SANITARY SEWER EXTENSION

to serve

Consolidation of Lift Stations near 151st & Kellogg

CITY OF WICHITA, KANSAS

Gary Janzen, P.E. City Engineer

Project Number 468-85253

O.C.A. NO. 620787 & 669110

S7013/S9029
2020-003153 (Mains)
2020-003154 (Force Main and Lift Station)

1804 S 151st St West
Abandons LS50, LS51 and LS53

McCullough - Contractor
B. Woods - City of Wichita, Field Project Engineer
S. Stripling - City of Wichita, Inspector
As-built
Completion Date:11/13/2020 dea

GENERAL NOTES:

1. The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.

2. 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	1-800-694-8989
City of Goddard	1-316-648-5899
City of Wichita Water & Sewer Dept.	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 Fiber Network	1-800-778-9140
Kansas Gas Service	1-888-482-4950
OneOK Field Services	1-866-261-1099
Sedgwick Co. RWD#4	1-316-794-8891
Westar Energy (now known as Evergy)	1-800-544-4857

3. 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.

4. 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.

5. 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 Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.

6. 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 written notice prior to start of construction.

7. 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.

8. If traffic will be impacted by construction, a traffic control plan must be prepared in accordance with Sedgwick County, KS standard specifications and details. Traffic on 151st Street and all publicly owned rights-of-way must be maintained during construction. 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 Contractors responsibly.

10. All elevations shown are NAVD 88, G12B.

11. All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.

12. The Contractor shall protect from damage and support existing utilities through constructions as approved by the utility owner and the Engineer at the contractors expense.

13. Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.

14. All stubs and plugged pipes shall be located with green plastic tape in the same manner as risers.

15. Connecting to Existing Manholes:

    Prior to laying sewer lines using existing stubs in existing manholes, the Contractor shall expose and verify the elevation, grade and alignment of existing stubs and notify the Engineer of any deviation from the plans. Where connection to an existing manhole that does not have an existing stub or the stub is unusable due to elevation grade or alignment, the Contractor shall bore cut into existing manhole wall to make connection using approved water stop gasket, and reshape the existing manhole invert to provide smooth flow. The cost to connecting to existing manholes is incidental to the project.

16. Contractor shall provide positive drainage away from all manhole covers.

17. The Contractor shall prevent any construction debris from entering the existing sanitary sewer during construction.

18. The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractors proposed method for maintaining sewage flow shall be submitted and approved by the Sewer Maintenance Division (316-268-4073) prior to starting and by-passing of sewage flows.

19. Any over excavation from manhole and pipe removal shall be backfilled with Type 1 Pipe Bedding.

20. No shrink or swell factors have been applied to the earthwork quantities shown on this project. All earthwork quantities are based on raw surface volume comparisons.

21. Excess dirt generated from installation of underground utilities is to be removed from this site.

22. The entire project shall be seeded, fertilized and mulched per the specifications. No rye grass shall be used across Parcel 252713. Buffalo grass seed shall be utilized across this property with fertilizer and mulch at the standard specified rate.

23. When accessing the site through mobile home parks the contractor shall use the defined roads as much as possible. If access requires other means the contractor is responsible for restoring the site. Access to all homes must be maintained at all times.

24. A measured quantity will be bid for temporary fence and only used as directed by the engineer. Temporary fence shall be a 4 ft. tall woven wire (welded wire fence) with a single strand electrical wire running above the woven wire fence with steel posts spaced at 12 ft. maximum spacing. Fencing shall be adequate to contain all livestock and horses. Contractor shall be responsible for all temporary power supply for the fence.

25. All topsoil along the entire project shall be stripped to a minimum depth of 12" and restored during finish grading of the site. This shall be subsidiary to site clearing and restoration.

N

0 250' 500' 1000' 1500'

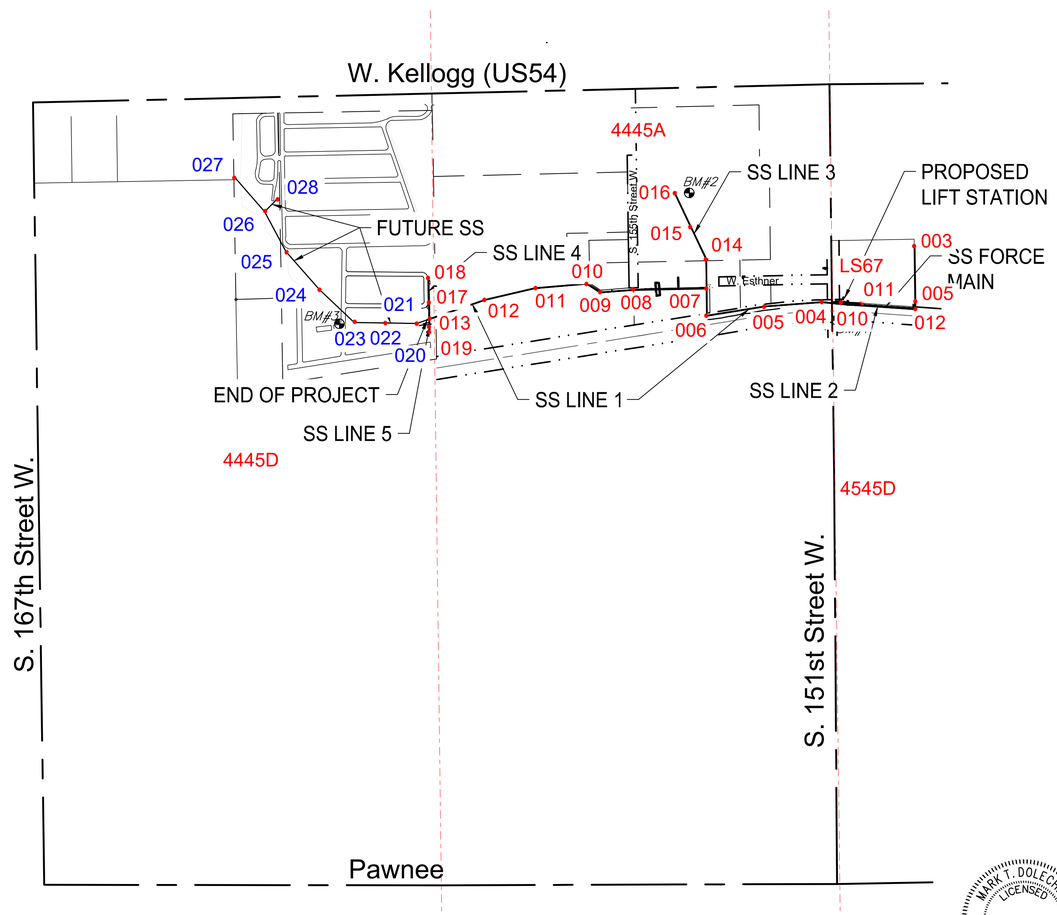
(IN FEET)

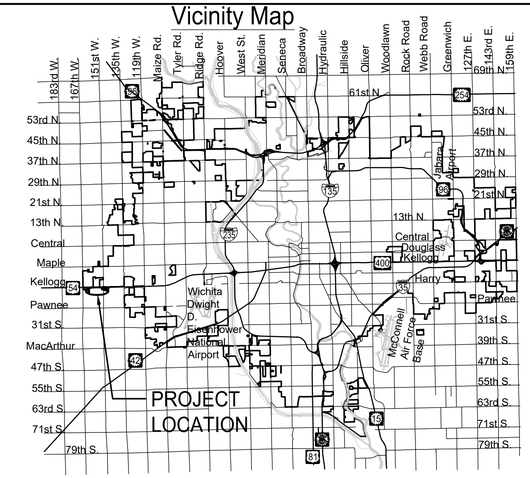
Benchmarks

POINT #1
TOP OF VERTICAL RAIL 61' SOUTH OF PATH & 24' EAST OF CENTER LINE OF 151ST STREET W.
ELEVATION = 1395.56 (NAVD88, G12B)

POINT #2
SQUARE CUT, WEST END OF STORM SHELTER LOCATED IN MOBILE HOME PARK BETWEEN 151ST AND 155TH STREETS
ELEVATION = 1401.68 (NAVD88, G12B)

POINT #3
SQUARE CUT, SOUTH END OF WEST HEADWALL OF BOX CULVERT, 22' NORTH OF CENTER LINE OF AVENUE F & 22' NORTH OF CENTER LINE OF LAKE DR. LOCATED IN MOBILE HOME PARK BETWEEN 155TH AND 167TH STREETS
ELEVATION = 1408.86 (NAVD88, G12B)





Sheet Number	Sheet Title
1	SS Titlesheet
2	SS Line 1 (1 of 3)
3	SS Line 1 (2 of 3)
4	SS Line 1 (3 of 3)
5	SS Line 2
6	SS Line 3
7	SS Line 4
8	SS Line 5
9	SS Force Main
10	Lift Station Site Plan
11	Lift Station Plan
12	LIFT STATION SECTION
13	Lift Station Details
14	ONELINE DIAGRAM AND ELEVATIONS
15	ELETRICAL SITE PLAN
16	ELECTRICAL POWER PLAN
17	WET WELL ELEVATION AND MPZ01 PANEL SCHEDULE
18	ELECTRICAL DETAILS I
19	ELECTRICAL DETAILS II
20	ELECTRICAL DETAILS III
21	ELECTRICAL DETAILS IV
22	SCREEN WALL FOUNDATION PLAN, SECTION AND NOTES
23	ORNAMENTAL GATE & MOW STRIP DETAIL
24	Force Main Abandonment
25	Bubble Map SS Pnts
26	Bubble Map Control Pnts
27	Pre-Cast SS MH
28	MH Frame & Cover
29	Vertical Riser
30	Tracer Wire SS
31	Erosion Control Plan
32	BOC
33	Silt Fc
34	Straw Bale
35	SIP
36	SDP

MARK T. DOLECHEK LICENSED 25299 KANSAS PROFESSIONAL ENGINEER

Digitally Signed 11/19/2019

NOVEMBER 2019

PLANS PREPARED BY

GARVER
8535 E 21st St, Suite 130
Wichita, KS 67206
(316) 264-8008
www.GarverUSA.com

City of Wichita
Sedgwick County, Kansas

Sanitary Sewer Riser Location Table

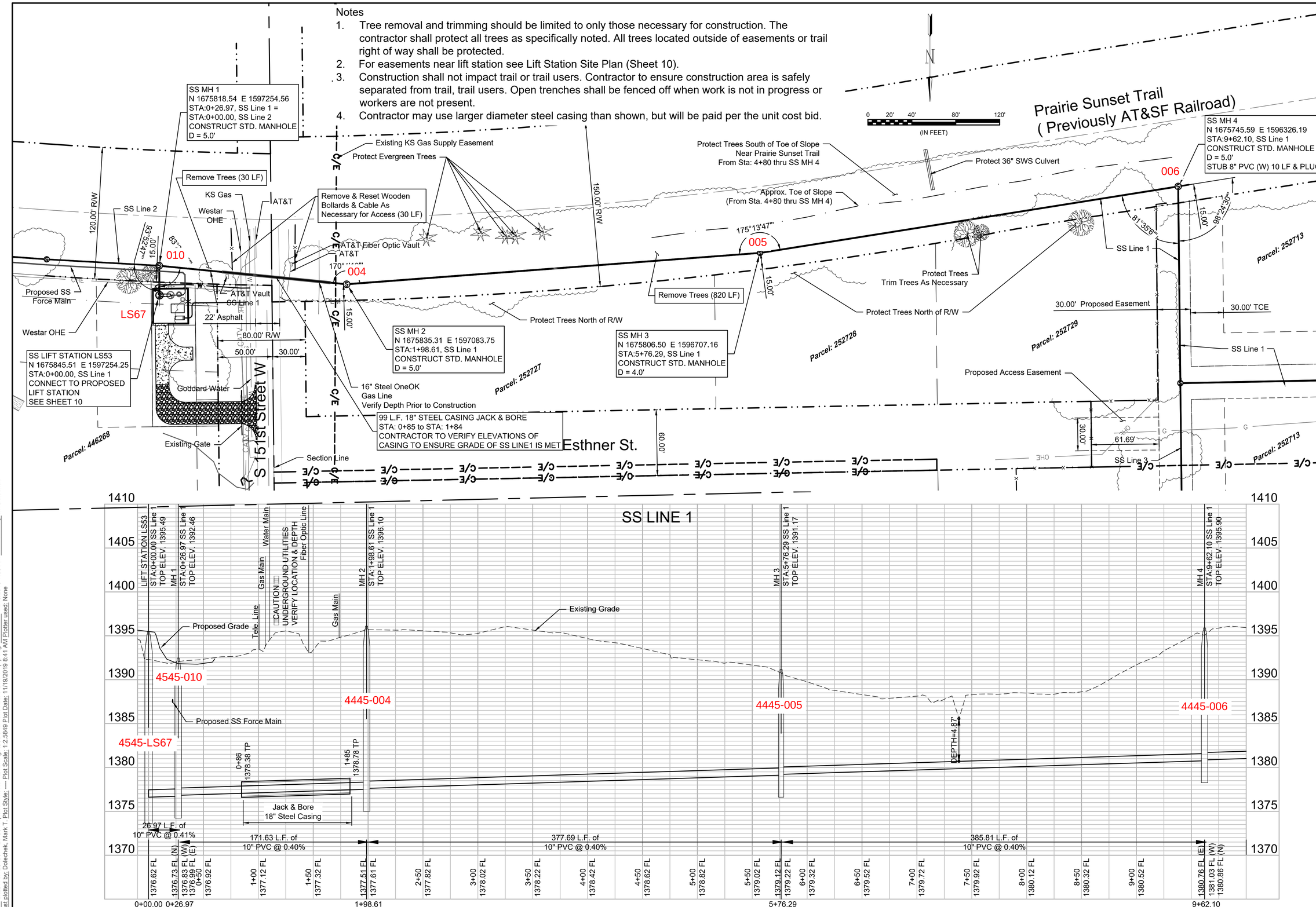
Public Works Department
Engineering Division
Construction and Surveying Section

Project Name: Consolidation of Lift Stations near 151st & West Kellogg
Project Location: north of Pawnee, east of 167th West
Project No: 468-85253
OCA No: 620787/669110
Contractor: McCullough Excavation, Inc.
Inspector: Stripling

Riser No.	Line No.	Station	Distance from Main to Riser (Lt./Rt.)	Distance from Upstream MH	Distance from Downstream MH
1	1	14+54	7.5' Lt	179'	313'
2	1	17+66	7.5' Rt	80'	133'

Notes

1. Tree removal and trimming should be limited to only those necessary for construction. The contractor shall protect all trees as specifically noted. All trees located outside of easements or trail right of way shall be protected.
2. For easements near lift station see Lift Station Site Plan (Sheet 10).
3. Construction shall not impact trail or trail users. Contractor to ensure construction area is safely separated from trail, trail users. Open trenches shall be fenced off when work is not in progress or workers are not present.
4. Contractor may use larger diameter steel casing than shown, but will be paid per the unit cost bid.



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REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

SS Line 1 (1 of 3)

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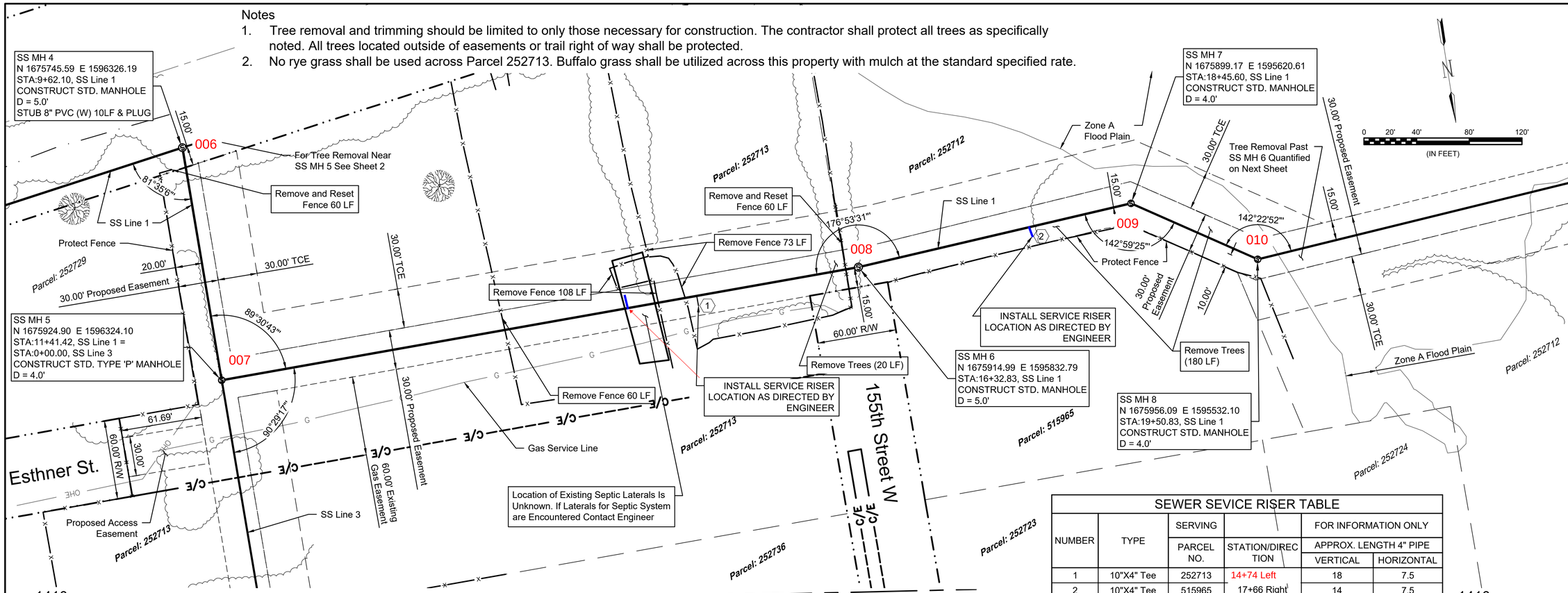
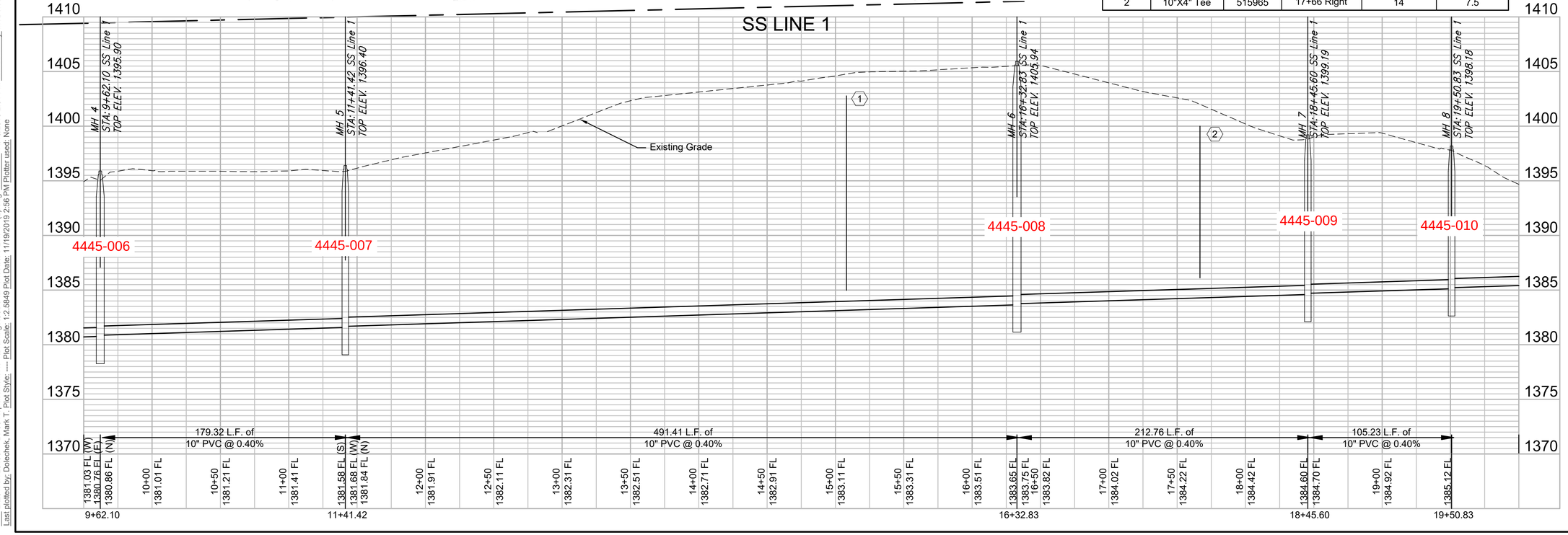
Notes

1. Tree removal and trimming should be limited to only those necessary for construction. The contractor shall protect all trees as specifically noted. All trees located outside of easements or trail right of way shall be protected.
2. No rye grass shall be used across Parcel 252713. Buffalo grass shall be utilized across this property with mulch at the standard specified rate.



