

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: July 19, 2016
Date of Addendum: July 14, 2016

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
305	31-0321-038	GRADING	DUBUQUE	NHSX-032-1(38)--3H-31	19jul305.a03

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Change Proposal Line No. 0030 2102-2710070 EXCAVATION, CLASS 10, ROADWAY AND BORROW:

From: 336,579.000 CY

To: 336,576.000 CY

Change Proposal Line No. 0060; 2102-2712070 EXCAVATION, CLASS 12, ROADWAY AND BORROW

From: 396,214.000 CY

To: 396,164.000 CY

Add Proposal Line No. 0155 2401-6745650 REMOVAL OF EXISITING STRUCTURES;
1.000 LS

Add Proposal Line No. 0165 2402-0425040 FLOODED BACKFILL; 2663.000 CY

Change Proposal Line No. 0420:

From: 2504-0116012 SANITARY SEWER GRAVITY MAIN, TRENCHED, DUCTILE IRON PIPE (DIP), 12 IN.

To: 2504-0114012 SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 12 IN.

Change Proposal Line No. 0430:

From: 2504-0116012 SANITARY SEWER GRAVITY MAIN, TRENCHED, DUCTILE IRON PIPE (DIP), 18 IN.

To: 2504-0114012 SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 18 IN.

Change Proposal Line No. 0440:

From: 2504-0136012 SANITARY SEWER GRAVITY MAIN WITH CASING PIPE, TRENCHED, DUCTILE IRON PIPE (DIP), 12 IN.

To: 2504-0134012 SANITARY SEWER GRAVITY MAIN, WITH CASING PIPE, TRENCHED, PVC, 12 IN.

Change Proposal Line No. 0450:

From: 2504-0146018 SANITARY SEWER GRAVITY MAIN WITH CASING PIPE, TRENCHLESS, DUCTILE IRON PIPE (DIP), 18 IN.

To: 2504-0134018 SANITARY SEWER GRAVITY MAIN, WITH CASING PIPE, TRENCHED, PVC, 18 IN.

Change Proposal Line No. 0460; 2506-4984000 FLOWABLE MORTAR

From: 383.800 CY

To: 536.400 CY

Add Proposal Line No. 0615 2552-0000140 ROCK EXCAVATION; 887.000 CY

Add Proposal Line No. 0617 2552-0000220 REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL; 887.000 CY

Change Proposal Line No. 0650:

From: 2554-0132016 WATER MAIN WITH CASING PIPE, TRENCHED, DIP, 16"

To: 2554-0142016 WATER MAIN WITH CASING PIPE, TRENCHLESS, DIP, 16"

If the above changes are not made, they will be made as shown here.

REPLACE the indicated plan sheets with the attached plan sheets:

Make the following changes to the PLAN:

Add the following bid items: 2402-0425040 FLOODED BACKFILL, 2552-0000140 ROCK EXCAVATION, 2552-0000220 REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL. Sheets C.2-C.6

Revise the estimate reference notes for Class 10 Excavation and Class 12 Excavation regarding crossing US 20. Sheet C.4

Add estimate reference trench backfill notes for removing existing storm sewer and water main. Sheet C.4, C.6

Revise Excavation, Class 12, Roadway and Borrow quantity. Sheet C.2

Add notes to estimate reference for water main items. Sheet C.5

Add notes to estimate reference regarding pumping sanitary during construction. Sheet C.5

Change Sanitary Sewers to PVC. Sheets C.2, M.2-M.9

Change bid item 2554-0132016 WATER MAIN WITH CASING PIPE, TRENCHED, DIP, 16" to 2554-0142016 WATER MAIN WITH CASING PIPE, TRENCHLESS, DIP, 16". Sheets C.2, C.5

Add 102-3 to the Index of Tabulations. Sheet C.7
Add backfill quantities to 104-3. Sheet C.20

Revise drainage note at Sta. 97+34 to 48" RCP. Sheet D.15

Revise drainage note at Sta. 97+34 to 48" RCP. Sheet H.5

Revise note W-59. Sheet M.24

**ESTIMATED PROJECT QUANTITIES
(UP TO A 5 DIVISION PROJECT)**

Division 1: IOWA DOT COST (ROADWAY)
Division 2: CITY OF DUBUQUE COST (80% FEDERAL STP FUNDS AND 20% CITY FUNDS)
Division 7: FEDERAL NON PARTICIPATING (CITY COST)

Item No.	Item Code	Item	Unit	Quantities								
				Estimated				Total	As Built			
				Division 1	Division 2	Division 7	Division 1		Division 2	Division 7		
1	2101-0850001	CLEARING AND GRUBBING	ACRE	14.5					14.5			
2	2102-0425070	SPECIAL BACKFILL	TON	16450.2					16450.2			
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	336576					336576			
4	2102-2710090	EXCAVATION, CLASS 10, WASTE	CY	218159					218159			
5	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	50					50			
6	2102-2712070	EXCAVATION, CLASS 12, ROADWAY AND BORROW	CY	396164					396164			
7	2103-0000100	PRESPLITTING OF ROCK CUT	SY	1733					1733			
8	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	91712					91712			
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	514581					514581			
10	2115-0100000	MODIFIED SUBBASE	CY	644.8					644.8			
11	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	221.5					221.5			
12	2210-0475290	MACADAM STONE BASE	TON	10719.7					10719.7			
13	2401-6745354	REMOVAL OF CONCRETE FOOTINGS, AS PER PLAN	EACH	1					1			
14	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1					1			
15	2401-6745650	REMOVAL OF EXISTING STRUCTURE	LS	1					1			
16	2401-6745910	REMOVAL OF SIGN	EACH	51					51			
17	2402-0425040	FLOODED BACKFILL	CY	2663					2663			
18	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	9004.1					9004.1			
19	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.	EACH	2					2			
20	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	2					2			
21	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	4					4			
22	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	2					2			
23	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	2					2			
24	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.	EACH	2					2			
25	2416-0100054	APRONS, CONCRETE, 54 IN. DIA.	EACH	2					2			
26	2416-0100072	APRONS, CONCRETE, 72 IN. DIA.	EACH	2					2			
27	2416-1160018	CULVERT, CONCRETE ENTRANCE PIPE, 18 IN. DIA.	LF	28					28			
28	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	211					211			
29	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	158					158			
30	2416-1180048	CULVERT, CONCRETE ROADWAY PIPE, 48 IN. DIA.	LF	410					410			
31	2416-1180054	CULVERT, CONCRETE ROADWAY PIPE, 54 IN. DIA.	LF	132					132			
32	2416-1180072	CULVERT, CONCRETE ROADWAY PIPE, 72 IN. DIA.	LF	178					178			
33	2417-0225030	APRONS, METAL, 30 IN. DIA.	EACH	1					1			
34	2417-1060030	CULVERT, CORRUGATED METAL ROADWAY PIPE, 30 IN. DIA.	LF	39					39			
35	2435-0130148	MANHOLE, SANITARY SEWER, SW-301, 48 IN.	EACH		5				5			
36	2435-0250100	INTAKE, SW-501	EACH	16					16			
37	2435-0250260	INTAKE, SW-502, 60 IN.	EACH		2				2			
38	2435-0250500	INTAKE, SW-505	EACH	3					3			
39	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.	LF	1149					1149			
40	2503-0114236	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 36 IN.	LF	146					146			
41	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	1446					1446			
42	2503-0200136	REMOVE STORM SEWER PIPE GREATER THAN 36 IN.	LF	544					544			
43	2504-0114012	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 12 IN.	LF		392				392			
44	2504-0114018	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 18 IN.	LF		82				82			
45	2504-0134012	SANITARY SEWER GRAVITY MAIN WITH CASING PIPE, TRENCHED, PVC, 12 IN.	LF		317				317			
46	2504-0134018	SANITARY SEWER GRAVITY MAIN WITH CASING PIPE, TRENCHED, PVC, 18 IN.	LF		337				337			
47	2506-4984000	FLOWABLE MORTAR	CY	536.4					536.4			
48	2507-3250005	ENGINEERING FABRIC	SY	444.3					444.3			
49	2507-6800061	REVTMENT, CLASS E	TON	358					358			
50	2510-6745850	REMOVAL OF PAVEMENT	SY	18921.4					18921.4			
51	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	16					16			
52	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	121.4					121.4			
53	2518-0470005	CROSSOVER BARRICADE	EACH	2					2			
54	2518-6891810	PERMANENT ROAD CLOSURE, RURAL, SI-181	LF	26					26			
55	2518-6910000	SAFETY CLOSURE	EACH	4					4			
56	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	4					4			
57	2524-6765014	REMOVE AND REINSTALL MILEPOST MARKER	EACH	2					2			
58	2524-6765015	REMOVE AND REINSTALL DELINEATOR POSTS	EACH	27					27			
59	2524-9275222	WOOD POSTS FOR TYPE A OR B SIGNS, 4" X 6"	LF	56					56			
60	2526-8285000	CONSTRUCTION SURVEY	LS	0.81	0.19				1			
61	2528-8445110	TRAFFIC CONTROL	LS	0.81	0.19				1			
62	2533-4980005	MOBILIZATION	LS	0.81	0.19				1			
63	2552-0000140	ROCK EXCAVATION	CY	392	495				887			
64	2552-0000220	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL	CY	392	495				887			
65	2554-0112012	WATER MAIN, TRENCHED, DIP, 12"	LF		2740				2740			
66	2554-0112016	WATER MAIN, TRENCHED, DIP, 16"	LF		4495				4495			
67	2554-0132012	WATER MAIN WITH CASING PIPE, TRENCHED, DIP, 12"	LF		39				39			
68	2554-0142016	WATER MAIN WITH CASING PIPE, TRENCHLESS, DIP, 16"	LF		219				219			
69	2554-0203000	FITTINGS BY WEIGHT, DI	LBS		11303				11303			
70	2554-0206000	VALVE, BUTTERFLY, DIP, 16"	EACH		6				6			
71	2554-0207012	VALVE, GATE, DIP, 12"	EACH		4				4			
72	2554-0210201	FIRE HYDRANT ASSEMBLY, WM-201	EACH		12				12			
73	2555-0000010	DELIVER & STOCKPILE SALVAGED MATERIALS	LS			1			1			
74	2590-0000020	PROJECT MANAGEMENT	LS	0.81	0.19				1			
75	2599-9999001	SUBGRADE STABILIZATION	ACRE	5.7					5.7			
76	2599-9999005	CONNECT TO EXISTING VAULT OR HANDHOLE	EACH		1				1			
77	2599-9999005	CORE DRILL VAULT OR HANDHOLE	EACH	2	8				10			
78	2599-9999005	FIBER VAULT, SQUARE	EACH	1	4				5			

ESTIMATED PROJECT QUANTITIES (UP TO A 5 DIVISION PROJECT)

Division 1: IOWA DOT COST (ROADWAY)
 Division 2: CITY OF DUBUQUE COST (80% FEDERAL STP FUNDS AND 20% CITY FUNDS)
 Division 7: FEDERAL NON PARTICIPATING (CITY COST)

Item No.	Item Code	Item	Unit	Quantities									
				Estimated				As Built					
				Division 1	Division 2	Division 7	Total	Division 1	Division 2	Division 7	Total		
79	2599-9999009	BUNDLED MICRODUCT CONDUIT, TRENCHED	LF	2962		5878			8840				
80	2599-9999009	FIBER OPTIC CABLE	LF			3848			3848				
81	2599-9999009	WATER MAIN, REMOVAL	LF			2153			2153				
82	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	308					308				
83	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	60.6					60.6				
84	2602-0000020	SILT FENCE	LF	58572					58572				
85	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	9900					9900				
86	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	27389					27389				
87	2602-0000101	MAINT. OF SILT FENCE OR SILT FENCE DITCH CHECKS	LF	5478					5478				
88	2602-0000160	ROCK CHECK DAMS	LF	1220					1220				
89	2602-0000170	MAINT. OF ROCK CHECK DAMS	EACH	174					174				
90	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.	LF	420					420				
91	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	200					200				
92	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	200					200				
93	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	820					820				
94	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1					1				
95	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1					1				

