

# UTILITY RELOCATIONS FOR I-235 BRIDGE REPLACEMENTS

BETWEEN MERIDIAN AND I-135

CITY OF WICHITA PROJECT NO. 448-90739

OCA NO. 636365

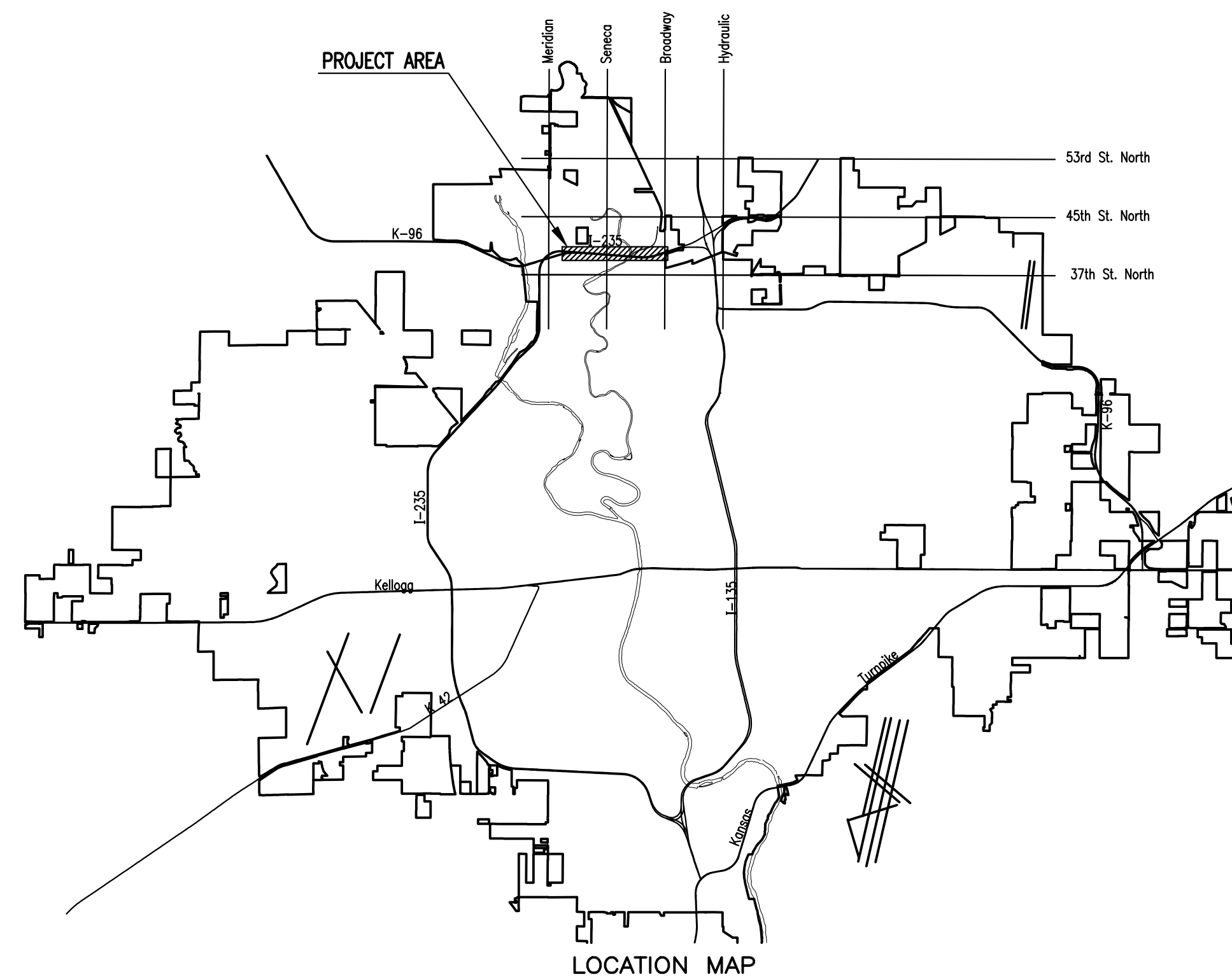
AND

CITY OF WICHITA PROJECT NO. 468-85126

OCA NO. 620850

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

Dondlinger Construction - Contractor  
G. Baalman - City of Wichita, Field Project Engineer  
As-built  
Release Date: 8/13/2018



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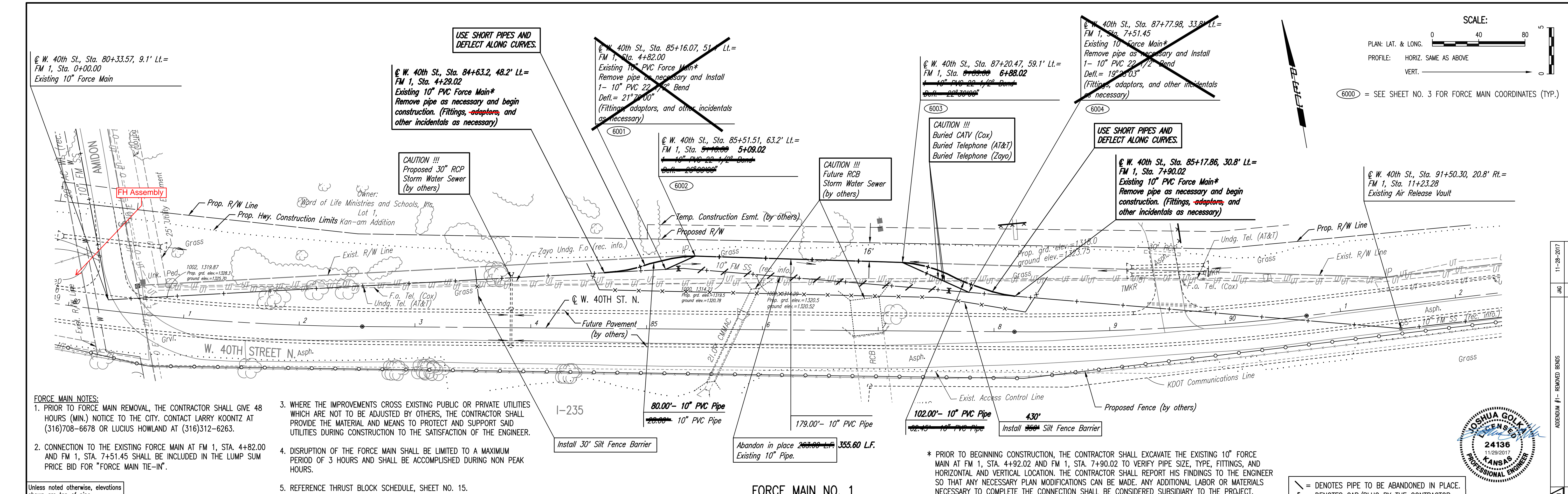
OCTOBER 2017