SEWER SEVICE RISER TABLE					
NUMBER	TYPE	SERVING		FOR INFORMATION ONLY	
		PARCEL NO.	STATION/DIRECTION	APPROX. LENGTH 4" PIPE	
				VERTICAL	HORIZONTAL
1	10"X4" Tee	252713	14+74 Left	18	7.5
2	10"X4" Tee	515965	17+66 Right	14	7.5



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Consolidation of Lift Stations Near 151st St. & W. Kellogg

SS Line 1 (2 of 3)

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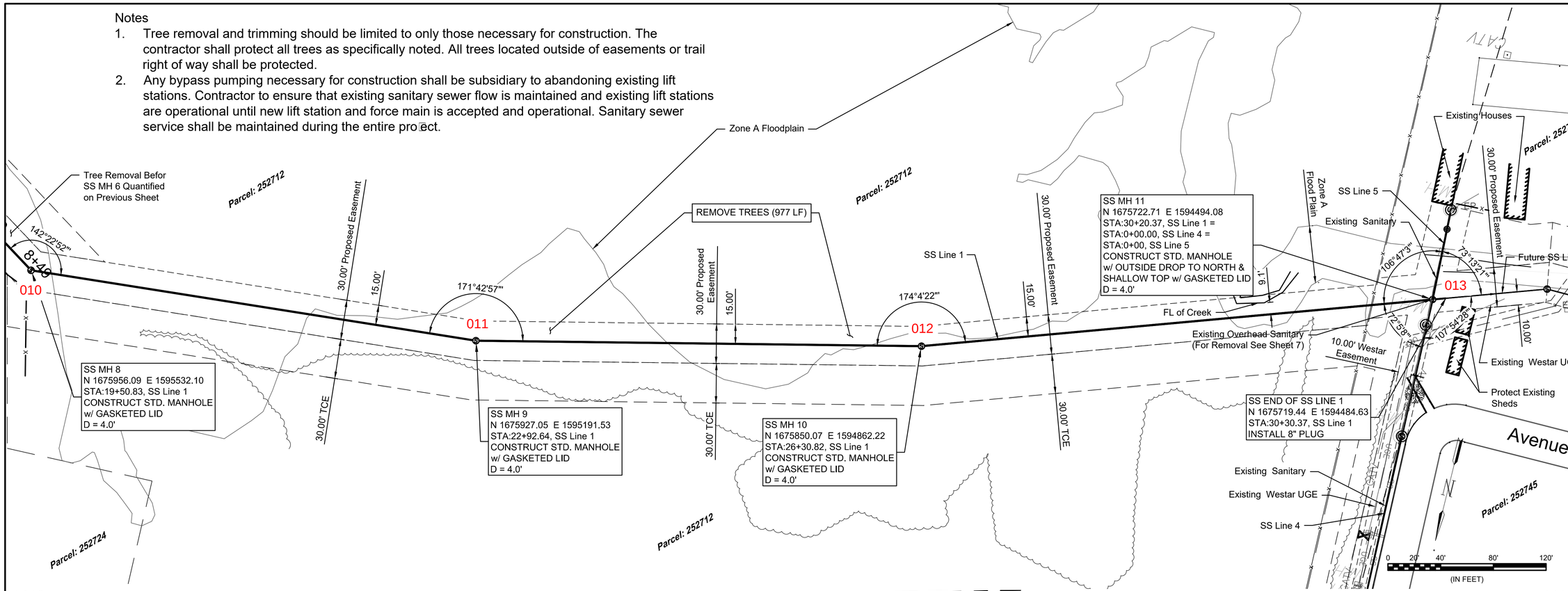

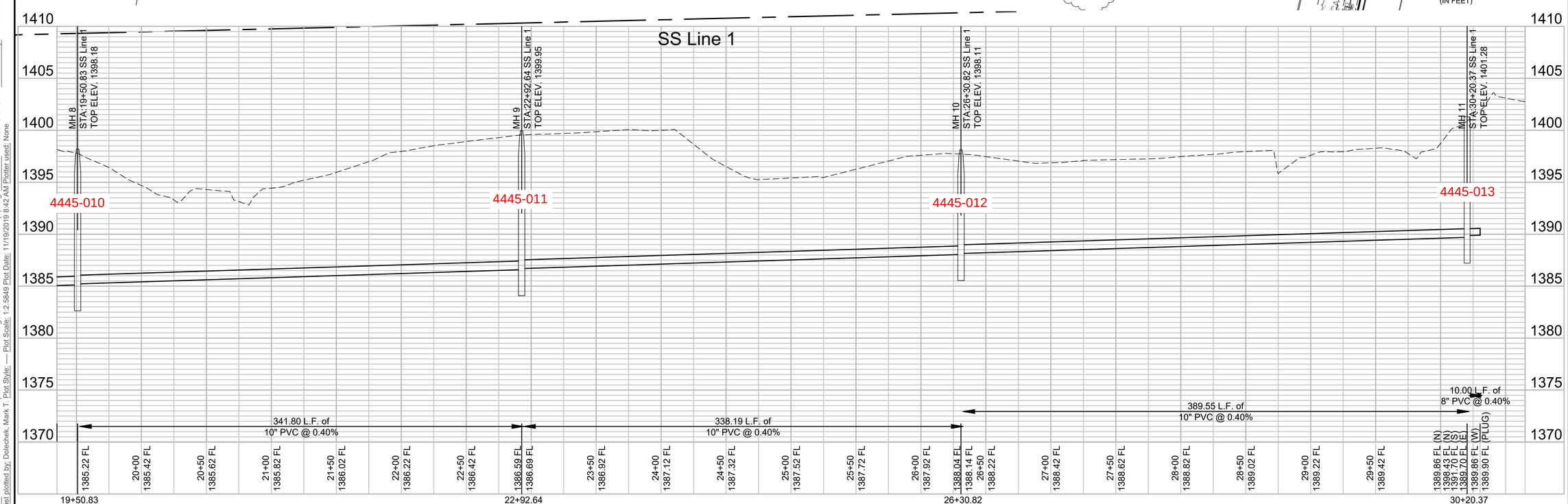

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Consolidation of Lift Stations
Near 151st St. & W. Kellogg

SS Line 1 (3 of 3)

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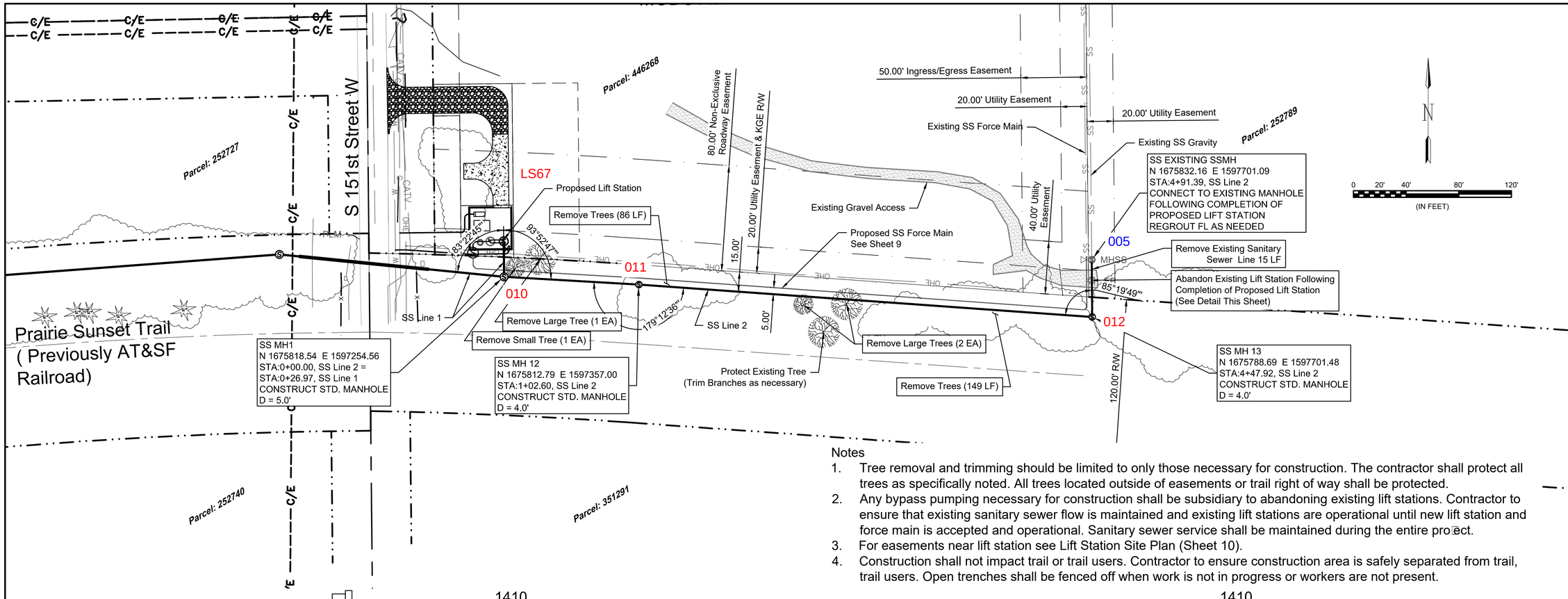

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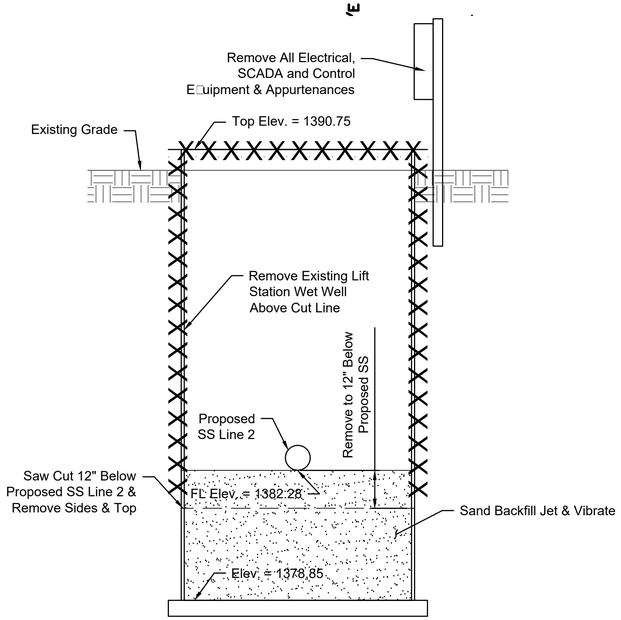
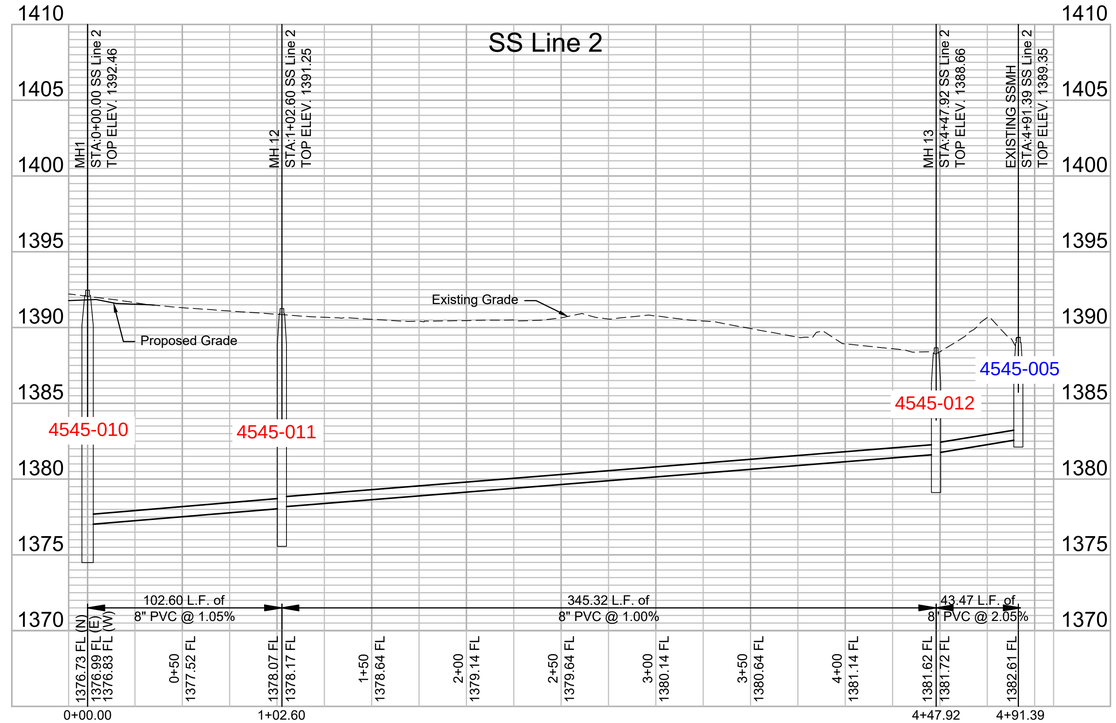


Lift Station 53 Wetwell Abandonment Detail

Notes for Detail

1. Pumps, SCADA, control and electrical equipment to be salvaged to City of Wichita.
2. Contractor may at their option remove entire lift station base in lieu of cutting and removing top portion only. Sand backfill will still be required under the proposed SS Line 2.



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WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

SS Line 2

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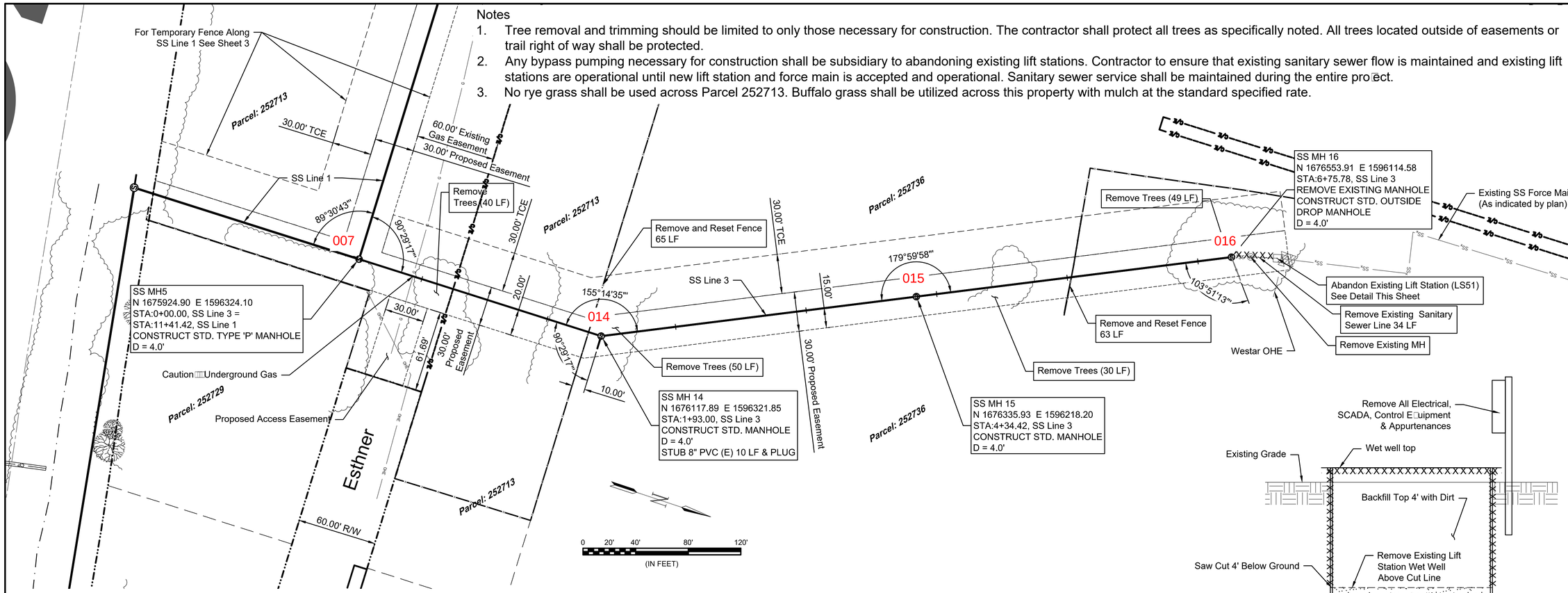

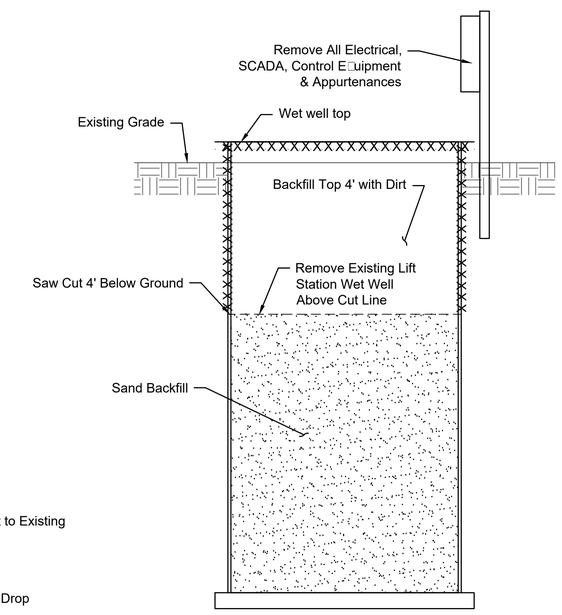

Lift Station 50 & 51 Wetwell Abandonment Detail

Notes for Detail

1. Pumps, electrical, SCADA, and control equipment to be salvaged to City of Wichita.

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Near 151st St. & W. Kellogg

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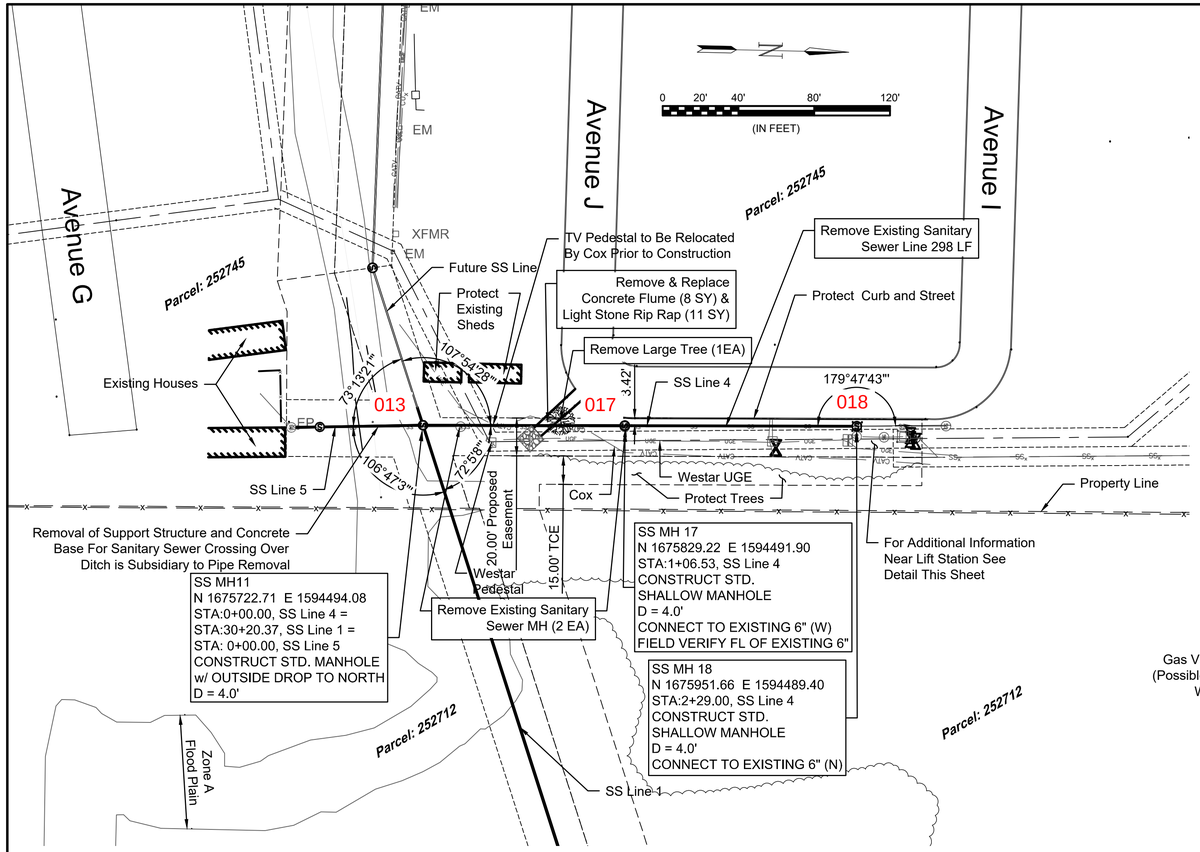

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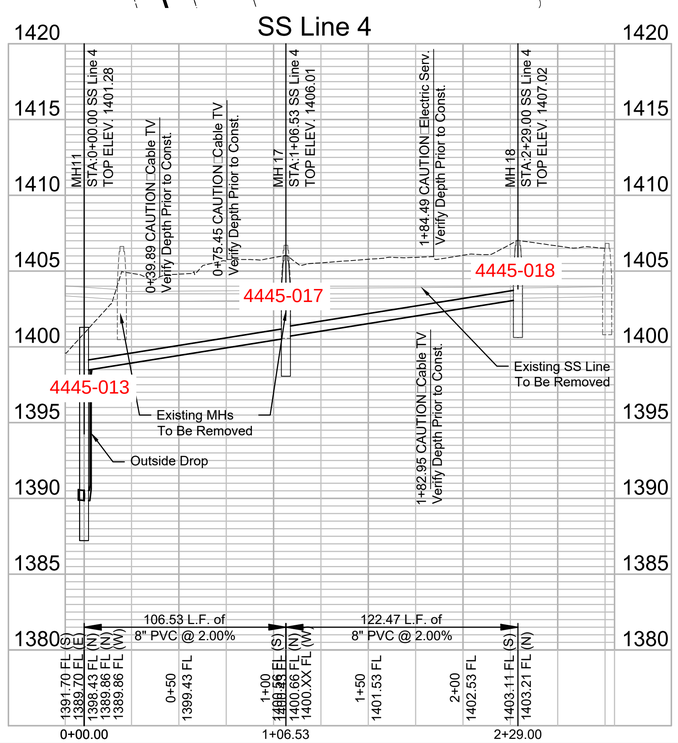

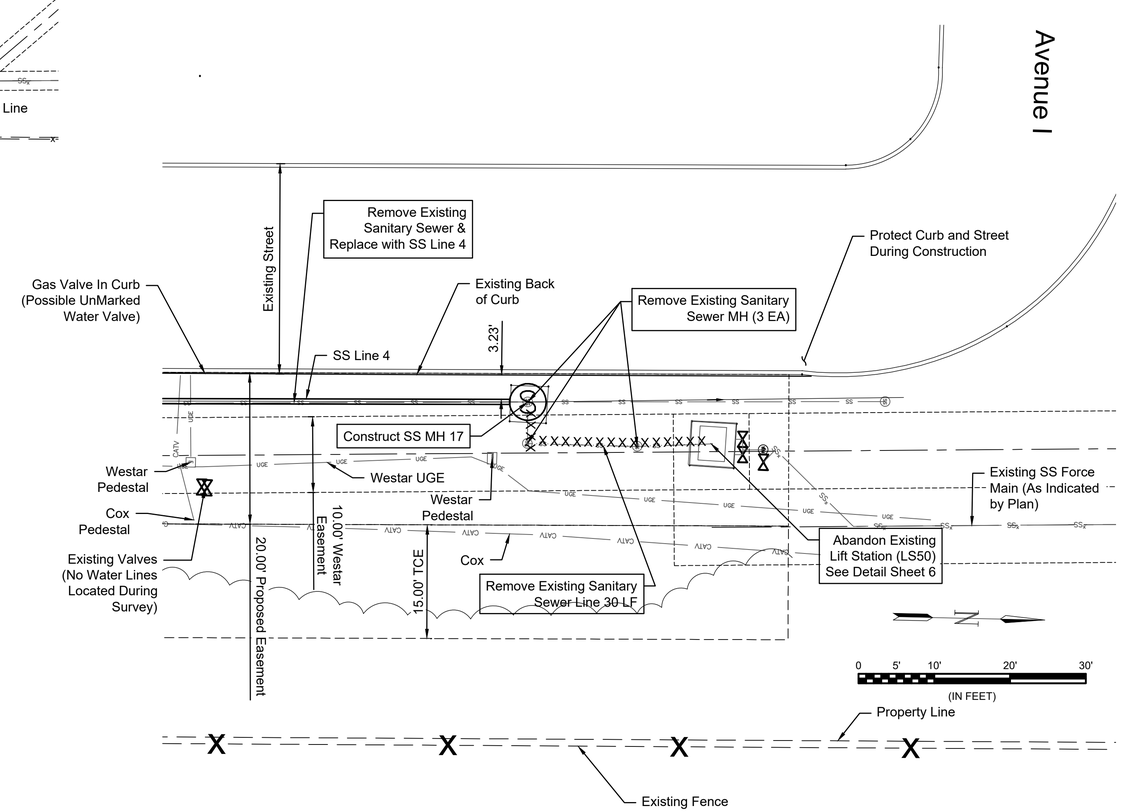

DETAIL NEAR LIFT STATION (LS50)