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2101-0850001	CLEARING AND GRUBBING See Tab 110-17 on C Sheets for locations and details.
2	2102-0425070	SPECIAL BACKFILL See Tab 103-3 on C Sheets. Includes area under Detour Pavement. Refer to Typical and Details on B sheets for additional information. Recycled concrete used as Special Backfill must meet the requirements of the Standard Specifications.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW See Tab 107-28 on T Sheets for template quantities. Quantity is based on the Total Cut Adjusted column, [10] minus the Template Rock Volume column, [8] minus the Template Shale Volume column, [9]. Overhaul will not be measured or paid for, but shall be considered incidental to roadway excavation. An equipment crossing is not to be used to cross US 20. However, the Contractor may use legal loads vehicles to transport material across US 20, using existing accesses to enter and exit US 20. The use of SI-881 signs may be required.
4	2102-2710090	EXCAVATION, CLASS 10, WASTE See Tab 107-28 on T Sheets for template quantities. Quantity is based on the Total Cut Adjusted column, [10] minus the Total Fill Adjusted column [15].
5	2102-2712015	EXCAVATION, CLASS 12, BOULDERS AND ROCK FRAGMENTS See Sheet CS.1 for locations and details.
6	2102-2712070	EXCAVATION, CLASS 12, ROADWAY AND BORROW Item is for limestone (rock), and shale uncovered during excavation. Bedrock, mostly consisting of shale, was encountered at various depths. Some of the excavations will extend into the bedrock. Rippability of the bedrock will vary depending on the type of bedrock. In general, significant penetration into the shale bedrock was possible when the soil borings were obtained. The shale material is typically weathered and behaves similar to a hard soil. Therefore, excavation with backhoes equipped with teeth may be possible in the shale bedrock, although no guarantees of this condition can be made. Placement of the shale in the new constructed embankments shall comply with the Special Provisions for Shale and Soft Rock Embankments. No payment for overhaul will be allowed for this item. Measurement and payment for this item will include all work necessary to meet this Special Provision. See Tab 107-28 on T Sheets. Total quantity is based on Template Rock Volume column, [8] plus Template Shale Volume column, [9]. Also see Typical WHKS 19 and WHKS 20 on B-Sheets for additional details. Existing rip rap is not included. An equipment crossing is not to be used to cross US 20. However, the Contractor may use legal loads vehicles to transport material across US 20, using existing accesses to enter and exit US 20. The use of SI-881 signs may be required.
7	2103-0000100	PRESPLITTING OF ROCK CUT See Tab 107-25 on Sheet CS.1 for locations and details.
8	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD See Tab 107-28 on T Sheets for locations and details. Proposed topsoil thickness was calculated at 8". Existing varies between 0" and 12". Refer to T Sheets and Cross Sections.
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL See Tab 103-6 on CS Sheets and Tab 107-28 on T Sheets. Includes 514,581 CY template fill.
10	2115-0100000	MODIFIED SUBBASE Includes area under Ramp B and Ramp C with curb and gutter sections. Refer to Typical on the B Sheets. See Tab 100-24 on C Sheets for locations and details. Recycled concrete used as Modified Subbase must meet the requirements of the Standard Specifications.
11	2121-7425010	GRANULAR SHOULDERS, TYPE A See Tab 112-9 on C Sheets for locations and details.
12	2210-0475290	MACADAM STONE BASE See Tab 100-24 on C Sheets for locations and details.
13	2401-6745354	REMOVAL OF CONCRETE FOOTINGS, AS PER PLAN See Tab 110-16 and 190-62 on C Sheets for locations and details. Method of measurement: The Engineer will count the number of concrete footings removed. Basis of Payment: The contractor will be paid the contract unit price for the number of concrete footings removed.
14	2401-6745625	REMOVAL OF EXISTING BRIDGE See E Sheets for Cousins Rd bridge information. The lump sum bid for "Removal of Existing Bridge" shall include 100' X 200' continuous concrete slab bridge. Removals shall be in accordance with Section 2401, of the Standard Specifications. Plans of the existing structure will be made available to the contractor. Contact The Office of Contracts - Highway Division - IOWA D.O.T. - Ames.
15	2401-6745650	REMOVAL OF EXISTING STRUCTURE See Tab 110-2 on C Sheets for locations and details.
16	2401-6745910	REMOVAL OF SIGN See Tab 190-62 on C Sheets for locations and details.
17	2402-0425040	FLOODED BACKFILL Quantity is for pipe culvert backfill. Refer to Tab 104-3 on C Sheets for locations and details.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
18	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT See Tab 104-3 on C Sheets and M Sheets for locations and details.
19	2416-0100015	APRONS, CONCRETE, 15 IN. DIA. See M Sheets for locations and details.
20	2416-0100018	APRONS, CONCRETE, 18 IN. DIA. See M Sheets for locations and details.
21	2416-0100024	APRONS, CONCRETE, 24 IN. DIA. See M Sheets for locations and details.
22	2416-0100030	APRONS, CONCRETE, 30 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
23	2416-0100036	APRONS, CONCRETE, 36 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
24	2416-0100048	APRONS, CONCRETE, 48 IN. DIA. See M Sheets for locations and details.
25	2416-0100054	APRONS, CONCRETE, 54 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
26	2416-0100072	APRONS, CONCRETE, 72 IN. DIA. See M Sheets for locations and details.
27	2416-1180018	CULVERT, CONCRETE ROADWAY PIPE, 18 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
28	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
29	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
30	2416-1180048	CULVERT, CONCRETE ROADWAY PIPE, 48 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
31	2416-1180054	CULVERT, CONCRETE ROADWAY PIPE, 54 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
32	2416-1180072	CULVERT, CONCRETE ROADWAY PIPE, 72 IN. DIA. See M Sheets and Tab 104-3 on C Sheets for locations and details.
33	2417-0225030	APRONS, METAL, 30 IN. DIA. See M Sheets for locations and details.
34	2417-1060030	CULVERT, CORRUGATED METAL ROADWAY PIPE, 30 IN. DIA. See M Sheets for locations and details.
35	2417-0130148	MANHOLE, SANITARY SEWER, SW-301, 48 IN. See Tab 104-5B on M Sheets and M Sheets for locations and details. Removal, disposal, and capping of existing sanitary pipe shall be considered incidental to this item.
36	2435-0250100	INTAKE, SW-501 See Tab 104-5B on M Sheets and M Sheets for locations and details.
37	2435-0250260	INTAKE, SW-502 60 IN. See Tab 104-5B on M Sheets and M Sheets for locations and details.
38	2435-0250500	INTAKE, SW-505 See Tab 104-5B on M Sheets and M Sheets for locations and details.
39	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN. See Tab 104-5B on the M Sheets for locations and details.
40	2503-0114236	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 36 IN. See Tab 104-5B on M Sheets and M Sheets for locations and details.
41	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN. See Tab 110-14 on C Sheets for locations and details. For bedding and backfill purposes under Primary Roads, use crushed rock or gravel material complying with Article 4120.04 of the Standard Specifications for all bedding and backfill. Place and compact the material according to Article 2435.03, A and Article 2552.03, E (Class I materials). Gravels must be 100% crushed produced by crushing material retained on a 1.5 inch or larger screen.
42	2503-0200136	REMOVE STORM SEWER PIPE GREATER THAN 36 IN. See Tab 110-14 on C Sheets for locations and details. For bedding and backfill purposes under Primary Roads, use crushed rock or gravel material complying with Article 4120.04 of the Standard Specifications for all bedding and backfill. Place and compact the material according to Article 2435.03, A and Article 2552.03, E (Class I materials). Gravels must be 100% crushed produced by crushing material retained on a 1.5 inch or larger screen.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
43	2504-0114012	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 12 IN. See Tab 104-5B on M Sheets for locations and details. Where shown on the Plans, pipe insulation required for frost protection shall be high density extruded polystyrene meeting ASTM D2842, Minimum 60 psi, equivalent to R-20 per four-inch (4") thick insulation. Unit price includes, but is not limited to, polystyrene insulation material, placement of insulation, all necessary fittings, installation of fittings, and handling of sewer flows as required to properly complete the installation. Per City of Dubuque, the estimated peak flow rate for sanitary sewers is one million gallons per day during a rain event; average flow rates range from 100,000 to 150,000 gallons per day.
44	2504-0114018	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 18 IN. See Tab 104-5B on M Sheets for locations and details. Unit price includes, all necessary fittings, installation of fittings, and handling of sewer flows as required to properly complete the installation. Per City of Dubuque records, the estimated peak flow rate for sanitary sewers is one million gallons per day during a rain event; average flow rates range from 100,000 to 150,000 gallons per day.
45	2504-0134012	SANITARY SEWER GRAVITY MAIN WITH CASING PIPE, TRENCHED, PVC, 12 IN. See Tab 104-5B on M Sheets for locations and details. Unit price includes, but is not limited to, all necessary fittings, installation of fittings, and handling of sewer flows as required to properly complete the installation. Per City of Dubuque, the estimated peak flow rate for sanitary sewers is one million gallons per day during a rain event; average flow rates range from 100,000 to 150,000 gallons per day.
46	2504-0134018	SANITARY SEWER GRAVITY MAIN WITH CASING PIPE, TRENCHED, PVC, 18 IN. See Tab 104-5B on M Sheets for locations and details. Unit price includes, but is not limited to, all necessary fittings, installation of fittings, and handling of sewer flows as required to properly complete the installation. Per City of Dubuque, the estimated peak flow rate for sanitary sewers is one million gallons per day during a rain event; average flow rates range from 100,000 to 150,000 gallons per day.
47	2506-4984000	FLOWABLE MORTAR Quantity is for pipe culvert backfill and culvert abandonment. See Tab 110-9 and 104-3 on C Sheets for locations and details.
48	2507-3250005	ENGINEERING FABRIC See Tab 100-23 on C Sheets for locations and details.
49	2507-6800061	REVTMENT, CLASS E See Tab 100-23 on C Sheets for locations and details.
50	2510-6745850	REMOVAL OF PAVEMENT See Tab 110-1 on C Sheets for locations and details. See the B Sheets and Tab 102-5 on the C Sheets for available existing pavement information. Includes approximately 849 LF of full depth sawcut. Concrete crushing onsite, within the project limits, needs to meet current specifications and the local jurisdictional codes and ordinances.
51	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES See Tab 104-5B on the M Sheets for locations and details. For bedding and backfill purposes under Primary Roads, use crushed rock or gravel material complying with Article 4120.04 of the Standard Specifications for all bedding and backfill. Place and compact the material according to Article 2435.03, A and Article 2552.03, E (Class I materials). Gravels must be 100% crushed produced by crushing material retained on a 1.5 inch or larger screen.
52	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN. This item is for proposed turnaround on Cousins Road at Sta. 504+24.
53	2518-0470005	CROSSOVER BARRICADE Locations at US 20 WB Sta. 1206+65-1207+30 and US 20 WB Sta. 1226+00-1227+80.
54	2518-6891810	PERMANENT ROAD CLOSURE, RURAL, SI-181 See Tab 102-4 on C Sheets for locations and details.
55	2518-6910000	SAFETY CLOSURE See Tab 108-13A on C Sheets for locations and details.
56	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN See Tab 190-61 and 190-62 on C Sheets for locations and details. Method of measurement: The Engineer will count the number of signs removed and reinstalled. Basis of Payment: The Contractor will be paid the contract unit price for the number of signs removed and replaced. The contractor shall carefully remove and stockpile bid items for later installation. Any damaged items as determined by the Engineer shall be replaced by the contractor at no cost to the State. The signs shall be cleaned as directed by the Engineer before installation. The Contractor shall restore any area disturbed by the removal operation to an acceptable condition.
57	2524-6765014	REMOVE AND REINSTALL MILEPOST MARKER See Tab 190-62 on C Sheets for locations and details. Method of measurement: The Engineer will count the number of milepost markers removed and reinstalled. Basis of Payment: The Contractor will be paid the contract unit price for the number of milepost markers removed and replaced. The contractor shall carefully remove and stockpile bid items for later installation. Any damaged items as determined by the Engineer shall be replaced by the contractor at no cost to the State. The milepost markers shall be cleaned as directed by the Engineer before installation. The Contractor shall restore any area disturbed by the removal operation to an acceptable condition.
58	2524-6765015	REMOVE AND REINSTALL DELINEATOR POSTS See Tab 190-62 on C Sheets for locations and details.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Method of measurement: The Engineer will count the number of delineator posts removed and reinstalled. Basis of Payment: The Contractor will be paid the contract unit price for the number of delineator posts removed and replaced. The contractor shall carefully remove and stockpile bid items for later installation. Any damaged items as determined by the Engineer shall be replaced by the contractor at no cost to the State. The delineator posts shall be cleaned as directed by the Engineer before installation. The Contractor shall restore any area disturbed by the removal operation to an acceptable condition.
59	2524-9275222	WOOD POSTS FOR TYPE A OR B SIGNS, 4" X 6" See Tab 190-61 on C Sheets for locations and details.
60	2526-8285000	CONSTRUCTION SURVEY
61	2528-8445110	TRAFFIC CONTROL See Traffic Control Plan on J Sheets for locations and details.
62	2533-4980005	MOBILIZATION
63	2552-0000140	ROCK EXCAVATION Item is included to account for rock excavation encountered during utility trench excavation.
64	2552-0000220	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL Item is for backfilling utility trenches where rock was excavated. For bedding and backfill purposes, use crushed rock or gravel material complying with Article 4120.04 of the Standard Specifications for all bedding and backfill. Place and compact the material according to Article 2435.03, A and Article 2552.03, E (Class I materials). Gravels must be 100% crushed produced by crushing material retained on a 1.5 inch or larger screen.
65	2554-0112012	WATER MAIN, TRENCHED, DIP, 12" Refer to M Sheets for locations and details. All ductile iron pipes shall be protected form corrosion using a polyethylene encasement, blue in color. Tracer wire shall be 10 gauge stranded coper wire with 30 mil polyethylene insulation in a red color. Bedding sand or crushed limestone may be used for water main embedment and shall be free of rock larger than 3/4" and foreign materials and comply with DOT Standard Road Plan SW-104, Class P-3 plus one foot above the top of the pipe.
66	2554-0112016	WATER MAIN, TRENCHED, DIP, 16" Refer to M Sheets. Water main shown on sheets M.25 to M.36 is for information only and is not to be installed. The casing pipe near the roundabout on Sheet M.30 will be installed as part of this project. 16" DIP shall have a wall thickness of 0.37" and thickness class of 51. All ductile iron pipes shall be protected form corrosion using a polyethylene encasement, blue in color. Tracer wire shall be 10 gauge stranded coper wire with 30 mil polyethylene insulation in a red color. Bedding sand or crushed limestone may be used for water main embedment and shall be free of rock larger than 3/4" and foreign materials and comply with DOT Standard Road Plan SW-104, Class P-3 plus one foot above the top of the pipe.
67	2554-0132012	WATER MAIN WITH CASING PIPE, TRENCHED, DIP, 12" Refer to M Sheets. All ductile iron pipes shall be protected form corrosion using a polyethylene encasement, blue in color. Tracer wire shall be 10 gauge stranded coper wire with 30 mil polyethylene insulation in a red color. Bedding sand or crushed limestone may be used for water main embedment and shall be free of rock larger than 3/4" and foreign materials and comply with DOT Standard Road Plan SW-104, Class P-3 plus one foot above the top of the pipe.
68	2554-0142016	WATER MAIN WITH CASING PIPE, TRENCHLESS, DIP, 16" Refer to M Sheets. 16" DIP shall have a wall thickness of 0.37" and thickness class 51. All ductile iron pipes shall be protected form corrosion using a polyethylene encasement, blue in color. Tracer wire shall be 10 gauge stranded coper wire with 30 mil polyethylene insulation in a red color. Bedding sand or crushed limestone may be used for water main embedment and shall be free of rock larger than 3/4" and foreign materials and comply with DOT Standard Road Plan SW-104, Class P-3 plus one foot above the top of the pipe.
69	2554-0203000	FITTINGS BY WEIGHT, DI Refer to M Sheets. See Tab WHKS on C Sheets for details.
70	2554-0206000	VALVE, BUTTERFLY, DIP, 16" Refer to M Sheets. All buterfly valves shall be assembled in the USA and shall be Clow, Pratt, Mueller, DeZurik or approved equal. All valves shall turn right to open, with an operating nut. Furnish and install standard slip type cast iron valve boxes on all butterfly valves. Valve boxes shall be Tyler Union 6855 Series or USA made approved equal. All butterfly valve boxes shall be installed with an Butterfly Balve Adaptor by Adaptor, Inc. or approved equal.
71	2554-0207012	VALVE, GATE, DIP, 12" Refer to M Sheets. All gate valves shall be assembled in the USA and shall be Clow, Kennedy, Mueller, American Flow Control or approved equal. All valves shall turn right to open, with an operating nut. Furnish and install standard slip type cast iron valve boxes on all gate valves. Valve boxes shall be cast iron, slip type and have a 72" minimum extension height made by Tyler Union 6855 Series, Bingham & Taylor, East Jordan or approved equal. All valve boxes shall include a centering adaptor.
72	2554-0210201	FIRE HYDRANT ASSEMBLY, WM-201 Refer to M Sheets. Hydrants shall have one 4" pumper nozzle and two 2-1/2" hose nozzles with National Standard thread. Nozzle caps shall have a tapered square operating nut. Hydrants must open to the right and have a tapered square operating nut. The operating nuts shall have a 7/8" top and 1" base. Hydrants shall be Clow Medallion, Kennedy K-81D Guardian, Mueller Super Centurion or approved USA made equal. All DIP hydrant leads shall be protected form corrosion using a polyethylene encasement, blue in color.
73	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS Fire hydrants, water valves, and other associated equipment shall be delivered to the City of Dubuque maintenance garage at 910 Kerper Blvd Dubuque, IA 52001