PLANS PREPARED BY  
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.  
ENGINEERS  
WICHITA, KANSAS



PLAN	CHECKED	DATE
	CHECKED	

PROFILE	CHECKED	DATE
	CHECKED	



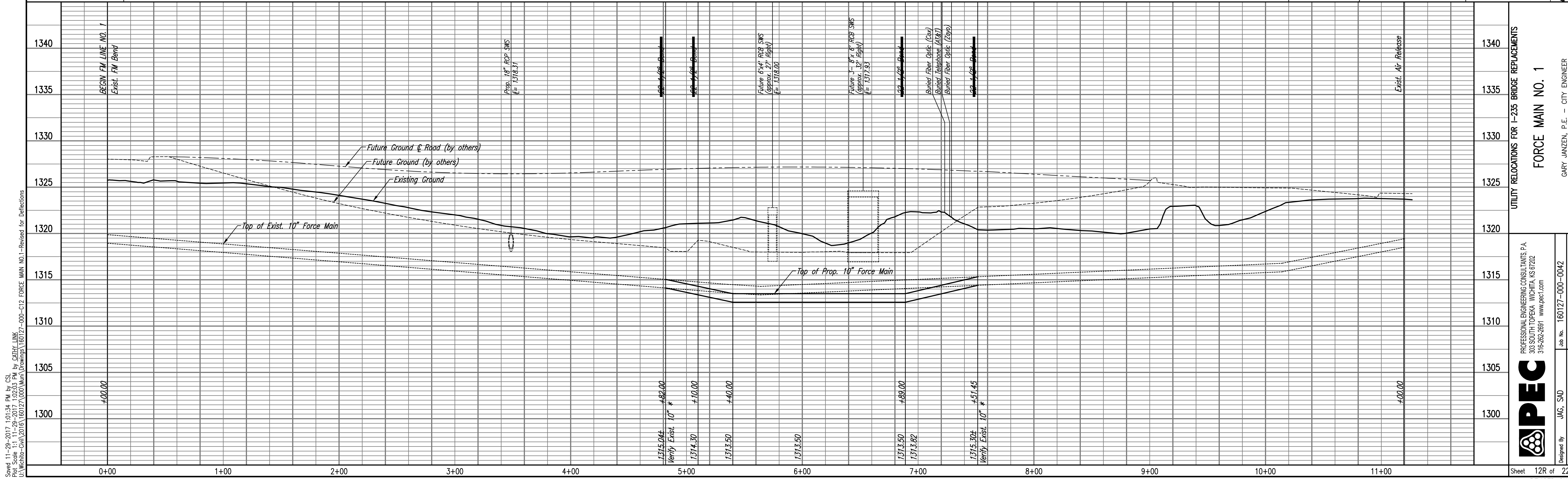
- FORCE MAIN NOTES:**
1. PRIOR TO FORCE MAIN REMOVAL, THE CONTRACTOR SHALL GIVE 48 HOURS (MIN.) NOTICE TO THE CITY. CONTACT LARRY KOONTZ AT (316)708-6678 OR LUCIUS HOWLAND AT (316)312-6263.
  2. CONNECTION TO THE EXISTING FORCE MAIN AT FM 1, STA. 4+82.00 AND FM 1, STA. 7+51.45 SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "FORCE MAIN TIE-IN".
  3. WHERE THE IMPROVEMENTS CROSS EXISTING PUBLIC OR PRIVATE UTILITIES WHICH ARE NOT TO BE ADJUSTED BY OTHERS, THE CONTRACTOR SHALL PROVIDE THE MATERIAL AND MEANS TO PROTECT AND SUPPORT SAID UTILITIES DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER.
  4. DISRUPTION OF THE FORCE MAIN SHALL BE LIMITED TO A MAXIMUM PERIOD OF 3 HOURS AND SHALL BE ACCOMPLISHED DURING NON PEAK HOURS.
  5. REFERENCE THRUST BLOCK SCHEDULE, SHEET NO. 15.

Unless noted otherwise, elevations shown are top of pipe

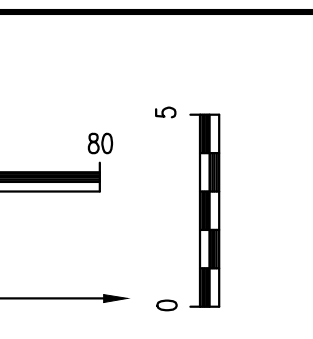
**FORCE MAIN NO. 1**

\* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 10" FORCE MAIN AT FM 1, STA. 4+92.02 AND FM 1, STA. 7+90.02 TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

⊃ = DENOTES PIPE TO BE ABANDONED IN PLACE.  
 ⊣ = DENOTES CAP/PLUG BY THE CONTRACTOR



Saved: 11-29-2017 10:15:34 PM by CSI  
 Plot Scale: 1" = 20'-0" (Horizontal) 1" = 4'-0" (Vertical)  
 User: Wichita-Civil\2016\160127-000\Drawings\160127-000-012 FORCE MAIN NO.1- Revised for Deflections



UTILITY RELOCATIONS FOR I-235 BRIDGE REPLACEMENTS  
**FORCE MAIN NO. 1**

**PEC**  
 PROFESSIONAL ENGINEERING CONSULTANTS P.A.  
 303 SOUTH TOPEKA WICHITA, KS 67202  
 316-262-2691 www.pec1.com  
 Designed By: JAG, SAU  
 Drawn By: CSL, KTD  
 Job No.: 160127-000-0042  
 Date: SEPTEMBER 2016  
 Sheet 12R of 22  
 REVISION SHEET

11-28-2017	Date
JAG	By
REMOVED BENIS	Revision
160127-000-0042	No.
GARY JANZEN, P.E. - CITY ENGINEER	
CITY OF WICHITA PROJECT NO. 468-85126	