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WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

SS Line 4

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

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0 1"
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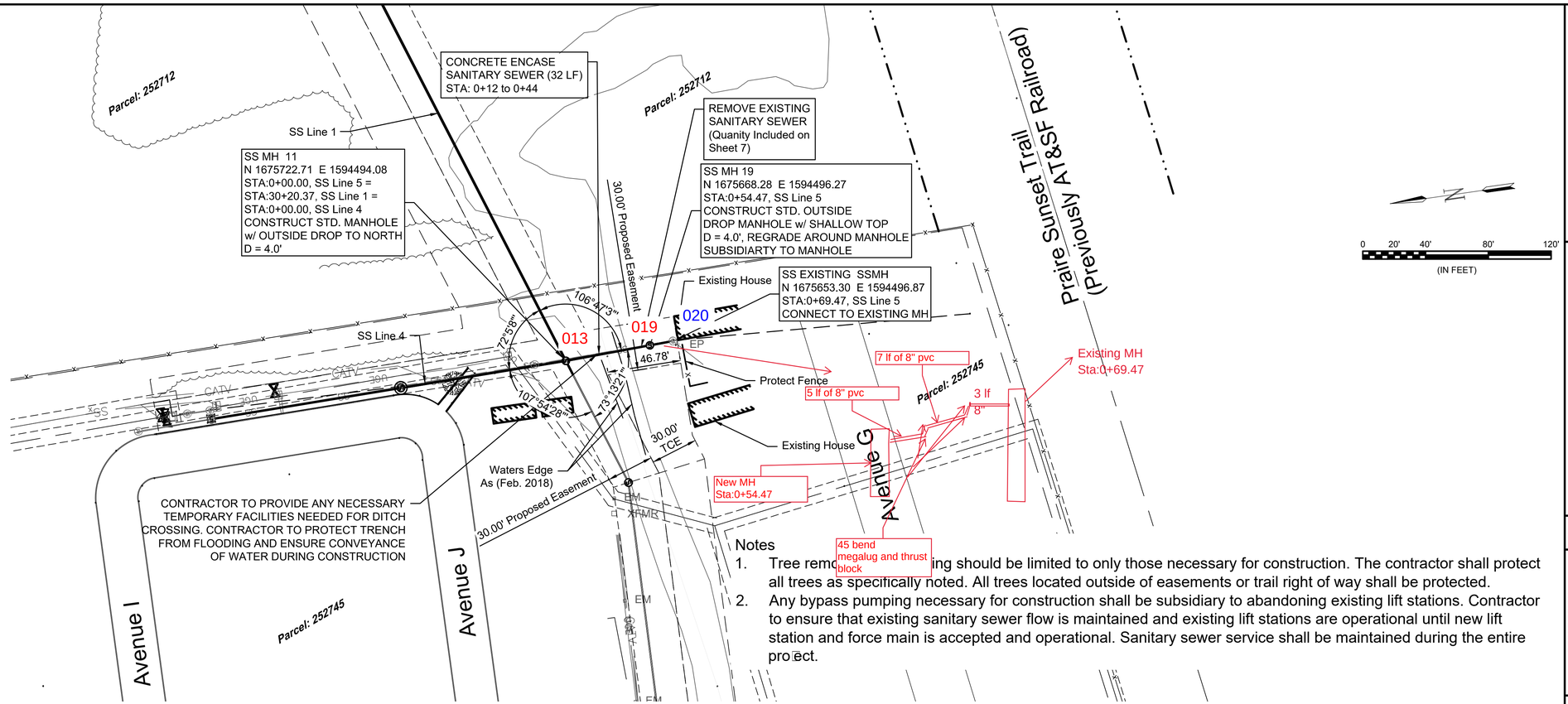
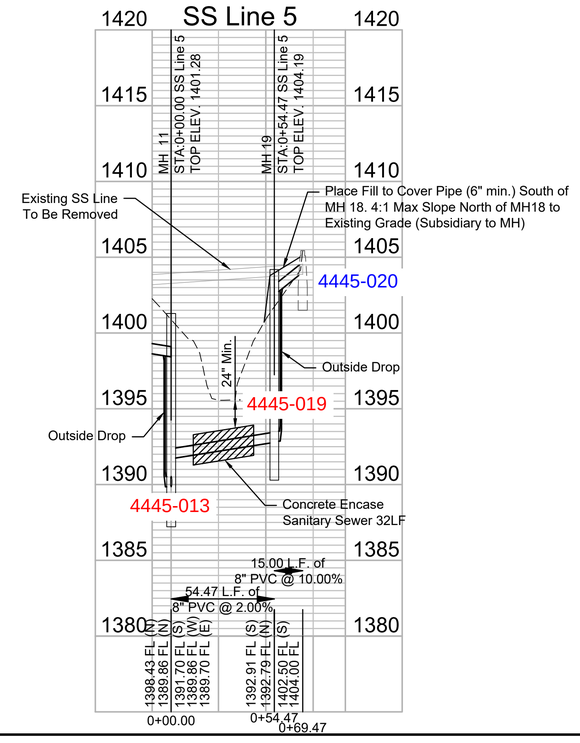
SHEET NUMBER 7 OF 36

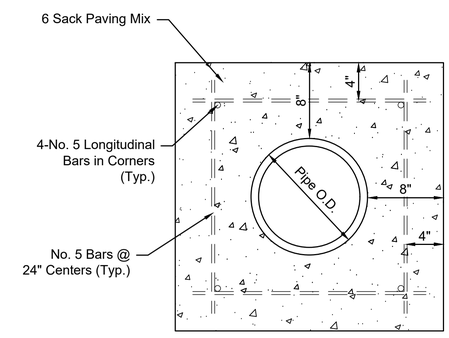
File: L:\2017\17264967 - LS 53 Replacement No 1\Drawings\C3D\Plan Sheets\SS Line 4 - (1).dwg Last Save: 11/13/2019 2:47 PM Last saved by: MTDolechek
Last plotted by: Dolechek, Mark T. Plot Style: ---- Plot Scale: 1:2.5849 Plot Date: 11/19/2019 8:45 AM Plotter used: None



Notes

1. Tree remo ing should be limited to only those necessary for construction. The contractor shall protect all trees as specifically noted. All trees located outside of easements or trail right of way shall be protected.
2. Any bypass pumping necessary for construction shall be subsidiary to abandoning existing lift stations. Contractor to ensure that existing sanitary sewer flow is maintained and existing lift stations are operational until new lift station and force main is accepted and operational. Sanitary sewer service shall be maintained during the entire pro ect.





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MARK T. DOLECHEK
LICENSED
25299
KANSAS
PROFESSIONAL ENGINEER

Digitally Signed 11/19/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

SS Line 5

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

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SHEET NUMBER 8 OF 36

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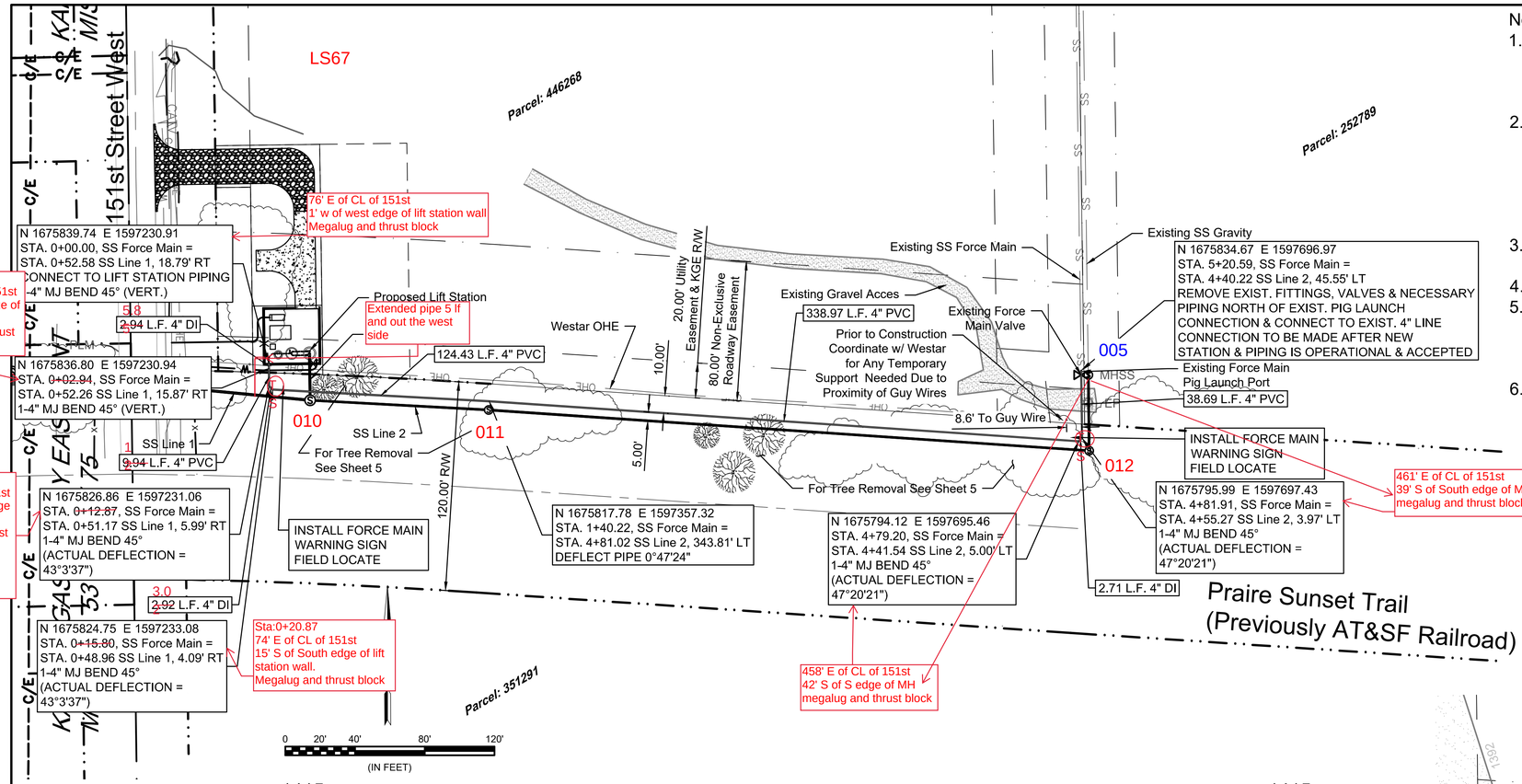
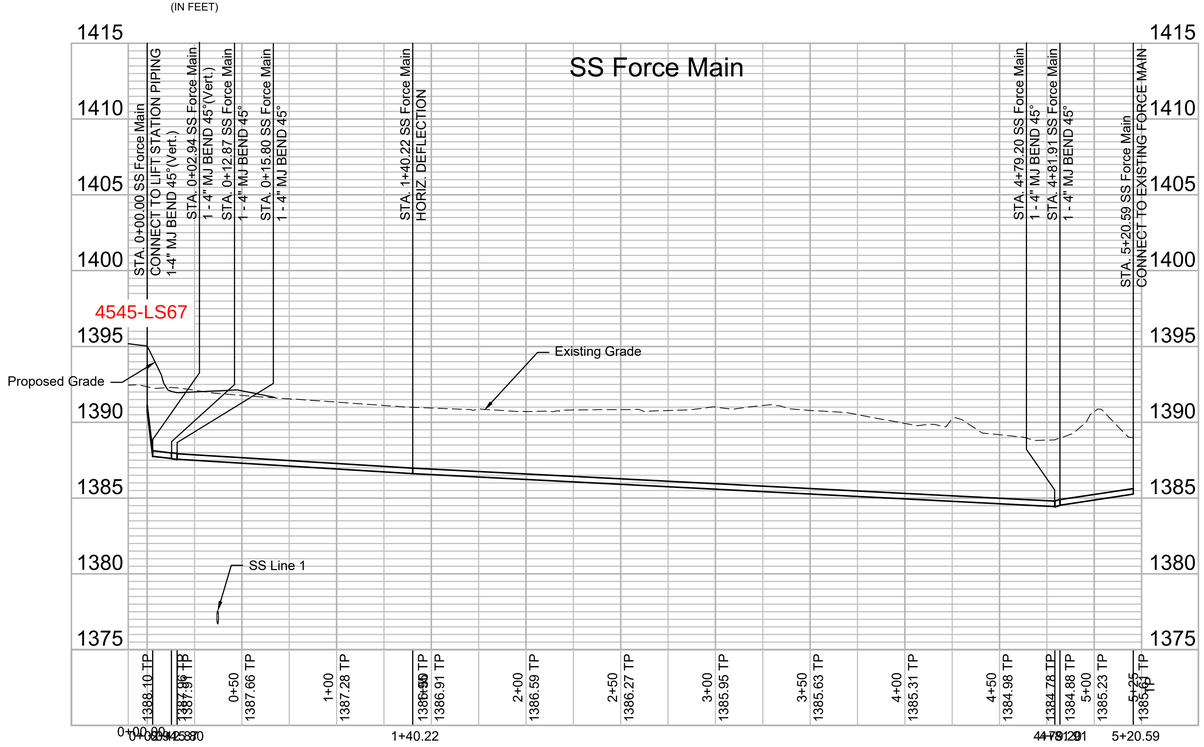
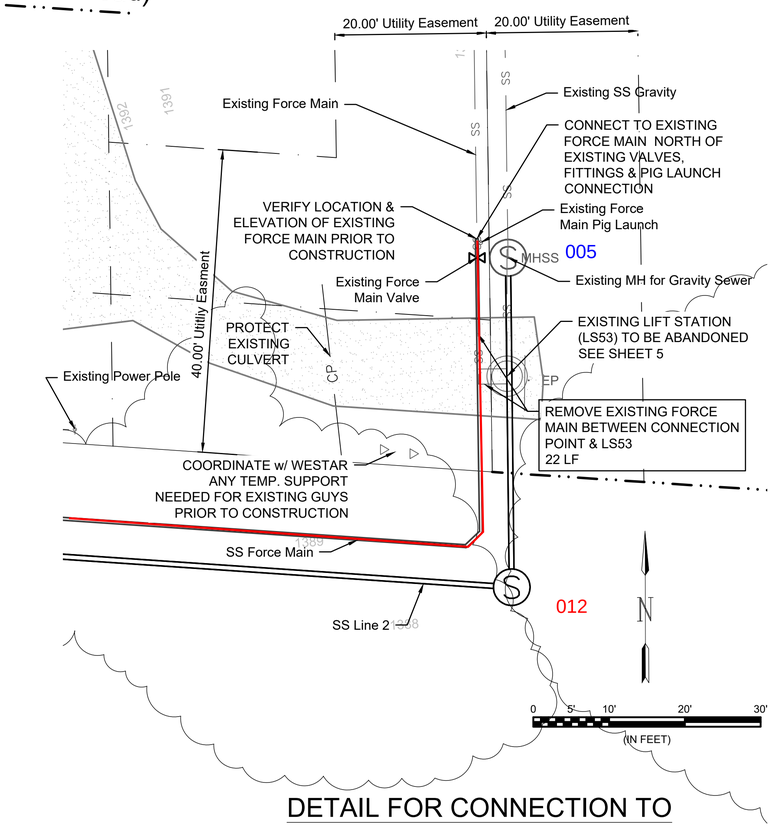


Notes

1. Tree removal and trimming should be limited to only those necessary for construction. The contractor shall protect all trees as specifically noted. All trees located outside of easements or trail right of way shall be protected.
2. Any bypass pumping necessary for construction shall be subsidiary to abandoning existing lift stations. Contractor to ensure that existing sanitary sewer flow is maintained and existing lift stations are operational until new lift station and force main is accepted and operational. Sanitary sewer service shall be maintained during the entire project.
3. For easements near proposed lift station see Lift Station Site Plan (Sheet 10).
4. For tree removal along force main see SS Line 2 (Sheet 5)
5. Construction shall not impact trail or trail users. Contractor to ensure construction area is safely separated from trail, trail users. Open trenches shall be fenced off when work is not in progress or workers are not present.
6. DI (Ductile Iron) pipe shall be only epoxy coated in accordance with the specifications and not cement lined.





DETAIL FOR CONNECTION TO EXISTING FORCE MAIN

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MARK T. DOLECHEK LICENSED 25299 KANSAS PROFESSIONAL ENGINEER

Digitally Signed 11/19/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

SS Force Main

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

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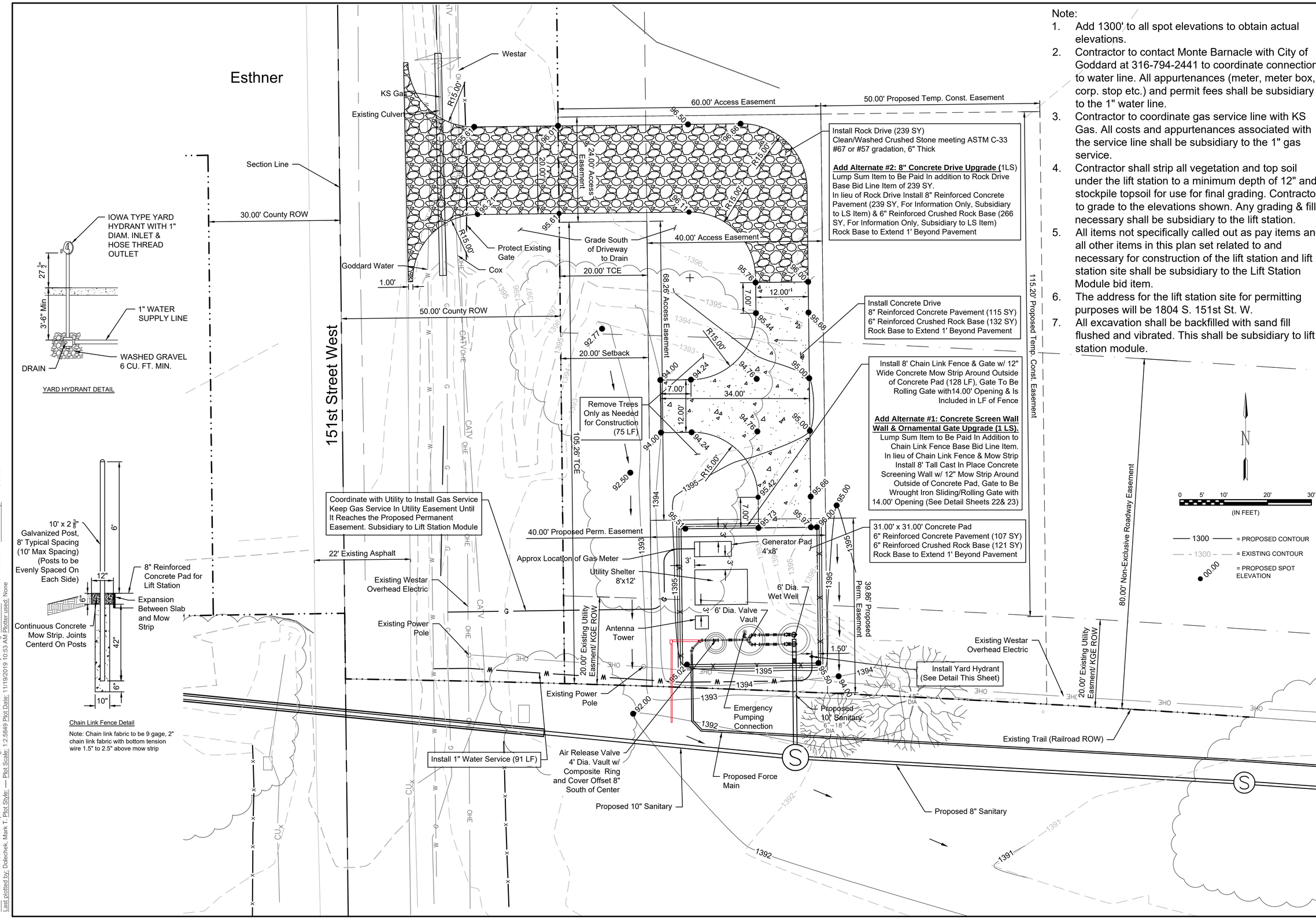
Last plotted by: Dolechek, Mark T. Plot Style: ---- Plot Scale: 1:2.5849 Plot Date: 11/19/2019 8:46 AM Plotter used: None

Note:

1. Add 1300' to all spot elevations to obtain actual elevations.
2. Contractor to contact Monte Barnacle with City of Goddard at 316-794-2441 to coordinate connection to water line. All appurtenances (meter, meter box, corp. stop etc.) and permit fees shall be subsidiary to the 1" water line.
3. Contractor to coordinate gas service line with KS Gas. All costs and appurtenances associated with the service line shall be subsidiary to the 1" gas service.
4. Contractor shall strip all vegetation and top soil under the lift station to a minimum depth of 12" and stockpile topsoil for use for final grading. Contractor to grade to the elevations shown. Any grading & fill necessary shall be subsidiary to the lift station.
5. All items not specifically called out as pay items and all other items in this plan set related to and necessary for construction of the lift station and lift station site shall be subsidiary to the Lift Station Module bid item.
6. The address for the lift station site for permitting purposes will be 1804 S. 151st St. W.
7. All excavation shall be backfilled with sand fill flushed and vibrated. This shall be subsidiary to lift station module.