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
74	2590-0000020	PROJECT MANAGEMENT Refer to Special Provision SS-15002.
75	2599-9999001	SUBGRADE STABILIZATION Apply and distribute evenly and uniformly 1.5 tons per acre of dry cereal straw or native grass straw. Use Certified Noxious Weed Seed Free Mulch certified by the Iowa Crop Improvement Association or other state's Crop Improvement Associations. The general absence of straw longer than 6 inches after distribution will be considered excessive pulverization and will not be accepted. After the application of the dry cereal straw or native grass straw, apply a tackifier that will easily mix with water and shall be noncorrosive to hydraulic application equipment. The tackifier will be nonfoaming and contain mixture enhancers to prevent foaming and mixing problems during agitation in the application equipment. Application equipment will have both mechanical agitation and a slurry bypass. Application rate will be as indicated by the manufacturer product label for the site conditions and time of year. Tackifiers will be considered safe to the applicator, adjacent workers, and the environment when properly applied according to Environmental Protection Agency (EPA) and other regulatory agencies. Material Safety Data Sheets (MSDS) will be required to be submitted to the Engineer prior to application. The tackifier will be nontoxic to plants, fish and other wildlife and 100% biodegradable. The tackifier will be water soluble natural proteins, vegetable gums, guar gums, starch, psyllium, pitch, or rosen type blended with gelling and hardening agents, or a water soluble blend of hydrophilic polymers, viscosifiers, sticking aids and other gums. Guar gum based tackifiers will consist of a minimum of 95% guar gum, by weight. The remaining 5% will consist of dispersing and cross-link additives. Starch will be a non-ionic, cold-water soluble (pre-gelatinized) granular cornstarch. Psyllium will be a finely ground muciloid coating of plantago seeds that is applied in a wet slurry to the surface of the soil. Pitch and Rosen will be a non-ionic pitch and rosin emulsion that has a minimum solids content of 48 percent. The rosin will be a minimum of 26 percent of the total solids content. The tackifier will be a non-corrosive, water-dilutable emulsion that cures to water-insoluble binding and cementing agent upon application. Approved products include: Hyrdack P by Innovative Turf Solutions, LLC HF5000 Tack by Rantec Corporation Second Nature Tacpac GTX by Central Fiber Corp. Startak 100 P by Chemstar Method of Measurement will be in acres to the nearest 0.1 acre of subgrade stabilized. Basis of Payment for Subgrade Stabilization will be the contract unit price per acre to the nearest 0.1 acre for Subgrade Stabilization. Payment is full compensation for preparing the area and all materials, labor, and equipment required to stabilized the subgrade.
76	2599-9999005	CONNECT TO EXISTING VAULT OR HANDHOLE See N Sheets for locations and details.
77	2599-9999005	CORE DRILL VAULT OR HANDHOLE See N Sheets for locations and details.
78	2599-9999005	FIBER VAULT, SQUARE See N Sheets for locations and details.
79	2599-9999009	BUNDLED MICRODUCT CONDUIT, TRENCHED See N Sheets for locations and details. Refer to special provision
80	2599-9999009	FIBER OPTIC CABLE See N Sheets for locations and details. Refer to special provision
81	2599-9999009	WATER MAIN, REMOVAL Refer to M Sheets for locations. Method of measurement: shall be the quantity removed measured by the Engineer. Basis of payment: for water main pipe removed, the Contractor will be paid the contract unit price per linear foot. This payment shall be full compensation for materials, equipment and removal of existing 16", 12", and 8" pipe and fittings. For bedding and backfill purposes under Primary Roads, use crushed rock or gravel material complying with Article 4120.04 of the Standard Specifications for all bedding and backfill. Place and compact the material according to Article 2435.03, A and Article 2552.03, E (Class I materials). Gravels must be 100% crushed produced by crushing material retained on a 1.5 inch or larger screen.
82	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT See Tab 100-22 on C Sheets or locations and details.
83	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING Included for disturbed areas as directed by the Engineer. Prepare seedbed according to 2601.03, B, 4, a. Seed mixture shall be: Oats 50 lbs. per acre Grain rye 50 lbs. per acre *Canada wildrye (Elymus canadensis) 5 lbs. PLS per acre *Big bluestem (Andropogon gerardii) 3 lbs. PLS per acre *Little bluestem (Schizachyrium scoparium) 3 lbs. PLS per acre *Indiangrass (Sorghastrum nutans) 3 lbs. PLS per acre Sideoats grama (Bouteloua curtipendula) 3 lbs. PLS per acre Switchgrass (Panicum virgatum) 1 lbs. PLS per acre Partridge Pea (Chamaecrita fasciculata) 2 lbs. PLS per acre Butterfly weed (Asclepias tuberosa) 3 oz. PLS per acre

