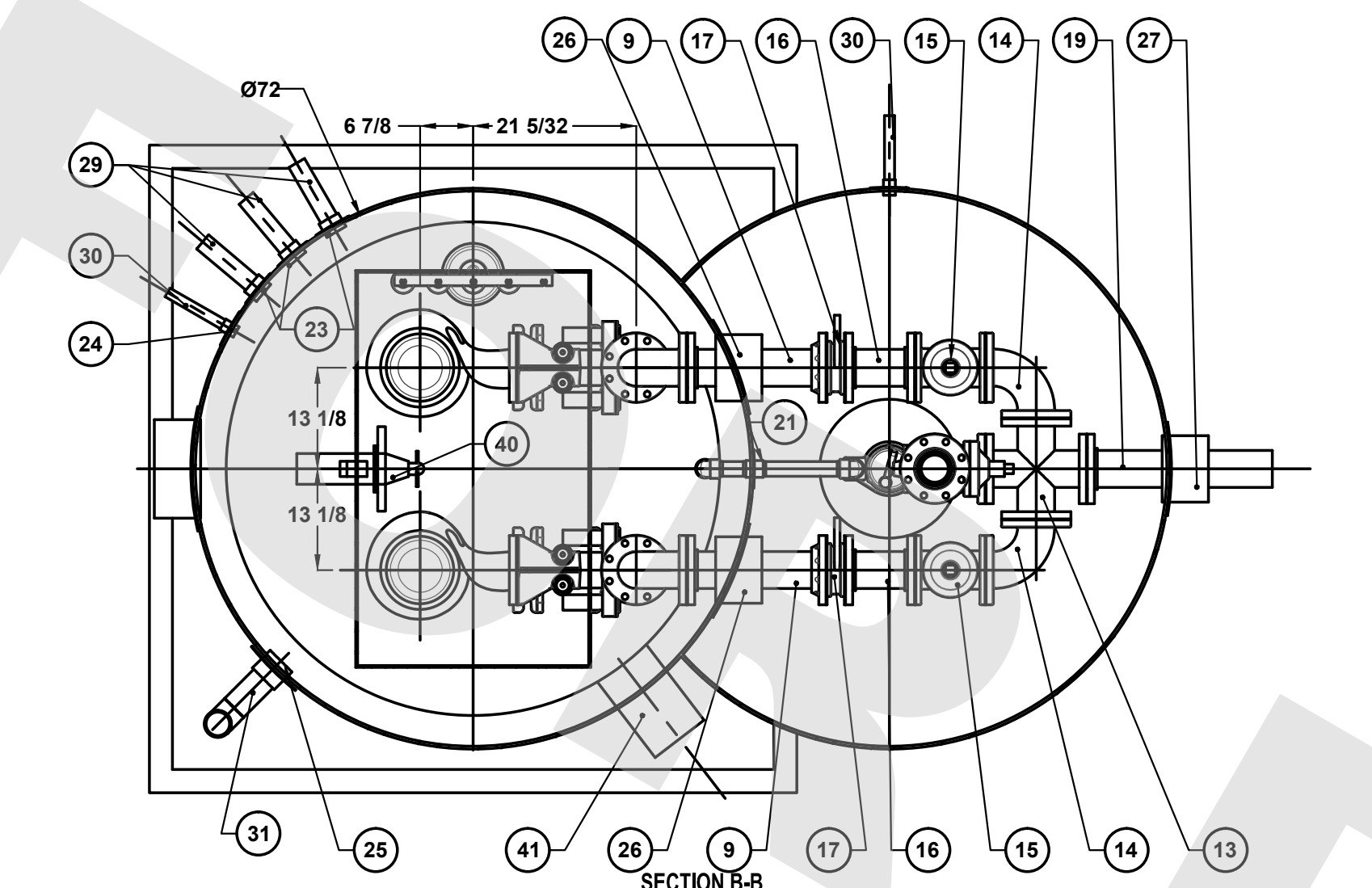
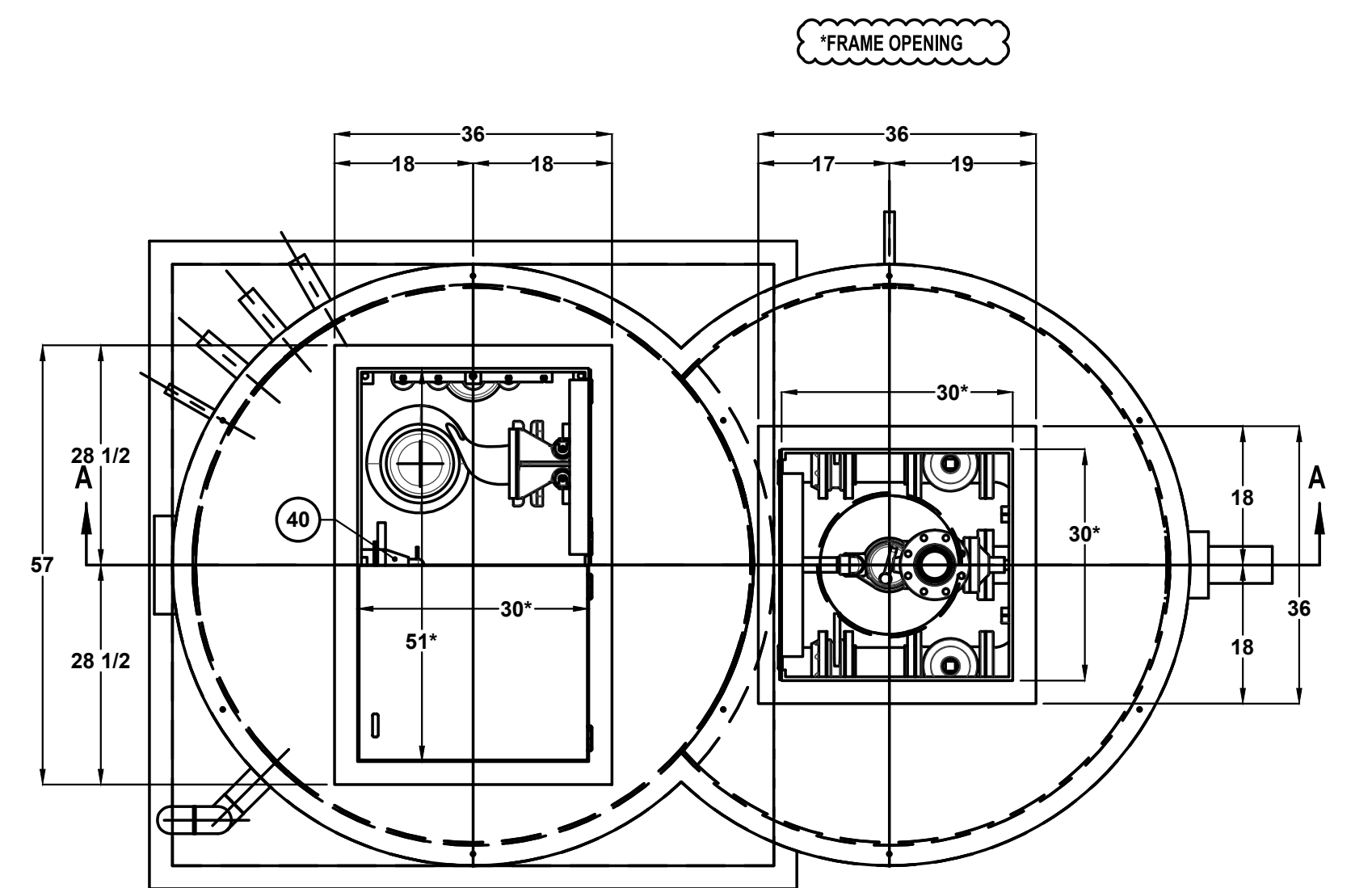
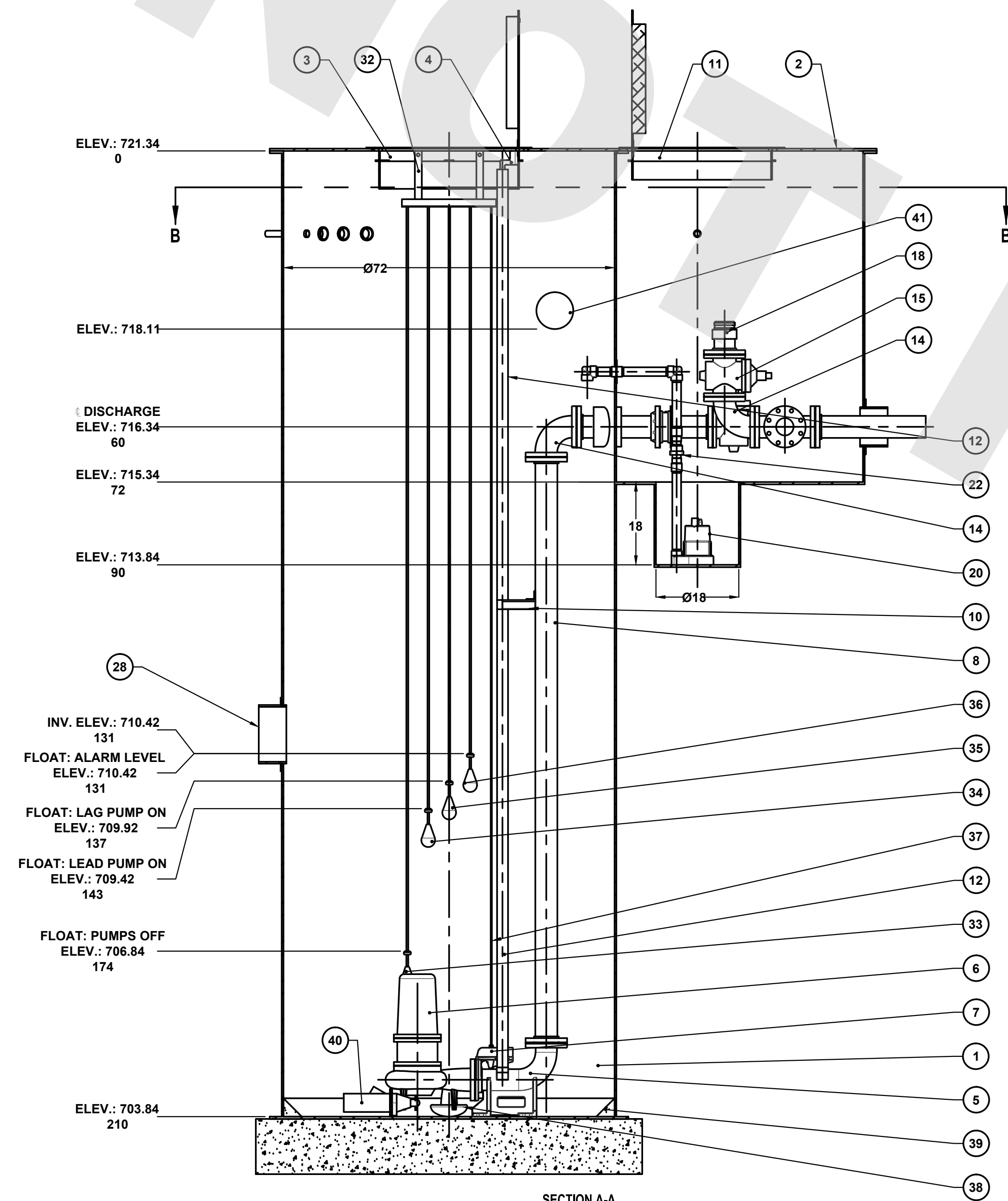


VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

PROPOSED SITE PLAN

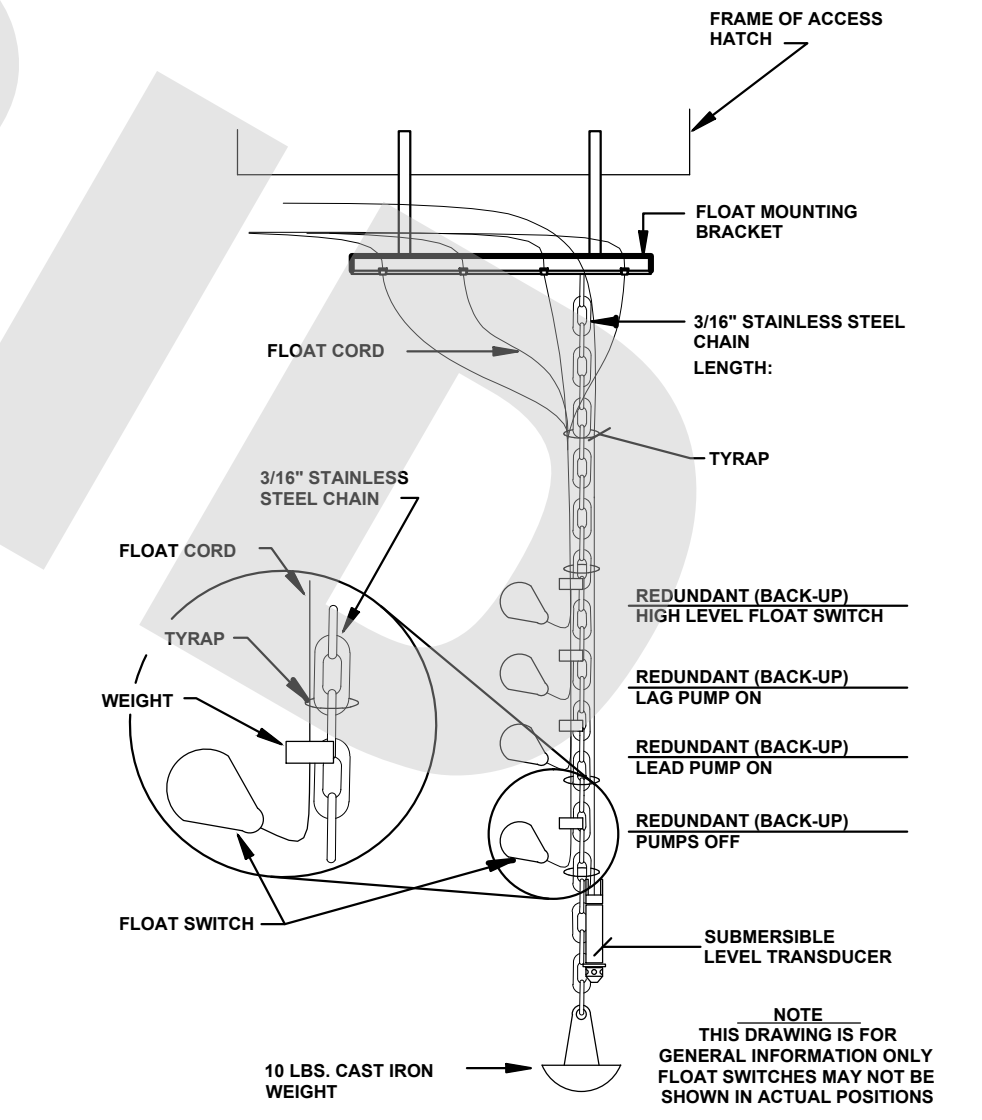
SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: 1"=2'	DUPAGE	16	6
VERTICAL: -	STA. - TO STA. -		
PROJECT NO. 11-2783-00			

- NOTES:**
- THIS DRAWING IS PRELIMINARY LAYOUT ONLY. NOT FOR CONSTRUCTION. CONSTRUCTION DRAWINGS WILL BE FORWARDED UPON RECEIPT OF APPROVED SUBMITTALS.
 - SOME ITEMS NOT SHOWN FOR CLARITY.
 - ADEQUATE LIFTING POINTS TO BE PROVIDED.
 - CONTRACTOR TO FILL INLET HUB WITH GROUT AFTER INSTALLING FIELD PIPING.
 - ALL COMPRESSION COUPLINGS, EPC's & FCA's, TO BE RESTRAINED WITH A MINIMUM OF 2 CONTROL RODS WHEN REQUIRED.
 - LIFT STATION TO BE INSTALLED BY AN EXPERIENCED AND QUALIFIED CONTRACTOR.
 - ALL CONCRETE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS, PIPING, LAYOUT, AND ORIENTATION OF INLET (S), DISCHARGE AND CONDUIT (S).
 - ELECTRICAL COMPONENTS IN THE WET WELL SHALL BE RATED FOR CLASS I, DIV. I, GROUP C & D LOCATIONS.
 - CONDUITS ARE AS FOLLOWS: (1) 2" FOR LEVEL CONTROLS & PUMP SENSOR CABLES, (1) 2" FOR EACH PUMP POWER CORD, (1) 1" FOR SUBMERSIBLE LEVEL TRANSDUCER & (1) 1" FOR SUMP PUMP POWER.
 - CONTRACTOR TO ORDER CONTROL AND POWER CORDS OF SUFFICIENT LENGTH TO REACH CONTROL PANEL FROM POINT OF ORIGIN ON PUMPS WITHOUT SPLICING.