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MARK T. DOLECHEK LICENSED 25299 KANSAS PROFESSIONAL ENGINEER

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REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

Lift Station Site Plan

4545-LS67

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

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SHEET NUMBER 10 OF 36

File: L:\2017\17264967 - LS 53 Replacement No 1\Drawings\C3D\Plan Sheets\Lift Station Layout.dwg Last Save: 11/19/2019 10:46 AM Last saved by: MTDolechek
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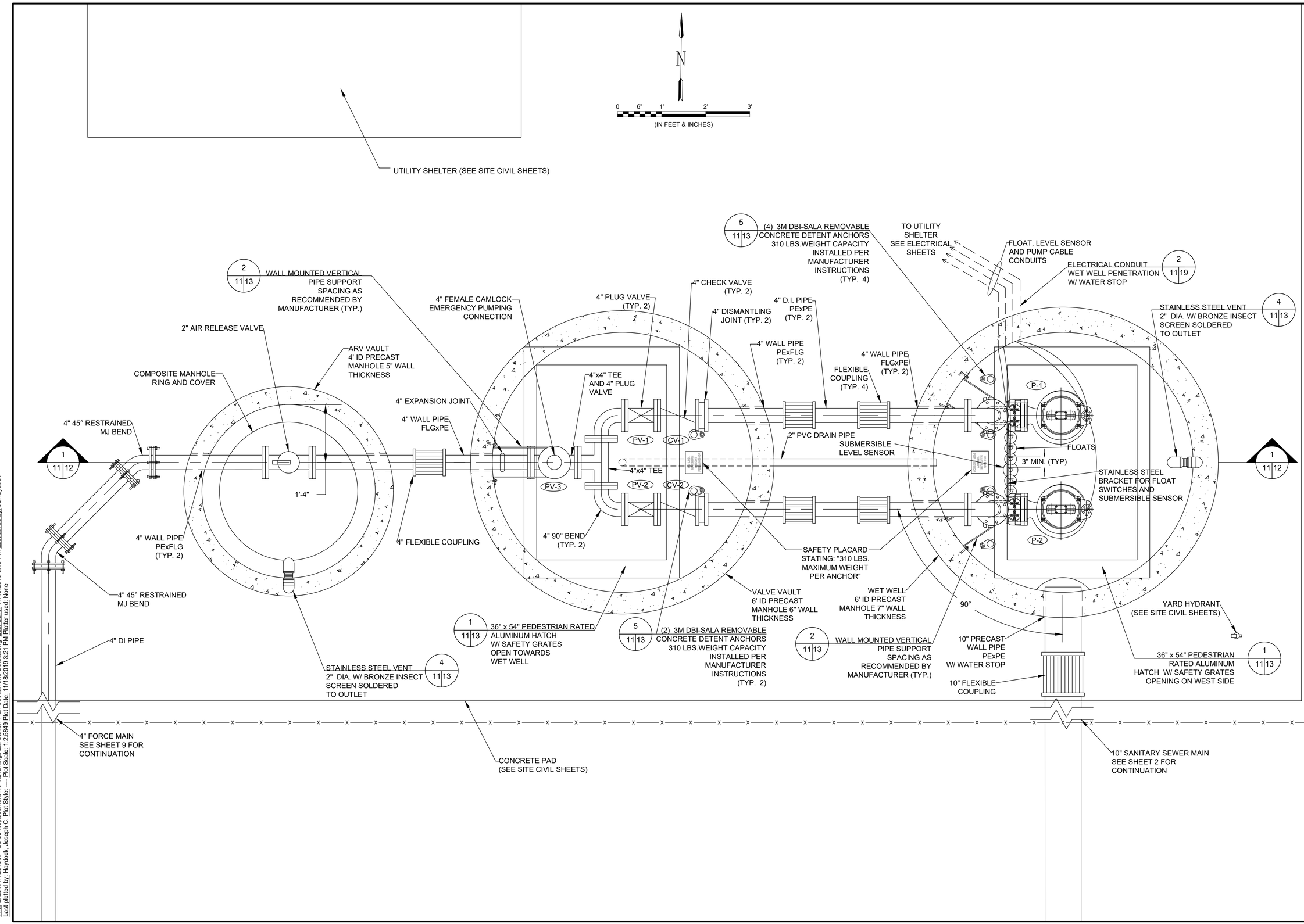

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MARY E. MACH LICENSED 23888 KANSAS PROFESSIONAL ENGINEER
Digitally Signed 11/19/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

Lift Station Plan

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: JGC
DRAWN BY: JCH

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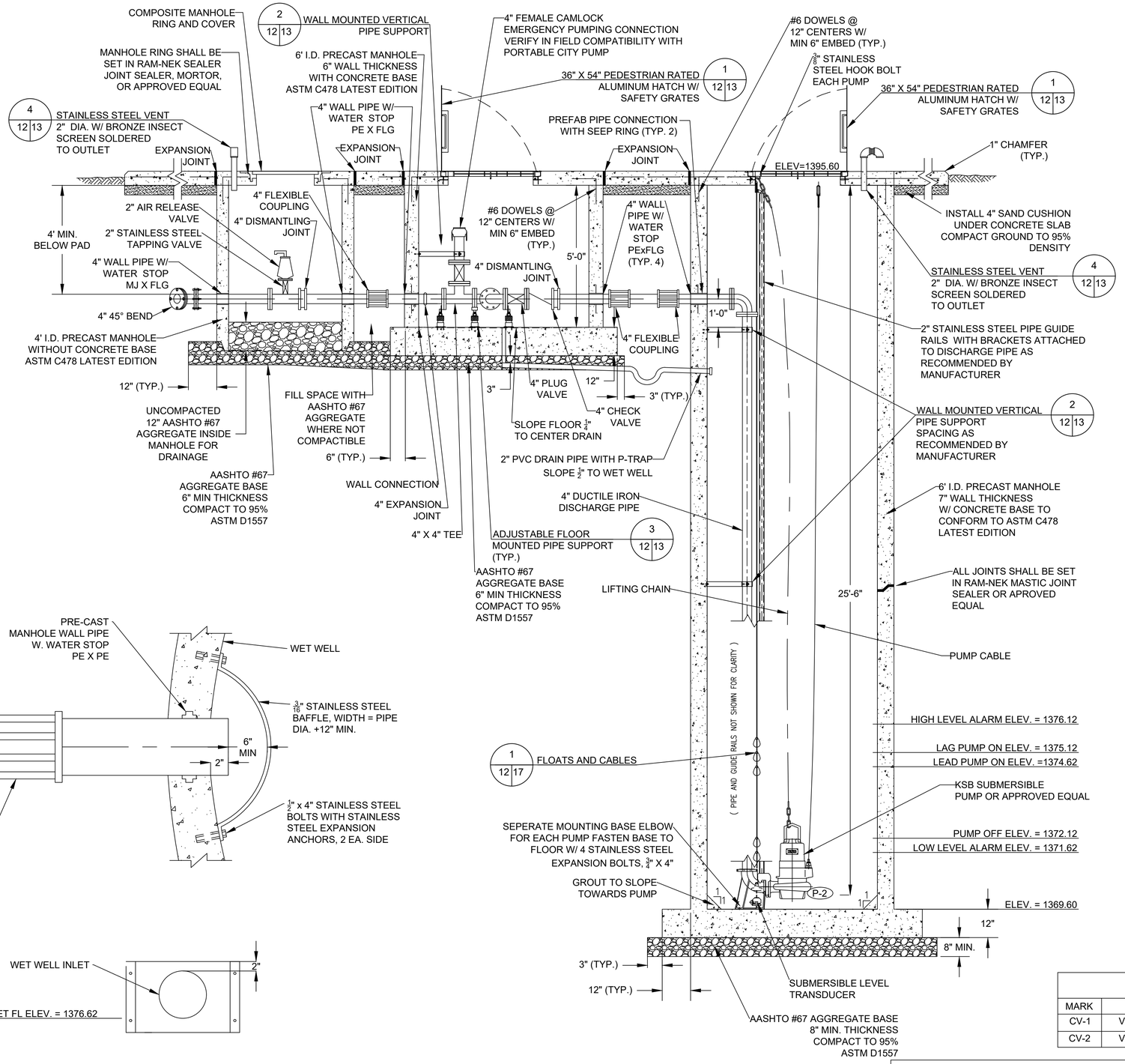
SHEET NUMBER 11 OF 36

File: L:\2017\17264967 - LS 53 Replacement No 1\Drawings\Lift Station Plan Section and Details.dwg Last Save: 11/18/2019 3:15 PM Last saved by: JCHaydock
Last plotted by: Haydock, Joseph C. Plot Style: ---- Plot Scale: 1:2.5849 Plot Date: 11/18/2019 3:21 PM Plotter used: None

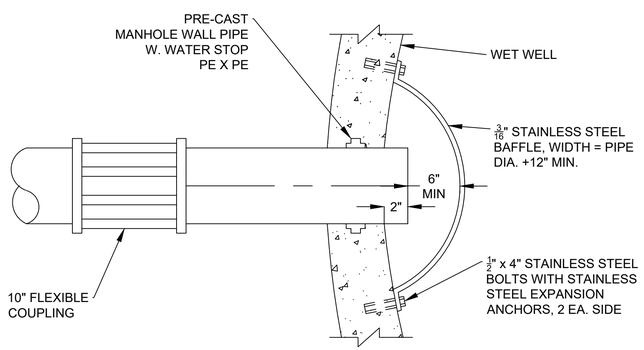


1 / 11 12 WET WELL SECTION

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

0 1' 2' 4' 6'

(IN FEET)



1 / 12 WET WELL INLET DETAIL

SCALE: NONE

NOTES:

1. THE PRICE BID FOR FURNISHING AND INSTALLING THE LIFT STATION, INCLUDING THE WET WELL, VALVE VAULT, AND OTHER MISCELLANEOUS APPURTENANCES, SHALL INCLUDE ALL COSTS FOR FURNISHING AND INSTALLING THE LIFT STATION AS INDICATED IN THE PLANS COMPLETE IN PLACE AND IN OPERATION. THIS PRICE SHALL INCLUDE BUT NOT BE LIMITED TO THE COST OF CONSTRUCTING AND/OR INSTALLING: COMPACTED SUBGRADE, CONCRETE PAVEMENT, ELECTRICAL CONDUIT, ELECTRICAL WIRING, DISCONNECT SWITCH, PUMP CONTROLS, ELECTRICAL POWER SUPPLY, FINISHED GRADING, LANDSCAPING, FENCING, AND ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK AND PLACE THE LIFT STATION INTO SATISFACTORY OPERATION. THE PRICE BID SHALL INCLUDE ALL SANITARY SEWER PIPE AND FORCE MAIN EXTENDED OUTSIDE THE SLAB AS SHOWN IN THE SITE PLAN AND DETAILS.
2. ALL INTERIOR PIPING SHALL BE EPOXY COATED DUCTILE IRON PIPE.
3. PIPE PENETRATIONS THROUGH THE WET WELL, VALVE VAULT, AND CONCRETE PAD SHALL BE GROUTED WATERTIGHT WITH NON-SHRINK GROUT AND WATER STOP GASKETS AS REQUIRED.
4. THE CONTRACTOR SHALL PERFORM AN EXFILTRATION TEST ON THE COMPLETE WET WELL. THE WET WELL SHALL BE TESTED INDIVIDUALLY BY SECURELY PLUGGING ALL INLET AND OUTLET PIPES. THE WET WELL SHALL BE FILLED TO ITS FULL DEPTH AND THEN OBSERVED FOR AT LEAST SIX HOURS. EXFILTRATION LOSS FROM THE 6-FOOT DIAMETER WET WELL SHALL NOT EXCEED THE RATE OF 1.70 GALLONS PER FOOT OF WET WELL DEPTH PER DAY. IF EXFILTRATION EXCEEDS THE MAXIMUM LIMITS, THE CONTRACTOR SHALL REPAIR THE LEAKS AND DEFECTS, AND THEN RETEST.
5. THE CONTRACTOR SHALL SUPPORT ALL PIPING INSIDE THE WET WELL AND VALVE VAULT AS REQUIRED BY MANUFACTURER.
6. ALL HARDWARE INSIDE THE WET AND VALVE VAULTS, INCLUDING BUT NOT LIMITED TO THE GUIDE BAR, HOIST CHAIN, CHAIN CATCH, HOOKS, NUTS, BOLTS, ETC. SHALL BE STAINLESS STEEL. NYLON ROPE WILL NOT BE ALLOWED IN THE WET WELL.
7. WET WELL AND VALVE VAULT DESIGN SHALL BE SUBJECT TO THE SAME DESIGN REQUIREMENTS AS PRECAST MANHOLES.
8. THE INTERIOR OF THE WET WELL SHALL BE COATED WITH A SANITARY SEWER MANHOLE COATING PER SPECIFICATION SECTION 09 97 26.13 AND CITY OF WICHITA SPECIAL PROVISIONS
9. BACKFILL UNDER AND AROUND THE WET WELL AND UNDER THE VALVE VAULTS AND PAD SHALL BE A LOW VOLUME CHANGE MATERIAL COMPACTED TO 95% ASTM D-1557.
10. THE CONTRACTOR SHALL COORDINATE WITH EVERGY AND KANSAS GAS SERVICE TO EXTEND ELECTRIC AND GAS SERVICES TO THE PUMP STATION SITE. THE CONTRACTOR SHALL VERIFY THE ELECTRICAL AND GAS SERVICE COSTS & REQUIREMENTS PRIOR TO BIDDING. THE CONTRACTOR SHALL ALLOW A MINIMUM OF 3 WEEKS FOR THESE SERVICES TO BE COMPLETED. ALL COST INCURRED TO EXTEND THESE SERVICES TO THE SITE SHALL BE INCIDENTAL TO OTHER ITEMS IN THE PROJECT.
11. NO ELECTRICAL CONNECTIONS WILL BE ALLOWED WITHIN THE WET WELL.
12. CONTACT THE CITY OF WICHITA SEWER TREATMENT PLANT AT (316) 303-8701 PRIOR TO LIFT STATION START-UP.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMIT FEES AND OWNER SHALL BE RESPONSIBLE FOR ALL REVIEW FEES.
14. THE UTILITY SHELTER SHALL BE PAINTED TO BLEND IN WITH THE SURROUNDINGS AND PAINTED A COLOR THAT IS SELECTED AND APPROVED BY THE OWNER.
15. THE CONTRACTOR SHALL CONTACT THE WICHITA SEWER TREATMENT PLANT TO COORDINATE TYPE OF QUICK CONNECT TO BE USED
16. THE CONTRACTOR SHALL VERIFY THAT THE VALVE VAULT HATCH SIZE IS ADEQUATE FOR EASY ACCESS TO EMERGENCY PUMPING CONNECTION
17. HATCHES AND MANHOLE COVERS TO BE SET FLUSH WITH CONCRETE SLAB

PUMP SCHEDULE

MARK	TYPE	GPM	HEAD (FT)	HP	VOLT./PHASE
P-1	SUBMERSIBLE	201	79.5	20	460/3
P-2	SUBMERSIBLE	201	79.5	20	460/3

CHECK VALVE SCHEDULE

MARK	LOCATION	TYPE	STATUS	SIZE	FITTINGS	OPERATOR
CV-1	VALVE VAULT	V608	NEW	4"	FLANGE	LEVER & SPRING
CV-2	VALVE VAULT	V608	NEW	4"	FLANGE	LEVER & SPRING

PLUG VALVE SCHEDULE

MARK	LOCATION	TYPE	STATUS	SIZE	FITTINGS	OPERATOR
PV-1	VALVE VAULT	V405	NEW	4"	FLANGE	GEAR ACTUATOR WITH 2" NUT
PV-2	VALVE VAULT	V405	NEW	4"	FLANGE	GEAR ACTUATOR WITH 2" NUT
PV-3	EMERGENCY PUMPING CONNECTION	V405	NEW	4"	FLANGE	GEAR ACTUATOR WITH 2" HANDWHEEL

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MARY E. MACH LICENSED 23898 KANSAS PROFESSIONAL ENGINEER
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REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

LIFT STATION SECTION

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: JGC
DRAWN BY: JCH

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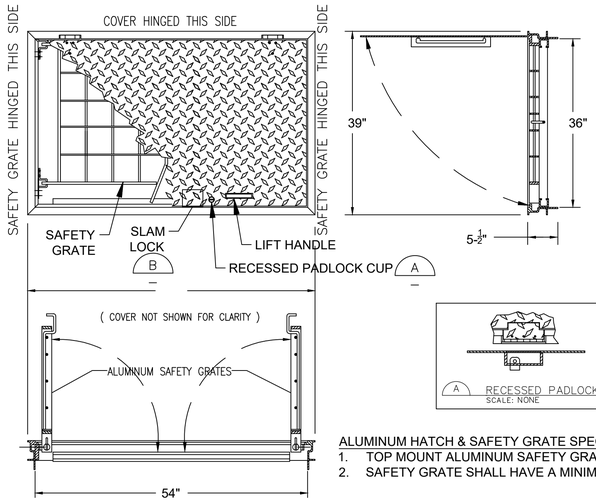
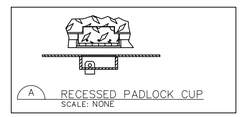
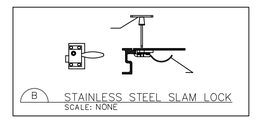
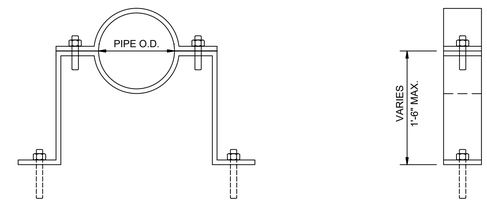






ALUMINUM HATCH & SAFETY GRATE SPECIFICATIONS:
1. TOP MOUNT ALUMINUM SAFETY GRATE SHALL COVER OPENING IN CONFORMANCE W/OSHA 1910.23.
2. SAFETY GRATE SHALL HAVE A MINIMUM OF 300 PSF LOADING CAPACITY.

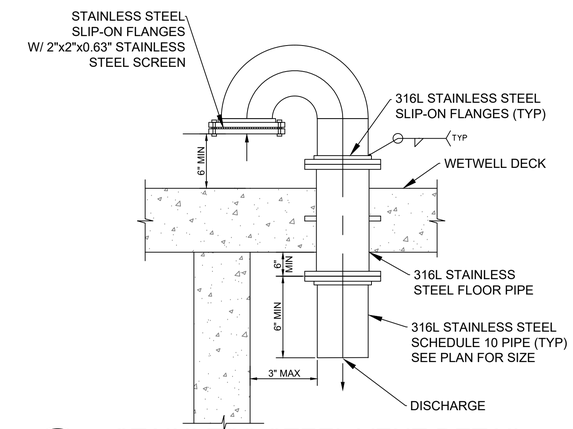
1/13 ALUMINUM HATCH W/ SAFETY GRATE
SCALE: NONE



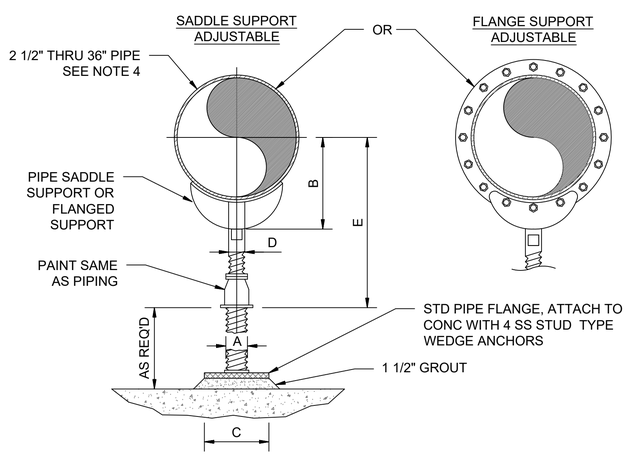
NOTES:

1. PIPE SUPPORT IS TO BE USED FOR 4"Ø AND LARGER PIPE.
2. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BLOTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

2/13 WALL MOUNTED VERTICAL PIPE SUPPORT
SCALE: NONE



4/13 STAINLESS STEEL VENT DETAIL
SCALE: NONE

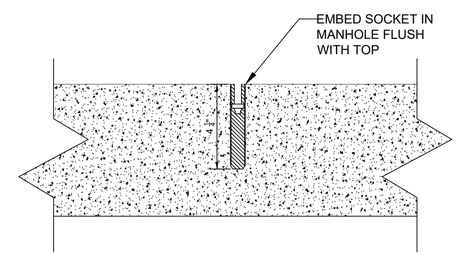


3/13 ADJUSTABLE FLOOR MOUNTED PIPE SUPPORT
SCALE: NONE

DIMENSION TABLE						
PIPE SIZE	A	B	C	D	E	
					MIN	MAX
2-1/2"	2-1/2"	3-1/2"	9"	1-1/2"	8"	13"
3"	2-1/2"	3-3/4"	9"	1-1/2"	8-1/4"	13-1/4"
3-1/2"	2-1/2"	4"	9"	1-1/2"	8-1/2"	13-1/2"
4"	3"	4-1/4"	9"	2-1/2"	9-1/4"	14"
5"	3"	4-7/8"	9"	2-1/2"	10"	14-3/4"
6"	3"	5-1/2"	9"	2-1/2"	10-1/2"	15-1/4"
8"	3"	6-7/8"	9"	2-1/2"	11-3/4"	15-1/2"
10"	3"	8-1/2"	9"	2-1/2"	13-1/2"	18-1/4"
12"	3"	9-15/16"	9"	2-1/2"	15"	19-3/4"
14"	4"	10-15/16"	11"	3"	16-1/4"	20-3/4"
16"	4"	12-3/8"	11"	3"	17-3/4"	22-1/4"
18"	6"	13-7/8"	13-1/2"	3-1/2"	19-1/2"	24"
20"	6"	15-3/8"	13-1/2"	3-1/2"	21"	25-1/2"
24'	6"	17-15/16"	13-1/2"	4"	23-3/4"	28-1/4"
30"	6"	21-5/16"	13-1/2"	4"	27"	31-1/2"
32'	6"	22-1/2"'	13-1/2"	4"	28-1/4"	32-3/4"
36"	6"	24-1/2"	13-1/2"	4"	30-1/4"	34-3/4"

NOTES:

1. PROVIDE HALF ROUND RIGID INSULATION AND INSULATION PROTECTION SHIELD WHERE PIPING IS INSULATED
2. PROVIDE NEOPRENE WAFFLE INSULATION PAD, SIMILAR TO MASON TYPE "W" OR KORFUND 40, UNDER SUPPORT FOOT WHEN PIPING IS ISOLATED OR SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.
3. FOR BASE, HEIGHT AND FLANGE DIMENSIONS, SEE TABLE
4. USE 2 1/2" SUPPORTS FOR PIPES LESS THAN 2 1/2"Ø



4/13 ANCHOR SOCKET DETAIL
SCALE: NONE

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MARY E. MACH LICENSED 23838 KANSAS PROFESSIONAL ENGINEER
Digitally Signed 11/19/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

Lift Station Details

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: JGC
DRAWN BY: JCH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER
-