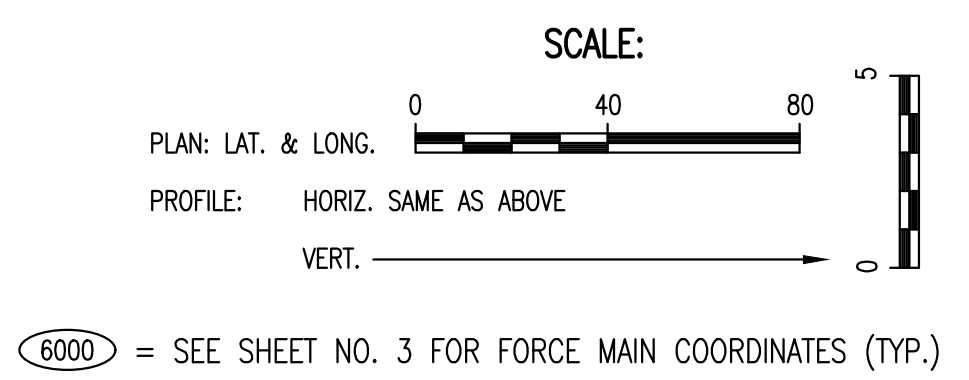
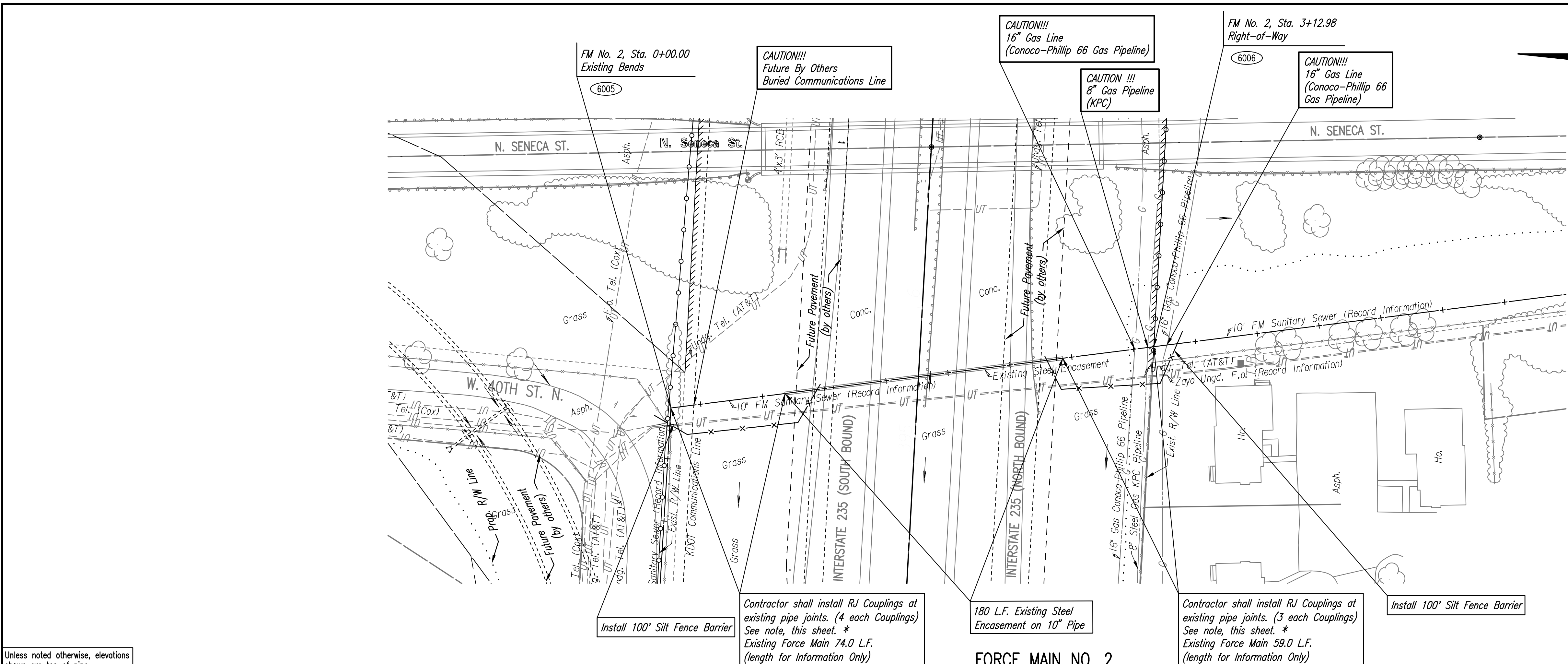
Fitting and Pipe Detail Report Project: Utility Relocations for I-235 Bridge Replacements 448-90739 (636365) & (620850)