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Swamp Milkweed (Asclepias incarnata) 3 oz. PLS per acre
		*Note: Canada wildrye, Big bluestem, Little bluestem and Indiangrass shall be debarbed or equal to facilitate the application of seed.
		For stabilizing crop only, seed will not be required to be certified as Source Identified Class (Yellow Tag) Source G0-Iowa.
		Seed may be applied by broadcasting or with a Native Grass Drill.
		Broadcasted seed will require one complete rolling of the area seeded with a cultipacker within 24 hours after seeding and prior to mulching or hydromulching.
		Native Grass Drilled seed must meet Article 2601.03, A, 11 and be completed per Article 2601.03, C, 5. prior to mulching or hydromulching.
		All seed shall be mixed off-site by a seed conditioner approved by the Iowa Crop Improvement or other state's Crop Improvement Association. Bags shall arrive onsite from seed conditioner in sealed/unopened bags.
		All disturbed areas shall be fertilized per Article 2601.03, C, 1.
84	2602-0000020	SILT FENCE Refer to Tab. 100-17 in C Sheets. The tabulation includes estimated locations for placement of Silt Fence to address possible erosion during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
85	2602-0000030	SILT FENCE FOR DITCH CHECKS Refer to Tab. 100-18 in C Sheets. The tabulation includes estimated locations for placement of Silt Fence for Ditch Checks to address possible erosion during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.
86	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS Refer to Tab 100-17 and 100-18 in C Sheets. This item is included for silt fence and silt fence for ditch check removal required for staging reasons, for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth.
87	2602-0000101	MAINT OF SILT FENCE/SILT FENCE-DITCH CHECK Refer to Tab 100-17 and 100-18 in C Sheets. This item is included for cleanout and repair of the silt fence and silt fence for ditch checks during the project.
88	2602-0000160	ROCK CHECK DAM Refer to Tab 100-32 in C Sheets. Method of measurement: The Engineer will measure installed rock check dams in linear feet to the nearest 0.1 foot. Basis of Payment: The Contractor will be paid the contract unit price per linear foot. Payment is full compensation for all materials, labor, and equipment required to construct the rock check dam as shown. Class 10 excavation required to cut trench and engineering fabric installed prior to placing revetment are incidental and will not be paid for separately.
89	2602-0000170	MAINT OF ROCK CHECK DAM Refer to Tab 100-32 in C Sheets. Method of Measurement: The Engineer will count each occurrence. Basis of Payment: The Contractor will be paid the contract unit price for each occurrence. Payment if full compensation for clean out and disposal of material when capacity reaches 50%, and for any repair that is needed during the project.
90	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA. See Tab 100-19 on C Sheets for locations and details. This item is for storm sewer inlet protection.
91	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. This item is for as needed storm sewer erosion protection.
92	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA. This item is for as needed storm sewer erosion protection.
93	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE See Tab 100-19 on C Sheets for locations and details.
94	2602-0010010	MOBILIZATIONS, EROSION CONTROL Refer to Standard Specifications
95	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL Refer to Standard Specifications
		REFER TO V SHEETS FOR STRUCTURAL QUANTITIES

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
DR-101	04-21-15	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-21-15	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-111	04-21-15	Box Culvert (Backfill)
DR-121	04-21-15	Connected Pipe Joints
DR-122	04-21-15	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-141	04-21-15	Pipe Bends and Half Pipe
DR-201	04-21-15	Concrete Aprons
DR-203	04-21-15	Metal Pipe Aprons and Beveled Ends
DR-213	04-21-15	Pipe Apron Guard
DR-601	04-21-15	Reinforced Concrete Pipe Culvert
DR-611	04-21-15	Reinforced Concrete Pipe Culvert Letdown Structure
DR-621	04-21-15	Pipe Extension
DR-622	04-21-15	Pipe Extension Horizontal Bend One or Both Ends
DR-625	04-21-15	Pipe Extension Letdown Structure with Metal Apron
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-104	04-21-15	Turf Reinforced Mat (TRM)
EC-201	04-21-15	Silt Fence
EC-204	04-21-15	Perimeter and Slope Sediment Control Devices
EC-301	04-21-15	Rock Erosion Control (REC)
EC-502	04-21-15	Seeding in Rural Areas
EW-101	04-19-11	Embankment and Rebuilding Embankments
EW-102	10-21-14	Allowable Placement of Unsuitable Soil in Embankments
EW-103	10-15-13	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
EW-105	04-21-15	Reshaping Slopes and Ditches
EW-110	10-20-15	Ditch Blocks and Dikes
EW-201	10-21-14	Bridge Berm Grading without Recoverable Slope (Barnroof Section)
EW-202	10-21-14	Bridge Berm Grading without Recoverable Slope (Non-Barnroof Section)
EW-301	04-19-11	Guardrail Grading
EW-403	10-15-13	Temporary Erosion Control Measures
EW-501	10-15-13	Rural Entrance
EW-503	04-15-14	Side Road Grading
PV-410	10-18-11	Deceleration Taper for 16' Exit Ramp
PV-411	10-18-11	Acceleration Taper for 16' Entrance Ramp
SI-172	04-19-16	Delineators
SI-181	10-18-11	Permanent Road Closure - Rural
SI-881	10-15-13	Special Signs for Workzones
SW-101	04-21-09	Trench Bedding and Backfill Zones
SW-102	04-21-09	Rigid Gravity Pipe Trench Bedding
SW-104	04-21-09	Pressure Pipe Trench Bedding
SW-211	10-16-12	Special Pipe Connections for Storm Sewer
SW-301	10-21-14	Circular Sanitary Sewer Manhole
SW-303	10-21-14	Sanitary Sewer Manhole over Existing Sewer
SW-306	04-21-15	Chimney Seals for Sanitary Sewer Manholes
SW-501	10-16-12	Single Grate Intake
SW-502	10-16-12	Circular Single Grate Intake
SW-505	10-16-12	Double Grate Intake
SW-601	04-21-15	Castings for Sanitary Sewer Manholes
SW-603	10-15-13	Castings for Grate Intakes
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-252	04-21-15	Routes Closed to Traffic
TC-402	04-21-15	Work Within 15 ft of Traveled Way
TC-418	10-15-13	Lane Closure on Divided Highway
TC-419	04-19-16	Lane Closure on Undivided Highway
TC-423	04-15-14	Closure of Two Adjacent Lanes on Undivided Highway
WM-101	04-21-09	Thrust Blocks
WM-102	04-21-09	Tracer System
WM-201	04-19-11	Fire Hydrant Assembly

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EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class		
	Dubuque	US 20	Both				PCC/ACC		ACC	Unknown		Unknown	Unknown		Unknown	Unknown	Unknown				
	Dubuque	Cousins Rd	Both				ACC		ACC	Unknown		Unknown	Unknown		Unknown	Unknown	Unknown				
	Dubuque	Seippel Rd	Both				PCC		PCC	9		Special Backfill	12		Unknown	Unknown	Unknown				

PROPOSED SUBGRADE TREATMENT

(For Additional Details see Soils Survey Sheet No. _____ to _____.)

No.	Location			Description				Type		Quantity		Polymer Grid SY	Available From		Remarks
	Begin Station	End Station	Side	Type	Depth FT	Width FT	Area SF	Material	Shrink %	CY	TON		Quantity CY	Location or Station to Station	
		64+99.75	75+76.11	BOTH	Standard	1.0	Var.	69,746.1	SPECIAL BACKFILL (SEE ART. 4132)	0.00%	2,583.2	4,882.227			
	182+53.93	201+83.70	BOTH	Standard	1.0	Var.	81,862.7	SPECIAL BACKFILL (SEE ART. 4132)	0.00%	3,032.0	5,730.400			Southwest Arterial EB	
	282+53.93	301+36.47	BOTH	Standard	1.0	Var.	83,393.2	SPECIAL BACKFILL (SEE ART. 4132)	0.00%	3,088.6	5,837.500			Southwest Arterial WB	

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

- ① Not a bid item
- ② Diameter or equivalent diameter
- ③ UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe

Drainage Area ACRE	Location	Type	Size ① IN	Kind Of Pipe ② LF	Length New Const. LF	Bedding Class	Design Cover (H) FT	Camber** (DR-102) FT	Apron No.		Apron Guard* (DR-213) No.	Elbow* (DR-141) No.	Diaphragm* (DR-501) No.	Tee Section* (DR-142) No.	"D" Section* (DR-141) No.	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121) Type	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft.				Skew Ahead Degrees		Dike			Class 20 CY	Flowable Mortar CY	Floodable* Backfill (A) CY	Porous* Backfill (B) CY	Flooded Backfill (A+B) CY	Remarks						
									IN	OUT							Type	No.			Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.							Rt.	Lt.	Rt.	Location Station	Top Elevation	Type
									46.0	SWA O.A. 97+34.00 EAST ACCESS CONN.							CONC	48			RCP	410	24.0		1	1						2												779.00	791.00
28.0	0+95.05 US 20	CONC	30	RCP	138	14.5			1						1						780.38	779.72		56.7	78.3							64.0													
3.0	1194+65.00	CONC	24	RCP	10	1.8		1		1					1		C-1	1			853.00		853.09	10.0	10.0			15				3.9													
1.6	1236+01.00	CONC	24	RCP	101	5.3			1						1		C-1	1			769.28			776.08	53.8	47.2	101.0		5				13.2												
46.0	1236+21.12	CONC	54	RCP	132	10.8			1	1		1					C-2	2			769.05	758.50	767.12	762.06	72.0	60.0	72.0	60.0	25				27.4												
13.0	1245+23.00	CONC	30	RCP	20	5.5			1						2		C-1	1			788.44	780.79	788.16	781.30	8.0	12.0	8.0	12.0																	
	1245+23.00 EB SWA	CMP	30	CMP	39	3.2			1								C-2	1				773.92		780.79		38.6	38.6			Lt	1244+72.55	792.76	M												
2.2	193+00.00 RAMP A	CONC	24	RCP	100	4.6			1	1	1										784.88	779.85		17.5	82.5							217.8	8.9	15.5	7.7	23.2									
131.0	1523+21.38 COUSINS RD	CONC	72	RCP	178	17.0			1	1											759.50	757.80																							
	SD 504+24.00	CMP	18	CMP	28	1.5											C-1	1			800.40	803.84		18.0	10.0																				

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

- ① Refer to MI-210
- ② Refer to EW-501.
- ③ Refer to EW-501 or EW-502.