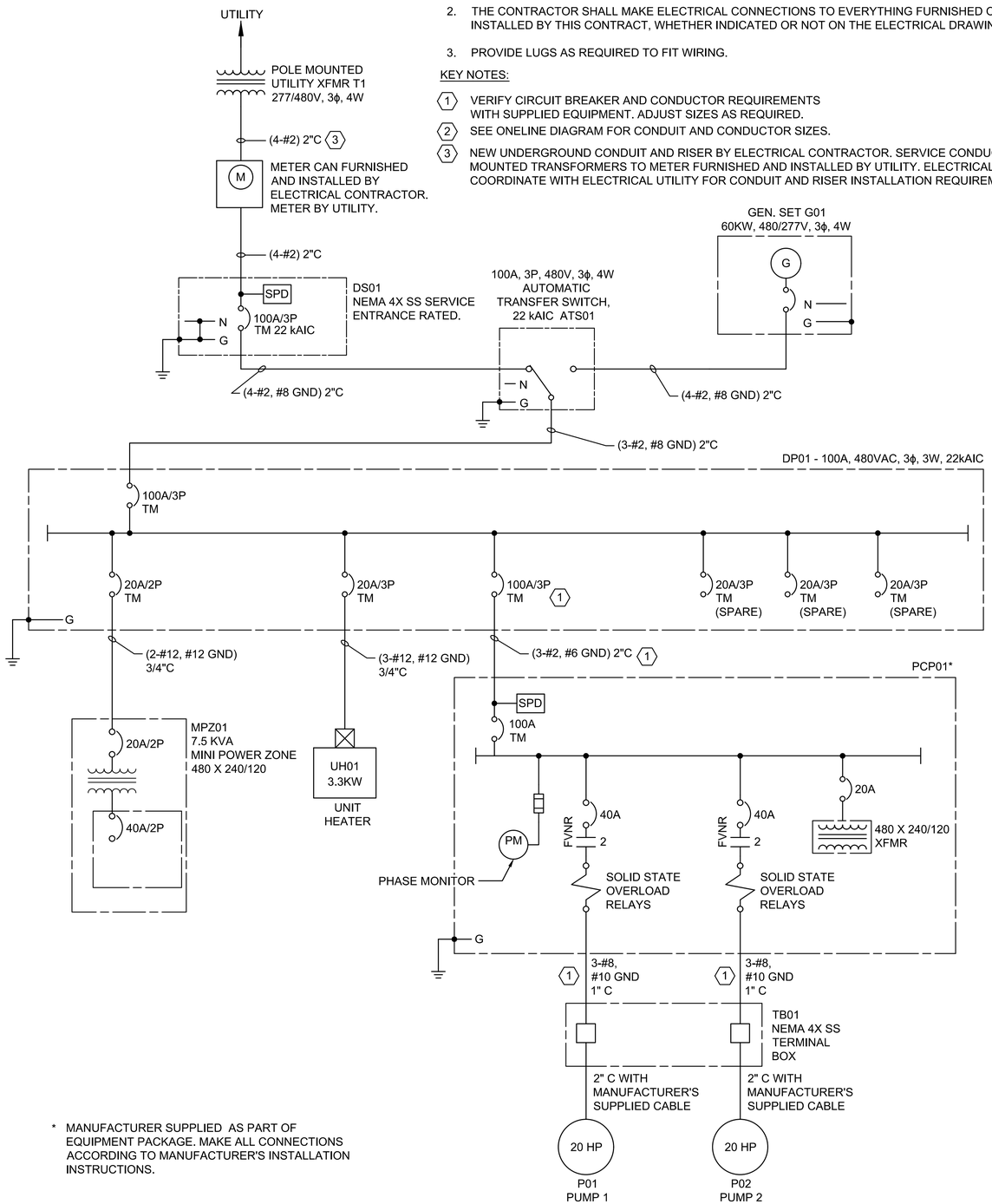
SHEET NUMBER 13 OF 36

GENERAL NOTES:

1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 NATIONAL ELECTRICAL CODE, NFPA 101 LIFE SAFETY CODE, NFPA 70E ELECTRICAL SAFETY CODE, STATE ELECTRICAL CODE, AND LOCAL ELECTRICAL CODE.
2. THE CONTRACTOR SHALL MAKE ELECTRICAL CONNECTIONS TO EVERYTHING FURNISHED OR INSTALLED BY THIS CONTRACT, WHETHER INDICATED OR NOT ON THE ELECTRICAL DRAWINGS.
3. PROVIDE LUGS AS REQUIRED TO FIT WIRING.

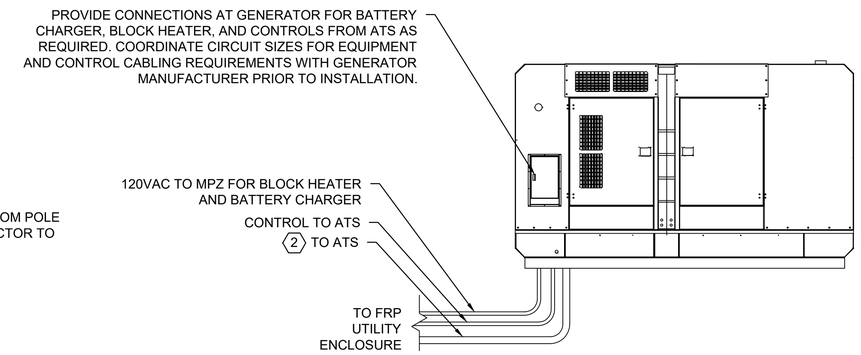
KEY NOTES:

1. VERIFY CIRCUIT BREAKER AND CONDUCTOR REQUIREMENTS WITH SUPPLIED EQUIPMENT. ADJUST SIZES AS REQUIRED.
2. SEE ONELINE DIAGRAM FOR CONDUIT AND CONDUCTOR SIZES.
3. NEW UNDERGROUND CONDUIT AND RISER BY ELECTRICAL CONTRACTOR. SERVICE CONDUCTORS FROM POLE MOUNTED TRANSFORMERS TO METER FURNISHED AND INSTALLED BY UTILITY. ELECTRICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL UTILITY FOR CONDUIT AND RISER INSTALLATION REQUIREMENTS.



* MANUFACTURER SUPPLIED AS PART OF EQUIPMENT PACKAGE. MAKE ALL CONNECTIONS ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.

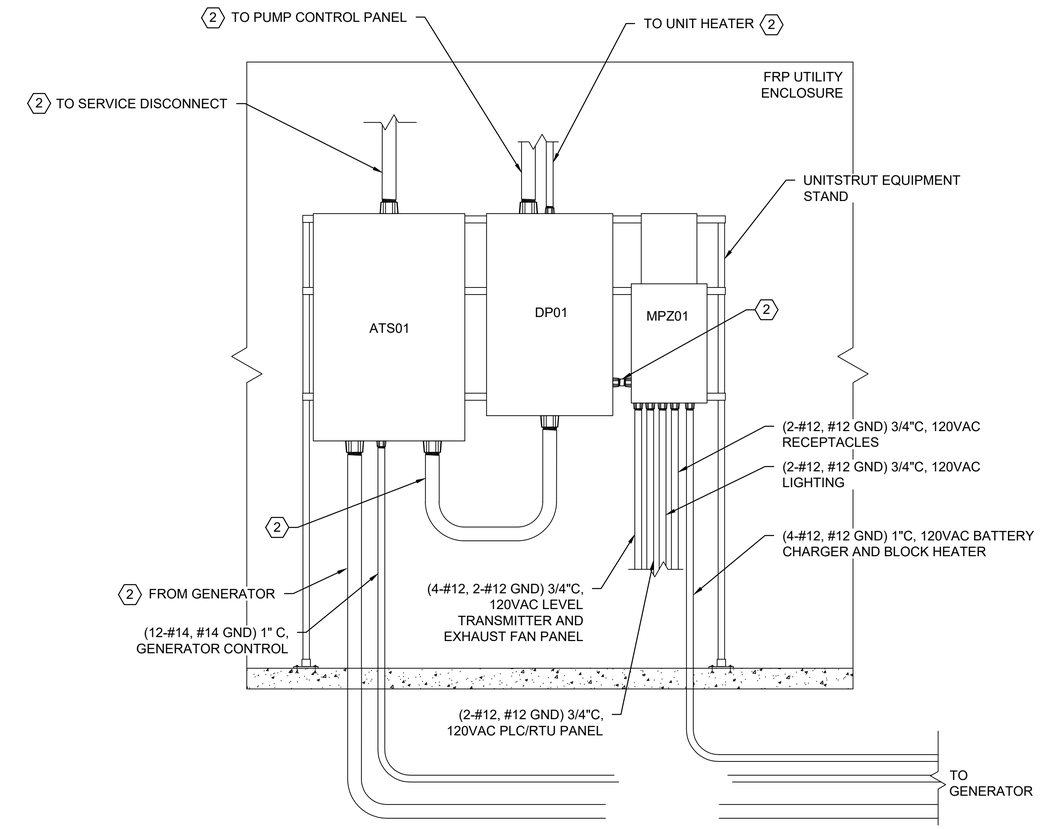
1 / E1 KELLOGG LIFT STATION ONELINE DIAGRAM
SCALE: NONE



2 / E1 KELLOGG LIFT STATION GENERATOR ELEVATION
SCALE: NONE

GENERAL NOTE:

ELECTRICAL CONTRACTOR SHALL VERIFY CONDUIT QUANTITIES NEEDED. ALL CONDUITS REQUIRED MAY NOT BE SHOWN IN THIS RISER DIAGRAM.



3 / E1 KELLOGG LIFT STATION POWER PANELS ELEVATION
SCALE: NONE

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SCOTT H. ZOTTI LICENSED 21630 KANSAS PROFESSIONAL ENGINEER
Digitally Signed 11/18/2019

REV	DATE	DESCRIPTION	BY

CITY OF WICHITA
CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ONELINE DIAGRAM AND ELEVATIONS

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: SAH
DRAWN BY: SAH

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DRAWING NUMBER
E1

SHEET NUMBER 14 OF 36

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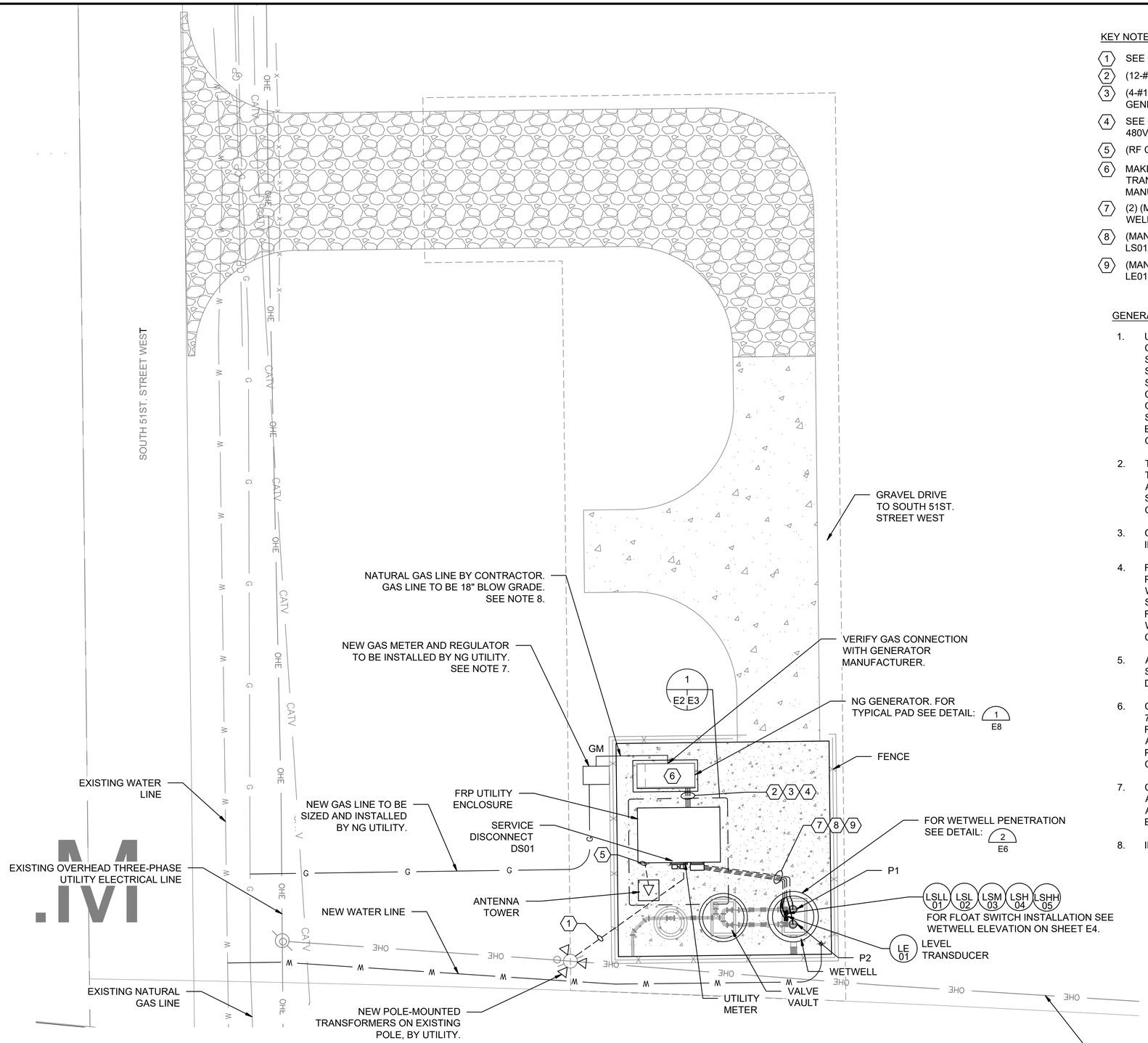
Last plotted by: Haydock, Joseph C. Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/18/2019 3:21 PM Plotter used: DWG To PDF pc3



KELLOGG LIFT STATION ELECTRICAL SITE PLAN

1 / E2

SCALE: ⅛" = 1'-0"

KEY NOTES:

1. SEE ONELINE ON SHEET E1 FOR CONDUIT AND CONDUCTOR SIZING.
2. (12-#14, #14 GND) 1" C CONTROL, FROM ATS TO GENERATOR.
3. (4-#12, #12 GND) 1" C, 120VAC POWER FROM MPZ IN UTILITY ENCLOSURE TO GENERATOR FOR BATTERY CHARGER AND BLOCK HEATER.
4. SEE ONELINE ON SHEET E1 FOR CONDUIT AND CONDUCTOR SIZING FOR 480VAC FROM GENERATOR TO AUTOMATIC TRANSFER SWITCH.
5. (RF CABLE) 2" C, SIGNAL. FROM ANTENNA TO PLC/RTU CONTROL PANEL.
6. MAKE ALL REQUIRED CONNECTIONS BETWEEN GENERATOR, AUTOMATIC TRANSFER SWITCH, AND MINI POWER ZONE ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. (2) (MANUFACTURER'S SUPPLIED PUMP CORDS) 2" C, 480 VAC, FROM WET WELL, THROUGH VENTRIB TROUGH, TO JUNCTION BOX TB01.
8. (MANUFACTURER'S SUPPLIED CABLES) 2" C, SIGNAL. FROM FLOAT SWITCHES LS01/02/03/04 AT WETWELL, THROUGH VENTRIB TROUGH, TO TB01.
9. (MANUFACTURER SUPPLIED CABLE) 1"C, SIGNAL. FROM LEVEL TRANSDUCER LE01, THROUGH VENTRIB TROUGH, TO JUNCTION BOX TB01.

GENERAL NOTES:

1. UNLESS OTHERWISE NOTED, ALL CONDUIT AND PORTIONS OF THE CONDUIT SYSTEM SHALL BE SURFACE MOUNTED AND THE CONDUIT SYSTEM WITHIN THE FRP UTILITY ENCLOSURE SHALL BE GALVANIZED RIGID STEEL, ALL OTHERS SHALL BE PVC COATED RIGID STEEL. ALL BOXES, SUPPORTS, HANGERS, UNISTRUT AND ALL OTHER PORTIONS OF THE CONDUIT SYSTEM WITHIN THE FRP UTILITY ENCLOSURE SHALL BE GALVANIZED STEEL, ALL OTHERS SHALL BE PVC COATED OR STAINLESS STEEL. ALL BELOW GRADE CONDUIT FROM THE WET WELL TO THE ELECTRICAL ENCLOSURE SHALL BE PVC COATED RIGID STEEL, ALL OTHERS SHALL BE SCHEDULE 40 PVC WITH GALVANIZED ELBOWS.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, WIRING, TERMINATIONS, DISCONNECTS, CONTROL RELAYS, CONTROL ENCLOSURES AND OTHER ITEMS AS NECESSARY FOR COMPLETE AND FUNCTIONAL LIFT STATION. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLANS FOR ITEMS AS MAY BE REQUIRED.
3. COORDINATE ALL CONDUIT ROUTING WITH ENGINEER PRIOR TO INSTALLATION.
4. FIELD LOCATE FINAL LOCATIONS OF ALL DIRECT BURIED CONDUITS AND PULLBOXES (IF REQUIRED). PROVIDE PULLBOXES AS REQUIRED FOR A WORKABLE INSTALLATION. ALL PULLBOXES SHALL BE APPROPRIATELY SIZED BY THE CONTRACTOR AS REQUIRED BY THE NUMBER OF CONDUITS FOR A WORKABLE INSTALLATION WITH MINIMUM SIZES AS INDICATED WITHIN THE DETAILS. COORDINATE ALL WORK WITH APPLICABLE UTILITY COMPANIES, MATERIAL SUPPLIERS, AND OWNER REPRESENTATIVES.
5. ALL LOCATIONS WITHIN THE WET WELL AS INDICATED ON THIS PLAN SHEET SHALL BE CONSIDERED A CLASS 1, DIVISION 2 HAZARDOUS LOCATION AS DEFINED IN ACCORDANCE WITH NFPA 820.
6. CONTRACTOR SHALL STRICTLY ADHERE TO THE REQUIREMENTS IN NFPA 70, ARTICLE 500, HAZARDOUS (CLASSIFIED) LOCATIONS FOR ALL AREAS REFERENCED IN THE NOTE ABOVE. THIS INCLUDES PROVIDING APPROPRIATE SEAL FITTINGS ON CONDUITS AND CABLES ALONG WITH PROVIDING EXPLOSION PROOF EQUIPMENT, RATED FOR THE CLASSIFICATION REFERENCED ABOVE, AS APPLICABLE.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING GAS SERVICE AND METER LOCATION WITH UTILITY COMPANY. CONTRACTOR SHALL PAY ALL COSTS ASSOCIATED WITH PROVIDING GAS SERVICE FROM THE EXISTING MAIN THROUGH THE SITE.
8. INSTALL NATURAL GAS SYSTEM PER: 3 / E8

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SCOTT H. ZOTTI LICENSED 21630 KANSAS PROFESSIONAL ENGINEER

Digitally Signed 11/18/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ELETRICAL SITE PLAN

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: SAH
DRAWN BY: SAH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
E2

SHEET NUMBER **15** OF **36**

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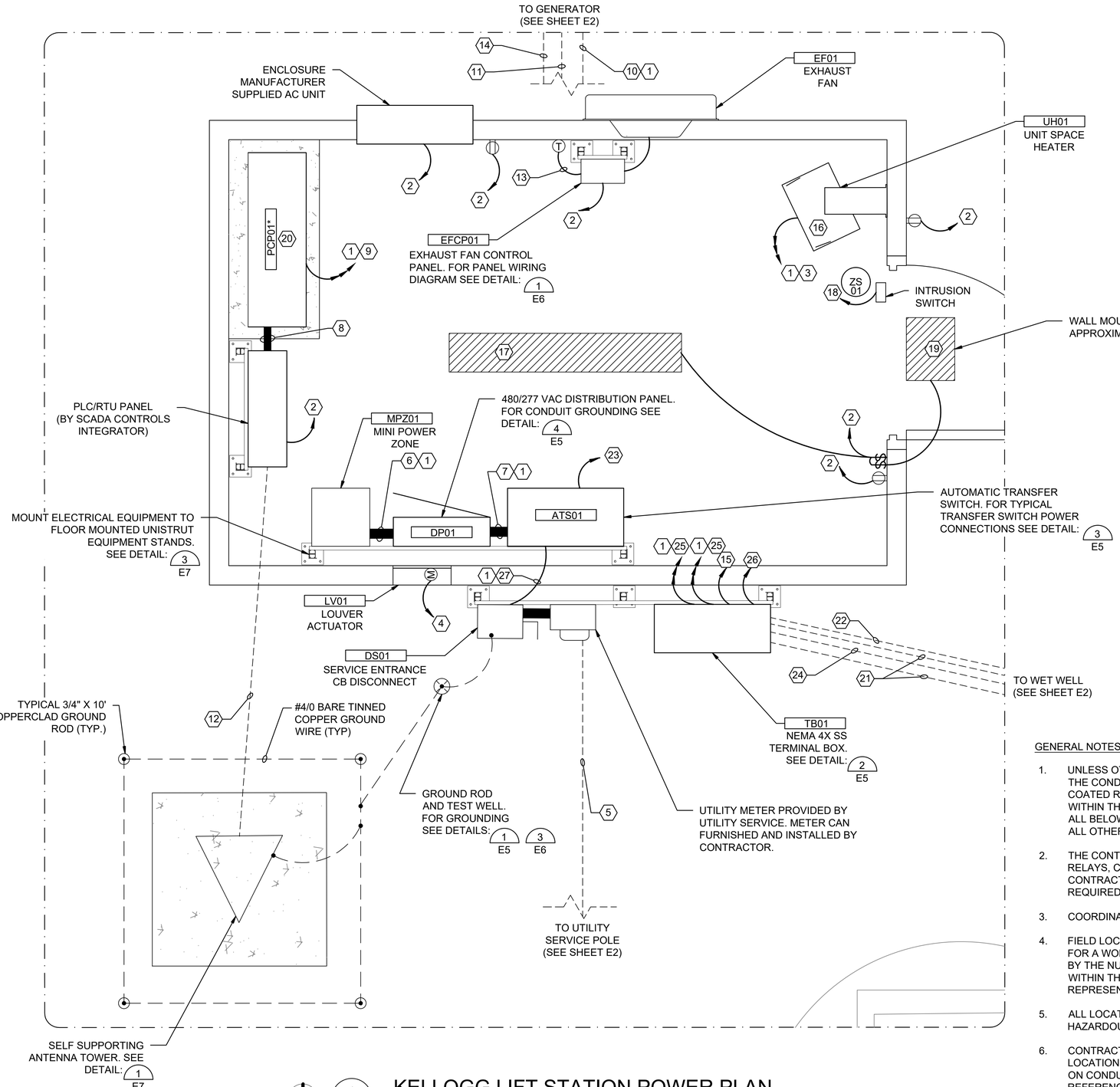
Last plotted by: Haydock, Joseph C. Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/18/2019 3:21 PM Plotter used: DWG To PDF.pc3



1 / E3 KELLOGG LIFT STATION POWER PLAN

SCALE: 1" = 1'-0"

KEY NOTES:

1. SEE ONELINE ON SHEET E1 FOR CONDUIT AND CONDUCTOR SIZING.
2. (2-#12, #12 GND) 3/4"C, 120VAC. FROM MPZ01.
3. (3-#12, #12 GND) 3/4"C, 480VAC. FROM DP01.
4. (2-#14, #14 GND) 3/4"C, 120VAC. FROM EFCP01 FOR LOUVER ACTUATOR.
5. (4-#2) 2"C, 480VAC. FROM UTILITY TRANSFORMER.
6. 480VAC POWER FROM DP01 TO MPZ01.
7. 480VAC POWER FROM ATS01 TO DP01.
8. (10-#14, 2-STP, #14 GND, 10-#14 SPARE) 2"C, I/O SIGNAL.
9. 480VAC POWER FROM DP01 TO PUMP CONTROL PANEL PCP01.
10. FROM GENSET G01 TO AUTOMATIC TRANSFER SWITCH ATS01.
11. (12-#14, #14 GND) 1" C, CONTROL. FROM AUTOMATIC TRANSFER SWITCH ATS01 TO GENSET G01.
12. (RF CABLE) 2" C, SIGNAL. FROM ANTENNA TO PLC/RTU CONTROL PANEL.
13. PROVIDE CONDUIT AND CABLE AS REQUIRED BY THERMOSTAT MANUFACTURERS. MAKE ALL REQUIRED CONNECTIONS.
14. (4-#12, #12 GND) 1"C, 120VAC. FROM MPZ01 TO GENSET G01 FOR BATTERY CHARGER AND BLOCK HEATER.
15. (2-3 CONDUCTOR SHIELDED CABLE) 1"C, LEVEL TRANSDUCER SIGNAL TO PUMP CONTROL PANEL PCPC01.
16. UNIT SPACE HEATER. INSTALL ACCORDING TO MANUFACTURER'S INSTALLATION TIONS. MAKE ALL REQUIRED CONNECTIONS.
17. 7'-3" A.F.F /OUNT LITHONIA FEM-L48-4000LM-IMAFL-MD-120-GZ10-40K-80CRI-BSL520 LIGHT FIXTURE WITH EMERGENCY BATTERY BACKUP. COORDINATE FINISH WITH OWNER.
18. (2-#14, #14 GND) 3/4" C, SIGNAL. FROM INTRUSION ENTRY SWITCH TO PLC/RTU CONTROL PANEL.
19. LITHONIA DSXW1LED-10C-700-40K-T3M-MVOLT WITH EMERGENCY BATTERY BACKUP. COORDINATE FINISH WITH OWNER.
20. PUMP CONTROL PANEL PCP01 PROVIDED AS PART OF EQUIPMENT PACKAGE. SEE SPECIFICATIONS FOR PUMP STATION CONTROL PANEL DETAILS. MAKE ALL CONNECTIONS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
21. (MANUFACTURER'S SUPPLIED PUMP CORDS) 2" C, 480 VAC, FROM WET WELL THROUGH VENTRIB TROUGH TO JUNCTION BOX TB01.
22. (MANUFACTURER SUPPLIED CABLE) 2"C, SIGNAL. FROM LEVEL TRANSDUCER LE01 TO JUNCTION BOX TB01.
23. (6-#14, #14 GND, 6-#14 SPARE) 1"C, I/O SIGNAL. TO PLC/RTU PANEL.
24. (MANUFACTURER'S SUPPLIED CABLES) 2" C, SIGNAL. FROM FLOAT SWITCHES LS01/02/03/04/05 AT WETWELL TO TB01.
25. 480VAC POWER FOR PUMP FROM PUMP CONTROL PANEL.
26. (8-#14, 2-STP, #14 GND) 1"C, FLOAT SWITCHES, PUMP SEAL, AND OVERTEMP SIGNALS TO PUMP CONTROL PANEL
27. 480VAC POWER FROM DISCONNECT SWITCH DS01 TO AUTOMATIC TRANSFER SWITCH ATS01.