Date	Location	Station	Station 2	Type	Quantity	Unit	Size / Material	Remarks
2/27/2018	1600 Block W 40th	4+23	243' w ctr Ln RCB	Adaptor Coupling	1	Specified Fitting	10" GxG DR18 CID x IPS	Dir W
FM1	Map 12R		30' s of n Property Line	677' w of Air Release			1711756.5714	1641350.5271
2/27/2018	Map 12R	4+23	4+29	Pipe, SS Force Main 10"	6 lf	Northern	10" C900 PVC Pipe	
2/27/2018	1600 Block W 40th	4+29	237' w ctr Ln RCB	High Deflection Coupling	1	Fluid-Tite	10" CIOD PVC Pipe	Dir W
FM1	Map 12R		30' s of n Property Line	671' w of Air Release			1711756.57140	1641344.7771
2/5/2007	Map 12R	4+29	4+39	Pipe, SS Force Main 10"	10 lf	Northern	10" C900 PVC Pipe	
2/5/2017	1600 Block W 40th	4+39	227' w ctr Ln RCB	High Deflection Coupling	1	Fluid-Tite	10" CIOD PVC Pipe	Dir W
FM1	Map 12R		28' s of n Property Line	662' w of Air Release			1711756.9508	1641353.6786
2/5/2007	Map 12R	4+39	4+89	Pipe, SS Force Main 10"	50 lf	Northern	10" C900 PVC Pipe	
2/5/2017	1600 Block W 40th	4+89	167' w ctr Ln RCB	High Deflection Coupling	1	Fluid-Tite	10" CIOD PVC Pipe	Dir W
FM1	Map 12R		18' s of n Property Line	614' w of Air Release			1711755.2913	1641401.3830
2/6/2007	Map 12R	4+89	6+96	Pipe, SS Force Main 10"	207 lf	Northern	10" C900 PVC Pipe	
2/6/2017	1600 Block W 40th	6+96	38' e ctr Ln RCB	High Deflection Coupling	1	Fluid-Tite	10" CIOD PVC Pipe	Dir W
FM1	Map 12R		16' s of n Property Line	412' w of Air Release			1711715.2193	1641603.4230
2/7/2007	Map 12R	6+96	7+76	Pipe, SS Force Main 10"	80 lf	Northern	10" C900 PVC Pipe	
2/8/2017	1600 Block W 40th	7+76	108' e ctr Ln RCB	High Deflection Coupling	1	Fluid-Tite	10" CIOD PVC Pipe	Dir W
FM1	Map 12R		41' s of n Property Line	339' w of Air Release			1711679.7781	1641676.476
2/8/2007	Map 12R	7+76	7+86	Pipe, SS Force Main 10"	10 lf	Northern	10" C900 PVC Pipe	
2/27/2018	1600 Block W 40th	7+86	118' e ctr Ln RCB	Repair Coupling	1	Fluid-Tite	10" CIOD PVC Pipe	Dir W
FM1	Map 12R		43' s of n Property Line	331' w of Air Release			1711674.6143	1641684.505
2/27/2017	Map 12R	7+86	7+91	Pipe, SS Force Main 10"	5 lf	Northern	10" C900 PVC Pipe	
2/27/2018	1600 Block W 40th	7+91	123' e ctr Ln RCB	Adaptor Coupling	1	Specified Fitting	10" GxG DR18 CID x IPS	Dir W
FM1	Map 12R		43' s of n Property Line	326' w of Air Release			1711674.6143	1641680.005

PLAN	CHECKED	BY	DATE
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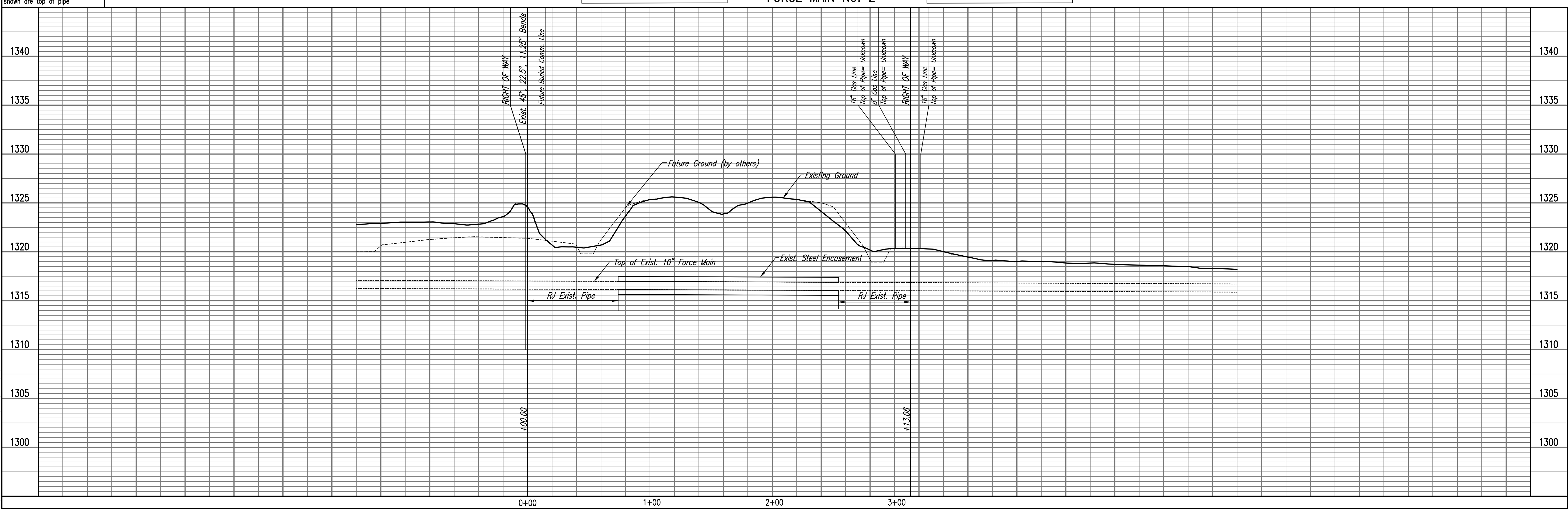
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 U:\Wichita-Civil\2016\160127\000\Wm\Drawings\160127-000-013 FORCE MAIN NO. 2



\* CONTRACTOR SHALL EXCAVATE EXISTING 10" FORCE MAIN FROM THE RIGHT-OF-WAY TO THE EXISTING STEEL CASING AND VERIFY PIPE SIZE, TYPE, HORIZONTAL AND VERTICAL LOCATION AND REPORT FINDINGS TO THE FIELD ENGINEER.

THE CONTRACTOR SHALL LOCATE ANY JOINTS ON THE EXISTING 10" PIPE AND INSTALL SPLIT RING JOINT RESTRAINERS (SIGMA PV-LOK OR APPROVED EQUAL) ON ALL JOINTS. LOCATING, EXCAVATION AND JETTED SAND BACKFILL OF JOINTS AND INSTALLATION OF SPLIT RING JOINT RESTRAINERS SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR "SPLIT RING JOINT RESTRAINER". THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF WICHITA PUBLIC WORKS DEPARTMENT.

NUMBER OF COUPLINGS ARE ESTIMATED. LINE ITEM WILL BE OVERRUN OR UNDERRUN DEPENDING ON ACTUAL NUMBER OF JOINTS. CONTRACTOR WILL NOT BE PAID RE-SHELVING COST FOR UNDERRUN QUANTITIES.