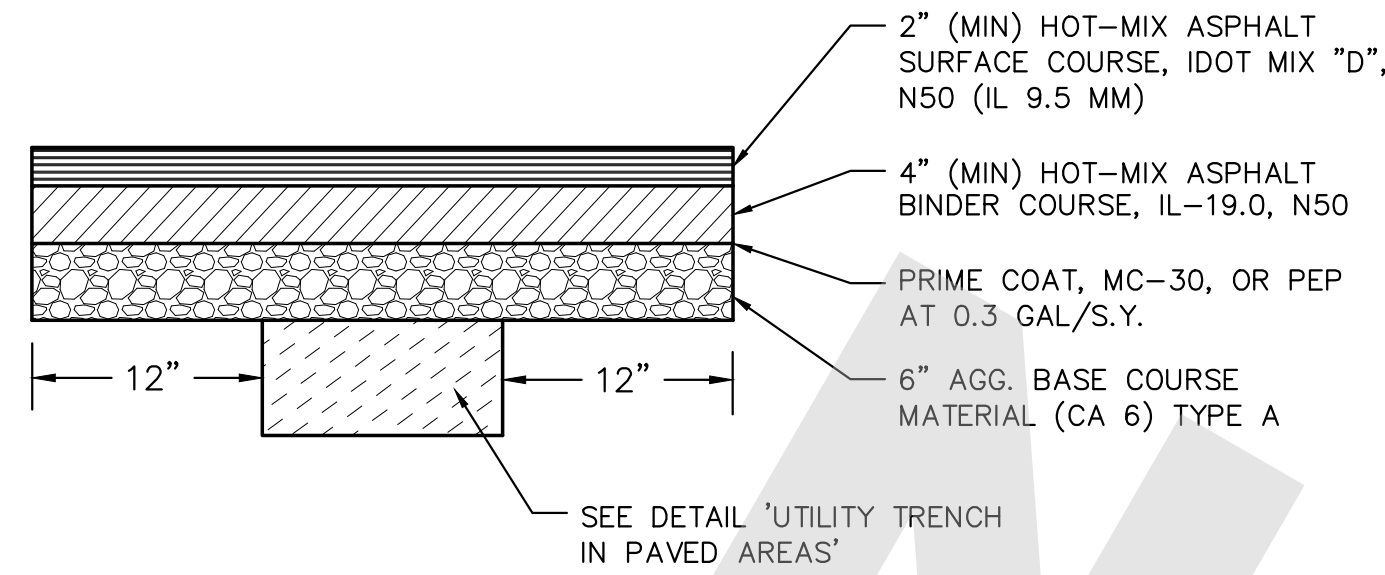
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FIBERGLASS WET WELL & VALVE VAULT	6'-0" DIA. x17'-6" DEEP	1
2	LIFT STATION COVER	1/2" THK. STEEL	1
3	APD300-30x51	DUPLEX ALUMINUM ACCESS HATCH	1
4	UPPER GUIDE RAIL SUPPORTS	FOR 2" RAIL SYSTEM, BY OTHERS	2
5	4" MTM ELBOW		2
6	S4NVX500	HYDROMATIC SUBMERSIBLE SEWAGE PUMP WITH VORTEX IMPELLER	2
7	4" MTM SEALING FLANGE		2
8	4" RISER	ANSI CLASS 125 FLANGES, CLASS 53 DIP	2
9	4" SPOOL (A)	ANSI CLASS 125 FLANGES, CLASS 53 DIP	2
10	INTERMEDIATE GUIDE RAIL SUPPORT	1 1/2", 2" & 3" GUIDE RAILS	2
11	APS300-30x30	SIMPLEX ALUMINUM ACCESS HATCH	1
12	2" GUIDE RAIL	SCHED. 40 STAINLESS STEEL PIPE	8
13	4" CROSS	D.J. FITTING	1
14	4" S.R. ELBOW	D.J. FITTING	5
15	4" PLUG VALVE	VALVE, PLUG, 4", 2 WAY, PN PEC, 4.1, C1, NBR-CR-NUT	3
16	4" SPOOL (B)		2
17	4" WAFER CHECK VALVE	FIGURE 813, PRINCE	2
18	4" QUICK CONNECT COUPLING FLANGED	MALE END	1
19	4" STATION DISCHARGE	ANSI CLASS 125 FLANGE x P.E., CLASS 53 DIP	1
20	SUMP PUMP		1
21	1.5" COUPLING 72" ID		1
22	1.50" CHECK VALVE		1
23	2" COUPLING 72" ID	CONDUIT COUPLINGS	3
24	1" COUPLING 72" ID	CONDUIT COUPLINGS	2
25	3" COUPLING 72" ID	FOR VENT DISCHARGE	1
26	WET WELL TO VALVE VAULT LINK SEAL SLEEVE		2
27	STATION DISCHARGE LINK SEAL SLEEVE		1
28	INFLUENT HUB	SHIPPED LOOSE, CONTRACTOR TO LOCATE & INSTALL IN FIELD.	1
29	2" RIGID CONDUIT	BY OTHERS	3
30	1" RIGID CONDUIT	BY OTHERS	2
31	3" VENT PIPING	BY OTHERS	1
32	FLOAT MOUNTING BRACKET	STAINLESS STEEL, TO BE SHIPPED LOOSE - CONTRACTOR TO INSTALL IN FIELD.	1
33	FLOAT: OFF LEVEL	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
34	FLOAT: LEAD PUMP ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
35	FLOAT: LAG PUMP ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
36	FLOAT: ALARM LEVEL	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
37	SUBMERSIBLE LEVEL TRANSDUCER		1
38	ANCHOR	10lbs CAST IRON, WITH STAINLESS STEEL CHAIN FOR LEVEL CONTROL MOUNTING	1
39	CONCRETE FILLET	SLOPE 1:1, BY OTHERS	1
40	SUBMERSIBLE MIXER		1
41	6" OVERFLOW PIPE		1

WHEN CHANGING FLOAT LEVELS, PULL CHAIN, ANCHOR, AND FLOATS OUT OF WET WELL. CUT NECESSARY TYRAPS AND READJUST THE LEVEL OF THE FLOAT. WHEN PROPER LEVEL IS ACHIEVED, RE-FASTEN FLOAT CORD TO CHAIN WITH NEW TYRAPS. PLACE ENTIRE UNIT BACK INTO WET WELL.



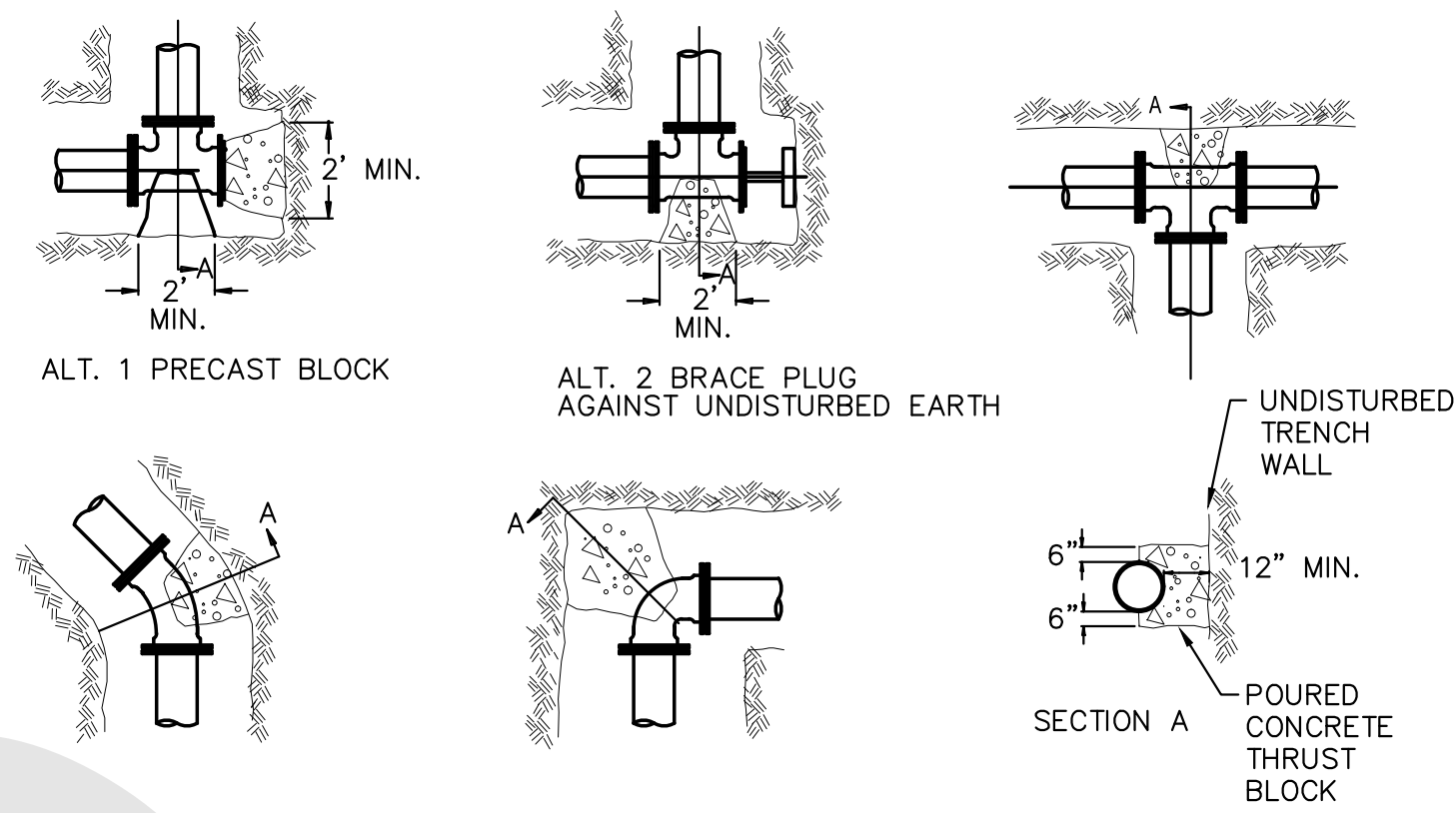
NOTE: THIS DRAWING IS FOR GENERAL INFORMATION ONLY. FLOAT SWITCHES MAY NOT BE SHOWN IN ACTUAL POSITIONS.

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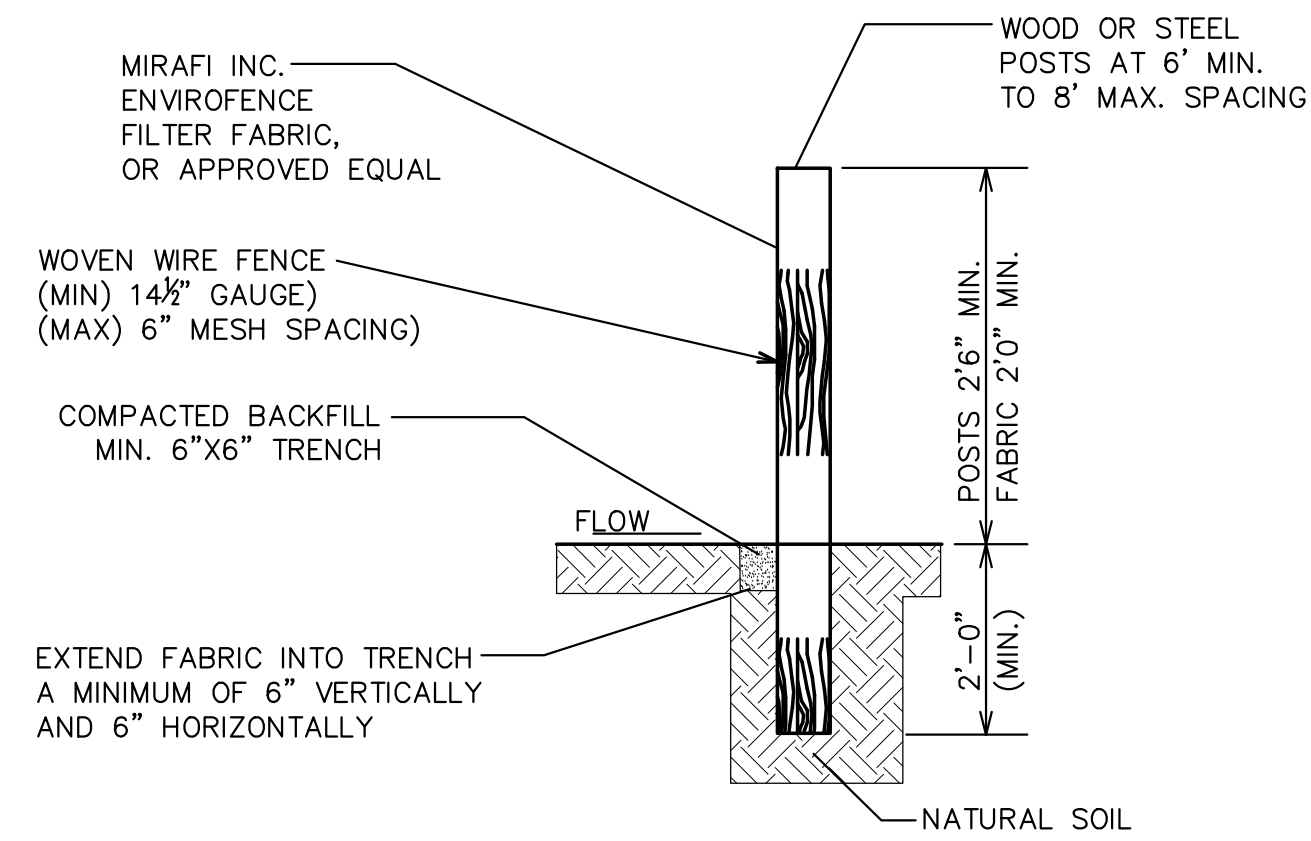
- NOTES:
1. ALL PAVEMENT PATCHES SHALL BE SAWCUT FULL-DEPTH A MINIMUM OF ONE FOOT BEYOND THE LIMITS OF PAVEMENT REMOVAL IN ALL DIRECTIONS
 2. 4" (MIN) BINDER TOTAL OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER
 3. HOT-MIX ASPHALT SURFACE COURSE TO BE PLACED ON SECOND DAY, OR AS DIRECTED BY ENGINEER

FLEXIBLE PAVEMENT DETAIL
NTS



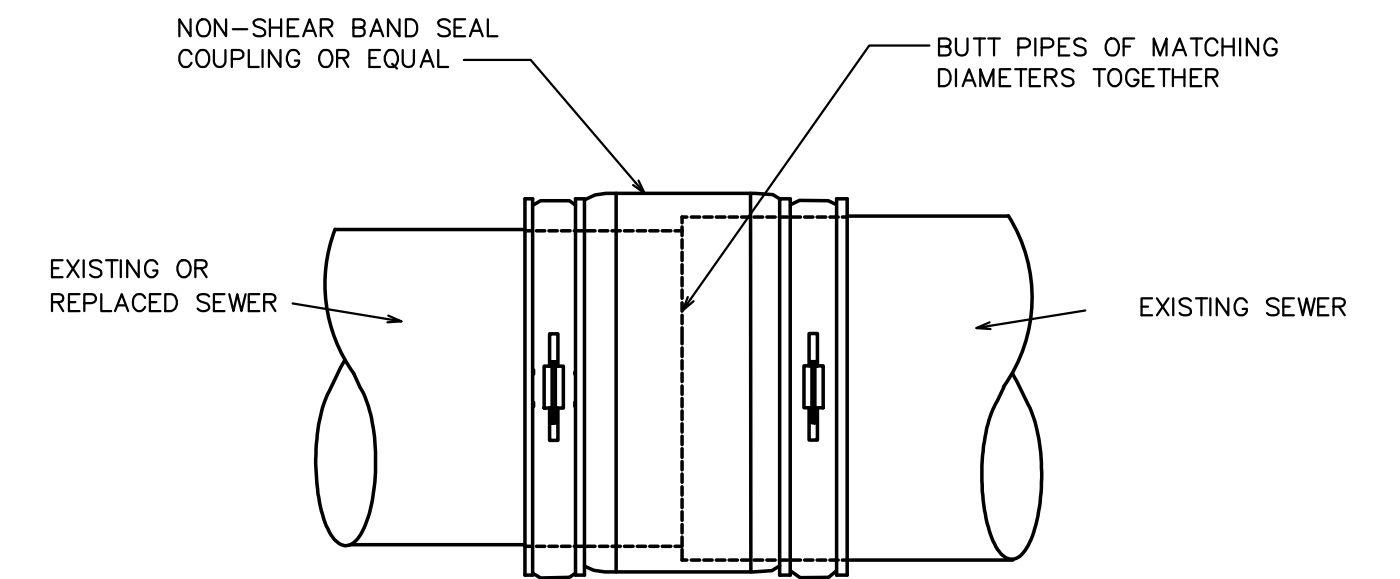
- NOTES:
1. THRUST BLOCKS SHALL BE MADE OF 12" THICK PRECAST CONCRETE BLOCKS OR POURED IN PLACE CONCRETE.
 2. THRUST BLOCKS SHALL BE INSTALLED AT ALL TEES AND BENDS OF 11.25 DEGREES AND GREATER.
 3. THRUST BLOCKS SHALL BE INSTALLED AGAINST UNDISTURBED SOIL.
 4. CONCRETE SHALL BE 3000 PSI MINIMUM.
 5. POURED CONCRETE SHALL BE PLACED IN SUCH A MANNER THAT PIPE AND FITTINGS WILL BE ACCESSIBLE FOR REPAIRS.
 6. ALL JOINTS REQUIRING THRUST BLOCKING SHALL ALSO USE MEG-A-LUG RETAINER GLANDS.
 7. USE OF WOOD MATERIALS FOR THRUST BLOCKING IS STRONGLY PROHIBITED.
 8. ALL BELOW GRADE FASTENERS TO BE STAINLESS STEEL:
BOLTS & THREADED RODS - GRADE 304
NUTS & WASHERS - GRADE 300