* MANUFACTURER SUPPLIED AS PART OF EQUIPMENT PACKAGE

GENERAL NOTES:

1. UNLESS OTHERWISE NOTED, ALL CONDUIT AND PORTIONS OF THE CONDUIT SYSTEM SHALL BE SURFACE MOUNTED AND THE CONDUIT SYSTEM WITHIN THE UTILITY SHELTER SHALL BE GALVANIZED RIGID STEEL, ALL OTHERS SHALL BE PVC COATED RIGID STEEL. ALL BOXES, SUPPORTS, HANGERS, UNISTRUT AND ALL OTHER PORTIONS OF THE CONDUIT SYSTEM WITHIN THE UTILITY SHELTER SHALL BE GALVANIZED STEEL, ALL OTHERS SHALL BE PVC COATED OR STAINLESS STEEL. ALL BELOW GRADE CONDUIT FROM THE WET WELL TO THE ELECTRICAL ENCLOSURE SHALL BE PVC COATED RIGID STEEL, ALL OTHERS SHALL BE SCHEDULE 40 PVC WITH GALVANIZED ELBOWS.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, WIRING, TERMINATIONS, DISCONNECTS, CONTROL RELAYS, CONTROL ENCLOSURES AND OTHER ITEMS AS NECESSARY FOR COMPLETE AND FUNCTIONAL LIFT STATION. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLANS FOR ITEMS AS MAY BE REQUIRED.
3. COORDINATE ALL CONDUIT ROUTING WITH ENGINEER PRIOR TO INSTALLATION.
4. FIELD LOCATE FINAL LOCATIONS OF ALL DIRECT BURIED CONDUITS AND PULLBOXES. PROVIDE PULLBOXES AS REQUIRED FOR A WORKABLE INSTALLATION. ALL PULLBOXES SHALL BE APPROPRIATELY SIZED BY THE CONTRACTOR AS REQUIRED BY THE NUMBER OF CONDUITS IN THE DUCT BANK FOR A WORKABLE INSTALLATION WITH MINIMUM SIZES AS INDICATED WITHIN THE DETAILS. COORDINATE ALL WORK WITH APPLICABLE UTILITY COMPANIES, MATERIAL SUPPLIERS, AND OWNER REPRESENTATIVES.
5. ALL LOCATIONS WITHIN THE WET WELL AS INDICATED ON THIS PLAN SHEET SHALL BE CONSIDERED A CLASS 1, DIVISION 2 HAZARDOUS LOCATION AS DEFINED IN ACCORDANCE WITH NFPA 820.
6. CONTRACTOR SHALL STRICTLY ADHERE TO THE REQUIREMENTS IN NFPA 70, ARTICLE 500, HAZARDOUS (CLASSIFIED) LOCATIONS FOR ALL AREAS REFERENCED IN THE NOTE ABOVE. THIS INCLUDES PROVIDING APPROPRIATE SEAL FITTINGS ON CONDUITS AND CABLES ALONG WITH PROVIDING EXPLOSION PROOF EQUIPMENT, RATED FOR THE CLASSIFICATION REFERENCED ABOVE, WITHIN THE HAZARDOUS AREA IF LOCATED IN THE HAZARDOUS AREA.
7. USE CRIMPED OR BOLTED CONNECTIONS FOR ALL CONNECTIONS BETWEEN CONDUCTORS AND ENCLOSURE SYSTEM COMPONENTS. USE EXOTHERMIC WELDED CONNECTIONS FOR ALL UNDERGROUND PORTIONS OF THE SYSTEM WITH THE EXCEPTION OF GROUND ROD TEST WELLS.

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SCOTT H. ZOTT
LICENSED
21630
KANSAS
PROFESSIONAL ENGINEER

Digitally Signed 11/18/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ELECTRICAL POWER PLAN

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: SAH
DRAWN BY: SAH

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DRAWING NUMBER
E3

SHEET NUMBER 16 OF 36

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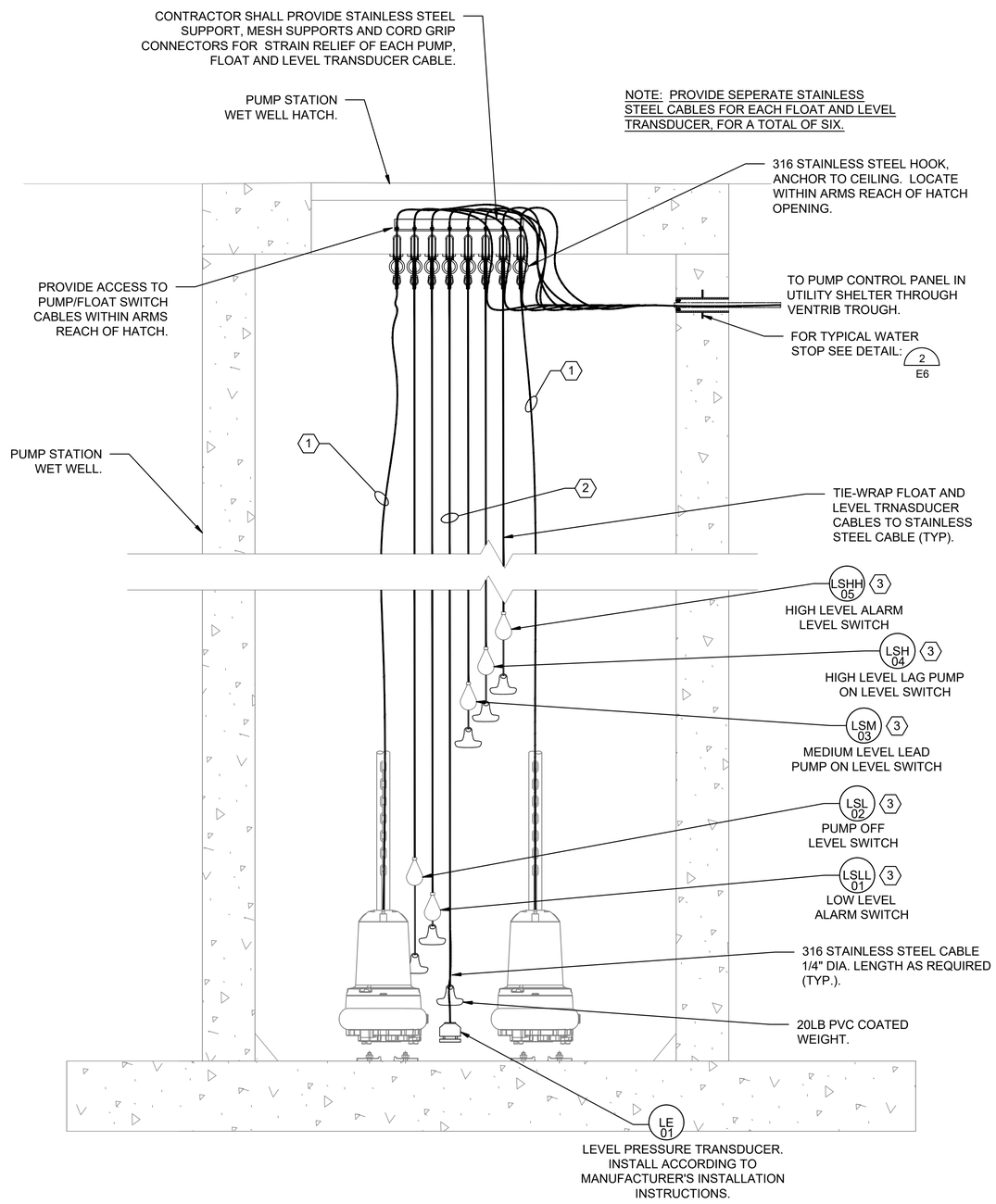

1 / E4 WET WELL ELEVATION DIAGRAM

SCALE: NONE

PANEL NO.:	MPZ01	PROJECT:	KELLOGG LIFT STATION
USAGE:	PANELBOARD	CLIENT:	CITY OF WICHITA
LOCATION:	LIFT STATION	MOUNTING:	SURFACE
PHASES:	1	PANEL TYPE:	PANELBOARD
L-L VOLTS	240V	ENGINEER:	JCW
L-G VOLTS	120V	PROJECT NO.:	17264967
BUS AMPS:	40A	FED FROM:	DP01
MAIN CB AMPS:	40A		
AIC RATING:	10,000 MINIMUM		

CIRCUIT SETS	WIRE	NEUT	GND.	COND.	LOAD AMPS.	DESCRIPTION	NOTE	BREAKER POLE	AMP.	CKT. #		CKT. #		BREAKER AMP.	POLE	NOTE	DESCRIPTION	LOAD AMPS	CIRCUIT SETS	WIRE	NEUT	GND.	COND.
1	#12	#12	#12	3/4"	4.5	RECEPT		1	20	1	A	2		15	1		LIGHTING	0.4	1	#12	#12	#12	3/4"
1	#12	#12	#12	3/4"	1.5	EXHASUT FAN		1	20	3	B	4		15	1		PLC/RTU PANEL	1.7	1	#12	#12	#12	3/4"
1	#12	#12	#12	3/4"	15.0	GENERATOR BLOCK HTR		1	20	5	A	6		20	1		AC UNIT	8.3	1	#12	#12	#12	3/4"
1	#12	#12	#12	3/4"	1.5	GENERATOR BATT.		1	20	7	B	8		20	1		SPARE						
						SPARE		1	20	9	A	10		20	1		SPARE						

LOAD SUMMARY	CON. KVA	%	DEM. KVA
RECEPTACLES	0.54	code	0.54
MOTORS	0.18	100%	0.18
LIGHTS (INT.)	0	125%	0
LIGHTS (EXT.)	0.25	125%	0.3125
HVAC (HEAT)	0	100%	0
HVAC (COOL)	1	100%	1
VENTILATION	0	100%	0
KITCHEN	0	65%	0
EMERGENCY	0	100%	0
MISC.	0	100%	0
FUTURE	0	100%	0
OTHER	1.98	100%	1.98
TRACK	0	100%	0
LARGEST MTR	0	25%	0
TOTAL KVA	4 KVA		4 KVA
TOTAL AMPS	16 AMPS		17 AMPS

PANEL NOTES:

1. PROVIDE GROUND BUS
2. PROVIDE FULL SIZE NEUTRAL BUS UNLESS NOTED OTHERWISE

2 / E4 MPZ01 PANEL SCHEDULE

SCALE: NONE

KEY NOTES:

1. MANUFACTURER'S SUPPLIED PUMP CORDS FROM WET WELL TO VENTRIB TROUGH.
2. MANUFACTURER'S SUPPLIED CABLE FOR LEVEL TRANSDUCER AND FLOAT SWITCHES TO VENTRIB TROUGH.
3. COORDINATE FLOAT LEVEL SWITCH MOUNTING HEIGHTS WITH OWNER AND ENGINEER. SEE SHEET C7 FOR FLOAT SWITCH ELEVATIONS. PROVIDE INTRINSICALLY SAFE CONNECTION AT PUMP CONTROL PANEL.

GENERAL NOTES:

1. ALL BELOW GRADE CONDUIT FROM THE WET WELL TO THE ELECTRICAL ENCLOSURE SHALL BE PVC COATED RIGID STEEL.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, WIRING, TERMINATIONS, DISCONNECTS, CONTROL RELAYS, CONTROL ENCLOSURES AND OTHER ITEMS AS NECESSARY FOR COMPLETE AND FUNCTIONAL PUMP STATION. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLANS FOR ITEMS AS MAY BE REQUIRED.
3. COORDINATE ALL CONDUIT ROUTING WITH ENGINEER PRIOR TO INSTALLATION.
4. ALL LOCATIONS WITHIN THE WET WELL AND METER VAULT AS INDICATED ON THIS PLAN SHEET SHALL BE CONSIDERED A CLASS 1, DIVISION 2 HAZARDOUS LOCATION AS DEFINED IN ACCORDANCE WITH NFPA 820.
5. CONTRACTOR SHALL STRICTLY ADHERE TO THE REQUIREMENTS IN NFPA 70, ARTICLE 500, HAZARDOUS (CLASSIFIED) LOCATIONS FOR ALL AREAS REFERENCED IN THE NOTE ABOVE. THIS INCLUDES PROVIDING APPROPRIATE SEAL FITTINGS ON CONDUITS AND CABLES ALONG WITH PROVIDING EXPLOSION PROOF EQUIPMENT, RATED FOR THE CLASSIFICATION REFERENCED ABOVE, WITHIN THE HAZARDOUS AREA IF LOCATED IN THE HAZARDOUS AREA.

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SCOTT H. ZOTTI LICENSED 21630 KANSAS PROFESSIONAL ENGINEER

Digitally Signed 11/18/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

WET WELL ELEVATION AND MPZ01 PANEL SCHEDULE

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
E4

SHEET NUMBER 17 OF 36

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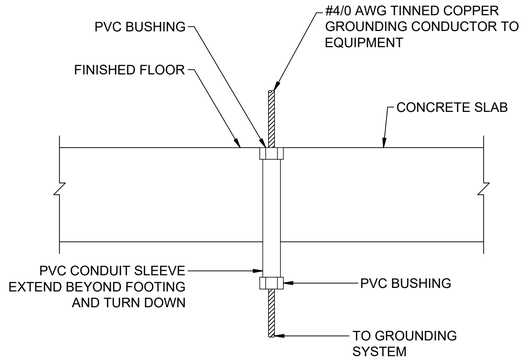
Last plotted by: Haydock, Joseph C. Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/18/2019 3:21 PM Plotter used: DWG To PDF.pc3

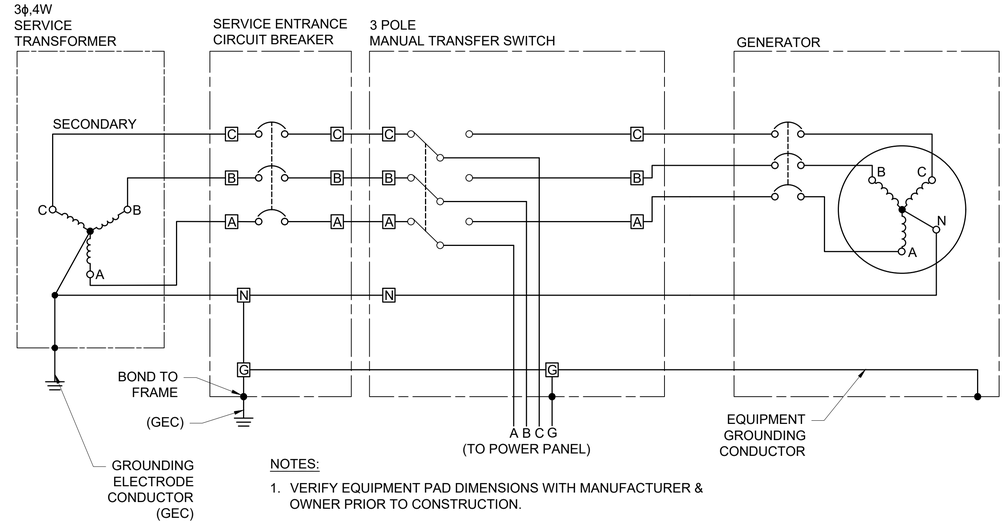


NOTES:

1. EXTEND PVC CONDUIT TO TOP OF BASE, OR PEDESTAL FOR BASE,FOR PEDESTAL MOUNTED EQUIPMENT. SUPPORT AT (2) PLACES(MIN).
2. SEAL ALL SLEEVES TO PREVENT WATER PENETRATION.

1 / E5 GROUNDING CONDUIT SLEEVE DETAIL

SCALE: NONE

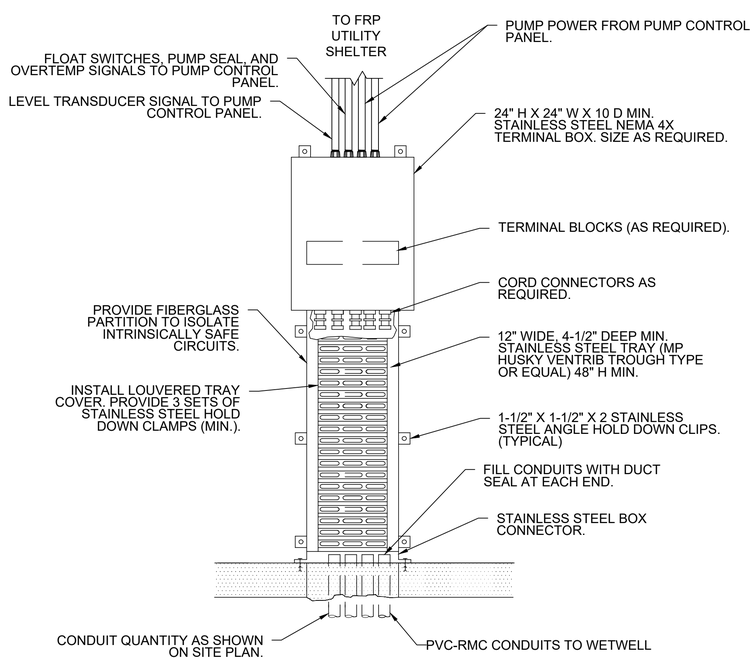


NOTES:

1. VERIFY EQUIPMENT PAD DIMENSIONS WITH MANUFACTURER & OWNER PRIOR TO CONSTRUCTION.
2. PROVIDE FRONT, BACK & SIDE CLEARANCES AS REQUIRED

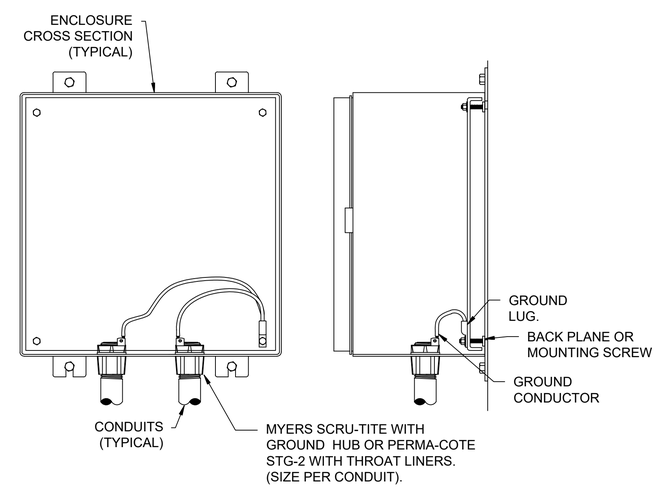
3 / E5 3 POLE TRANSFER SWITCH CONNECTION DETAIL

SCALE: NONE



2 / E5 TERMINAL BOX CABLE ENTRY DETAIL

SCALE: NONE



NOTES:

1. ALL SERVICE, FEEDER AND CONTROL CONDUITS SHALL BE GROUNDED ON BOTH ENDS.

4 / E5 CONDUIT GROUNDING DETAIL

SCALE: NONE

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SCOTT H. ZOTTI LICENSED 21630 KANSAS PROFESSIONAL ENGINEER

Digitally Signed 11/18/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ELECTRICAL DETAILS I