*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening ①			Pipe Culvert ③								Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1 1/2" Dropped Curb LF	3" Dropped Curb LF	W	PR	SR	H	Size	Pipe Length LF	Lt. LF	Rt. LF		HMA SY	PCC SY		
504+24.00	Lt	B	1			22.0	15.0	10.0	1.5	18.0	28.0	18.0	10.0		121.4			

Changed by Addenda

EXISTING SIGNS TO BE REMOVED

SIGN NUMBER OR DESCRIPTION	LOCATION STATION	DIRECTION OF TRAVEL	TYPE 'A'	TYPE 'B'	REMOVE & REINSTALL EXISTING SIGNS		CONCRETE FOUNDATION	SUPPORT STRUCTURE & FOUNDATION	APPLICABLE SIGNING NOTES	REMARKS
			ASSEMBLY	ASSEMBLY	TYPE 'A'	TYPE 'B'				
			(RA)	(RB)	(RR)	(RR)				
			EACH	EACH	EACH	EACH	(RF)	(RS)		
NARROW BRIDGE STOP	498+42.00	SB	1							
STOP / STREET NAMES	499+64.00	NB	1							
NO PASSING ZONE STOP AHEAD	500+29.00	SB	1							
	501+09.00	SB	1							
	504+25.00	SB	1							
US 20 EB										
ONE WAY	118997	EB	1							
YIELD / ONE WAY	118998	EB	1							
ONE WAY	119047	EB	1							
DELINEATOR	120280	EB			1					
DELINEATOR	120350	EB			1					
DO NOT ENTER	1205+74.00	EB	1							
DO NOT ENTER	1205+74.00	EB	1							
DELINEATOR	120595	EB			1					
ONE WAY	1206+68.00	EB	1							
YIELD	1206+70.00	EB	1							
ARROW	1206+95.00	EB	1							
ONE WAY	1207+19.00	EB	1							
MILE MARKER 314	120890	EB			1					
DELINEATOR	121130	EB			1					
DUBUQUE INDUSTRIAL PARK	121910	EB	1							
CAMPING	121560	EB	1							
EMERGENCY RESPONDER	1223+94.00	EB	1							
LITTER REMOVAL / DO NOT ENTER	1225+95.00	EB	1							
DO NOT ENTER	1225+94.00	EB	1							
YIELD	1226+60.00	EB	1							
ONE WAY	1227+04.00	EB	1							
ARROW	1227+22.00	EB	1							
ONE WAY	1227+43.00	EB	1							
DELINEATOR	123115	EB			1					
DELINEATOR	133515	EB			1					
DELINEATOR	123765	EB			1					
DELINEATOR	124150	EB			1					
DELINEATOR	124300	EB			1					
DELINEATOR	124565	EB			1					
DELINEATOR	124505	EB			1					
US 20 WB										
YIELD / ONE WAY	119052	WB	1							
ONE WAY	119064	WB	1							
DO NOT ENTER	119139	WB	1							
DO NOT ENTER	119139	WB	1							
DELINEATOR	119315	WB			1					
DELINEATOR	119540	WB			1					
DELINEATOR	119565	WB			1					
DELINEATOR	119857	WB			1					
DELINEATOR	120105	WB			1					
DELINEATOR	120340	WB			1					
DELINEATOR	120630	WB			1					
ONE WAY / YIELD	1207+27.00	WB	1							
ONE WAY	1207+37.00	WB	1							
DO NOT ENTER	1208+26.00	WB	1							
DO NOT ENTER	1208+26.00	WB	1							
MILE MARKER 314	120891	WB			1					
DELINEATOR	121160	WB			1					
STREET NAMES	1226+75.00	WB	1							
ONE WAY / YIELD	1227+67.00	WB	1							
ONE WAY	1227+84.00	WB	1							
DO NOT ENTER	1228+45.00	WB	1							
DO NOT ENTER	1228+45.00	WB	1							
DELINEATOR	123020	WB			1					
DELINEATOR	123210	WB			1					
EMERGENCY RESPONDER	1232+75.00	WB	1							
INDUSTRIAL PARK	1235+29.00	WB	1							
DELINEATOR	123560	WB			1					
CAMPING	1238+29.00	WB	1							
DELINEATOR	1238+35	WB			1					
DELINEATOR	1240+90	WB			1					
DELINEATOR	1243+65	WB			1					
DELINEATOR	1245+90	WB			1					
DELINEATOR	1246+15	WB			1					

EXISTING SIGNS TO BE REINSTALLED

SIGN DESCRIPTION	DIRECTION OF TRAVEL	LOCATION STATION	NUMBER OF POSTS	SQUARE TUBE STEEL POSTS	WOOD POSTS		INSTALLATION		SEE SIGNING NOTES
					4" x 4"	4" x 6"	TYPE	DIM 'X'	
					LF	LF			
WB US 20									
ONE WAY	WB	1197+34	1.0		14.0		1.0	MIN. 16'	
ONE WAY	WB	1197+76	1.0		14.0		1.0	MIN. 16'	
DO NOT ENTER	WB	1198+74	1.0		14.0		1.0	MIN. 16'	
STONE VALLEY DRIVE	WB	1204+97	2.0		14.0		1.0	MIN. 16'	

190-66
10-21-14

SUMMARY OF TYPE 'A' SIGNS

Sign Number	Quantity	Size	Total Sign Area
	EACH	IN	SF
W4-2		36 X 36	0.0
R3-7		30 X 30	0.0

WHKS

WATER MAIN FITTINGS

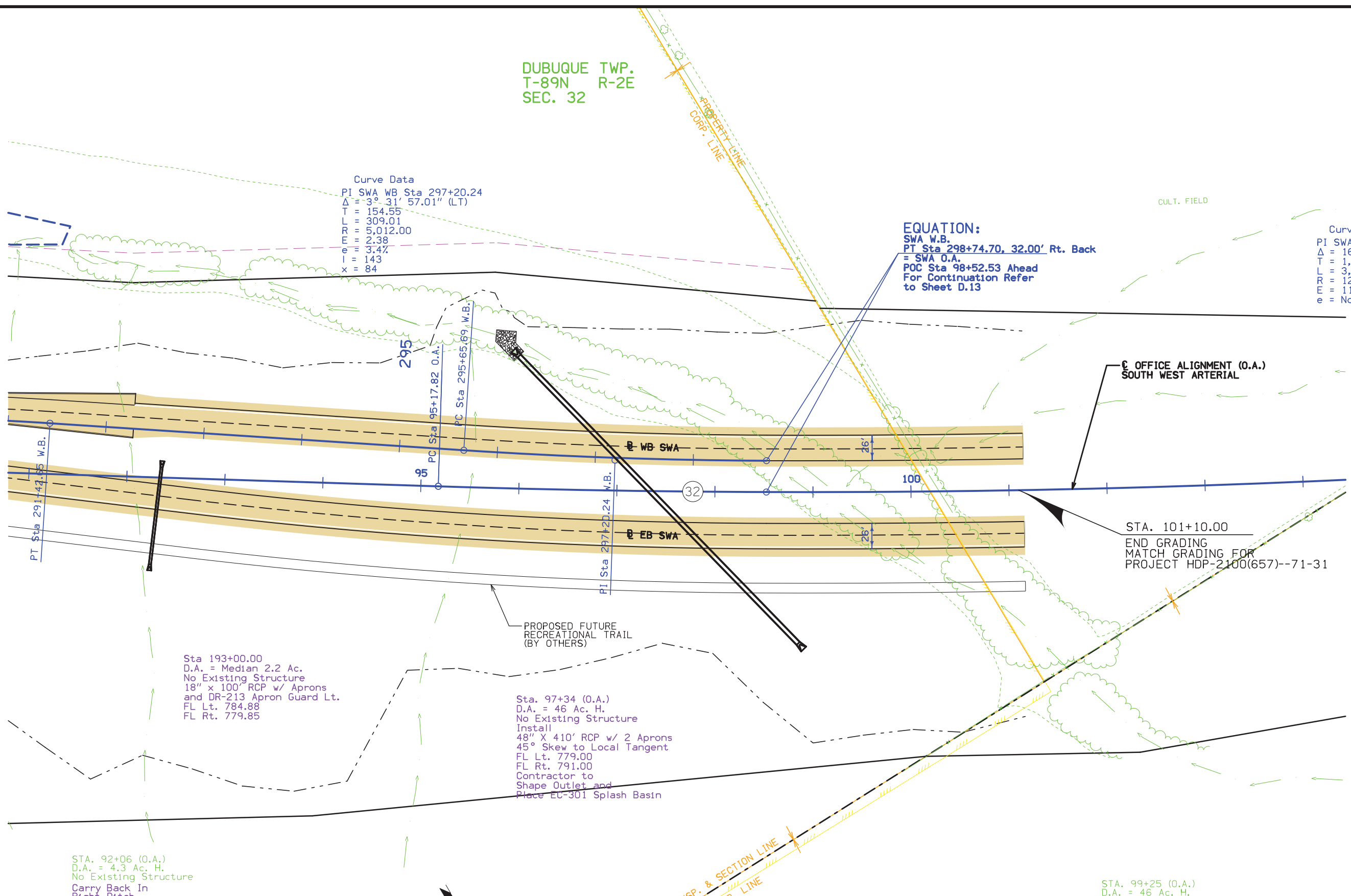
FITTING DESCRIPTION	SIZE	PROJECT QUANTITY	FITTING UNIT WEIGHT	FITTING WEIGHT
	IN	EACH	LBS/EACH	LBS
90° BEND	16	2	273.0	546.0
45° BEND	16	7	196.0	1372.0
22-1/2° BEND	16	17	178.0	3026.0
11-1/4° BEND	16	4	157.0	628.0
90° BEND	12	1	129.0	129.0
22-1/2° BEND	12	7	87.0	609.0
11-1/4° BEND	12	9	82.0	738.0
SOLID SLEEVE	12	2	81.0	162.0
TEE	16 x 16	2	337.0	674.0
TEE	12 x 12	1	173.0	173.0
TEE	16 x 6	7	216.0	1512.0
TEE	12 x 6	5	104.0	520.0
CAP	16	9	103.0	927.0
CAP	12	3	55.0	165.0
REDUCER	16 x 12	1	122.0	122.0
			TOTAL =	11303.0

DUBUQUE TWP.
T-89N R-2E
SEC. 32

Curve Data
 PI SWA WB Sta 297+20.24
 $\Delta = 3^\circ 31' 57.01''$ (LT)
 T = 154.55
 L = 309.01
 R = 5,012.00
 E = 2.38
 e = 3.4%
 I = 143
 x = 84

EQUATION:
 SWA W.B.
 PT Sta 298+74.70, 32.00' Rt. Back
 = SWA O.A.
 POC Sta 98+52.53 Ahead
 For Continuation Refer
 to Sheet D.13

Curve Data
 PI SWA OA Sta 112+10.59
 $\Delta = 16^\circ 03' 31.95''$ (LT)
 T = 1,692.78
 L = 3,363.36
 R = 12,000.00
 E = 118.81
 e = Normal Crown



Sta 193+00.00
 D.A. = Median 2.2 Ac.
 No Existing Structure
 18" x 100' RCP w/ Aprons
 and DR-213 Apron Guard Lt.
 FL Lt. 784.88
 FL Rt. 779.85

Sta. 97+34 (O.A.)
 D.A. = 46 Ac. H.
 No Existing Structure
 Install
 48" X 410' RCP w/ 2 Aprons
 45° Skew to Local Tangent
 FL Lt. 779.00
 FL Rt. 791.00
 Contractor to
 Shape Outlet and
 Place EC-301 Splash Basin

STA. 92+06 (O.A.)
 D.A. = 4.3 Ac. H.
 No Existing Structure
 Carry Back In
 Right Ditch

STA. 95+44 (O.A.)
 D.A. = 2.9 Ac. H.
 No Existing Structure
 Carry Back In
 Right Ditch

STA. 99+25 (O.A.)
 D.A. = 46 Ac. H.
 No Existing Structure
 Carry Back In
 Right Ditch

TABLE MOUND TWP.
T-88N R-2E
SEC. 5



FOR WESTBOUND ALIGNMENT
REFER TO D SHEETS

PLAN VIEW
SOUTHWEST ARTERIAL
WEST BOUND ALIGNMENT

P.D.A. LOCATIONS
NONE

Curve Data
PI SWA EB Sta 196+26.27
Δ = 6° 39' 01.36" (LT)
T = 294.92
L = 589.18
R = 5,076.00
E = 8.56
e = 3.4%
I = 143
x = 84

114
Siegert, William H
& Janet

DUBUQUE TWP.
T-89N R-2E
SEC. 32

124
Bradley, Sharon L. Trust

Curve Data
PI SWA OA Sta 112+10.59
Δ = 16° 03' 31.95" (LT)
T = 1,692.78
L = 3,363.36
R = 12,000.00
E = 118.81
e = Normal Crown

PERMANENT EASEMENT
FOR WATER MAIN IN THE
NAME OF THE CITY OF
DUBUQUE

EQUATION:
SWA O.A.
POC Sta 98+52.53 Back
= SWA (HDP-2100(657)--71-31)
POC Sta 98+52.53 Ahead

EQUATION:
SWA E.B.
PI Sta 199+20.53 Back
= SWA O.A.
POC Sta 98+52.53 Ahead
32.00' Lt.