THRUST BLOCK INSTALLATION
NTS

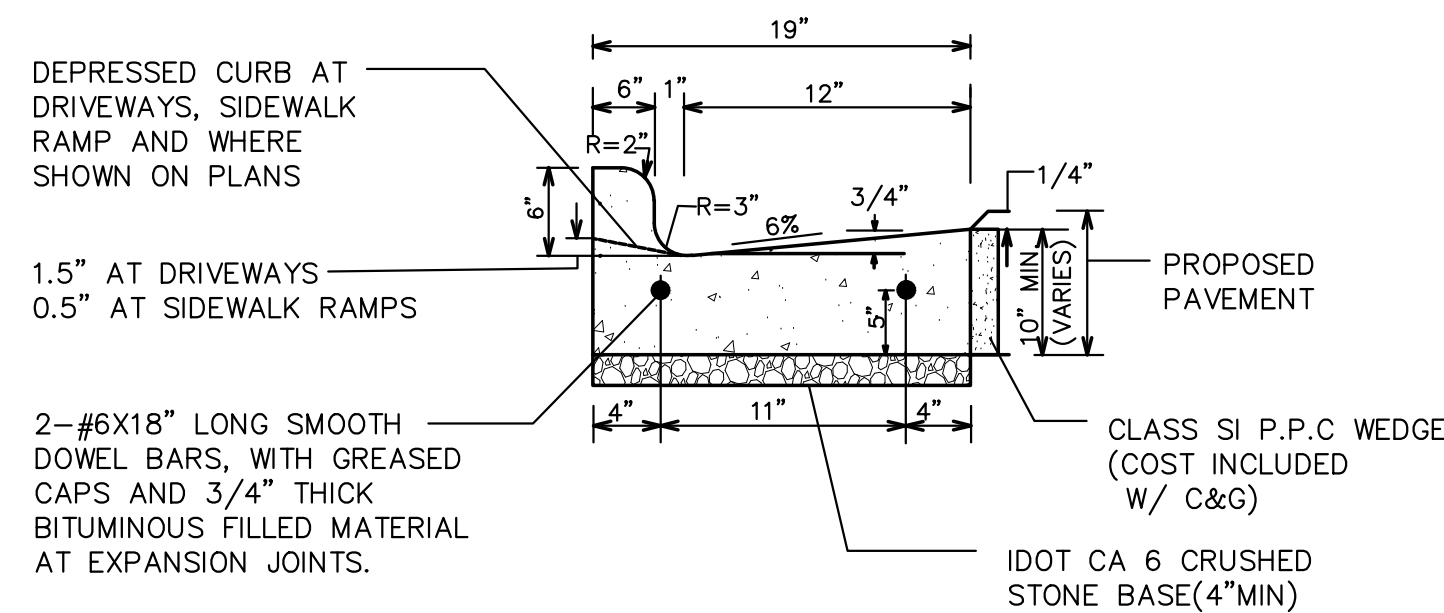


- NOTES:
1. FILTER BARRIERS SHALL BE PLACED AT THOSE LOCATIONS SHOWN ON THE PLANS INCLUDING STOCK PILE AREAS AND WHERE INDICATED BY THE CITY ENGINEERING DEPARTMENT.
 2. ATTACH FABRIC TO WIRE MESH WITH HOG RINGS, TO WOOD POSTS WITH NAILS, AND TO STEEL POSTS WITH TIE-WIRES AT TOP AND MID-SECTION.
 3. OVERLAP FILTER FABRIC BY 6" AND FOLD WHERE 2 SECTIONS ADJOIN.
 4. INSPECTION OF SILT FENCES SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAIN EVENTS IN EXCESS OF 1/2". REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 5. SEDIMENT TRAPPED BY THE FENCE SHALL BE REMOVED (AND PROMPTLY DISPOSED OF) WHENEVER SIGNIFICANT ACCUMULATION OCCURS. BARRIERS SHALL BE MAINTAINED IN PLACE UNTIL COMPLETION OF CONSTRUCTION AND THE UPSLOPE AREA HAS BEEN STABILIZED, AND SHALL BE REMOVED ONLY WHEN DIRECTED BY CITY ENGINEERING.

SILT FENCE DETAIL
NTS

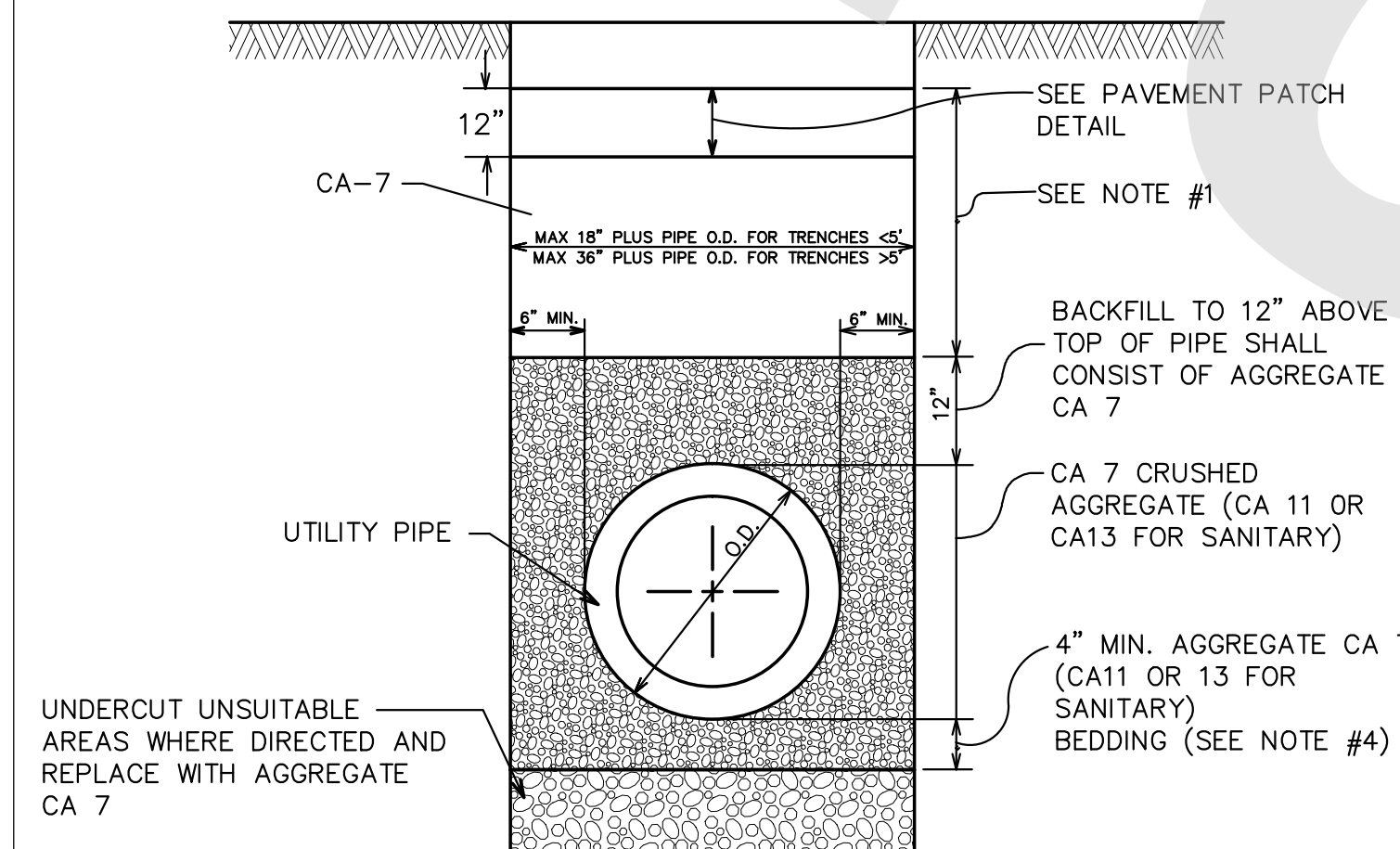


PIPE COUPLING DETAIL
NTS



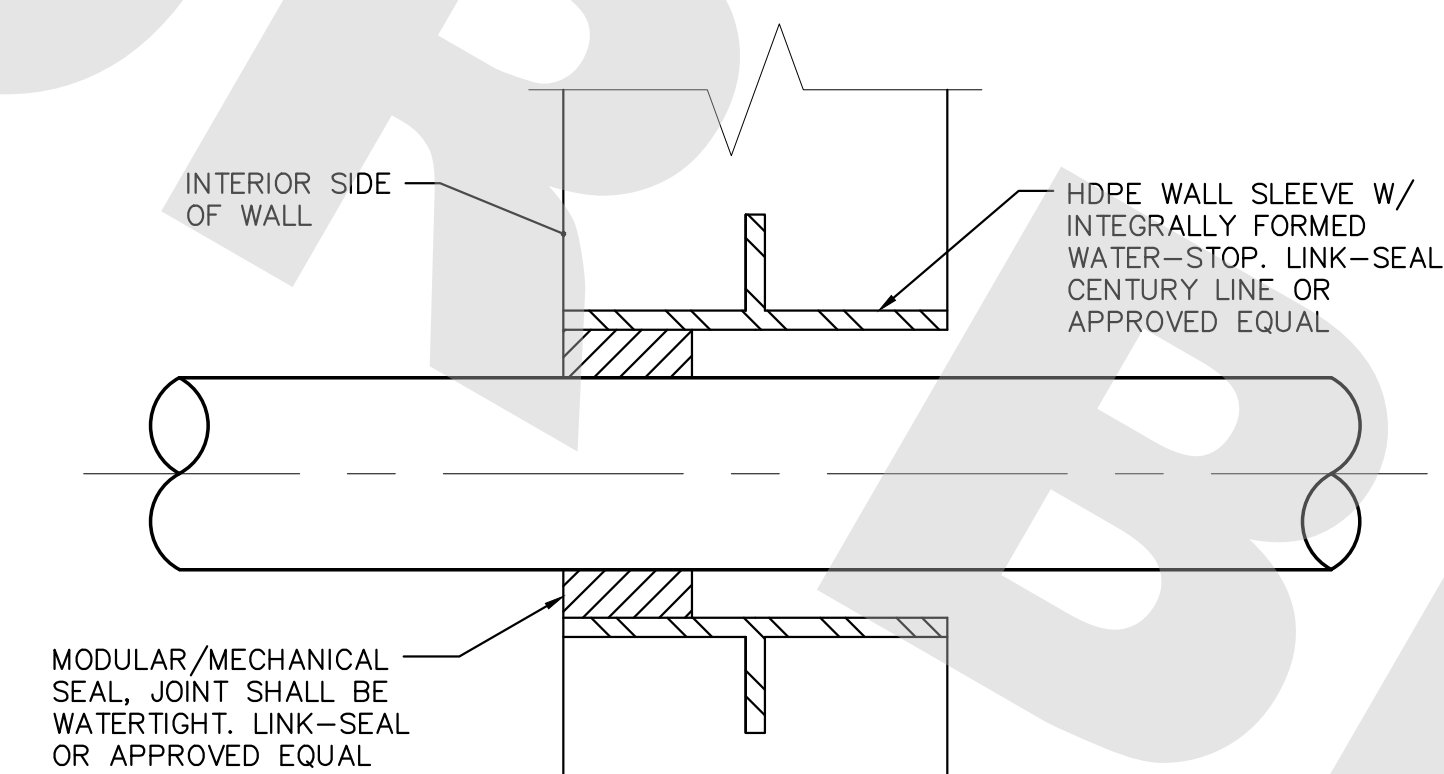
- NOTES:
1. 2" DEEP CONTRACTION JOINTS SHALL BE PLACED AT 15' INTERVALS, AND SHALL BE GROOVED WITH AN EDGING TOOL. SEE ARTICLES 420.05 AND 606 OF IDOT STANDARD SPECIFICATIONS.
 2. EXPANSION JOINTS SHALL BE PLACED AT 60' (MAX) INTERVALS, AT ALL P.C.'S AND P.T.'S, CURB RETURNS, AND AT THE END OF EACH POUR.
 3. P.C.C. SHALL CONSIST OF IDOT CLASS SI (6.1 BAG) CONCRETE MIX, WITH 5% TO 8% AIR ENTRAINMENT, AND A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 14 DAYS.(NO FLY ASH ALLOWED)
 4. PROVIDE 2 #6X19" LONG TIE BARS AT CONNECTIONS BETWEEN EXISTING AND NEW CURB & GUTTER. BARS SHALL BE DRILLED AND EMBEDDED 9" INTO EXISTING CURB & SECURED WITH GROUT OR MORTAR.

B-6.12 CURB & GUTTER DETAIL
NTS

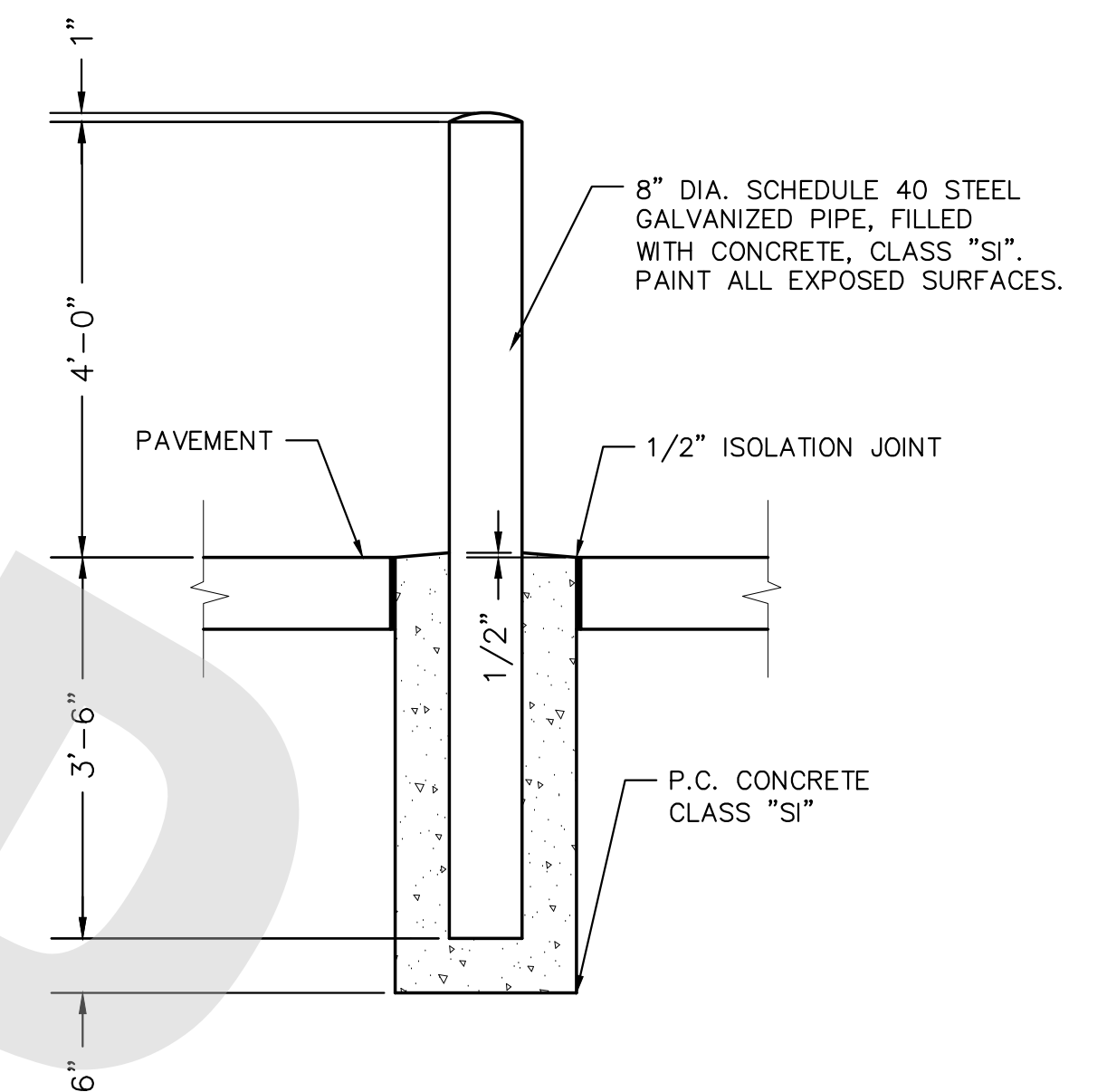


- NOTES:
1. TRENCH BACKFILL UNDER A PAVED SURFACE OR WITHIN THE ZONE OF INFLUENCE (3' FROM EDGE OF PAVEMENT) SHALL CONSIST OF:
a) UNDER NEW PAVEMENT:
12" THICK PAVEMENT SUBGRADE (AGGREGATE CA 6 CAP) OVER AGGREGATE CA-7 TRENCH BACKFILL OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) MIX 1 (ONLY IF REQUIRED BY CITY ENGINEERING)
b) UNDER EXISTING PAVEMENT, SAME AS 'a' ABOVE.
c) UNDER PRIVATELY OWNED PAVEMENT, SAME AS 'a' ABOVE.
 2. ALL MATERIALS SHALL BE PROPERLY COMPACTED PER SPECIFICATIONS (INUNDATION OR WATER JETTING NOT ALLOWED).
 3. ALL TRENCH EXCAVATIONS SHALL MEET OSHA REQUIREMENTS.
 4. BEDDING MATERIAL FOR PVC PIPE INSTALLATION SHALL COMPLY WITH ASTM D-2321.
 5. IF APPROVED BY VILLAGE ENGINEERING, A ONE (1) INCH THICK STEEL PLATE SHALL BE PROVIDED AND MAINTAINED BY CONTRACTOR UNTIL THE SURFACE RESTORATION IS COMPLETE. THE PLATE SHALL BE PROTECTED FROM SLIDING AND PROVIDED WITH BITUMINOUS RAMPS IF REQUIRED BY CITY ENGINEERING.
 6. PRIOR TO PLACEMENT OF PAVEMENT MATERIALS, THE EXISTING EXPOSED EDGES SHALL BE SAWCUT TO PROVIDE A SMOOTH CLEAN EDGE, FREE OF LOOSE MATERIAL.
 7. THE PLACEMENT OF PAVEMENTS SHALL NOT BE ALLOWED WITHOUT PRIOR INSPECTION BY CITY ENGINEERING.