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING NUMBER
E5

SHEET NUMBER 18 OF 36

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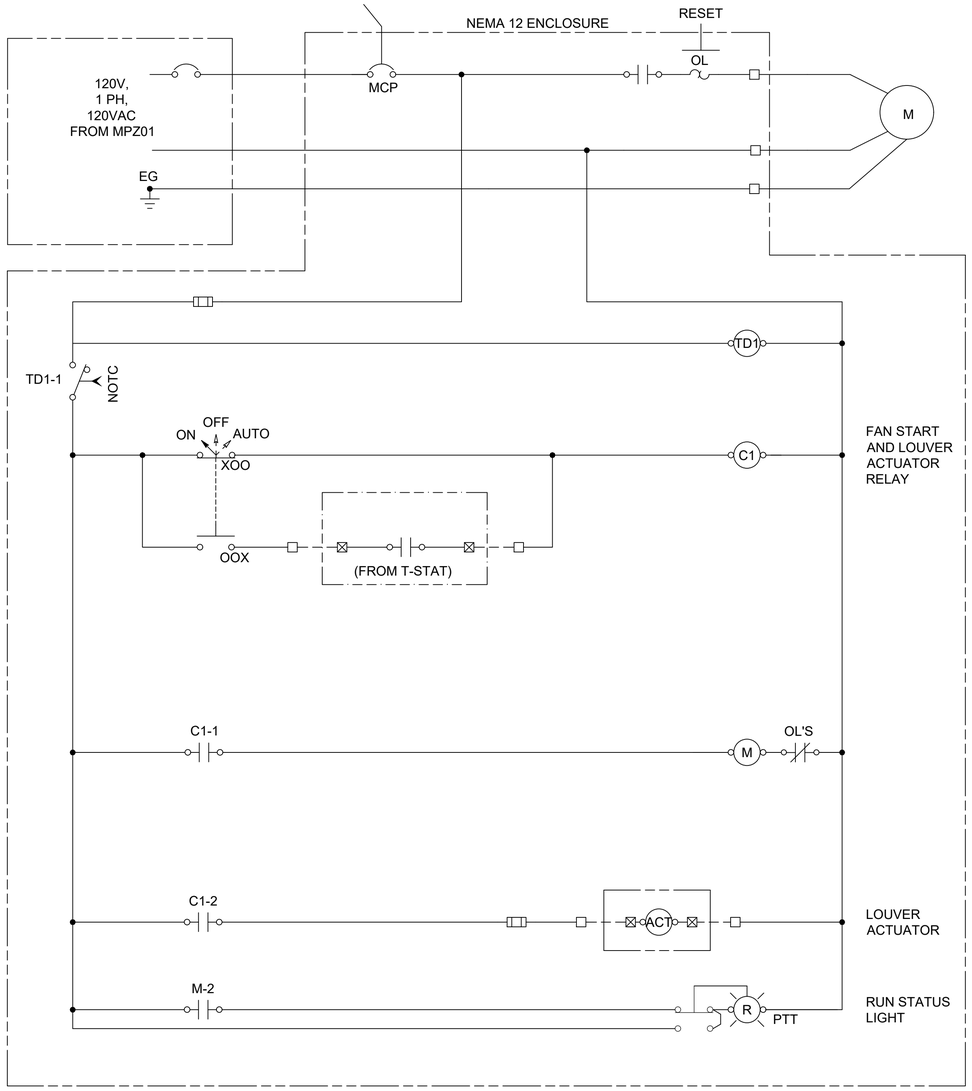
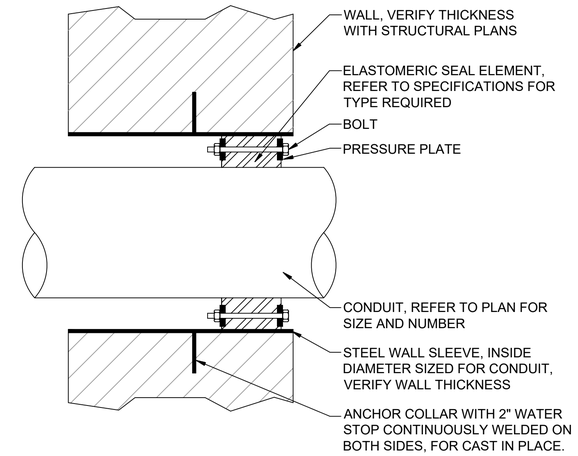
Last plotted by: Haydock, Joseph C. Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/18/2019 3:22 PM Plotter used: DWG To PDF.pc3



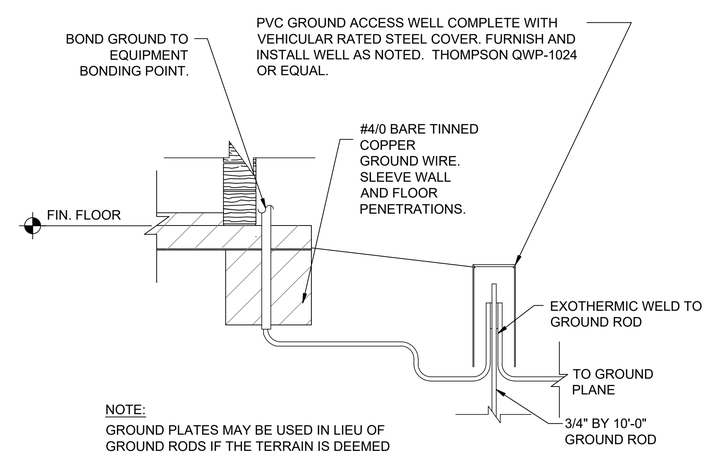
NOTES:
1. COORDINATE T-STAT VOLTAGE REQUIREMENTS WITH MANUFACTURER'S RECOMENDATIONS. PROVIDE LV TRANSFORMER IF REQUIRED.

1 / E6 EXHAUST FAN PANEL SCHEMATIC DETAIL
SCALE: NONE



"LINK-SEAL" MODULAR SEAL WITH MODEL 'WS' STEEL WALL SLEEVES

2 / E6 TYPICAL WATER STOP SEALING DETAIL
SCALE: NONE



NOTE:
GROUND PLATES MAY BE USED IN LIEU OF GROUND RODS IF THE TERRAIN IS DEEMED UNSUITABLE FOR RODS. ACCESS WELLS WILL STILL BE REQUIRED FOR EACH PLATE AND SHALL HAVE A SUITABLE DIAMETER FOR THE INSTALLED PLATE.

3 / E6 GROUND ROD CONNECTION DETAIL
SCALE: NONE

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SCOTT H. ZOTTI
LICENSED
21630
KANSAS
PROFESSIONAL ENGINEER

Digitally Signed 11/18/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ELECTRICAL DETAILS II

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: SAH
DRAWN BY: SAH

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DRAWING NUMBER
E6

SHEET NUMBER 19 OF 36

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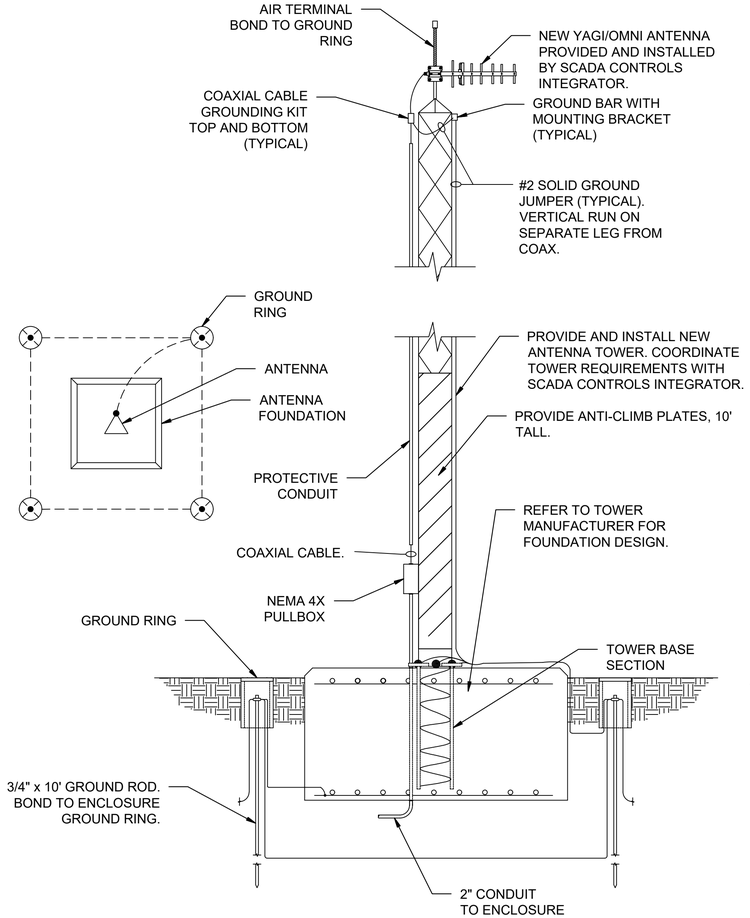
Last plotted by: Haydock, Joseph C Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/18/2019 3:22 PM Plotter used: DWG To PDF.pc3

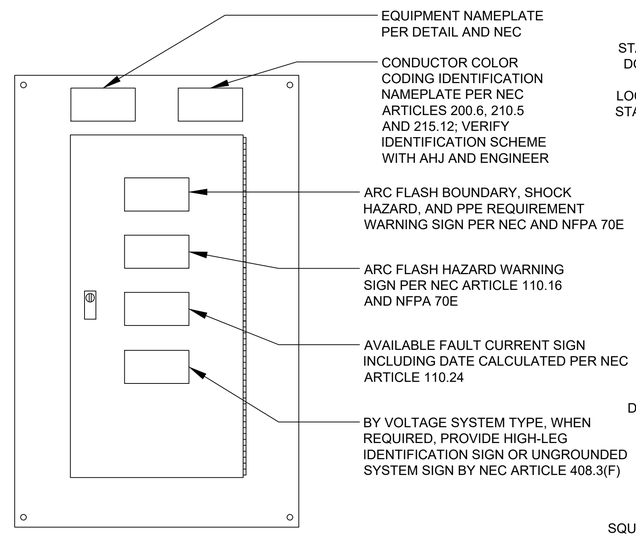


NOTE:

CONTRACTOR TO INSTALL SELF-SUPPORTING TOWER AND STRUCTURAL BASE PER MANUFACTURER'S DESIGN. REFER TO SPECIFICATIONS FOR REQUIREMENT.

1 / E7 TYPICAL ANTENNA TOWER DETAIL

SCALE: NONE

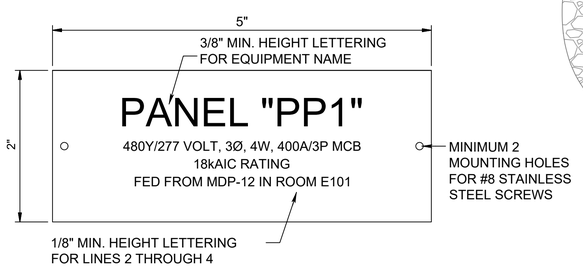


PANEL FRONT VIEW

SCALE: NOT TO SCALE

NOTES:

1. INSTALL ALL NAMEPLATES AND WARNING SIGNS IN ACCORDANCE WITH NEC AND NFPA 70E REQUIREMENTS.
2. INSTALL NAMEPLATES AND WARNING SIGNS ON ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO, SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SWITCHES, CONTROL PANELS AND MOTOR CONTROL CENTERS.
3. EXTERIOR EQUIPMENT SHALL HAVE WEATHER-RESISTANT, NON-FADING NAMEPLATES AND SIGNAGE.
4. INSTALL CIRCUIT DIRECTORY AND/OR CIRCUIT IDENTIFICATION FOR PROPER FIELD IDENTIFICATION.
5. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

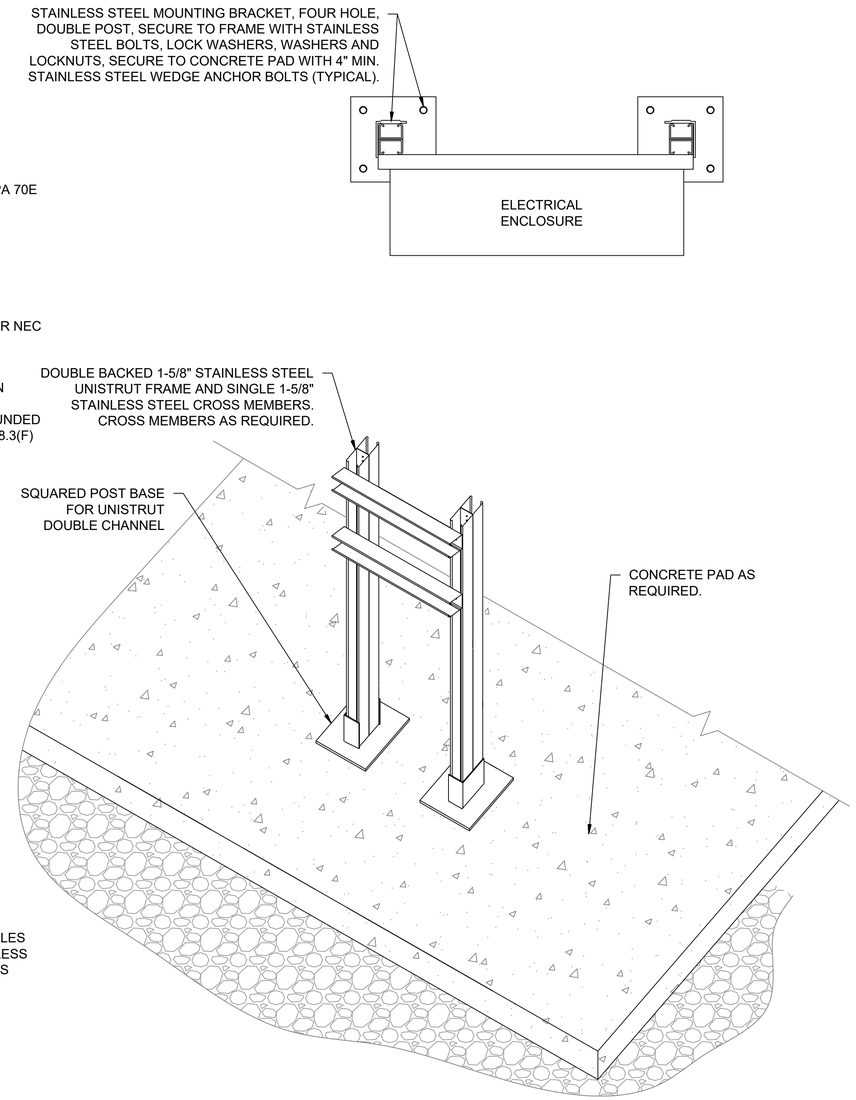


EQUIPMENT NAMEPLATE NOTES:

1. INSTALL 2-PLEX ACRYLIC, WHITE ON BLACK CORE, 5"x2" TILE, TEXT LINES AS INDICATED, CUSTOM ENGRAVED NAME PLATES.
2. MOUNT WITH STAINLESS STEEL SCREWS.
3. SEAL SCREW HOLES WITH SILICONE RUBBER.
4. NAMEPLATE INFORMATION SHALL INCLUDE:
   A. IDENTIFICATION NAME.
   B. VOLTAGE SYSTEM, AND AMPACITY RATING AND TYPE.
   C. EQUIPMENT AIC RATING.
   D. FEEDER SOURCE OF SUPPLY DESCRIPTION.

2 / E7 TYPICAL ENGRAVED NAMEPLATE DETAIL

SCALE: NONE



1. ALL BOLTS, NUTS, WASHERS, ANCHORS, PLATES, AND OTHER MOUNTING STEMS SHALL BE CORROSION RESISTANT, STAINLESS STEEL.
2. UTILIZE 5/16" STAINLESS STEEL WEDGE ANCHORS AS REQUIRED.
3. OMIT PAD WHERE NOT SHOWN.

3 / E7 UNISTRUT STAND DETAIL (TYP.)

SCALE: NONE

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SCOTT H. ZOTTI LICENSED 21630 KANSAS PROFESSIONAL ENGINEER

Digitally Signed 11/18/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ELECTRICAL DETAILS III

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: SAH
DRAWN BY: SAH

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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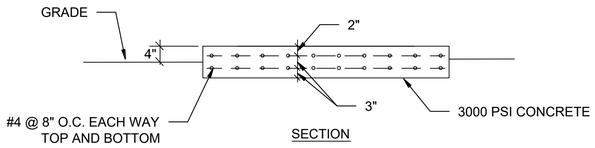
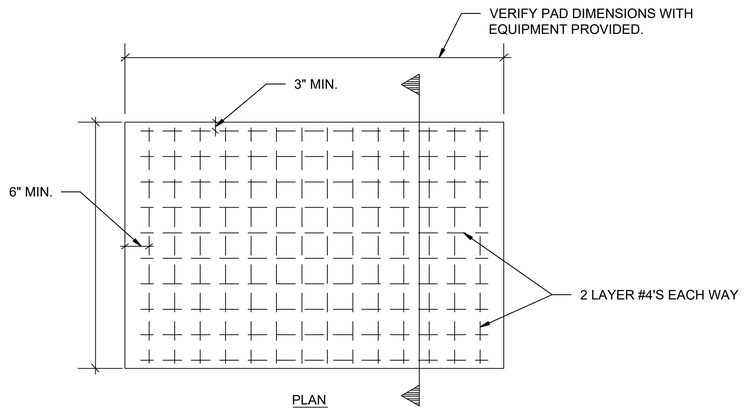
DRAWING NUMBER
E7

SHEET NUMBER 20 OF 36

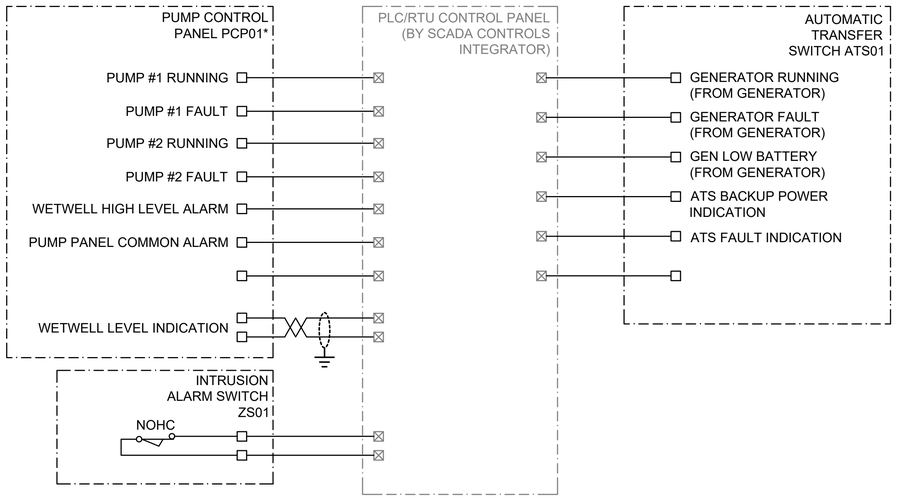
File: L:\2017\17264967 - LS S3 Replacement No 1\Drawings\KLPS-E5_E6_E7_E8.dwg Last Save: 11/6/2019 3:24 PM Last saved by: SAHalsey
Last plotted by: Haydock, Joseph C. Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/18/2019 3:22 PM Plotter used: DWG To PDF.pc3



1. THICKNESS AND STEEL MUST BE SIZED PER GENERATOR SIZE.
2. PAD BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR TO VERIFY ALL REQUIREMENTS WITH EQUIPMENT PROVIDED PRIOR TO GENERAL CONTRACTOR POURING PAD.



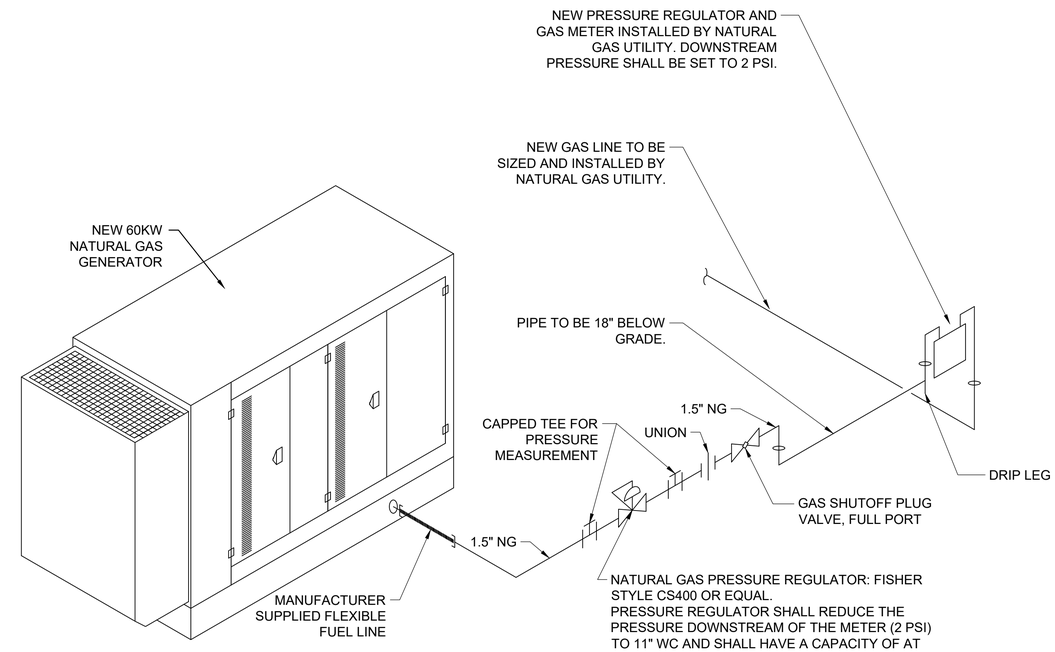
1 / E8 GENERATOR PAD DETAIL
SCALE: NONE



GENERAL NOTES:

1. MINIMUM EXPECTED I/O INDICATORS SHOWN. CONTRACTOR TO VERIFY I/O AVAILABLE FROM SUPPLIED PUMP CONTROL PANEL AND COORDINATE REQUIRED CONDUCTORS TO PLC/RTU PANEL WITH SCADA CONTROLS INTEGRATOR. SCADA CONTROL INTEGRATOR TO MAKE ALL CONNECTIONS WITHIN THE PLC/RTU PANEL.

2 / E8 PROPOSED I/O LIST
SCALE: NONE



NATURAL GAS REGULATOR NOTE:

DESIGN IS BASED ON 2 PSI SUPPLY PRESSURE FROM NATURAL GAS UTILITY. CONTRACTOR TO COORDINATE AVAILABLE GAS SUPPLY PRESSURE WITH UTILITY AND PROVIDE APPROPRIATE REGULATOR AS REQUIRED IF GAS SUPPLY PRESSURE DEVIATES FROM THE DESIGN PRESSURE.

SIZING METHOD:

LOW PRESSURE GAS USING SIZING EQUATION AS PRESENTED IN THE INTERNATIONAL FUEL GAS CODE. HYBRID PRESSURE METHOD IS USED.

THE 2 PSI SECTION (FROM THE METER TO THE PRESSURE REGULATOR) HAS AN APPROXIMATE EQUIVALENT LENGTH 30 LINEAR FEET, WHICH INCLUDES FITTINGS.