Sta 193+00.00
D.A. = Median 2.2 Ac.
No Existing Structure
18" x 100" RCP w/ Aprons
and DR-213 Apron Guard Lt.
FL Lt. 784.88
FL Rt. 779.85

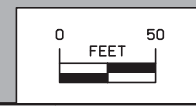
Sta. 97+34 (O.A.)
D.A. = 46 Ac. H.
No Existing Structure
Install
48" X 410' RCP w/ 2 Aprons
45° Skew to Local Tangent
FL Lt. 779.00
FL Rt. 791.00

102+26.3
± 270'
Temporary Easement for Shaping

129
Hauptert, John C. & Carolyn S.

TABLE MOUND TWP.
T-88N R-2E
SEC. 5

114
Siegert, William H
& Janet

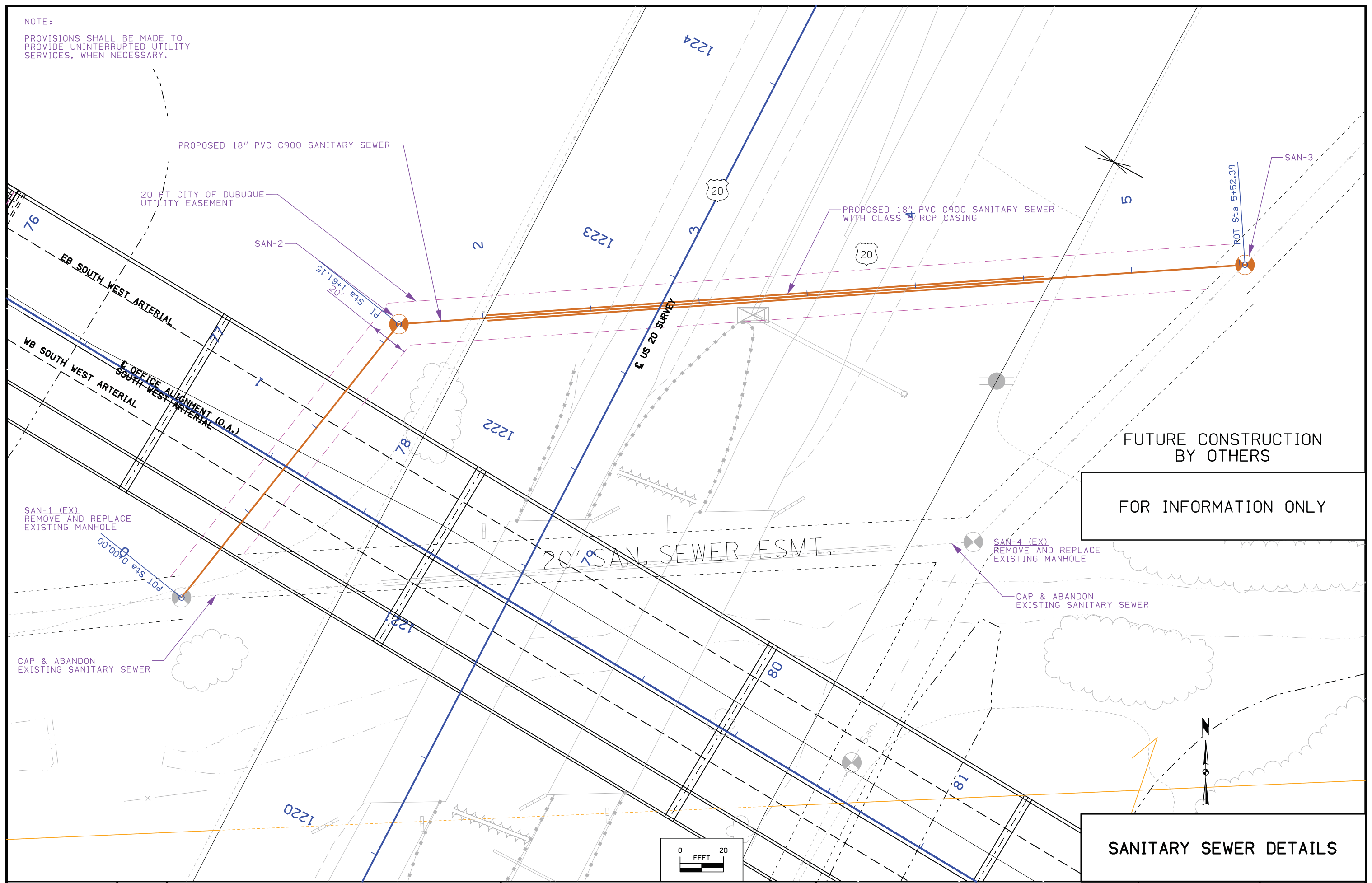


For Westbound Alignment
Refer to Sheets D.15 & D.16

ROW PLAN

Changed by Addenda

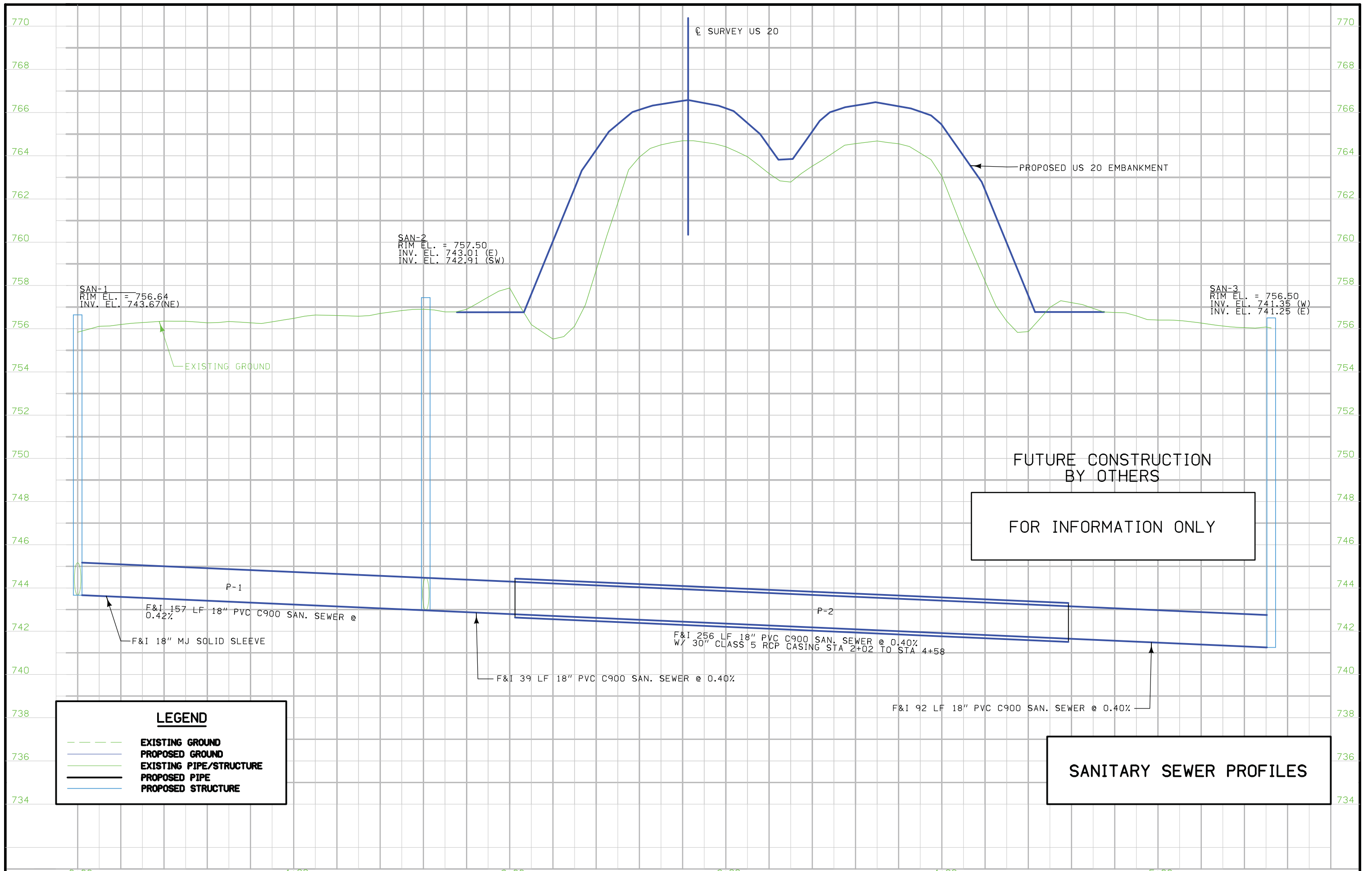
NOTE:
 PROVISIONS SHALL BE MADE TO
 PROVIDE UNINTERRUPTED UTILITY
 SERVICES, WHEN NECESSARY.