UTILITY TRENCH IN PAVED AREAS DETAIL
NTS



HDPE WALL SLEEVE
NTS



BOLLARD DETAIL
NTS

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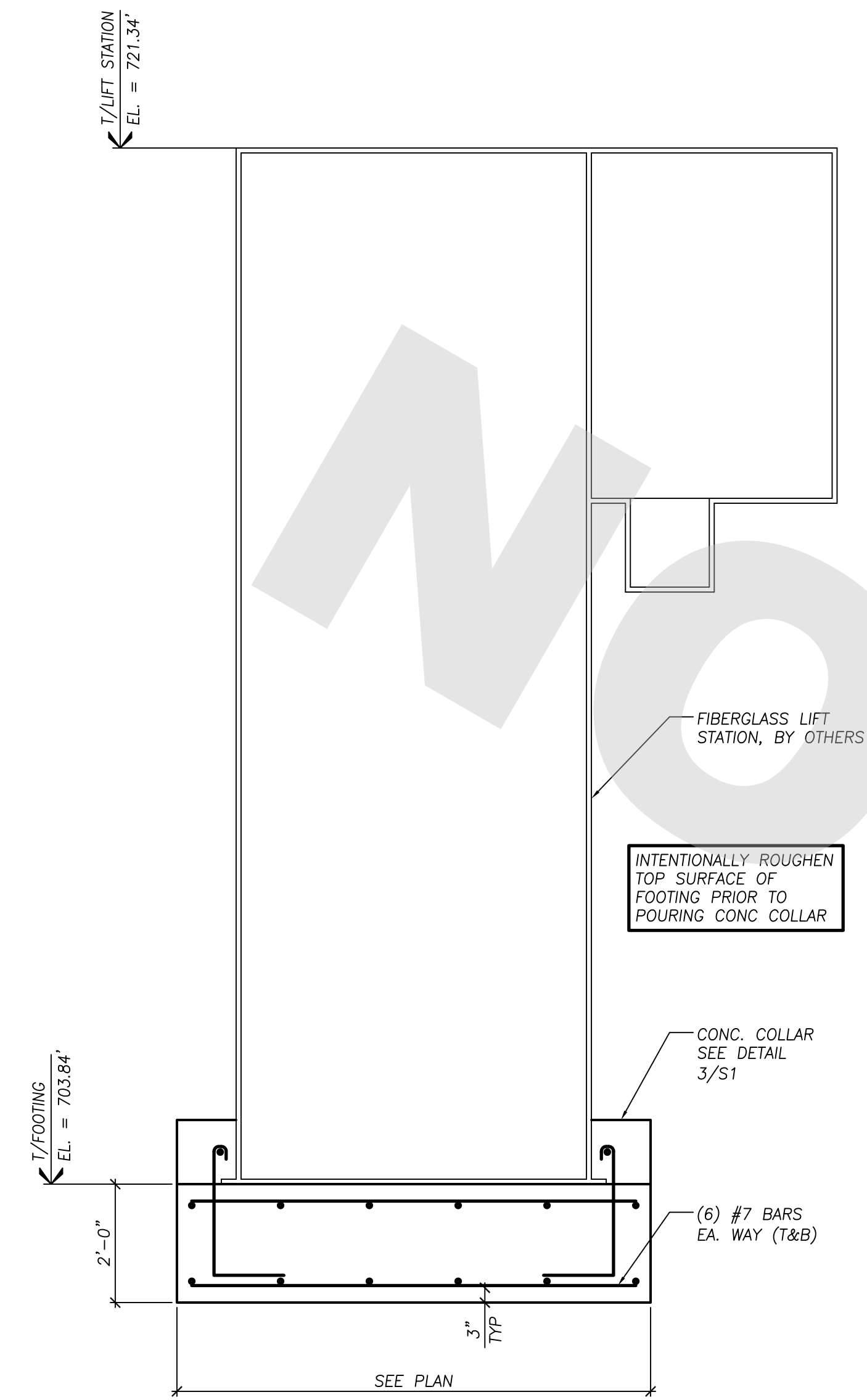
DESIGNED: Y GALLIN	
DRAWN: R JOHNSON	
CHECKED: T GRIMM	
DATE: MARCH 5, 2015	



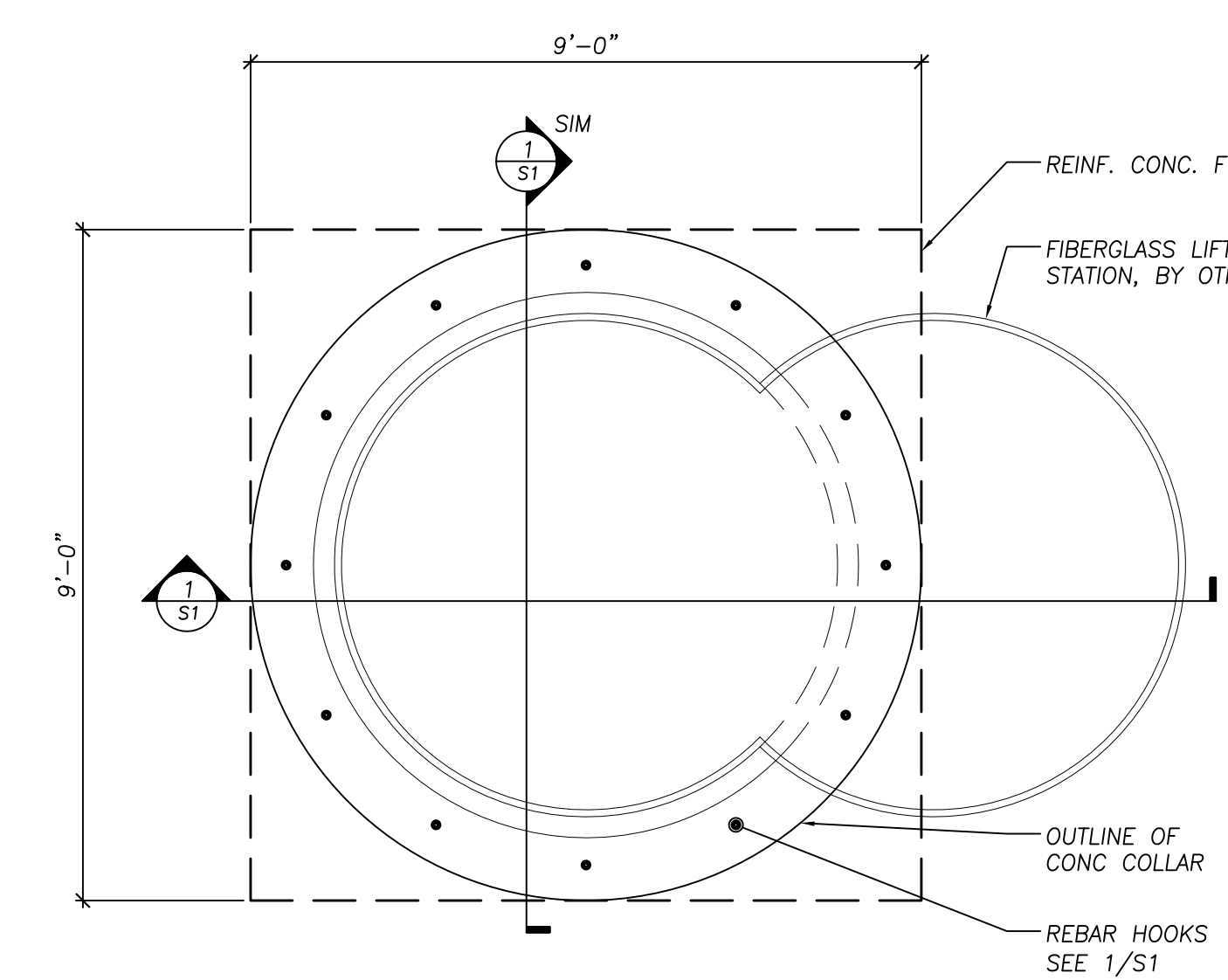
VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

DETAILS

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: -	DUPAGE	16	8
VERTICAL: -	STA. - TO STA.	-	-
PROJECT NO. 11-2783-00			



1 FIBERGLASS LIFT STATION SECTION
NO SCALE



2 FIBERGLASS LIFT STATION FOUNDATION PLAN
NO SCALE

GENERAL STRUCTURAL NOTES

DESIGN AND LOADING:

- STRUCTURAL DESIGN OF THIS BUILDING IS IN ACCORDANCE WITH THE INDIANA STATE BUILDING CODE, 2008 EDITION.
- LIVE LOADS:
 - A. FIBERGLASS LIFT STATION - 6500 LBS
- HYDROSTATIC LOADS:
 - A. MAX WATER TABLE ELEVATION - T/GRADE (ASSUMED)
 - B. SPECIFIC GRAVITY OF WATER - 62.4 PCF

FOUNDATIONS:

- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR COMPACTED FILL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 3000 PSF, AS RECOMMENDED BY SOIL AND MATERIAL CONSULTANTS, INC. IN THEIR REPORT 21531, DATED JUNE 17, 2014.
- ALL BEARING ELEVATIONS, EXCAVATION AND MATERIAL SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE. THE GEOTECHNICAL ENGINEER SHALL BE THE SOLE JUDGE AS TO THE SUITABILITY OF THE BEARING MATERIAL. FOOTING ELEVATIONS SHALL BE ADJUSTED AS REQUIRED. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IN THE EVENT THAT THE SOILS CONDITIONS ENCOUNTERED VARY FROM THOSE SHOWN IN THE SOILS REPORT OR ON THE BORING LOGS.
- ANY LOCALIZED SOFT SOIL AND/OR FILL ZONES ENCOUNTERED AT THE BEARING LEVELS SHOULD BE FURTHER EXCAVATED TO ADEQUATE SUPPORT SOILS AND THE CAVITY BACKFILLED WITH LEAN CONCRETE, STONE OR APPROVED STRUCTURAL FILL OR THE FOOTING MAY BE POURED AT THE EXCAVATED DEPTH. THE CONTRACTORS BID SHALL PROVIDE FOR ALL WORK REQUIRED TO FOUND THE BUILDING AT THE BEARING ELEVATIONS NOTED IN THE REFERENCED SOILS REPORT. CONTRACTOR SHALL ALSO PROVIDE UNIT COSTS FOR ADDITIONAL WORK SHOULD THE ACTUAL BEARING LEVELS ENCOUNTERED BE FOUND TO BE BELOW THOSE NOTED IN THE SOILS REPORT. CONVERSELY, UNIT COSTS SHALL APPLY TO LESS WORK SHOULD THE BEARING ELEVATIONS BE FOUND TO BE ABOVE THOSE NOTED IN THE SOILS REPORT. BEARING ELEVATIONS USED AS A BASIS FOR THE CONTRACTORS BID SHALL BE SPECIFIED IN THE BIDS.
- ALL COMPACTED FILL MATERIAL SHALL BE INSPECTED AND APPROVED BY THE PROJECT SOILS ENGINEER. DEPTHS OF LIFTS, COMPACTION DENSITIES, MOISTURE CONTENTS, ETC. SHALL BE AS SPECIFIED BY THE PROJECT SOILS ENGINEER. SEE REFERENCED SOIL REPORT FOR ADDITIONAL INFORMATION.
- THE CONCRETE FOR EACH ISOLATED FOOTING SHALL BE PLACED IN ONE CONTINUOUS POUR.
- ALL BEARING STRATA MUST BE PROTECTED FROM FREEZING. THE CONTRACTOR SHALL BACKFILL AND/OR PROVIDE PROTECTION TO PREVENT FROST PENETRATION BELOW THE CONCRETE BEARING ELEVATIONS. ANY FROZEN SOIL BELOW THE FOUNDATION BEARING LEVEL MUST BE REMOVED.
- ALL FOUNDATIONS NEXT TO ADJACENT, EXISTING FOUNDATIONS SHALL BE PLACED IN SUCH A MANNER THAT THE EXISTING FOUNDATIONS WILL NOT BE DISTURBED OR UNDERMINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY SHORING AN/OR BRACING REQUIRED TO INSTALL THE NEW FOUNDATIONS AND SHALL NOTIFY THE ARCHITECT AND ENGINEER SHOULD THE ACTUAL FIELD CONDITIONS VARY FROM THOSE ANTICIPATED.

CAST-IN-PLACE CONCRETE AND REINFORCING:

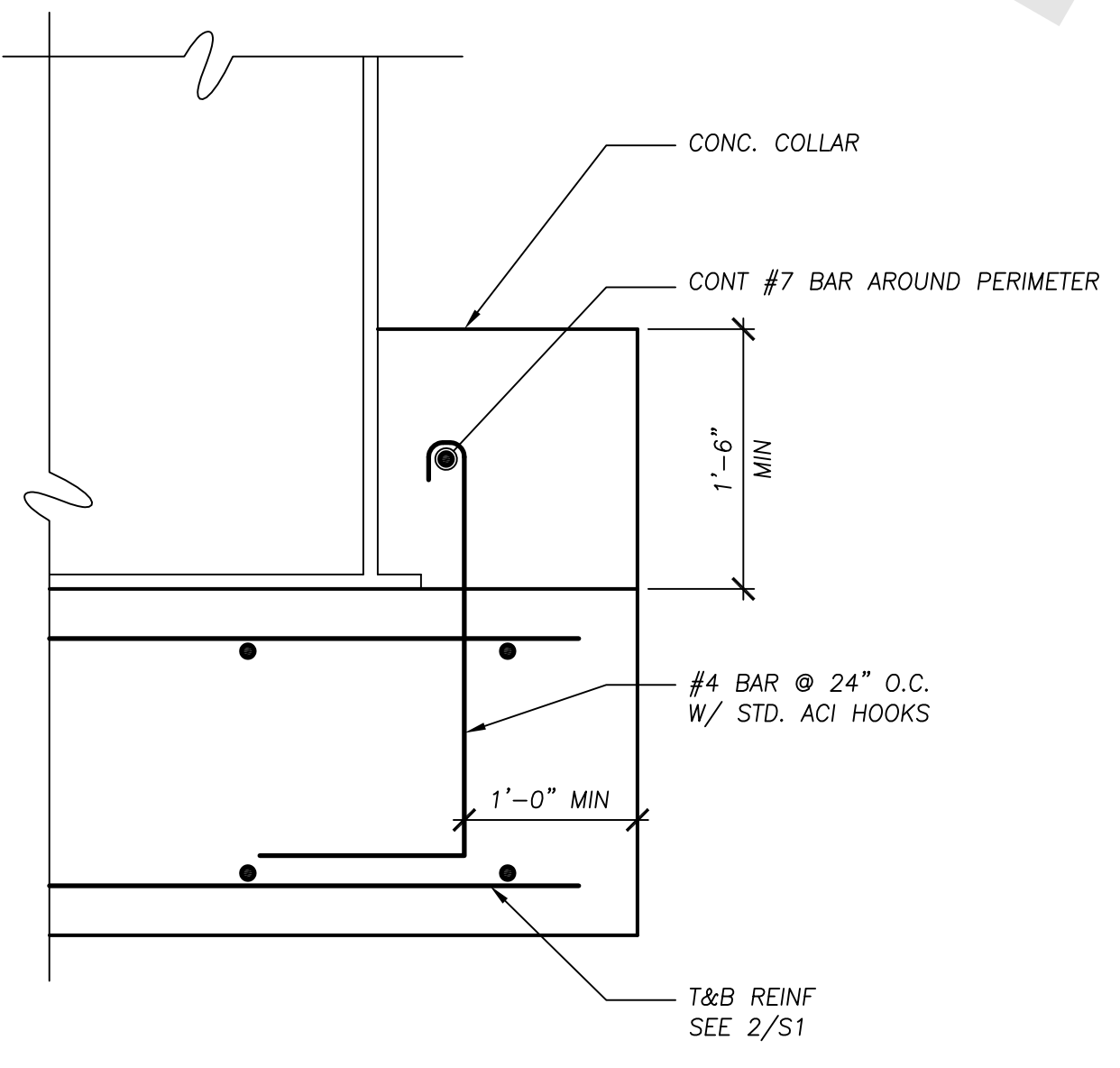
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), LATEST EDITIONS.
- ALL CONCRETE SHALL BE NORMAL WEIGHT (145 PCF) CONCRETE AND SHALL OBTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTHS OF 4000 PSI, UNLESS NOTED OTHERWISE.
- THE COMPRESSIVE STRENGTH OF ALL GROUT USED TO PROVIDE LEVEL BEARING OF BASE PLATES SHALL MATCH THE COMPRESSIVE STRENGTH OF THE SUPPORTING CONCRETE SUBSTRATE.
- ALL CONCRETE SUBJECT TO EXTERIOR EXPOSURE WITH SPECIFIED STRENGTH 5000 PSI OR LESS, SHALL BE AIR ENTRAINED 6%, WITH A TOLERANCE OF 1.5%, AS DELIVERED.
- CALCIUM CHLORIDE AND/OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED IN ANY CONCRETE.
- ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY SUITABLE MEANS DURING PLACING. IF VIBRATORS ARE USED, DO NOT OVER-VIBRATE OR TRANSPORT CONCRETE ALONG THE FORMS BY VIBRATING.
- TEST CYLINDERS SHALL BE MADE AND TESTED AS OUTLINED IN CHAPTER 16 OF ACI-301 SPECIFICATION OR PER ARCHITECTURAL SPECIFICATIONS.
- COLD WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI-306. HOT WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI-305.
- REINFORCING BARS SHALL BE DEFORMED BARS OF NEW BILLET STEEL CONFORMING TO ASTM SPECIFICATION A-615, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. ALL REINFORCING AND ACCESSORIES SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI STANDARDS 315 AND 315R.
- WELDING OF REINFORCING BARS WILL ONLY BE ALLOWED WHEN SHOWN ON THE STRUCTURAL DRAWINGS. IN NO INSTANCE SHALL WELDING BE DONE AT THE BEND OF A BAR, NOR SHALL THERE BE ANY TACK WELDING DONE BETWEEN CROSSING BARS. WHEN WELDING IS SHOWN, PROCEDURES SHALL BE IN ACCORDANCE WITH "RECOMMENDED PRACTICE FOR WELDING REINFORCEMENT STEEL, METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION", AWS D12.1.
- THE CONCRETE COVER PROVIDED FOR ALL REINFORCEMENT SHALL COMPLY WITH ACI 318, LATEST EDITION BUT SHALL NOT BE LESS THAN THE FOLLOWING MINIMUM CONCRETE COVER FOR THE REINFORCEMENT IN ALL CAST-IN-PLACE CONCRETE WORK:
 - A) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH - 3"
 - B) FORMED CONCRETE EXPOSED PERMANENTLY TO EARTH OR WEATHER
 - #5 BARS OR SMALLER - 1 1/2"
 - #6 BARS OR GREATER - 2"
- PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. PLASTIC COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.
- REINFORCEMENT SHALL BE CONTINUOUS ACROSS JOINTS AND AROUND CORNERS OR SPLICE BARS SHALL BE PROVIDED IN ACCORDANCE WITH ACI STANDARDS 315 AND 315R. CORNER BARS SHALL BE PROVIDED AT ALL WALL CORNERS, EQUAL TO THE HORIZONTAL WALL REINFORCEMENT.
- CONSTRUCTION MANAGER/GENERAL CONTRACTOR SHALL CHECK WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND CONTRACTORS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, INSERTS, SLAB DEPRESSIONS AND OTHER ITEMS RELATED TO THE CONCRETE WORK, AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR PROPER LOCATION BEFORE PLACING CONCRETE. PITCH CONCRETE SLABS AS REQUIRED TO ALL FLOOR DRAINS.
- NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION. THIS INCLUDES PUMPING THROUGH ALUMINUM PIPE.