UTILITY RELOCATIONS FOR I-235 BRIDGE REPLACEMENTS

**FORCE MAIN NO. 2**

DESIGNED BY: JAG, SAU  
 DRAWN BY: CSL, KTD

Job No. 160127-000-0042  
 Date SEPTEMBER 2016

PROFESSIONAL ENGINEERING CONSULTANTS P.A.  
 303 SOUTH TOPEKA WICHITA, KS 67202  
 316-262-2691 www.pec1.com

GARY JANZEN, P.E. - CITY ENGINEER  
 CITY OF WICHITA PROJECT NO. 468-85126

Sheet 13 of 22

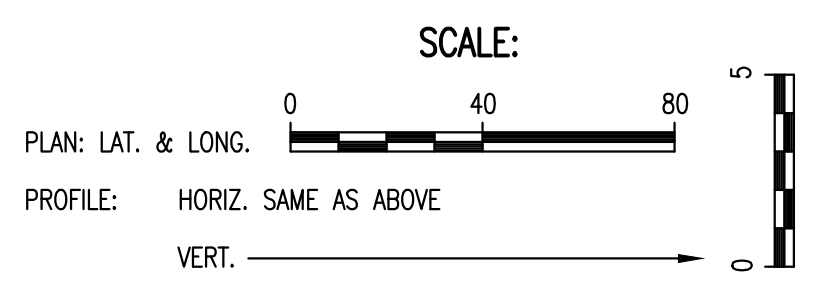
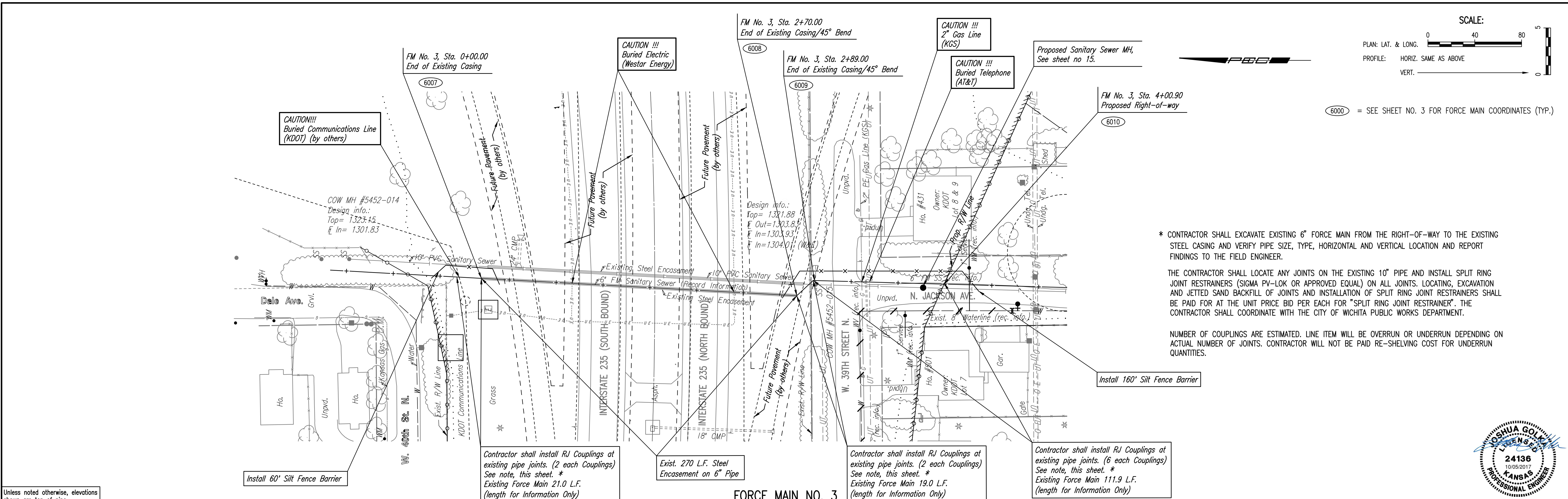
**Fitting and Pipe Detail Report Project: Utility Relocations for I-235 Bridge Replacements 448-90739 (636365) & (620850)**

Date	Location	Station	Location	Type	Quantity	Unit	Size/Class	Remarks
2/14/2018	1200 Block W 40th Map 13	0+22	72' n of edge of I-235 Pavement 86' w of edge of RCB under Senca	Bell Joint Restraint	1	Sigma	10" PV-LOK Mechanical Joint	Dir N
2/14/2018	1200 Block W 40th Map 13	0+42	52' n of edge of I-235 Pavement 84' w of edge of RCB under Senca	Bell Joint Restraint	1	Sigma	10" PV-LOK Mechanical Joint	Dir N
2/14/2018	1200 Block W 40th Map 13	0+62	32' n of edge of I-235 Pavement 82' w of edge of RCB under Senca	Bell Joint Restraint	1	Sigma	10" PV-LOK Mechanical Joint	Dir N
2/23/2018	3900 Block S Senca Map 13	2+82	28' s of edge of I-235 Pavement 11' e of w Property Line	Bell Joint Restraint	1	Sigma	10" PV-LOK Mechanical Joint	Dir S
2/23/2018	3900 Block S Senca Map 13	3+02	48' s of edge of I-235 Pavement 10' e of w Property Line	Bell Joint Restraint	1	Sigma	10" PV-LOK Mechanical Joint	Dir S

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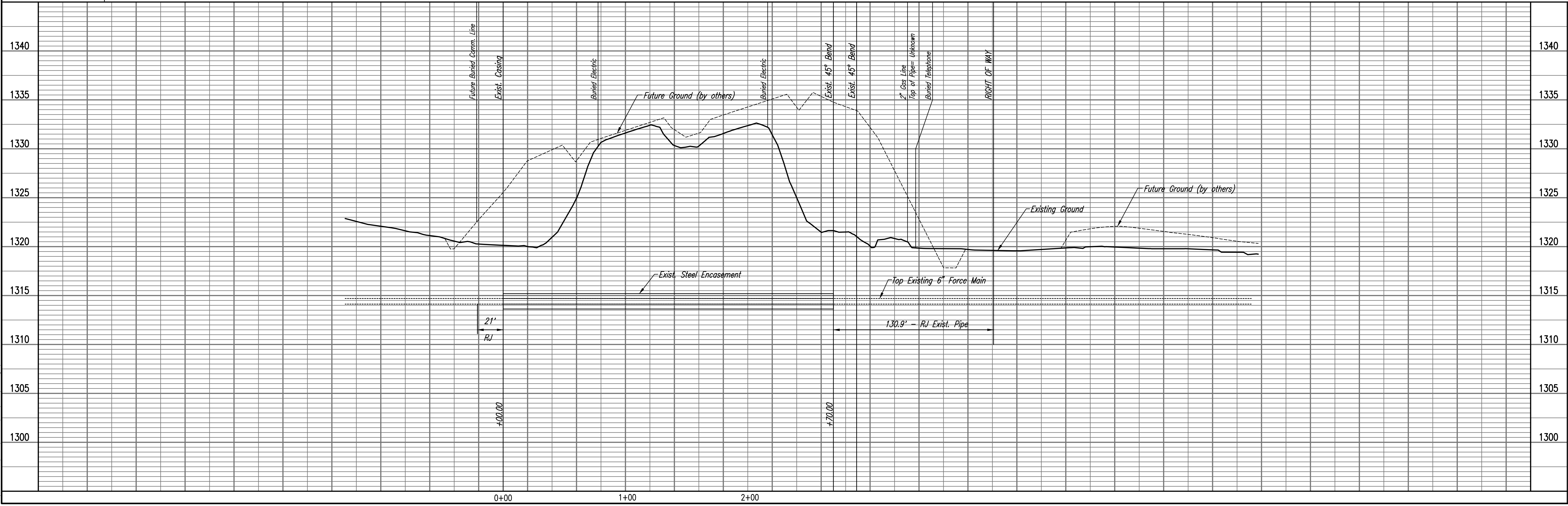
6000 = SEE SHEET NO. 3 FOR FORCE MAIN COORDINATES (TYP.)