THE 11" WC SECTION (FROM THE PRESSURE REGULATOR TO THE GENERATOR CONNECTION) HAS AN APPROXIMATE EQUIVALENT LENGTH OF 20 LINEAR FEET, WHICH INCLUDES FITTINGS.

ASSUMPTIONS:

ESTIMATED TOTAL DEMAND IS 900 SCFH WITH SAFETY FACTOR. SPECIFIC GRAVITY OF NATURAL GAS IS 0.6 WITH A HEATING VALUE OF 1,000 BTU / CU. FT.

3 / E8 NATURAL GAS SYSTEM ISOMETRIC
SCALE: NONE

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SCOTT H. ZOTTI LICENSED 21630 KANSAS PROFESSIONAL ENGINEER
Digitally Signed 11/18/2019

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ELECTRICAL DETAILS IV

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: SAH
DRAWN BY: SAH

BAR IS ONE INCH ON ORIGINAL DRAWING
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DRAWING NUMBER
E8

SHEET NUMBER 21 OF 36

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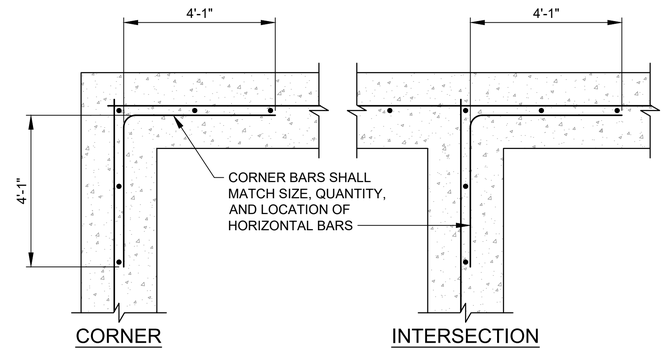
Last plotted by: Haydock, Joseph C. Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/18/2019 3:22 PM Plotter used: DWG To PDF.pc3

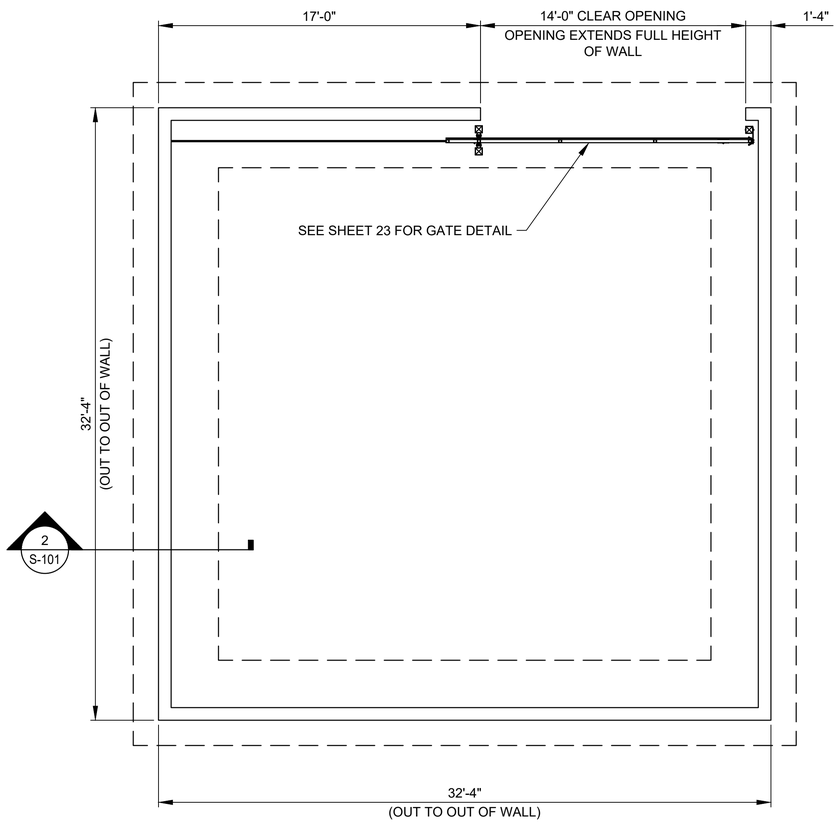
STRUCTURAL GENERAL NOTES

1. THE WALL SHALL HAVE A FORM LINER WITH APPEARANCE OF A 4"x16" SLUMP BLOCK, SPLIT FACE OR SIMILAR APPEARANCE. CONCRETE SHALL BE COLORED CONCRETE WITH BEIGE, TAN OR BUFF-TYPE COLOR. PAINTED OR STAINED CONCRETE WILL NOT BE ACCEPTED. EXACT FORM LINER AND COLOR SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL. THE CONCRETE SHALL THEN BE SEALED WITH A CLEAR SEALANT PER THE MANUFACTURER'S RECOMMENDATION.
2. CONCRETE:
   F'c = 4,500 PSI @ 28 DAYS
   WATER TO CEMENT RATIO: 0.45 MAX.
3. REINFORCING:
   ASTM A615 GR. 60 FY = 60 KSI
4. FOUNDATIONS ARE DESIGNED BASED ON 2,000 PSF ALLOWABLE BEARING AS INDICATED IN THE GEOTECHNICAL REPORT ISSUED BY TERRACON CONSULTANTS DATED NOVEMBER 19, 2019. CONTRACTOR SHALL COMPLY WITH ALL RECOMMENDATIONS IN THE REPORT, PARTICULARLY IN REGARDS TO SUBGRADE PREPARATION.

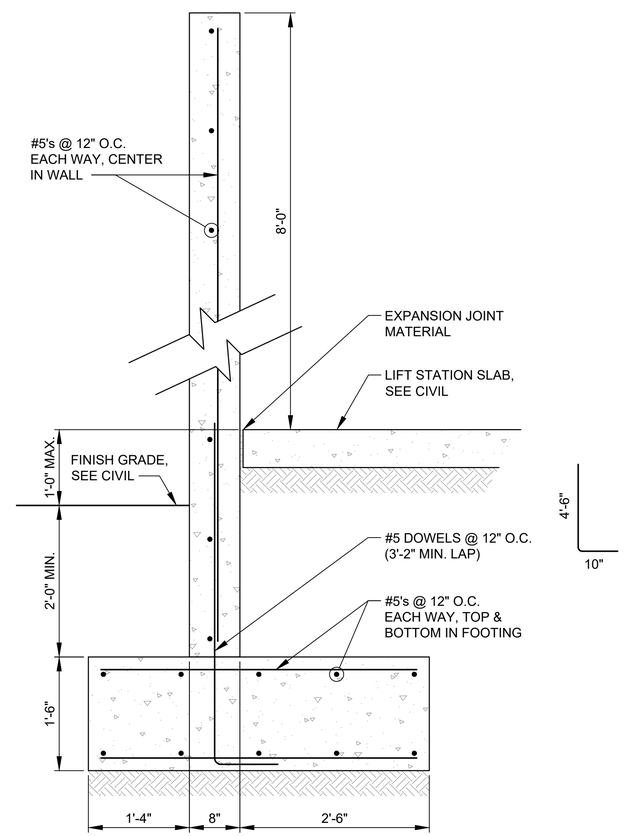


NOTE:
FOOTING CORNER BARS SIMILAR.

3 DETAIL - WALL REINFORCING
SCALE: 1" = 1'-0"



1 SCREEN WALL FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



2 SCREEN WALL SECTION
SCALE: 1" = 1'-0"

0 2' 4' 8' 12'
SCALE: 1/4" = 1'-0"

0 6" 1' 2' 3'
SCALE: 1" = 1'-0"

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8535 E. 21st Street
Suite 130
Wichita, KS 67206

JOHN THOMAS WATKINS LICENSED KANSAS PROFESSIONAL ENGINEER
11-19-19

REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

SCREEN WALL FOUNDATION PLAN, SECTION AND NOTES

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

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S-101

SHEET NUMBER 22 OF 36

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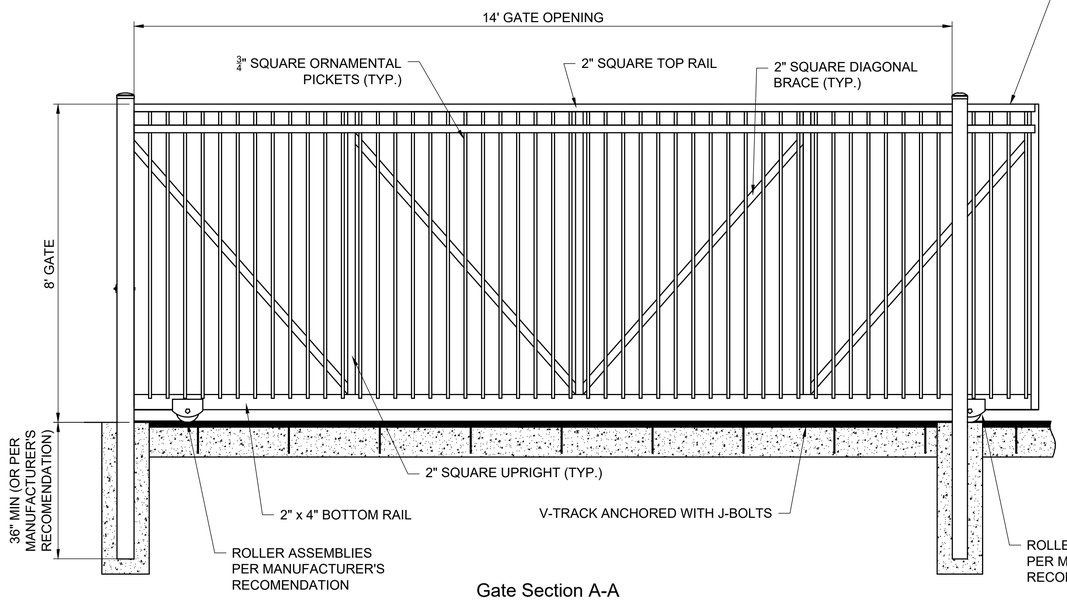
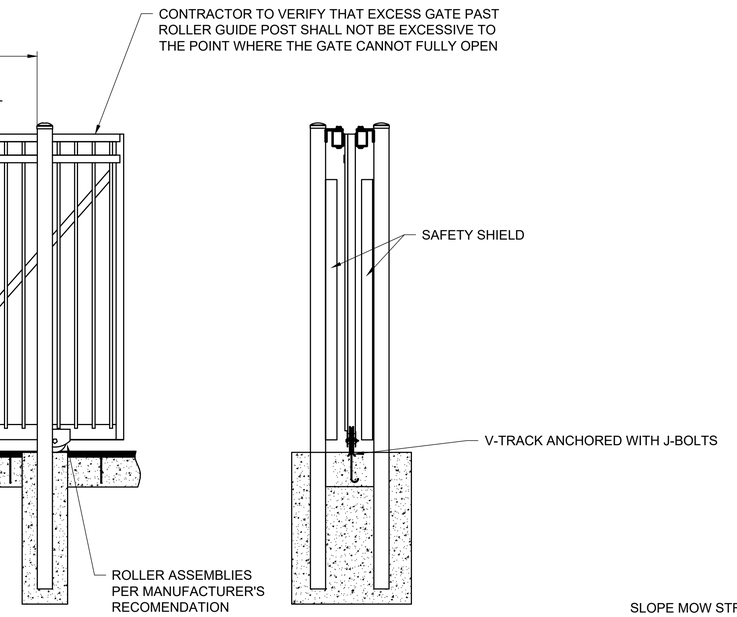
Last plotted by: Bowen, Stephen L. Plot Style: AECmono.ctb Plot Scale: 1:0.4255 Plot Date: 11/19/2019 9:01 AM Plotter used: DWG To PDF.pc3

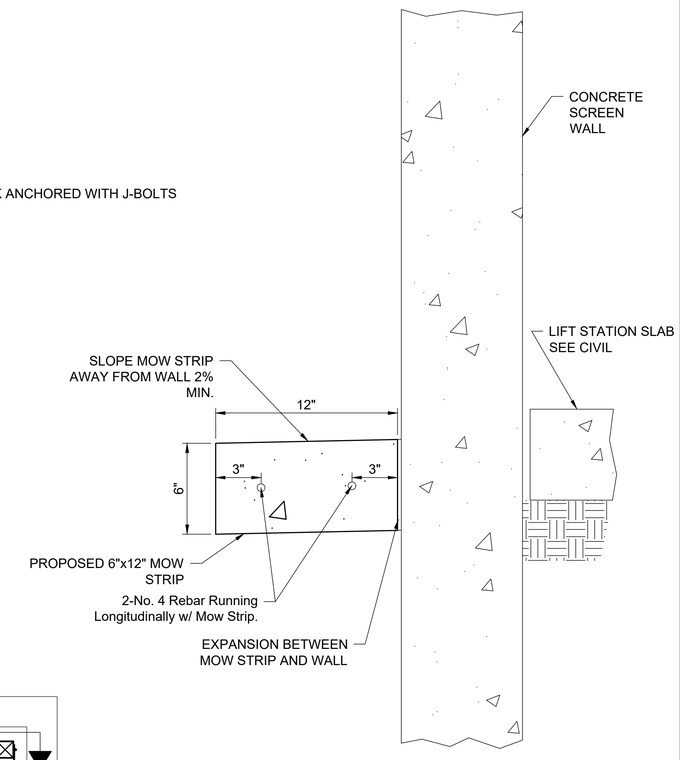


Gate Section A-A

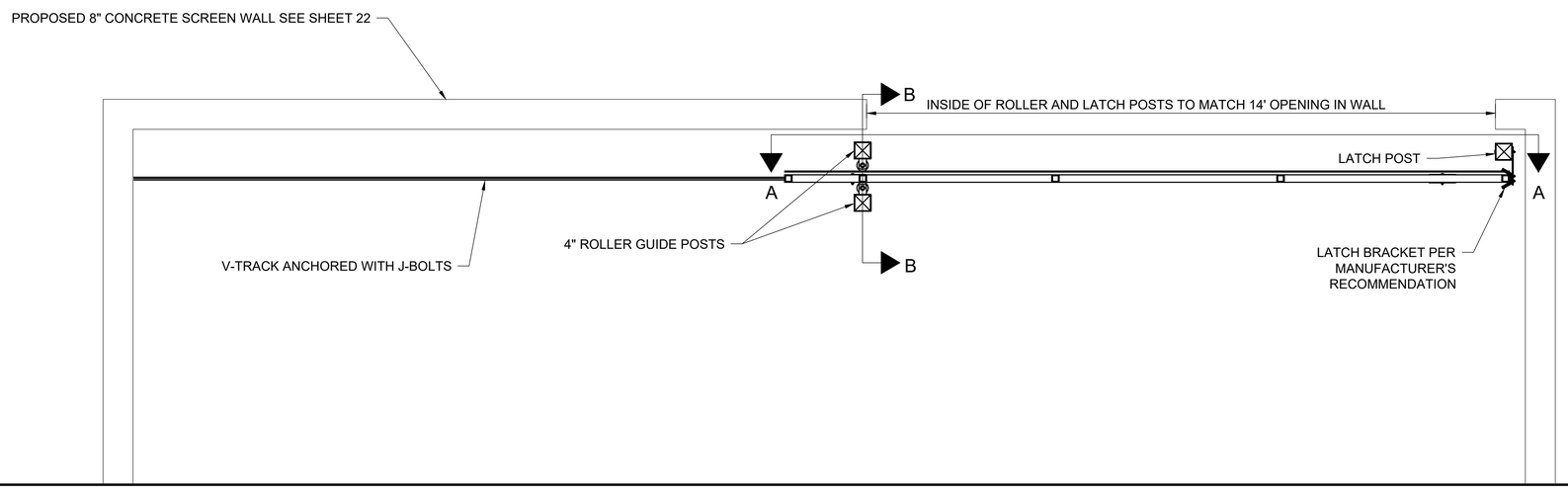


Gate Section B-B

Black Wrought Iron Gate shall be Ameristar Fence - Passport Commercial Ma□estic Style Ornamental Roll Gate or Approved E□ual



Mow Strip Detail Along Concrete Screen Wall



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MARK T. DOLECHEK LICENSED 25299 KANSAS PROFESSIONAL ENGINEER

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REV.	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations
Near 151st St. & W. Kellogg

ORNAMENTAL GATE & MOW STRIP DETAIL

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

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0 1"
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DRAWING NUMBER
23

SHEET NUMBER 23 OF 36

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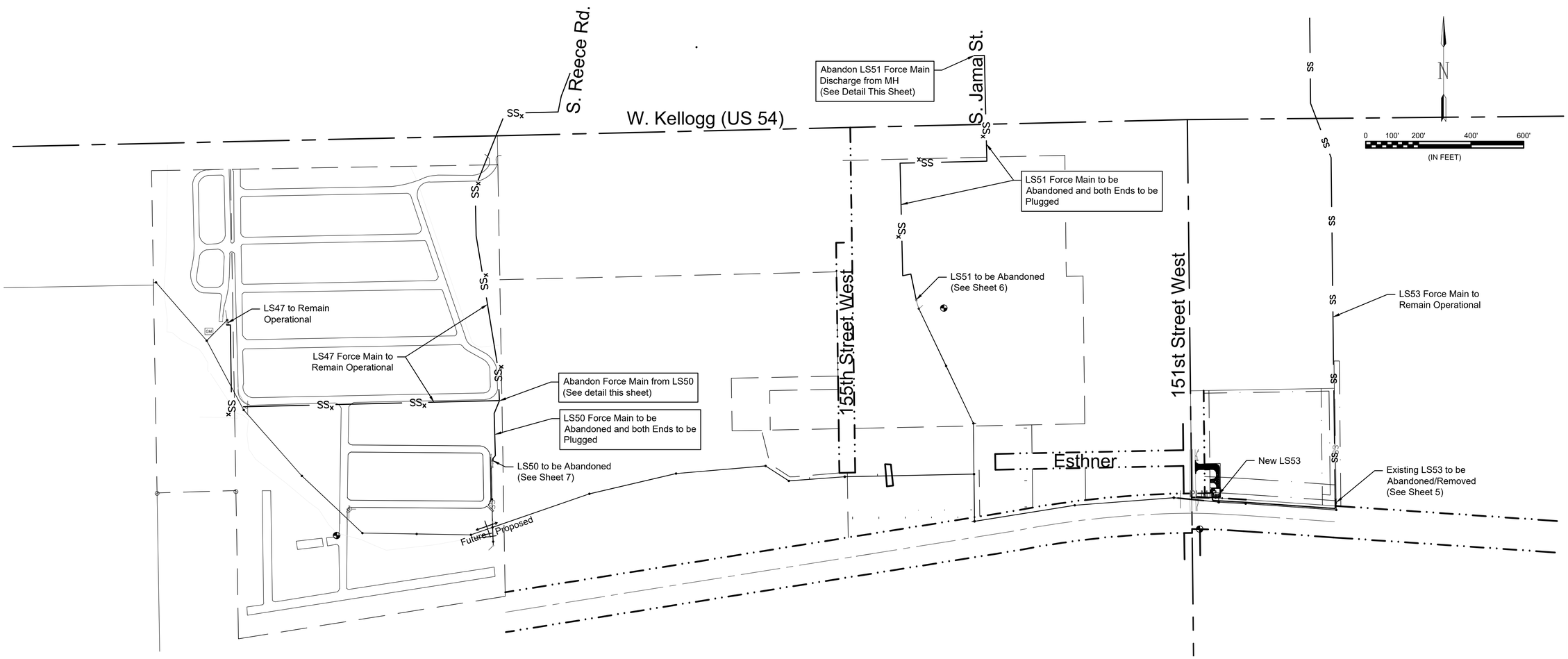
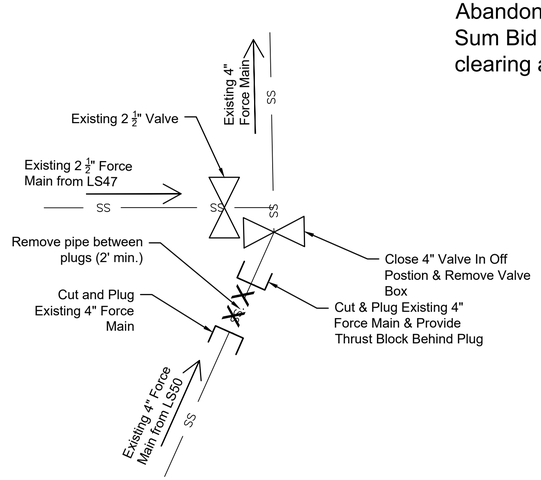
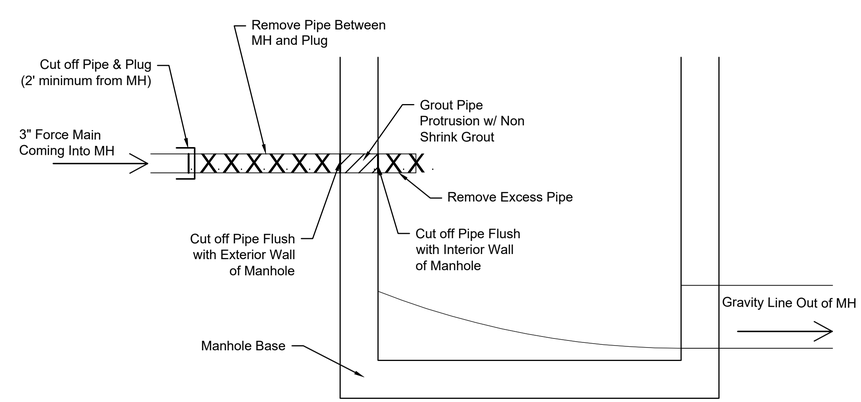


Abandonment of the existing force mains as shown on this sheet will be bid as a Lump Sum Bid Item for SS Force Main Abandonment. All labor, material, equipment and site clearing and restoration necessary shall be subsidiary to the lump sum bid item.



LS50 FORCE MAIN ABANDONMENT DETAIL
(Not to Scale & Schematic in Nature)



LS51 FORCE MAIN DISCHAGE ABANDONMENT DETAIL
(Not to Scale & Schematic in Nature)

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MARK T. DOLECHEK LICENSED 25299 KANSAS PROFESSIONAL ENGINEER

Digitally Signed 11/19/2019

REV	DATE	DESCRIPTION	BY

CITY OF WICHITA

CITY OF WICHITA
WICHITA, KANSAS

Consolidation of Lift Stations Near 151st St. & W. Kellogg

Force Main Abandonment

JOB NO.: 17264967
DATE: NOV. 2019
DESIGNED BY: MTD
DRAWN BY: MTD

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER
■

SHEET NUMBER 24 OF 36

File: L:\2017\17264967 - LS 53 Replacement No 1\Drawings\C3D\Plan Sheets\Force Main Abandonment.dwg Last Save: 11/18/2019 5:08 PM Last saved by: MTDolechek
Last plotted by: Dolechek, Mark T Plot Style: ---- Plot Scale: 1:2.5849 Plot Date: 11/19/2019 8:48 AM Plotter used: None