SHOP DRAWING SUBMITTAL & REVIEW:

- REPRODUCTION OF THE STRUCTURAL DOCUMENTS BY ANY PHOTOGRAPHIC, XEROGRAPHIC, ETC., PROCESS OR TECHNIQUE FOR DIRECT INCORPORATION OF THE PLANS, DETAILS, NOTES, ETC., HEREIN CONTAINED INTO A SHOP DRAWING IS STRICTLY PROHIBITED.
- ANY SHOP DRAWING OR SUBMITTAL, RECEIVED BY THE STRUCTURAL ENGINEER, WHICH HAS BEEN PRODUCED IN WHOLE, OR IN PART, BY THE ABOVE MENTIONED TECHNIQUES, SHALL BE REJECTED.
- SHOP DRAWINGS OF THE STRUCTURAL ITEMS SHALL BE SUBMITTED BEFORE FABRICATION, FOR REVIEW BY THE STRUCTURAL ENGINEER. SHOULD IT BECOME EVIDENT THAT THE SHOP DRAWINGS ARE BEING SUBMITTED WITH THE APPEARANCE OF NOT HAVING BEEN PROPERLY CHECKED BY THE DETAILER, OR COMPLETED, PRIOR TO SUBMISSION, THEY WILL BE RETURNED BY THE STRUCTURAL ENGINEER, WITHOUT REVIEW, AND THE TRANSMITTAL WILL INDICATE A "NON-SUBMITTAL".
- ALL CHANGES TO RESUBMITTED SHOP DRAWINGS SHALL BE BUBBLED.

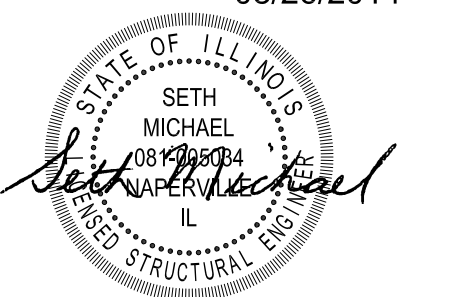
MISCELLANEOUS:

- ALL DIMENSIONS ON STRUCTURAL DRAWINGS ARE TO BE CHECKED AGAINST ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND EXISTING CONDITIONS BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT IMMEDIATELY.
- THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. AS PART OF HIS RESPONSIBILITY, THE CM/GC SHALL RETAIN THE SERVICES OF A LICENSED STRUCTURAL ENGINEER TO DESIGN AND SUPERVISE ANY SCAFFOLDING FOR WORKMEN AND ALL SHORING OF FORMS AND ELEMENTS OF CONSTRUCTION.
- DO NOT SCALE THE DRAWINGS.
- ALL EXISTING DIMENSIONS AND CONDITIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION. McCLUSKEY ENGINEERING CORPORATION SHALL NOT BE RESPONSIBLE FOR ANY EXISTING INFORMATION SUPPLIED BY THE OWNER/ARCHITECT NOR BE LIABLE FOR THOSE EXISTING CONDITIONS THAT VARY FROM THAT INFORMATION. ADDITIONALLY, DESIGN WORK RESULTING FROM THE VARIATION OF EXISTING CONDITIONS WILL BE PERFORMED AS AN ADDITIONAL SERVICE.
- THE CM/GC SHALL PROVIDE AND COORDINATE THE TEMPORARY STABILIZATION AND SUPPORT OF ALL STRUCTURAL ELEMENTS DURING THE ERECTION PROCESS (E.G. TEMPORARY GUYS, BEAMS, FALSEWORK, ETC.). THESE TEMPORARY SUPPORTS SHALL BE SUFFICIENT TO SECURE ALL STRUCTURAL ELEMENTS OR ANY PORTION THEREOF AGAINST LOADS THAT ARE LIKELY TO BE ENCOUNTERED DURING ERECTION, INCLUDING THOSE DUE TO WIND AND THOSE THAT RESULT FROM ERECTION OPERATIONS. THE FINAL LATERAL STABILITY OF STRUCTURE SHALL NOT BE RELIED UPON PRIOR TO THE COMPLETE ERECTION OF ALL STRUCTURAL ELEMENTS.



3 DETAIL @ CONCRETE COLLAR
NO SCALE

08/26/2014



License Expires: 11/30/2014



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DESIGNED: SMS	
DRAWN: SMS	
CHECKED: SDM	
DATE: AUGUST 5, 2014	



**NORTH AVENUE TOWNHOMES
LIFT STATION REPLACEMENT**

**FIBERGLASS LIFT STATION
FOUNDATION**

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL:	DUPAGE	16	S1
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
	HOME RUN - DESTINATION SHOWN
	WALL SWITCH (WHERE X SUBSCRIPT INDICATES) BLANK - SINGLE POLE CRE - CORROSION RESISTANT D - DIMMER EXP - EXPLOSION PROOF K - KEY OPERATED P - PILOT LIGHT WP - WEATHERPROOF 2 - DOUBLE POLE 3 - THREE WAY 4 - FOUR WAY
	CONVENIENCE RECEPTACLE - DUPLEX UNLESS SPECIFIED OTHERWISE MOUNT 48" AFF, UNLESS OTHERWISE NOTED.
	CONTROL STATION, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. (WP = NEMA 4 ENCLOSURE) SEE CONTROL DIAGRAMS FOR TYPE PUSH BUTTON REQUIRED.
	MULTI-PARTY WALL MOUNTED COMMUNICATIONS SYSTEM STATION WITH INTEGRAL AMPLIFIER.
	DRAWOUT VACUUM CONTACTOR, MEDIUM VOLTAGE, CURRENT RATING INDICATED.
	ADJUSTABLE SOLID STATE OR STATIC TRIP CIRCUIT BREAKER, 3 POLE - CONTINUOUS CURRENT TRIP INDICATED.
	TYPICAL EQUIPMENT TAG NAME. SEE I AND C LEGEND OR ELECTRICAL ABBREVIATIONS FOR EXPLANATION.
	TYPICAL CONDUIT AND CONDUCTOR CALL OUT. X - IS CONDUIT, Y - IS CONDUCTOR. IF CODES OR TAG NAMES ARE USED INSTEAD OF ACTUAL SIZES, SEE CKT. AND RACEWAY SCHEDULE.
	KEYED NOTE, REFER TO LIST OF NOTES ON PLANS.
	LIGHT OUTLET, CEILING MOUNT, INCANDESCENT OR H.I.D., SHADING INDICATES EMERGENCY, R INDICATED RED.
	LIGHT OUTLET, WALL MOUNT, INCANDESCENT OR H.I.D., HEIGHT AS INDICATED.
	POLE MOUNTED HID LIGHT FIXTURE
	WALL MOUNTED FLUORESCENT FIXTURE
	FLUORESCENT FIXTURE - SHADING INDICATES EMERGENCY CIRCUIT
	TRACK LIGHT FIXTURE - LENGTH SCALED OR SPECIFIED, QUANTITY OF FIXTURES AS SHOWN.
	STEP, AISLE OR NIGHT LIGHT
	EMERGENCY LIGHTING BATTERY UNIT
	EXIT LIGHT, CEILING MOUNT, SHADED SIDE INDICATES "EXIT" FACE.
	EXIT LIGHT, WALL MOUNT, HEIGHT AS INDICATED, SHADED SIDE INDICATES "EXIT" FACE.
	EXIT LIGHT WITH DIRECTIONAL ARROW(S) AS INDICATED.
	LOCAL LINE VOLTAGE SWITCH - MOUNTED 48" AFF DLS - DUAL LEVEL SWITCHING (INNER/OUTER LAMPS) PL - PILOT LIGHT 3 - 3 WAY
	OCCUPANCY SENSOR CD - CEILING DUAL TECHNOLOGY (PIR/ULTRASONIC) CU - CEILING ULTRASONIC DLS - DUAL LEVEL SWITCHING (INNER/OUTER LAMPS) PP - POWER PACK SP - SLAVE PACK W - WALL MOUNTED WP - WEATHER PROOF 2 - TWO INDEPENDENT LTG. LOADS 3 - 3 WAY
	LOW VOLTAGE SWITCH STATION DLS - DUAL LEVEL SWITCHING K - KEYED SWITCH OR - OVERRIDE
	PHOTOCELL
	PUSH BUTTON
	CONTACTOR, NUMBERED AS SHOWN
	TIME CLOCK, NUMBERED AS SHOWN
	PHOTO CELL
	THERMOSTAT
	DUPLEX, GROUNDING RECEPTACLE
	DUPLEX, GROUNDING RECEPTACLE, COUNTER HEIGHT OR AS INDICATED.
	SINGLE, GROUNDING RECEPTACLE
	DUPLEX, GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX, GROUNDING RECEPTACLE, WEATHERPROOF ALUMINUM IN-USE LOCKABLE COVER.
	DUPLEX, GROUND FAULT CIRCUIT INTERRUPTER WITH ALUMINUM IN-USE LOCKABLE COVER.
	DUPLEX, GROUND FAULT CIRCUIT INTERRUPTER CORROSION RESISTANT (REQUIRES GF CIRCUIT BREAKER).
	GROUNDING RECEPTACLE (EXPLOSION PROOF)
	TELE-POWER POLE

SYMBOL	DESCRIPTION
	CLOCK OUTLET
	TELEPHONE OUTLET - FLUSH WALL MOUNTED
	TELEPHONE OUTLET - FLOOR MOUNTED
	DATA OUTLET - FLUSH WALL MOUNTED
	JUNCTION BOX
	MOTION SENSOR, FLUSH WALL MOUNTED
	SPECIAL PURPOSE OUTLET OR DEVICE
	BRACKET SYMBOL INDICATES COMMON ENCLOSURE AND PLATE
	KEYPAD, BACK LITE, FLUSH WALL MOUNTED.
	MOTOR - REFER TO SCHEDULE. INTERNAL NUMBER INDICATES HORSE POWER.
	MOTOR STARTER SWITCH (MANUAL)
	VARIABLE SPEED CONTROL - FAN
	MAGNETIC MOTOR STARTER
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
	MOTOR STARTING SWITCH WITH TERMINAL OVERLOADS
	SAFETY/DISCONNECT SWITCH NON-FUSED, NEMA 12
	SAFETY/DISCONNECT SWITCH-FUSED, NEMA 12
	SAFETY/DISCONNECT SWITCH WON FUSED, NEMA 4X STAINLESS STEEL
	DISCONNECT SWITCH, FUSED, NEMA 4X STAINLESS STEEL
	SPEAKER OUTLET
	COMPUTER CABLE OUTLET
	TERMINAL CABINET, SYSTEM AS NOTED
	ANNUNCIATOR, SYSTEMS NOTED
	TRANSFORMER
	BRANCH CIRCUIT HOMERUN TO PANELBOARD WITH CIRCUIT NO.
	VERTICAL CONDUIT RUNS DOWN, ID DARKENED IS OPEN
	CONDUIT STUB, CAPPED
	WIREMOLD WITH MULTIPLE OUTLETS
	SINGLE POLE SWITCH
	SPRINKLER SYSTEM FLOW SWITCH
	SPRINKLER SYSTEM TAMPER SWITCH
	DUCT-MOUNTED SMOKE DETECTOR
	FIRE ALARM SMOKE DETECTOR
	FIRE ALARM HEAT DETECTOR
	DOUBLE CONTACT SMOKE DETECTOR
	FIRE ALARM MANUAL PULL STATION
	FIRE ALARM SIGNAL - BELL
	FIRE ALARM SIGNAL - VISUAL INDICATOR
	FIRE ALARM CONTROL PANEL
	END OF LINE RESISTOR
	SPEAKER FOR FIRE ALARM COMMUNICATION SYSTEM
	DISCONNECT SWITCH, NON-FUSED, NEMA 7
	ELECTRICALLY OPERATED SOLENOID VALVE
	ELECTRICALLY OPERATED BALL VALVE
	SOLENOID VALVE, EXPLOSION PROOF
	DIAPHRAGM PUMP
	WEATHER PROOF HORN

GENERAL NOTES:

- THE SYMBOLS SHOWN ON THIS SCHEDULE COVER A RANGE OF TYPICAL ELECTRICAL SYMBOLS COMMON TO A VARIED RANGE OF PROJECTS. ONLY THOSE SYMBOLS SPECIFICALLY SHOWN ON THE DRAWINGS ARE APPLICABLE TO THIS SCHEDULE.
- EQUIPMENT SHALL BE INSTALLED AT THE HEIGHTS INDICATED, UNLESS OTHERWISE SHOWN ON THE ARCHITECTURAL ELEVATIONS, ON THE DRAWINGS OR IN THE SPECIFIC EQUIPMENT SPECIFICATION SECTION.
- FOR I & C COMPONENTS AND ABBREVIATIONS, SEE I & C LEGEND.
- FOR GENERAL ABBREVIATIONS, SEE GENERAL LEGEND.