FUTURE CONSTRUCTION
 BY OTHERS
 FOR INFORMATION ONLY

SANITARY SEWER DETAILS

Changed by Addenda



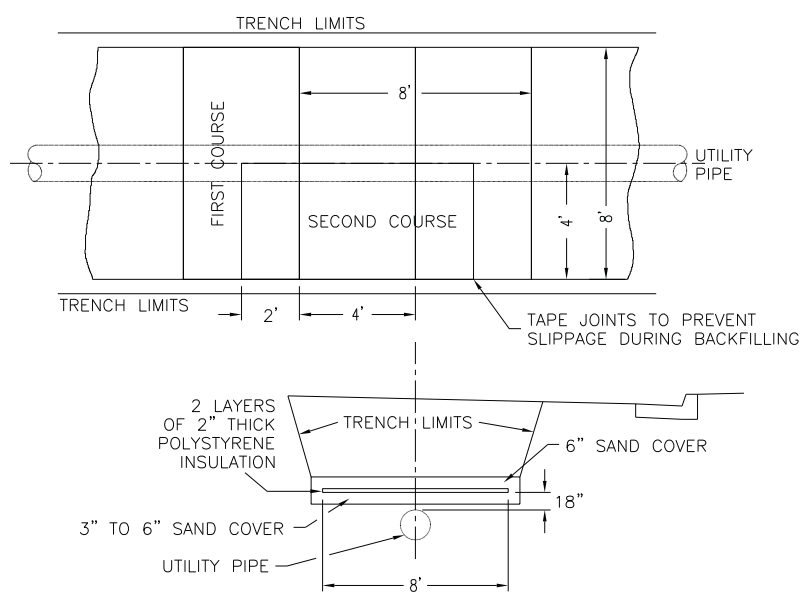
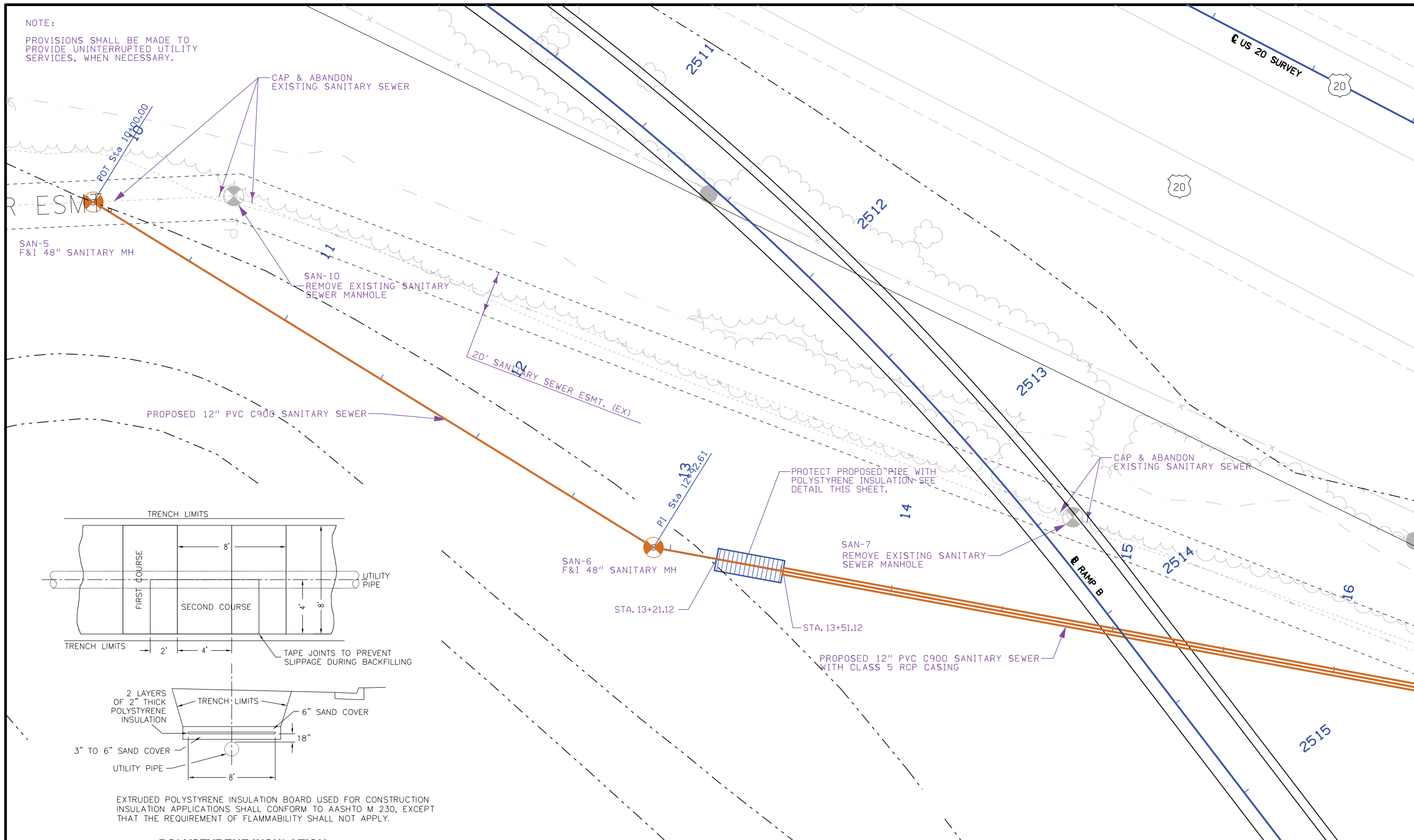
LEGEND

- EXISTING GROUND
- PROPOSED GROUND
- EXISTING PIPE/STRUCTURE
- PROPOSED PIPE
- PROPOSED STRUCTURE

SANITARY SEWER PROFILES

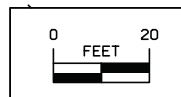
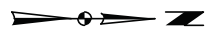
Changed by Addenda

NOTE:
 PROVISIONS SHALL BE MADE TO
 PROVIDE UNINTERRUPTED UTILITY
 SERVICES, WHEN NECESSARY.



EXTRUDED POLYSTYRENE INSULATION BOARD USED FOR CONSTRUCTION INSULATION APPLICATIONS SHALL CONFORM TO AASHTO M 230, EXCEPT THAT THE REQUIREMENT OF FLAMMABILITY SHALL NOT APPLY.

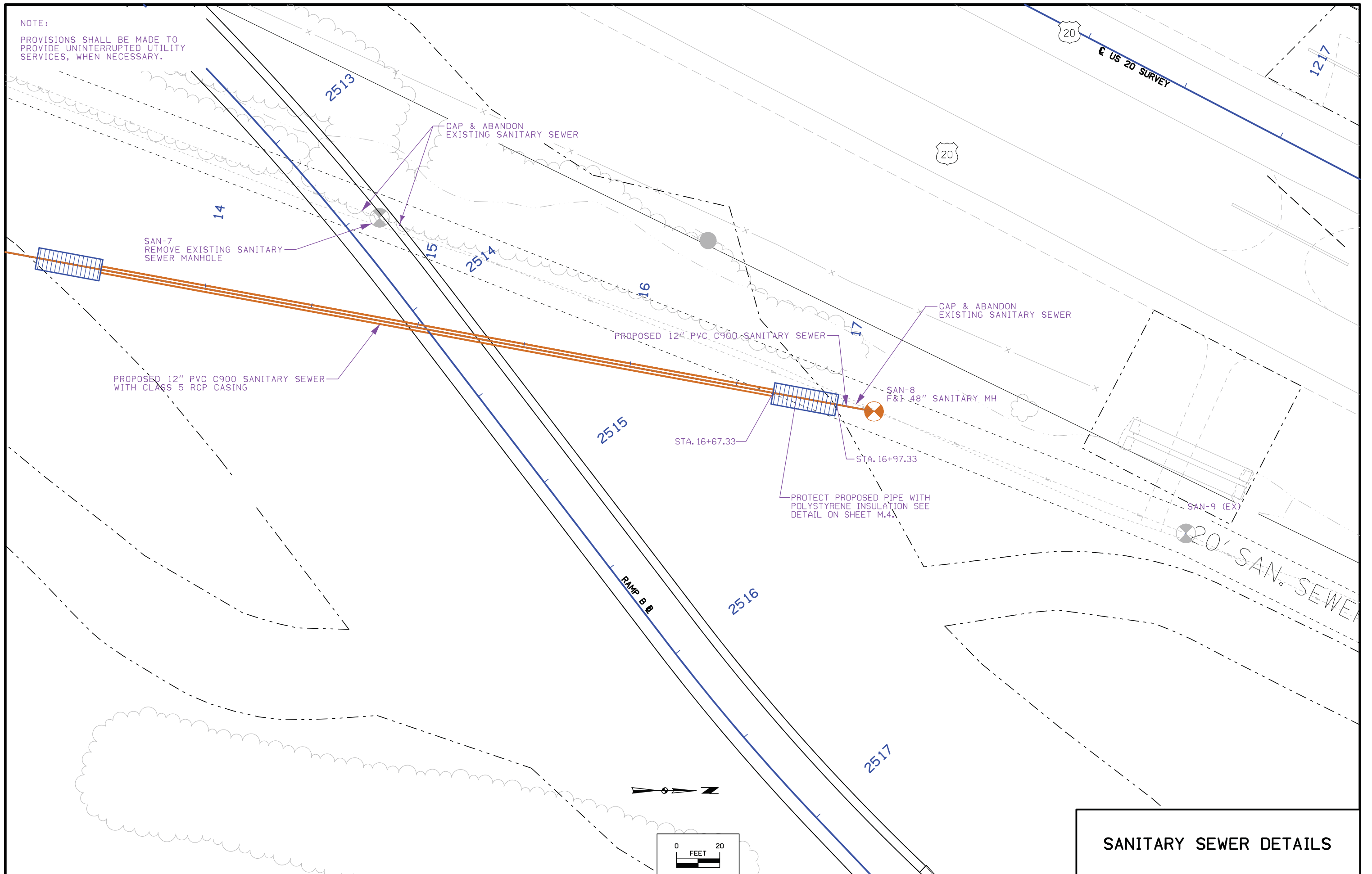
POLYSTYRENE INSULATION
 FOR SANITARY MAIN



SANITARY SEWER DETAILS

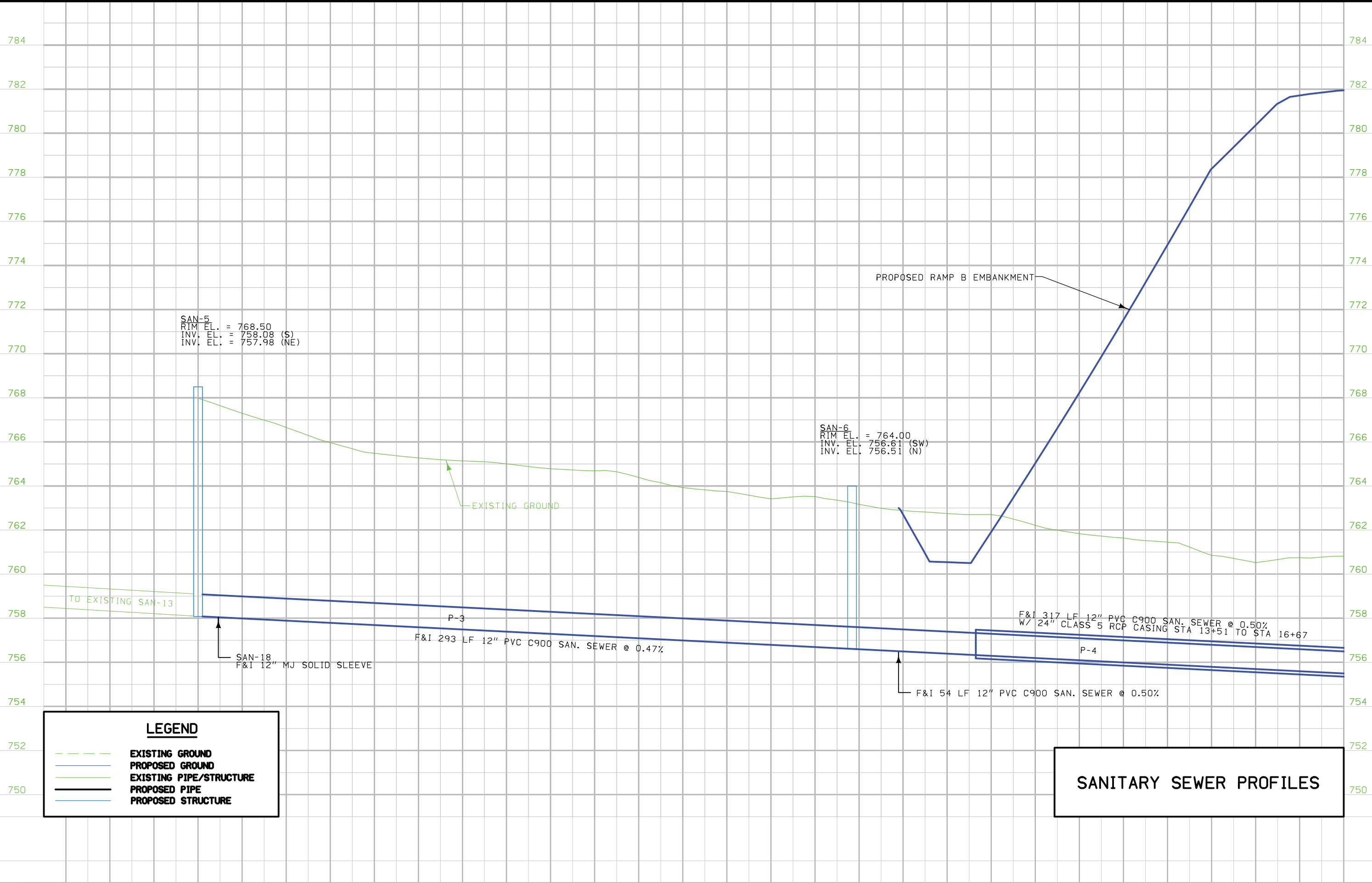
Changed by Addenda

NOTE:
 PROVISIONS SHALL BE MADE TO
 PROVIDE UNINTERRUPTED UTILITY
 SERVICES, WHEN NECESSARY.