\* CONTRACTOR SHALL EXCAVATE EXISTING 6" FORCE MAIN FROM THE RIGHT-OF-WAY TO THE EXISTING STEEL CASING AND VERIFY PIPE SIZE, TYPE, HORIZONTAL AND VERTICAL LOCATION AND REPORT FINDINGS TO THE FIELD ENGINEER.

THE CONTRACTOR SHALL LOCATE ANY JOINTS ON THE EXISTING 10" PIPE AND INSTALL SPLIT RING JOINT RESTRAINERS (SIGMA PV-LOK OR APPROVED EQUAL) ON ALL JOINTS. LOCATING, EXCAVATION AND JETTED SAND BACKFILL OF JOINTS AND INSTALLATION OF SPLIT RING JOINT RESTRAINERS SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR "SPLIT RING JOINT RESTRAINER". THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF WICHITA PUBLIC WORKS DEPARTMENT.

NUMBER OF COUPLINGS ARE ESTIMATED. LINE ITEM WILL BE OVERRUN OR UNDERRUN DEPENDING ON ACTUAL NUMBER OF JOINTS. CONTRACTOR WILL NOT BE PAID RE-SHELVING COST FOR UNDERRUN QUANTITIES.

Unless noted otherwise, elevations shown are top of pipe



UTILITY RELOCATIONS FOR I-235 BRIDGE REPLACEMENTS  
**FORCE MAIN NO. 3**  
 GARY JANZEN, P.E. - CITY ENGINEER  
 CITY OF WICHITA PROJECT NO. 468-85126

**PEC**  
 PROFESSIONAL ENGINEERING CONSULTANTS P.A.  
 303 SOUTH TOPEKA WICHITA, KS 67202  
 316-262-2681 www.pec1.com

Designed By: JAG, SAU  
 Drawn By: CSL, KTD

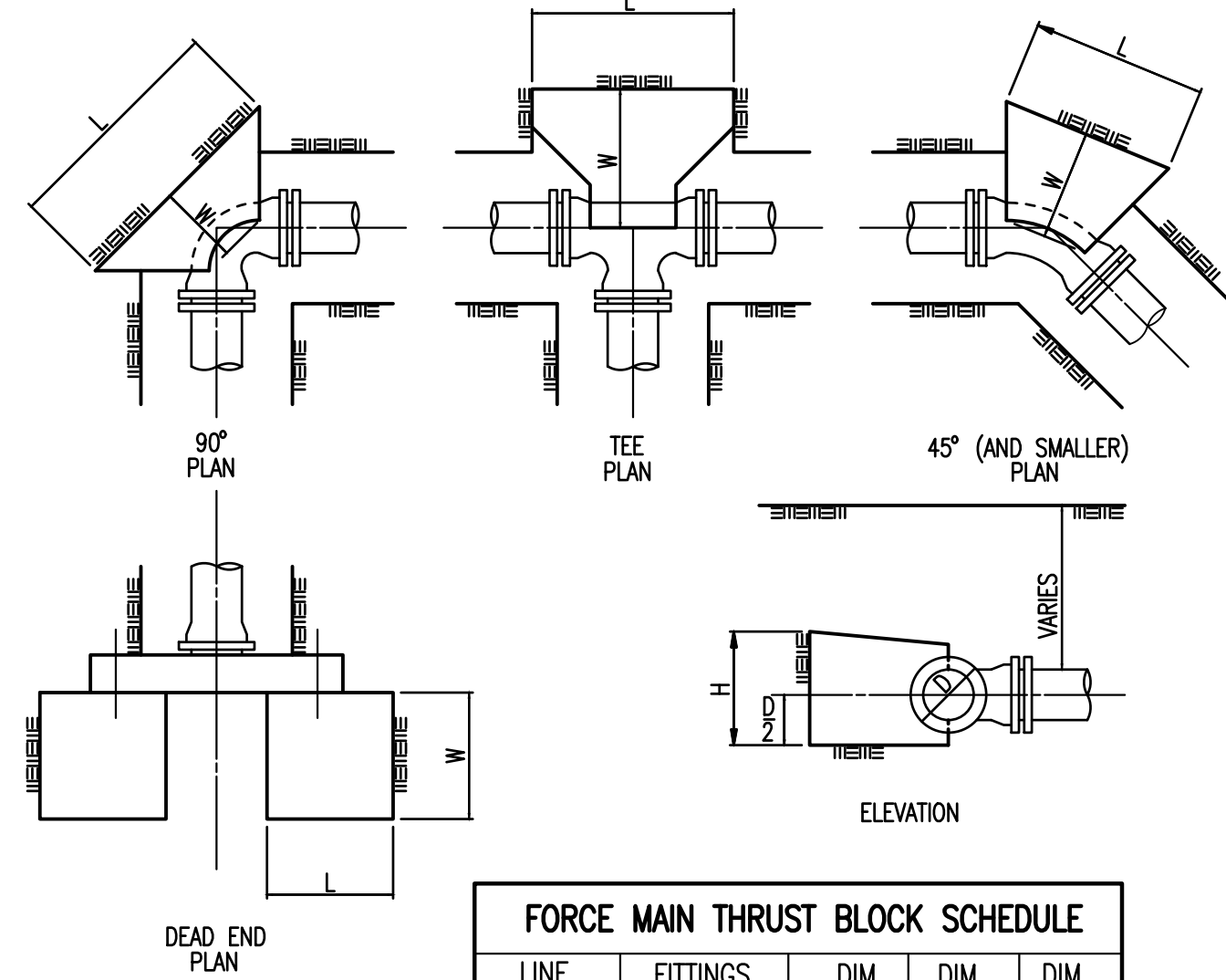
Job No.: 160127-000-0042  
 Date: SEPTEMBER 2016