ABBREVIATIONS

SYMBOL	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
	CONTACT - NORMALLY OPEN WITH NEMA SIZE INDICATED AS APPLICABLE.	A	AMMETER, AMPERE	L	LOUVER
	CONTACT - NORMALLY CLOSED WITH NEMA SIZE INDICATED AS APPLICABLE.	AC	ALTERNATING CURRENT	LA	LIGHTING ARRESTOR
	OVERLOAD RELAY HEATER	AF	AMPERE FRAME	LC	LIGHTING CONTACTOR
	MAGNETIC STARTER WITH NEMA SIZE INDICATED REV INDICATES REVERSING STARTER.	AFG	ABOVE FINISHED GRADE	LO	LOCK OUT
	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, FRAME SIZE SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.	AIC	AMPS INTERRUPTING CURRENT	LOC	LOCATION
	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE, FRAME SIZE AND TRIP RATING SHOWN, IF ADJUSTABLE.	AS	AMMETER SWITCH, AMPERE SENSOR	LPS	LOW PRESSURE SODIUM
	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES, TRIP AND FUSE RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.	ASC	ADJUSTABLE SPEED CONTROLLER	LRA	LOCKED ROTOR AMPS
	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.	ASU	AIR SUPPLY UNIT	LS	LOW SPEED
	SWITCH - CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.	AT	AMPERE TRIP	LTG	LIGHTING
	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE	ATC	AUTOMATIC THROWOVER CONTROL	LT FLEX	LIQUID TIGHT FLEX CONDUIT
	DRAWOUT VACUUM CIRCUIT BREAKER, MEDIUM VOLTAGE	ATS	AUTOMATIC TRANSFER SWITCH	LV	LOW VOLTAGE
	DRAWOUT FUSED SWITCH, MEDIUM VOLTAGE	AWG	AMERICAN WIRE GAUGE	M	METER
	LIGHTNING ARRESTER WITH SURGE CAPACITOR	B	BELL	MAG	MAGNETIC
	FUSE	BCP	BRANCH CIRCUIT PANEL	MAN	MANUAL
	CAPACITOR - KVAR INDICATED	BSP	BRANCHED POWER PANEL	MATV	MASTER ANTENNA TV
	METER WITH SWITCH - SCALE RANGE SHOWN	BPS	BOLTED PRESSURE SWITCH	MC	MECHANICAL CONTRACTOR
	GROUND	C	CONDUIT	MCC	MOTOR CONTROL CENTER
	TRANSFORMER, SECONDARY VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE.	CAP	CAPACITOR	MCCP	MOTOR CIRCUIT PROTECTOR
	PICK-UP SETTING	CB	CIRCUIT BREAKER	MDC	MOTORIZED DAMPER CONTROL
	TIME CURRENT CHARACTERISTIC	CC	CONTROL CABLE	MERC	MERCURY VAPOR
	GROUND FAULT RELAY WITH C.T.	CKT	CIRCUIT	MHP	MECHANICAL MOUNTING PANEL
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN.	CL	CURRENT LIMIT	MO	MOTOR OPERATOR
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED.	CSMB	COMBINATION	MTR	MOTOR STARTER
	PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK.	CR	CONTROL RELAY	MTS	MANUAL TRANSFER SWITCH
	3 POSITION SELECTOR SWITCH MAINTAINED CONTACT	CRT	CATHODE RAY TUBE (TERMINAL)	N	NEUTRAL
	TIME DELAY RELAY CONTACT (TIME ACTION INDICATED)	CRE	CORROSION RESISTANT	NA	NOT APPLICABLE
	REMOTE DEVICE	CRS	COATED RIGID STEEL CONDUIT	NC	NORMALLY CLOSED
	SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION:	CT	CURRENT TRANSFORMER	NEC	NATIONAL ELECTRICAL CODE
	INDICATING LIGHT - LETTER INDICATES COLOR	CTR	CONTROLLER	NEF	NON-FUSED
		CU	COPPER	NIC	NOT IN CONTRACT
		DC	DIRECT CURRENT	NO	NORMALLY OPEN
		DISC	DISCONNECT	NP	NAMEPLATE
		DIV	DIVISION	NR	NOT REQUIRED
		DPR	DAMPER	NU	NEAR UNIT
		DUP	DUPLEX	OA	OVERALL
		E	EMPTY	OL	OVERLOAD RELAY
		EBB	ELECTRIC BASE BOARD	ONT	ON-T
		EC	ELECTRICAL CONTRACTOR	OU	ON UNIT
		EF	EXHAUST FAN	P	POLE
		ELR	END OF LINE RESISTOR	PA	PUBLIC ADDRESS
		EMERG	EMERGENCY	PB	PUSHBUTTON SWITCH
		EMT	ELECTRICAL METALLIC TUBING	PC	PHOTOCELL
		ENC	ENCLOSURE	P/E	PNEUMATIC/ELECTRIC
		EP	EXPLOSION PROOF	PED	PEDESTAL
		ETM	ELAPSED TIME METER	PF	POWER FACTOR
		EXP	EXPPOSED	PH	PHASE
		F, FU	FUSE	PL	PILOT LIGHT
		FA	FIRE ALARM	PNL	PANEL
		FBO	FURNISHED BY OTHERS	PRI	PRIMARY
		FC	FOOT CANDLE	PS	PRESSURE SWITCH
		FDR	FEEDER	PT	POTENTIAL TRANSFORMER
		FLA	FULL LOAD AMPS	PVC	POLYVINYL CHLORIDE CONDUIT
		FLUOR	FLUORESCENT	RC	REMOTE CONTROL
		FR	FRACTIONAL	RCPT	RECEPTACLE
		FUT	FUTURE	REF	REFERENCE
		GALV	GALVANIZED	REFL	REFLECTOR
		GEN	GENERATOR	RM	REMOTE MULTIPLEXER
		GENL	GENERAL	RMS	ROOT MEAN SQUARE
		GFI	GROUND FAULT INTERRUPTER	RS	RIGID STEEL CONDUIT
		GFR	GROUND FAULT RELAY	RT	REMOTE TELEMETRY
		GND	GROUND	SC	SPEED CONTROL
		GRS	GALVANIZED RIGID STEEL	SEC	SECONDARY
		H	HORN, HOWLER	SF	SUPPLY FAN
		HD	HEAVY DUTY	SH	SPACE HEATER
		HH	HANDHOLE	SHLD	SHIELD, SHIELDED
		HID	HIGH INTENSITY DISCHARGE	SIG	SIGNAL
		HOD	HAND-OFF-AUTO	S/N	SOLID NEUTRAL
		HPS	HIGH PRESSURE SODIUM	SP	STANDBY POWER
		HS	HIGH SPEED	SPD	SPEED
		HTA	HEAT TRACE	SPKR	SPEAKER
		HTG	HEATING	SPQ	SPECIAL PURPOSE OUTLET
		HTR	HEATER	ST	STATIC TRIP
		HV	HIGH VOLTAGE	STR	STARTER
		HVC	HEATING/VENTILATION/COOLING	SV	SOLENOID VALVE
		HVAC	HEATING/VENTILATION/AIR CONDITIONING	SW	SWITCH
		HZ	HERTZ	SWB	SWITCH BOARD
		I	ISOLATE GROUND	SWGR	SWITCH GEAR
		IC	INSTRUMENTATION AND CONTROL	SYS	SYSTEM
		ICM	INTERMEDIATE METAL CONDUIT	T	THERMOSTAT
		INCAND	INCANDESCENT	TB	TERMINAL BOARD
		INST	INSTANTANEOUS	TC	TIME CLOCK
		INTM	INTERMEDIATE	TDR	TIME DELAY RELAY
		ISR	INTRINSICALLY SAFE RELAY	TEL	TELEPHONE
		IU	IN UNIT	TERM	TERMINAL(ATE)
		JB	JUNCTION BOX, J BOX	TJB	TERMINAL JUNCTION BOX
		K	KEY INTERLOCK	TR	TRANSFORMER (XFMR)
		KCMIL	THOUSAND CIRCULAR MILL	TS	TIME SWITCH
		KO	KNOCKOUT	UCC	UNDER CARPET CONDUCTOR
		KV	KILOVOLTS	UG	UNDERGROUND
		KWH	KILOWATT HOURS	UH	UNIT HEATER
				UVR	UNDER VOLTAGE RELAY
				V	VOLTS
				VA	VOLT AMPERES
				VFD	VARIABLE FREQUENCY DRIVE
				W	WATT, WATTMETER
				W/O	WITHOUT
				WP	WEATHERPROOF

CKT.	HAND	OFF	AUTO
1	X	0	0
2	0	0	X

X - CLOSED CONTACT
0 - OPEN CONTACT

POSITION	1	2	3	4
A				
B				
C				
D				
E				
F				
G				
H				
I				
J				
K				
L				
M				
N				
O				
P				
Q				
R				
S				
T				
U				
V				
W				
X				
Y				
Z				

I:\PROJECTS\2020 - Villa Park Lift Station\X-Ref\22 X 34 Titleblock.dwg

DESIGNED: R. BOYA	
DRAWN: B. FULLER	
CHECKED: R. BOYA	
DATE: MARCH 06, 2015	



**VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT**

ELECTRICAL SYMBOLS AND ABBREVIATIONS

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: NO SCALE	DUPAGE	16	E1
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			



- 1-2" CONDUIT WITH 3#2 CONDUCTORS AND 1#4 GROUND.
- 1-1" CONDUIT WITH 2#12 START CONDUCTORS & 1#12 GROUND.
- 1-1" CONDUIT WITH 2#12 CONDUCTORS FOR GENERATOR RECEPTACLE, 2#12 CONDUCTORS FOR BATTERY CHARGER & 1#12 GROUND.
- 1-1" CONDUIT WITH 2#10 CONDUCTORS FOR BLOCK HEATER & 1#10 GROUND.
- 1-1" CONDUIT WITH 8#14 MONITORING CONDUCTORS, 4#14 SPARE & 1#12 GROUND.
- 1-1" SPARE CONDUIT WITH PULL ROPE.

GROUNDING ELECTRODE SYSTEM PER DETAILS.

96" WIDE X 60" LONG X 8" THICK STEEL RE-REINFORCED CONCRETE PAD. COORDINATE ELEVATION WITH ENGINEER IN THE FIELD.

2-2" SPARE CONDUITS, CAPPED BELOW FINISHED GRADE. EXTEND 12" BEYOND CONCRETE PAD.

1-2" SCHEDULE 80 PVC CONDUIT WITH SCADA ANTENNA CABLE

1-1" SCHEDULE 80 PVC CONDUIT WITH 2#10 CONDUCTORS & 1#10 GROUND FOR LIGHT FIXTURE.

1-1" CONDUIT WITH 2#10 CONDUCTORS & 1#10 GROUND FOR CAMERA EQUIPMENT, INSTALLED BY OTHERS.

1-1" CONDUIT WITH 2#1 CONDUCTORS AND 1#12 GROUND FOR SINGLE YOKE RECEPTACLE.

1-2" SPARE CONDUIT WITH 1/4" DIAMETER PULL ROPE FOR FUTURE.

JUNCTION BOXES FURNISHED AND INSTALLED BY WETWELL MANUFACTURER.

PUMP NO.1

PUMP NO.2

CORD & PLUG CONNECTED SUMP PUMP. RECEPTACLE AND CONDUIT FURNISHED BY WETWELL MANUFACTURER, WIRING BY ELECTRICAL CONTRACTOR.

20LB WEIGHT WITH HIGH AND LOW LEVEL FLOATS.

4" SCHEDULE 80 PVC CONDUIT (STILLING WALL) WITH SPECIFIED LEVEL TRANSDUCER.

16" LONG X 1-5/8" 316 STAINLESS STEEL CHANNEL WITH 316 OR BETTER STAINLESS STEEL HILTI ANCHORS, WASHERS, LOCK WASHERS AND NUTS. (TYPICAL OF FOUR (4) LOCATIONS).

FIVE (5) 3" SCHEDULE 80 PVC CONDUITS FOR PUMPS, FLOATS AND TRANSDUCER CABLE.

PROPOSED 2" UNDERGROUND SCHEDULE 80 PVC CONDUIT TO UTILITY/TRANSFORMER POLE AND UP 10 FEET AFG AT POLE WITH 20 FEET OF 3#1/0 CONDUCTORS COILED AT POLE FOR UTILITY CONNECTIONS. ASSUME A 120 FEET OF CONDUIT AND 140 FEET OF CONDUCTOR RUN. WHERE CONDUIT EXTENDS FROM BELOW GRADE AT METER SOCKET. EXTEND WITH GALVANIZED RIGID STEEL CONDUIT.

0-100 AMP, 240 VOLT, 3Ø, 3W METER SOCKET BY ELECTRICAL CONTRACTOR, MOUNTED TO SIDE OF PUMP CONTROL PANEL.

CONCRETE FILLED BOLLARD PER DETAILS, FIELD VERIFY FINAL LOCATIONS WITH ENGINEER (TYPICAL OF NINE (9) LOCATIONS).

GAS METER LOCATION, FIELD VERIFY FINAL LOCATION WITH GAS COMPANY.

PROPOSED GAS SERVICE

EXHAUST CAP

GENERATOR CONCRETE BASE, SEE DETAIL.

30KW NATURAL GAS GENERATOR

GENERATOR CONTROLLER, CIRCUIT BREAKER AND CONDUIT ENTRANCE LOCATION, VERIFY EXACT LOCATION WITH GENERAL MANUFACTURER.

PUMP CONTROL PANEL PER DETAILS.

MIXER MOTOR

METER, BY UTILITY COMPANY

POLE MOUNTED LIGHT FIXTURE, SCADA ANTENNA AND CAMERA PER THE DETAIL. FINAL LOCATION AND DIRECTION OF ANTENNA AND LIGHT FIXTURE TO BE COORDINATED BY ENGINEER.

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DESIGNED: R. BOYA
DRAWN: B. FULLER
CHECKED: R. BOYA
DATE: MARCH 06, 2015

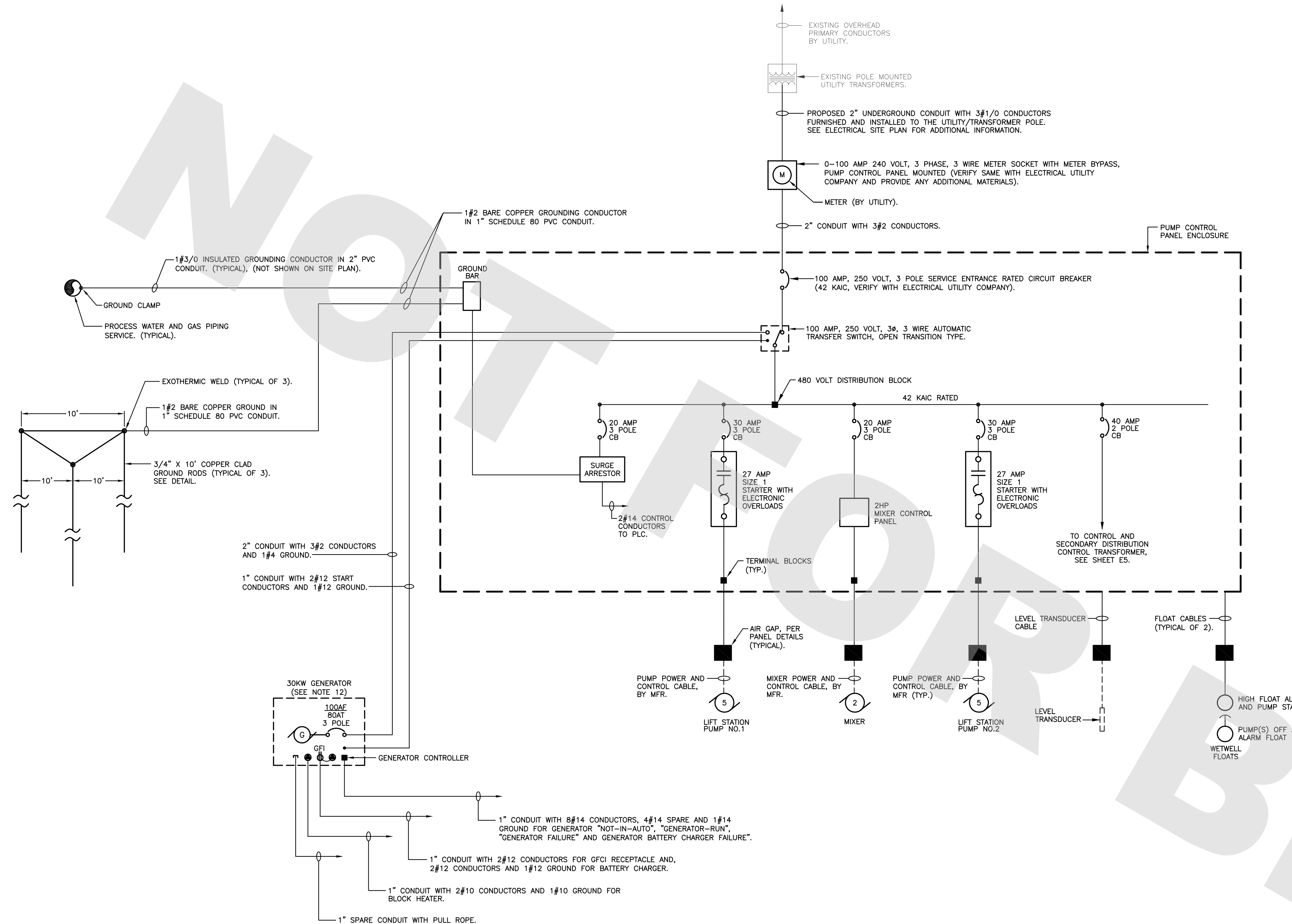


VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

PROPOSED SITE PLAN

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: 1" = 2'-0"	DUPAGE	16	E2
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			





- GENERAL NOTES:**
1. PROVIDE EXOTHERMIC WELDS AT EACH GROUND ROD.
 2. PUMPS REQUIRE POWER CONDUCTORS, OVER TEMPERATURE AND SEAL FAILURE CONDUCTORS AND GROUND CONDUCTORS IN A SINGLE CABLE. COORDINATE EXACT WIRING WITH PUMP SUPPLIER. FURNISH AND INSTALL ALL CONNECTION HARDWARE FOR WIRING NEW EQUIPMENT.
 3. ALL CONDUIT INSTALLED ABOVE GRADE SHALL BE GALVANIZED RIGID STEEL.
 4. ALL BUILDING WIRING SHALL BE 600 VOLT XHHW STRANDED COPPER ONLY, UNLESS NOTED OTHERWISE.
 5. SUPPORT ALL CONDUIT AND BOXES WITH STAINLESS STEEL (SST) HARDWARE.
 6. ELECTRICAL SYSTEMS AND COMPONENTS INSTALLED IN AND EXTENDING FROM WETWELL SHALL COMPLY WITH NEC REQUIREMENTS FOR CLASS 1, DIVISION 1 GROUP D, LOCATIONS.
 7. DUX SEAL POWER & SCADA ANTENNA CONDUITS ENTERING THE ENCLOSURE.
 8. ROUTE FLOAT CABLES, PUMP CABLES AND TRANSDUCER CABLE INTO THE WET WELL THROUGH 4" CONDUIT. DUX SEAL ALL CONDUITS AT AIR GAP.
 9. PROVIDE CORD GRIPS FOR ALL PUMP, TRANSDUCER AND FLOAT CABLES ENTERING THE BOTTOM OF THE CONTROL PANEL ENCLOSURE.
 10. ALL TERMINATIONS AT ALL EQUIPMENT SHALL BE MADE FINGER SAFE.
 11. THE PANEL BUILDER SHALL SIZE ALL INTERNAL WIRING PER NEC, UNLESS OTHERWISE NOTED. PANEL SHALL BE UL-508 AND UL-913 LISTED AND LABELED.
 12. SEE GENERAL NOTE 3 ON SHEET E4.

LIFT STATION EXTERNAL ONE-LINE DIAGRAM
N.T.S.



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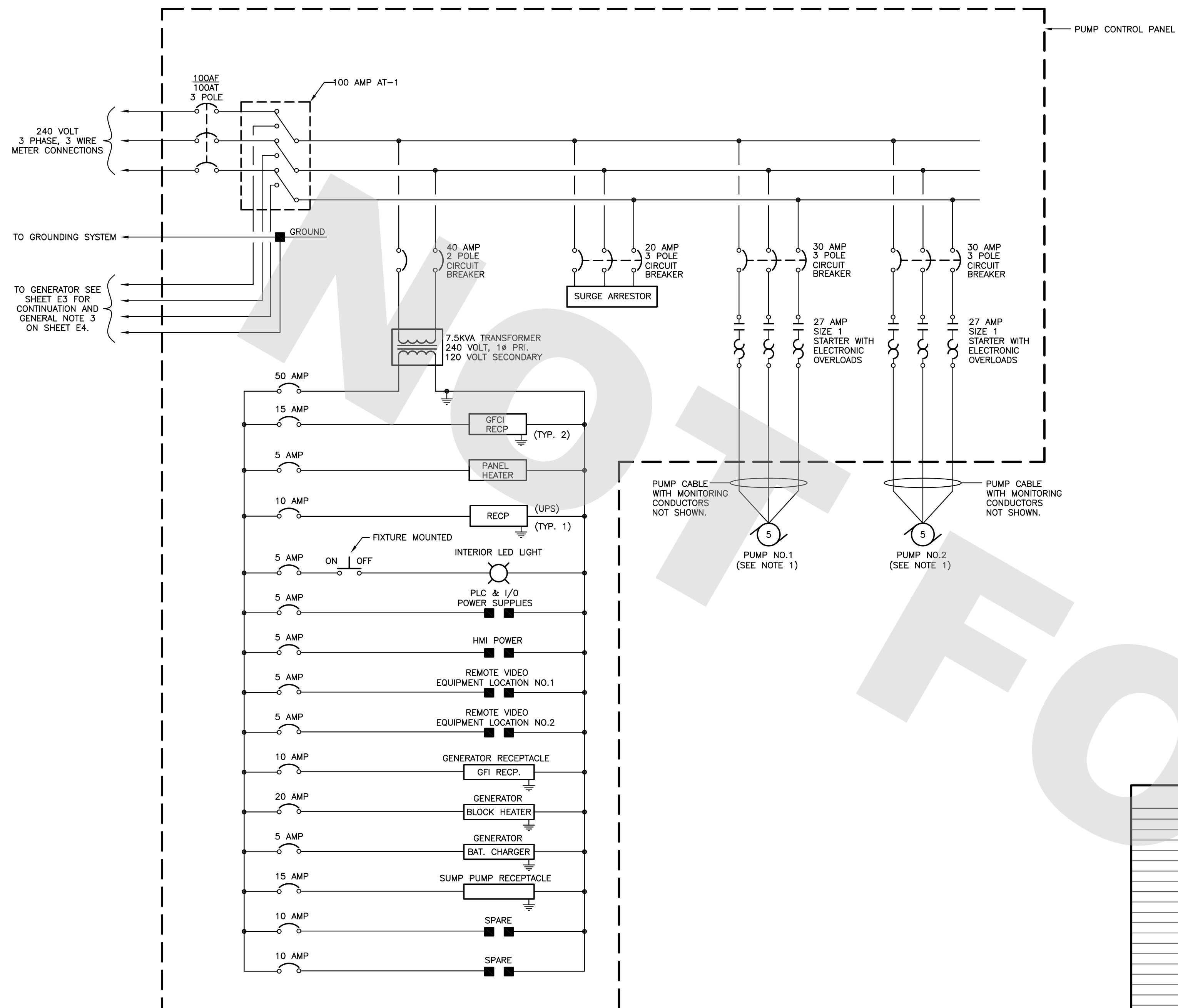
DESIGNED: R. BOYA	
DRAWN: B. FULLER	
CHECKED: R. BOYA	
DATE: MARCH 06, 2015	



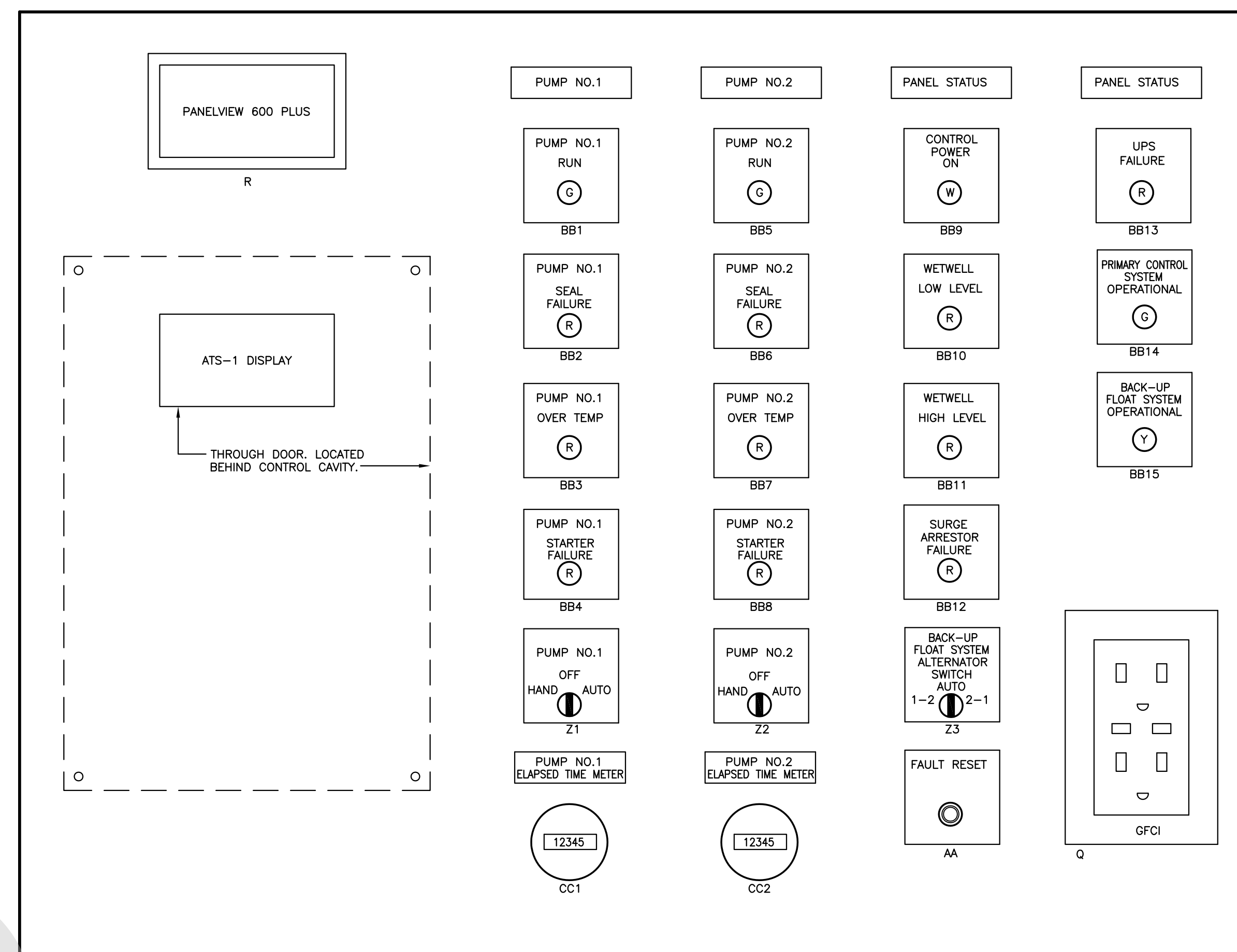
**VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT**

**PROPOSED LIFT STATION EXTERNAL
ONE-LINE DIAGRAM**

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: NO SCALE	DUPAGE	16	E3
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			



INTERIOR ONE-LINE DIAGRAM
N.T.S.

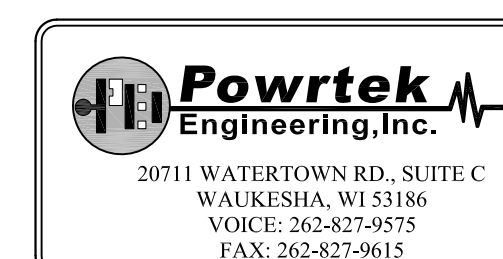


CONTROL CAVITY LAYOUT
N.T.S.

LIFT STATION PUMP CONTROL PANEL - BILL OF MATERIALS					
KEYED LETTER	NAME OR DESCRIPTION OF EQUIPMENT	NO. REQ'D	RECOMMENDED SUPPLIER OF EQUIPMENT	PART OR CATALOG NUMBER	NOTES:
A	NEMA 4X STAINLESS STEEL ENCLOSURE, BACK-PANEL & INNER DOORS	1	HOFFMAN	SYSTEM INTEGRATOR	72 INCHES HIGH X 60 INCHES WIDE X 20 INCHES DEEP, SEE DETAILS
B	SERVICE ENTRANCE RATED CIRCUIT BREAKER	1	CUTLER-HAMMER	ED3100 WITH WBL1	WITH F1503C FLANGE MOUNT FLEX SHAFT
C	AUTOMATIC TRANSFER SWITCH ATS-1	1	KOHLER	KSS100	WITH DISPLAY LOCATED BEHIND CONTROL CAVITY
D1 & D2	PUMP MOTOR CIRCUIT BREAKERS	2	CUTLER-HAMMER	ED3030	
E1 & E2	SIZE 1 (27 AMP) PUMP MOTOR STARTERS	2	CUTLER-HAMMER	AN140N0A3E	120 VOLT COIL, PROVIDE ELECTRONIC OVERLOAD BLOCKS
F	POWER DISTRIBUTION BLOCK	1	BUSSMAN	16623	PROVIDE OPTIONAL CPDB-3 COVER
G1, & G2	INTRINSICALLY SAFE BARRIERS	2	PR ELECTRONICS	5202B2	FLOAT CONTROL
H	INTRINSICALLY SAFE BARRIER	1	PR ELECTRONICS	5104 BX2A	TRANSDUCER
I	PANEL CIRCUIT BREAKERS	8	PHOENIX CONTACT	TMC SERIES	30 AMP, 20 AMP, 10 AMP & 5 AMP
J1 & J2	TERMINAL BLOCKS/ACCESSORIES	AS REQ'D	PHOENIX CONTACT	ST SERIES, FINGER SAFE	
K1 & K2	MIXER AND SURGE ARRESTOR CIRCUIT BREAKERS	2	CUTLER-HAMMER	ED3020	
L	CONTROL XFMR CB	1	CUTLER-HAMMER	ED2040	
M	BACK-UP FLOAT ALTERNATOR RELAY	1	TIME-MARK	261DXT-120V	BACK-UP FLOAT CONTROL ONLY
N & NT	CONTROL RELAYS/TIMERS	AS REQ'D	CUTLER-HAMMER	07PR31A/E42AF1124120	INCLUDES PLUG-IN BASES
O	RECEPTACLE	1	HUBBELL	5261	UPS POWER
P	UPS, SHELF MOUNTED	1	EATON POWERWARE	5125 WITH RELAY CARD	CORD & PLUG CONNECTED
Q	CONTROL CAVITY GFCI RECEPTACLE, LOCATED IN CONTROL CAVITY	1	HUBBELL	GF5262	USER RECEPTACLE
R	HUMAN MACHINE INTERFACE (HMI), LOCATED IN CONTROL CAVITY	1	ALLEN BRADLEY	PANELVIEW 600 PLUS COLOR	PROVIDE ALL CABLES & PROGRAMMING
S	INTERIOR MOUNTED LED LIGHT FIXTURE	1	HALO	HU1024R30P	WITH HUI06P SPLICE BOX
T1 & T2	24VDC POWER SUPPLIES	2	PHOENIX CONTACT	CM 62-PS-120AC/12(24) DC/1-GN	RADIO & PLC WITH I/O, UPS CONNECTED
U	PROGRAMMABLE LOGIC CONTROLLER (PLC)	1	ALLEN BRADLEY	MICROLOGIX 1400	PROVIDE ALL CABLES & PROGRAMMING
V	SPREAD SPECTRUM RADIO	1	900 MHZ MIDS	9810	PROVIDE ANTENNA CABLE
W	ANTENNA SURGE ARRESTOR	1	ANDREW	LDF4-50A	INSTALLED AHEAD OF RADIO
X	PUMP CONTROL PANEL DOOR SWITCHES	3	ALLEN BRADLEY	440P-ADP1S1CS	METAL CASING AND CABLE INCLUDED
Y	PANEL THERMOSTAT	1	HOFFMAN	ADLTMP (DUAL)	HEATING & COOLING THERMOSTAT
Z1, Z2 & Z3	30.5 mm 3 POSITION SELECTOR SWITCHES, LOCATED IN CONTROL CAVITY	3	CUTLER-HAMMER	TYPE 10250T SERIES	WITH LEGEND PLATES
AA	30.5 mm RESET PUSHBUTTON, LOCATED IN CONTROL CAVITY	1	CUTLER-HAMMER	TYPE 10250T SERIES	WITH LEGEND PLATE
BB1, BB2, BB3, BB4, BB5, BB6, BB7, BB8,	30.5 mm INDICATING LIGHTS, LOCATED IN CONTROL CAVITY	8	CUTLER-HAMMER	TYPE 10250T SERIES	120 VOLT LED P-T-T TRANSFORMER TYPE, WITH LEGEND PLATES
BB9, BB10, BB11, BB12, BB13, BB14 & BB15	30.5 mm INDICATING LIGHTS, LOCATED IN CONTROL CAVITY (CONTINUED)	7	CUTLER-HAMMER	TYPE 10250T SERIES	120 VOLT LED P-T-T TRANSFORMER TYPE, WITH LEGEND PLATES
CC1 & CC2	ELAPSED TIME METERS, LOCATED IN CONTROL CAVITY	2	ENGLAR	AC2001NLT	WITH GASKET
DD	INTERIOR PANEL GFCI RECEPTACLE	1	HUBBELL	GF5262	USER RECEPTACLE
EE	SURGE ARRESTOR	1	CRITEC	TDX100M240D	CONNECT TO CIRCUIT BREAKER/SCADA PLC
FF	NOT USED				
GG	ELECTRIC PANEL HEATER	1	HOFFMAN	DAH8001B (120 VOLT)	WITH THERMOSTATS
HH	10 INCH EXHAUST FAN & LOUVER KIT	1	HOFFMAN	T0SRSSA10AX7N1AFLTR10AL	PROVIDE 4 SPARE INTAKE FILTERS, CONFIRM ALL PART #S W/ MFR
II & I2	MOISTURE/TEMPERATURE RELAYS	2	PUMP MANUFACTURER	AS REQUIRED BY MFR.	COORDINATED WITH LIFT STATION SUPPLIER
JJ1, JJ2 & JJ3	EXTERIOR DOOR LOCKS	3	MASTERLOCK	CATALOG #6121 KALR	KEYED ALIKE WITH SIX (6) SETS OF KEYS
KK	ETHERNET SWITCH, SHELF MOUNTED	1	N-TRON	508FX2 WITH N-VIEW	PROVIDE ALL CABLES AND POWER
LL	7.5KVA CONTROL POWER XFMR	1	CUTLER-HAMMER	S10H1507N	
N/A	WIRE DUCT	AS REQ'D	PANDUIT	G2X3LGS	
N/A	WIRE MARKERS	AS REQ'D	BRADY	PS1DP-111-187	LIGHT GREY WITH COVERS
N/A	WIRE, 600 VOLT, MTW	AS REQ'D	DISTRIBUTOR	#14 AWG STRANDED COPPER	NOT SHOWN

NOTES:

- PUMP REQUIRES ADDITIONAL WIRING FOR MONITORING PUMP MOTOR OVER-TEMPERATURE AND MOISTURE. COORDINATE WITH PUMP/MOTOR MANUFACTURER.
- MAIN 100 AMP CIRCUIT BREAKER/DISCONNECT SWITCH SHALL HAVE PROVISIONS FOR PADLOCKING IN BOTH ON/OFF POSITIONS.
- ALL EQUIPMENT SHALL BE NEMA RATED.
- STARTER OVERLOAD BLOCK NOT INCLUDED IN PART NUMBER. FIELD VERIFY SAME.
- POWER DISTRIBUTION & CONTROL EQUIPMENT IS SHOWN AS CUTLER HAMMER. ALLEN BRADLEY IS AN APPROVED EQUAL.
- HMI PROVIDES TRANSDUCER LEVEL INDICATOR/PROGRAMMING ONLY. PANEL REQUIRES ALL HARDWIRED LIGHTS, PUSHBUTTONS, ETM'S AND SWITCHES AS SHOWN.