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Fitting and Pipe Detail Report Project: Utility Relocations for I-235 Bridge Replacements 448-90739 (636365) & (620850)

Date	Location	Station	Station	Notes	Quantity	Unit	Material	Remarks
2/15/2018	40th & Dell	-0+42	15' e of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir N
Force Main 3	Map 14		162' n of Fire Hydrant				Mechanical Joint	
2/15/2018	40th & Dell	-0+22	15' e of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir N
Force Main 3	Map 14		182' n of Fire Hydrant				Mechanical Joint	
2/15/2018	40th & Dell	-0+02	15' e of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir N
Force Main 3	Map 14		202' n of Fire Hydrant				Mechanical Joint	
2/15/2018	40th & Dell	0+00	15' e of Fire Hydrant	Start of Casing	1	Sigma	Steel Pipe	Dir N
Force Main 3	Map 14		204' n of Fire Hydrant					
2/1/2018	39th & Jackson	2+89	21' w of Fire Hydrant	Existing 45* Bend	1	Existing	6" DIMJ	Dir S
Force Main 3	Map 14		172' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	2+91	21' w of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir S
Force Main 3	Map 14		170' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	3+11	21' w of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir S
Force Main 3	Map 14		150' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	3+11	21' w of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir S
Force Main 3	Map 14		130' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	3+31	21' w of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir S
Force Main 3	Map 14		110' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	3+51	21' w of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir S
Force Main 3	Map 14		90' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	3+71	21' w of Fire Hydrant	Bell Joint Restraint	1	Sigma	6" PV-LOK	Dir S
Force Main 3	Map 14		70' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	3+72	21' w of Fire Hydrant	Sleeve	1	Sigma	6" DIMJ RJ	Dir S
Force Main 3	Map 14		69' n of Fire Hydrant				Mechanical Joint	
2/1/2018	39Tth & Jackson	3+75	21' w of Fire Hydrant	6" PVC Pipe	2.5 lf	Northern	6" C-900	
Force Main 3	Map 14		66' n of Fire Hydrant	Sleeve	1	Sigma	6" DIMJ RJ	Dir S
							Mechanical Joint	

PLAN  
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 BY  
 DATE



FORCE MAIN THRUST BLOCK SCHEDULE				
LINE SIZE	FITTINGS & ANGLE	DIM. H	DIM. W	DIM. L
10"	22 1/2"	1'-11"	1'-11"	1'-11"

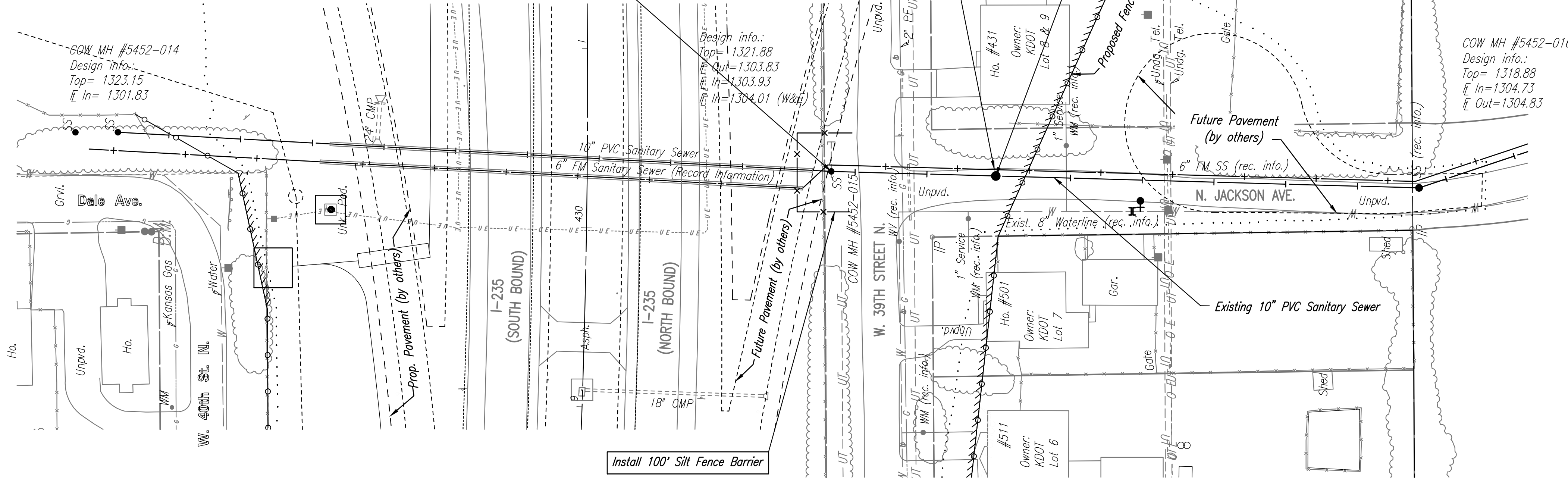
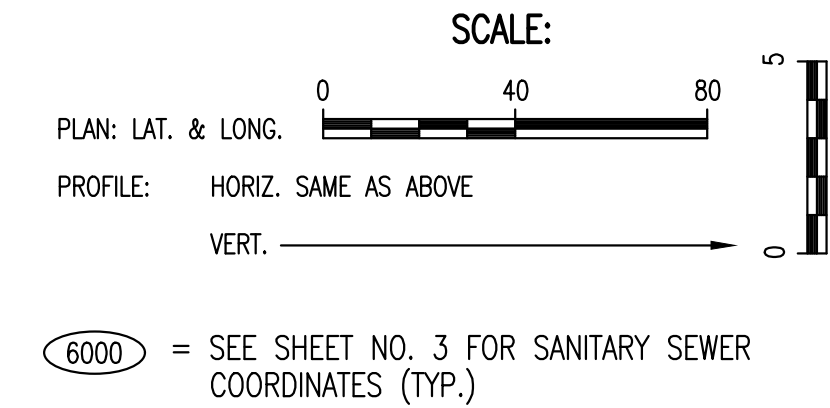
**SANITARY SEWER NOTES:**