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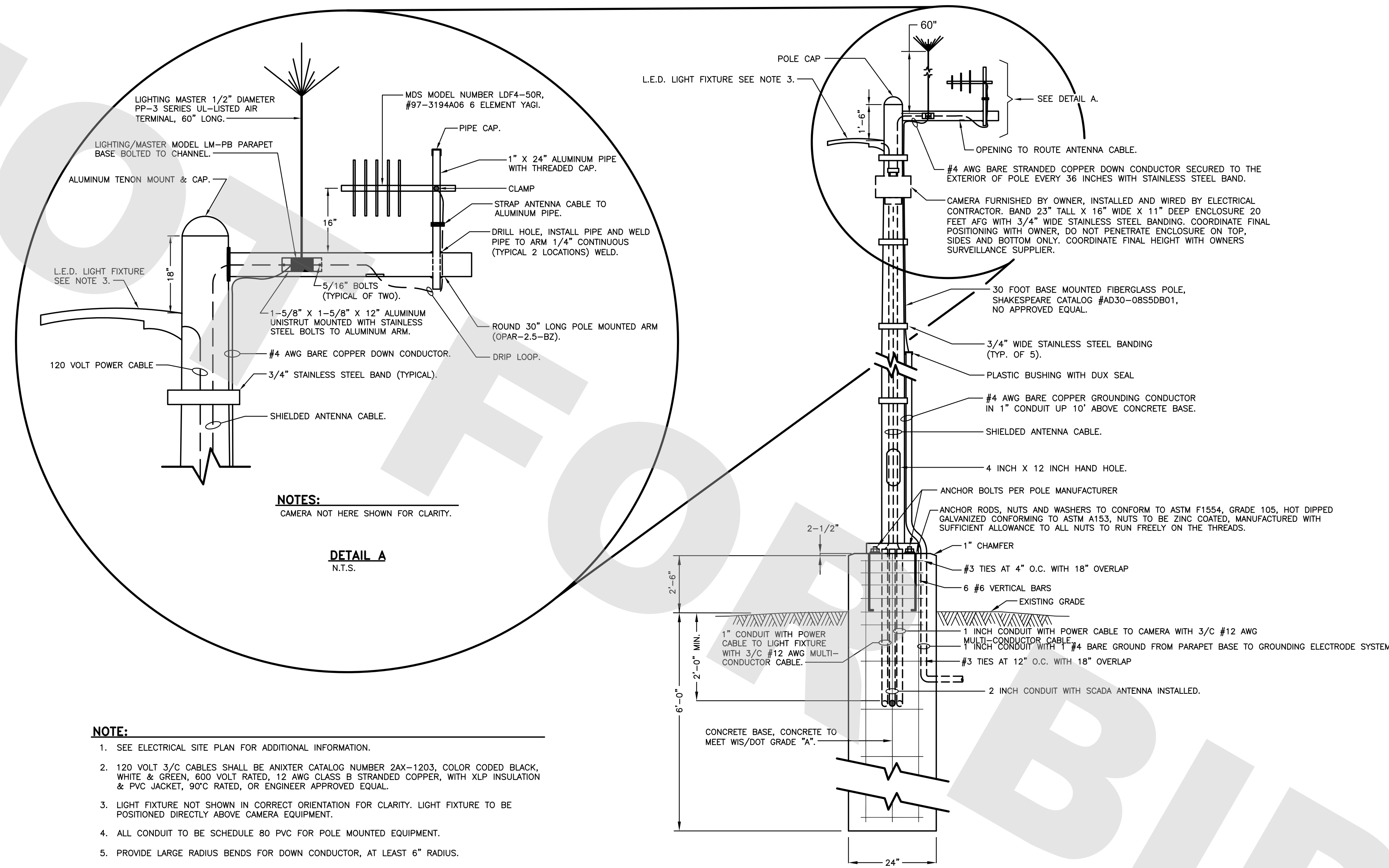
DESIGNED: R. BOYA	
DRAWN: B. FULLER	
CHECKED: R. BOYA	
DATE: MARCH 06, 2015	



**VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT**

**PROPOSED LIFT STATION CONTROL CAVITY LAYOUT,
INTERIOR ONE-LINE DIAGRAM, AND LIFT STATION
PUMP CONTROL PANEL-BILL OF MATERIALS**

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: NO SCALE	DUPAGE	16	E5
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			



NOTES:
CAMERA NOT HERE SHOWN FOR CLARITY.

DETAIL A
N.T.S.

- NOTE:**
- SEE ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
 - 120 VOLT 3/C CABLES SHALL BE ANIXTER CATALOG NUMBER 2AX-1203, COLOR CODED BLACK, WHITE & GREEN, 600 VOLT RATED, 12 AWG CLASS B STRANDED COPPER, WITH XLP INSULATION & PVC JACKET, 90°C RATED, OR ENGINEER APPROVED EQUAL.
 - LIGHT FIXTURE NOT SHOWN IN CORRECT ORIENTATION FOR CLARITY. LIGHT FIXTURE TO BE POSITIONED DIRECTLY ABOVE CAMERA EQUIPMENT.
 - ALL CONDUIT TO BE SCHEDULE 80 PVC FOR POLE MOUNTED EQUIPMENT.
 - PROVIDE LARGE RADIUS BENDS FOR DOWN CONDUCTOR, AT LEAST 6" RADIUS.
 - NO SPLICES ALLOWED IN POLE.

POLE MOUNTED ANTENNA/CAMERA AND LIGHT DETAIL
N.T.S.

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DRAWN: B. FULLER	
CHECKED: R. BOYA	
DATE: MARCH 06, 2015	



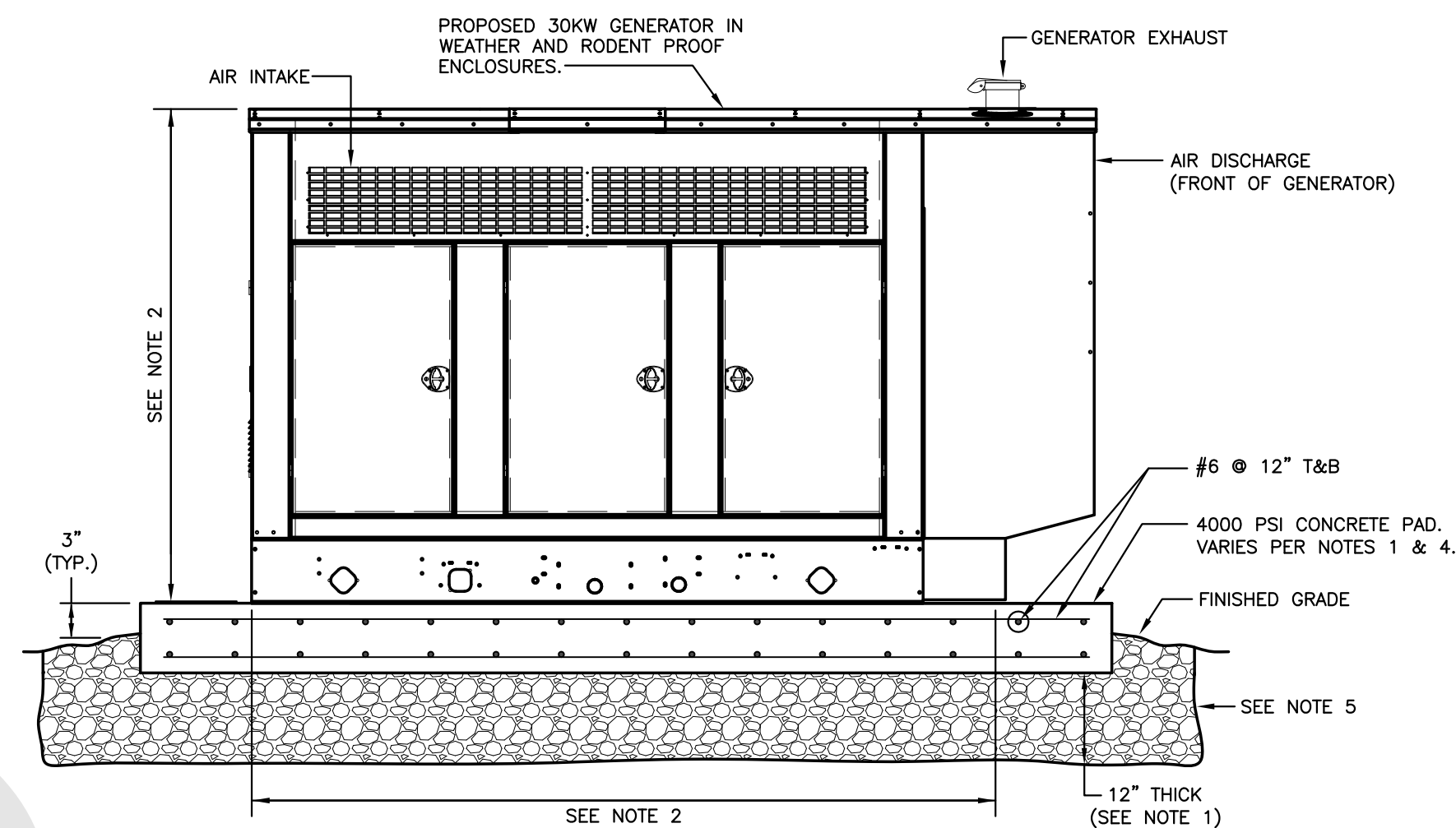
VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

POLE MOUNTED ANTENNA/CAMERA
AND LIGHT DETAILS

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: NO SCALE	DUPAGE	16	E6
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			

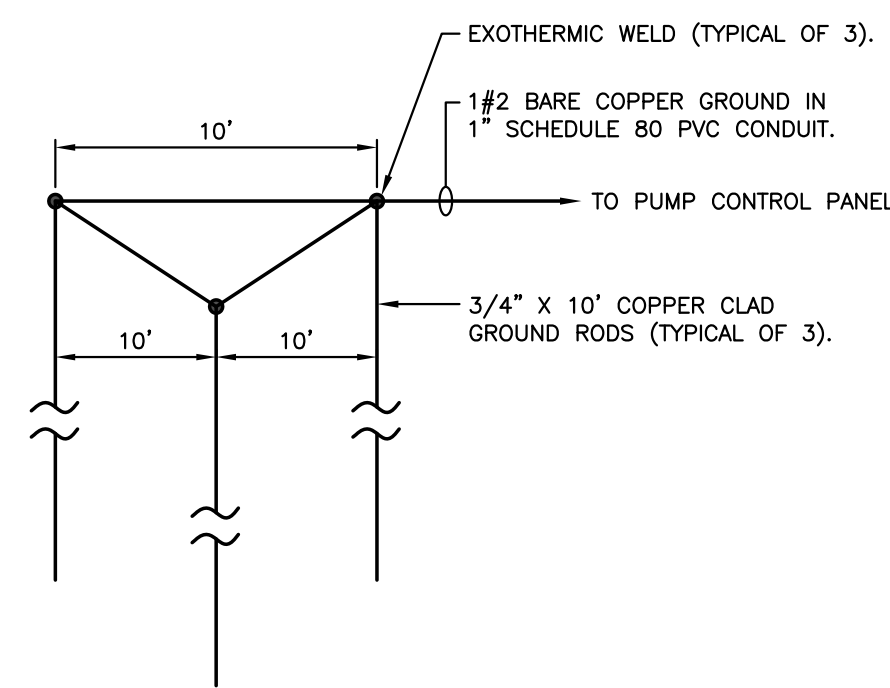
Powrtek Engineering, Inc.
20711 WATERTOWN RD., SUITE C
WAUKESHA, WI 53186
VOICE: 262-827-9575
FAX: 262-827-9615

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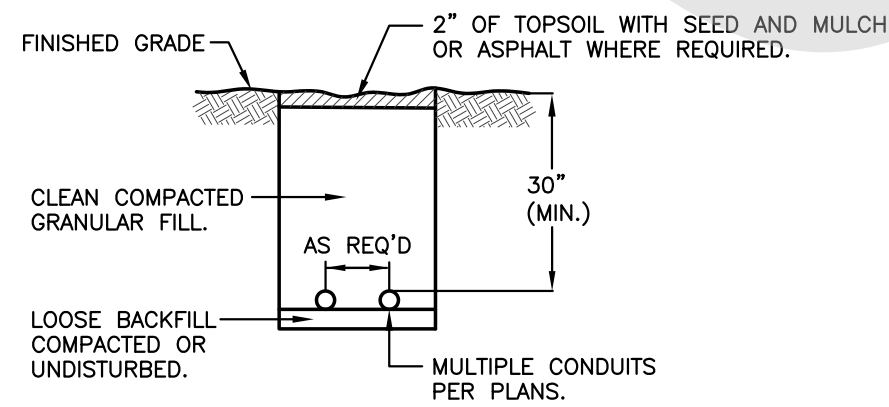


NOTES:

1. THE CONCRETE PAD SHALL BE SIZED 12" LARGER THAN THE GENERATOR LENGTH AND WIDTH ON ALL FOUR SIDES. CENTER EACH GENERATOR ON CONCRETE PAD PER SPECIFICATIONS. THE CONCRETE PAD SHALL BE 12" THICK FOR THE 30KW GENERATOR.
2. THE LIFT STATIONS 30KW GENERATOR IS 101.8" LONG X 42.4" WIDE X 59.6" TALL, BASED ON KOHLER POWER SYSTEMS. VERIFY SAME WITH OTHER SPECIFIED MANUFACTURERS.
3. FREE DRAINING FILL TO BE WASHED CRUSHED STONE.
4. CONCRETE TO BE AIR ENTRAINED (AIR CONTENT 6±1%) WITH A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI. MAXIMUM WATER CEMENT RATIO OF 0.45.
5. REINFORCING TO BE ASTM A615 GRADE 60.
6. PROVIDE A 3/4" CHAMFER ON ALL EXPOSED EDGES.
7. CLEAR COVER TO REINFORCING IS 2" UNLESS NOTED OTHERWISE.
8. STUB ALL CONDUITS THROUGH CONCRETE. DO NOT BOX OUT AN AREA FOR RODENTS TO ENTER OR EXPOSED CONDUIT AND FUEL LINES. COORDINATE WITH GAS COMPANY.
9. SLEEVE GAS LINE WITH A PVC CONDUIT SLIGHTLY LARGER THEN PIPE SIZE. SEAL BETWEEN SLEEVE AND PIPE WITH SILICON CAULK.
10. VERIFY ALL PENETRATIONS WITH MANUFACTURER BEFORE PROCEEDING.
11. MOUNT GENERATOR RECEPTACLE INSIDE ENCLOSURE. DO NOT MOUNT ON EXTERIOR OR PENETRATE GENERATOR ENCLOSURE WITH ANY CONDUIT OR GAS PIPING.
12. BOLT GENERATOR TO CONCRETE PAD AT ALL FOUR (4) CORNERS WITH 3/4" X 10" LONG, HOT DIPPED GALVANIZED THREADED HILTI ANCHORS, WASHERS, LOCK WASHERS AND THREADED NUTS OR AS RECOMMENDED BY THE GENERATOR MANUFACTURER.



GROUNDING ELECTRODE DETAIL
N.T.S.



NOTES:

1. SINGLE CONDUIT OR CABLE TRENCH SHALL BE 6" WIDE.
2. REMOVE ANY ROCKS OR DEBRIS LARGER THAN 1" DIAMETER AND ANY MATERIALS WITH SHARP EDGES BEFORE OR DURING BACKFILL.
3. MAINTAIN A 3" DISTANCE BETWEEN POWER CONDUITS. 6" DISTANCE FROM CONTROL (24VDC) AND 12" FROM RADIO ANTENNA OR SIMILAR CAMERA OR OTHER CABLES.

TYPICAL TRENCH DETAIL
N.T.S.

GENERATOR INSTALLATION DETAIL
N.T.S.

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DATE: MARCH 06, 2015	



VILLAGE OF VILLA PARK
LIFT STATION REPLACEMENT

ELECTRICAL DETAILS

SCALES	COUNTY	TOTAL SHEETS	SHEET NO.
HORIZONTAL: NOT TO SCALE	DUPAGE	16	E7
VERTICAL:	STA.	TO STA.	
PROJECT NO. 11-2783-00			