1. THE CONTRACTOR SHALL COORDINATE WITH LARRY KOONTZ AT (316)708-6678 OR LUCIUS HOWLAND AT (316)312-6263. CONCERNING ITEMS TO BE SALVAGED. ANY ITEMS TO BE SALVAGED SHALL BE CLEANED AND DELIVERED TO THE CITY. ITEMS TO BE DISPOSED OF AS DIRECTED BY THE CITY SHALL BE DISPOSED OF IN AN ACCEPTABLE LOCATION.
2. CONTRACTOR SHALL NOT DIVERT ANY SEWAGE FLOW THROUGH NEW PIPE OR MANHOLES UNTIL TESTING HAS BEEN COMPLETED AND ACCEPTED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOW OF SEWAGE THROUGH CONSTRUCTION. CONTRACTOR'S PROPOSED METHOD FOR MAINTAINING SEWAGE FLOW SHALL BE APPROVED BY THE ENGINEER. COST OF MAINTAINING FLOW OF SEWAGE THROUGH CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY AND SHALL BE CONSIDERED SUBSIDIARY TO OTHER RELATED ITEMS OF WORK.

- \* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 10" SANITARY SEWER AT SS 1, STA. 0+00.00 AND SS 1, STA. 0+92.00 TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.
- \*\* THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING AND SUPPORTING THE EXISTING 6" FORCE MAIN DURING MH REMOVAL. ANY ADDITIONAL WORK TO PROTECT/SUPPORT THE EXISTING FORCE MAIN SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

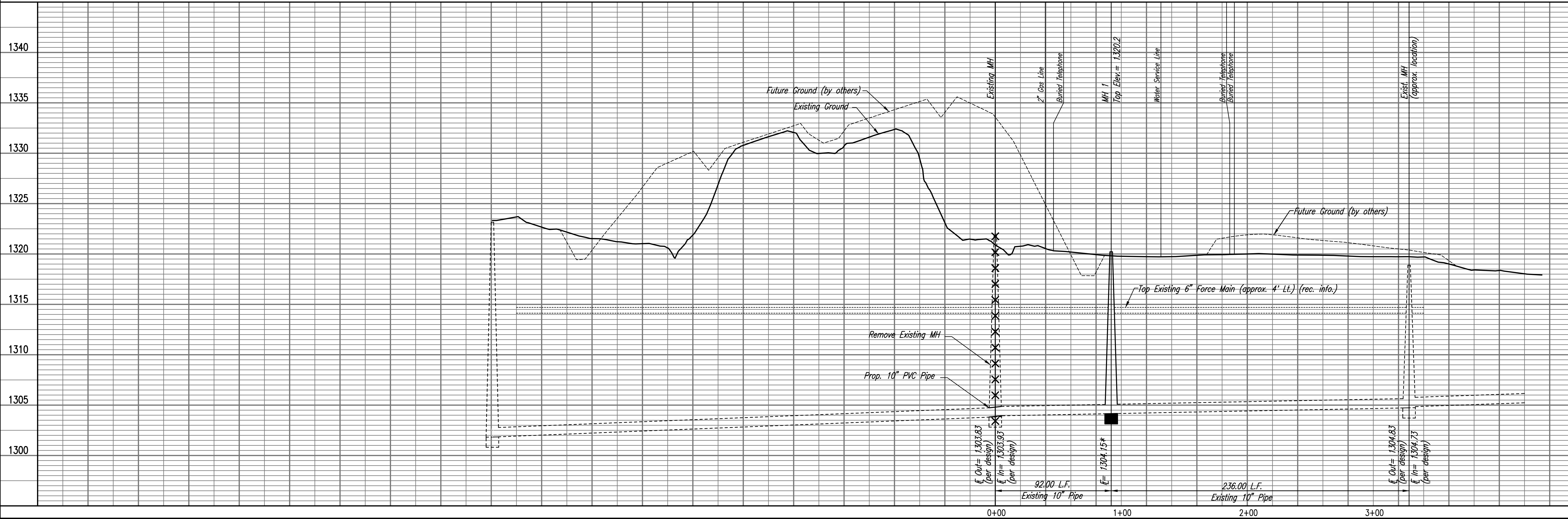
① I-235, Sta. 430+33.60, 136.3' Rt. =  
 SS 1, Sta. 0+00.00  
 Remove existing MH per City of Wichita Standards. Salvage existing MH lid and frame to City of Wichita Maintenance Yard.  
 Install 5 L.F. 10" PVC Pipe  
 Contractor shall connect new pipe to existing pipe with PVC couplings or an approved equal per City of Wichita Standard and Special Provisions. Any additional labor or materials necessary to complete the connection shall be considered subsidiary to the Project. \*\*

② I-235, Sta. 430+32.41, 228.2' Rt. =  
 SS 1, Sta. 0+92.00  
 Const. MH 1  
 Standard MH (5' dia.)  
 Existing 10" PVC Sanitary Sewer \*  
 Construct MH 1 over existing 10" pipe. Remove top half of 10" pipe thru MH. Shape invert to pipe.



**SANITARY SEWER LINE NO. 1**

PROFILE  
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 BY  
 DATE



UTILITY RELOCATIONS FOR I-235 BRIDGE REPLACEMENTS  
**SANITARY SEWER LINE NO. 1**  
 GARY JANZEN, P.E. - CITY ENGINEER  
 CITY OF WICHITA PROJECT NO. 468-85126

PROFESSIONAL ENGINEERING CONSULTANTS P.A.  
 303 SOUTH TOPEKA WICHITA, KS 67202  
 316-262-2691 www.pec1.com

**PEC**

Job No. 160127-000-0042  
 Date SEPTEMBER 2016

Designed By JAG, SAU  
 Drawn By CSL, KTD

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 U:\Wichita-Civil\2016\160127\000\Wm\Drawings\160127-000-015 SS Line