SANITARY SEWER DETAILS

Changed by Addenda

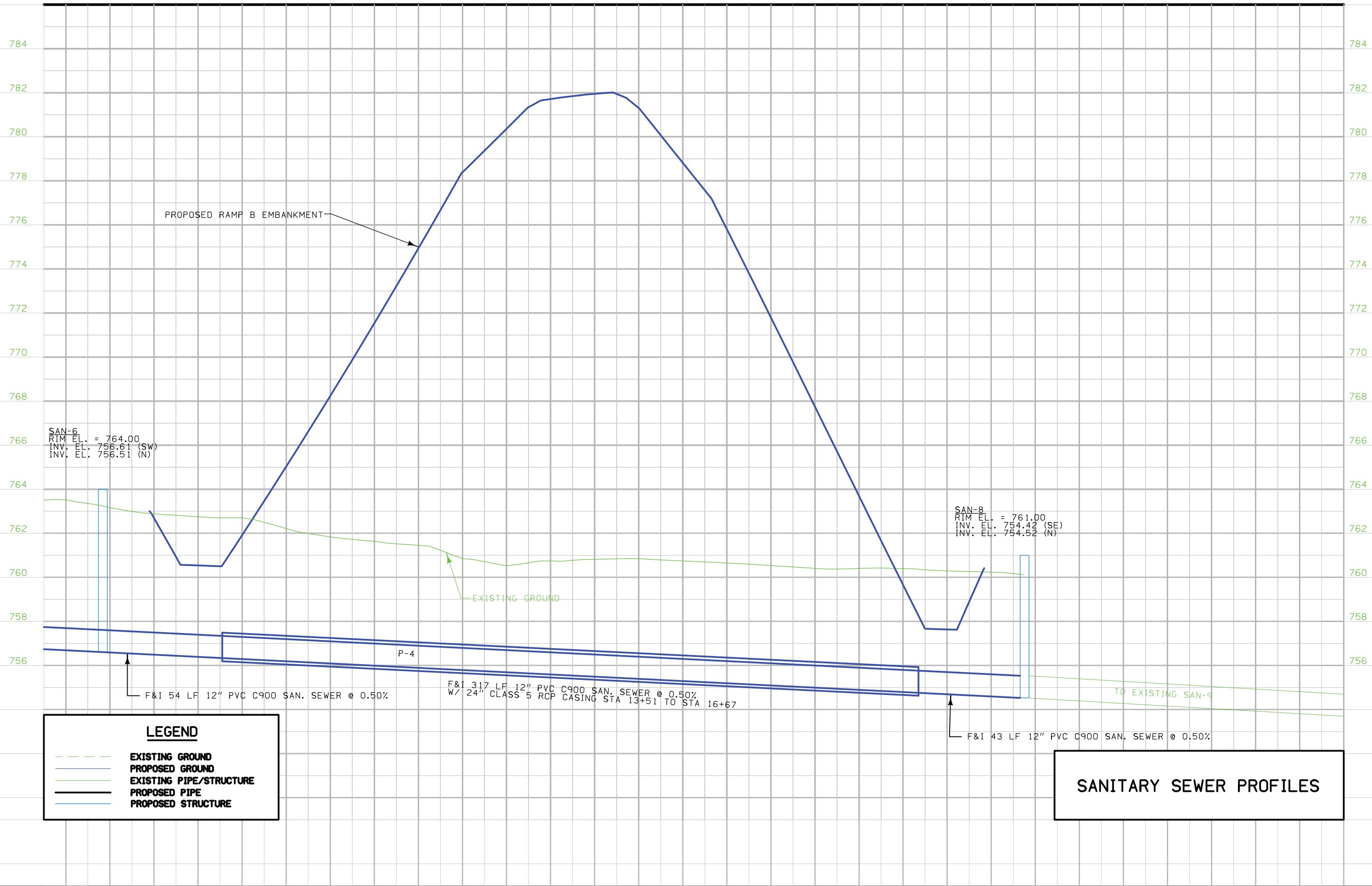


LEGEND

- EXISTING GROUND
- PROPOSED GROUND
- EXISTING PIPE/STRUCTURE
- PROPOSED PIPE
- PROPOSED STRUCTURE

SANITARY SEWER PROFILES

Changed by Addenda

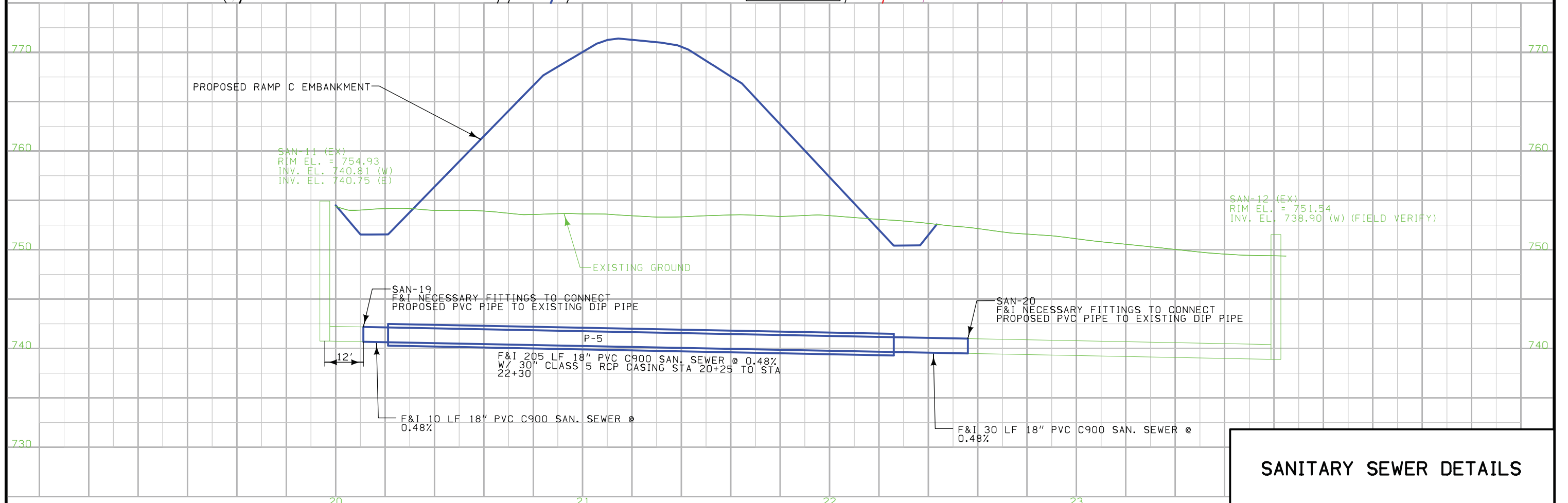
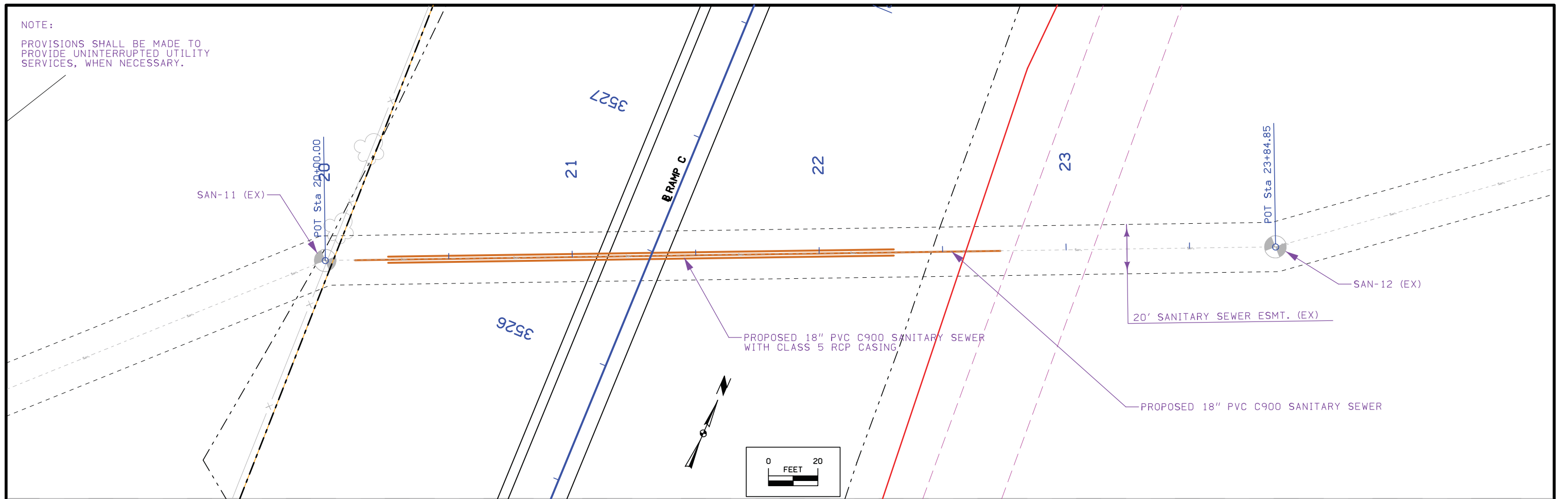


SANITARY SEWER PROFILES

LEGEND

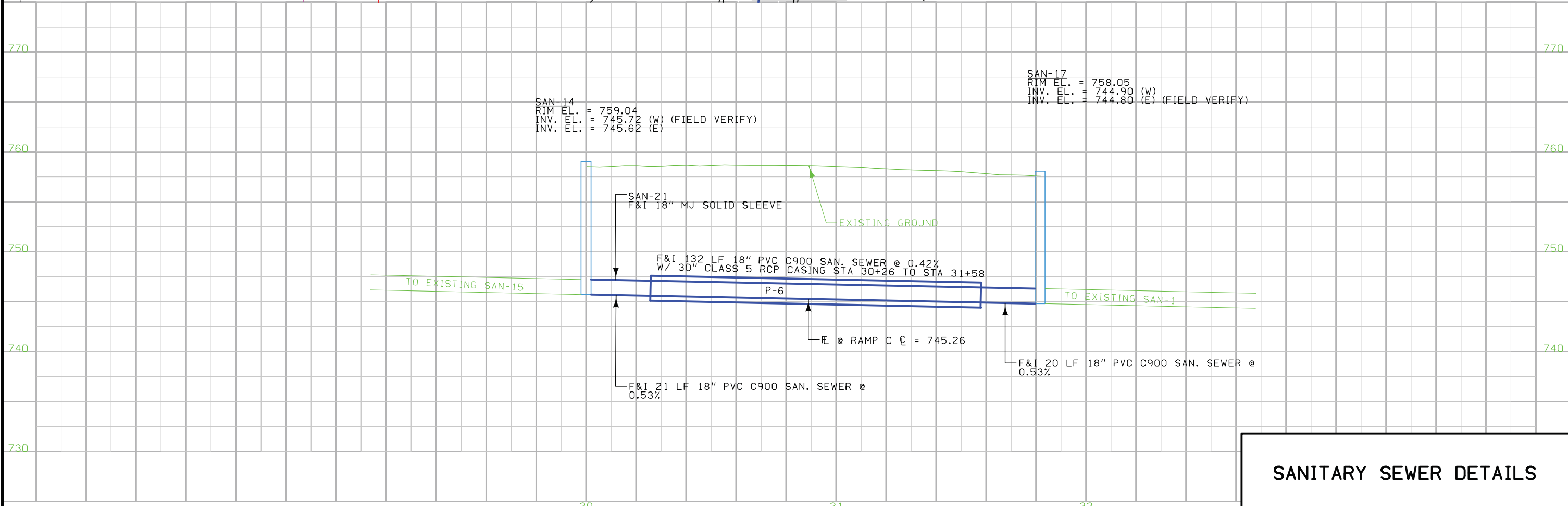
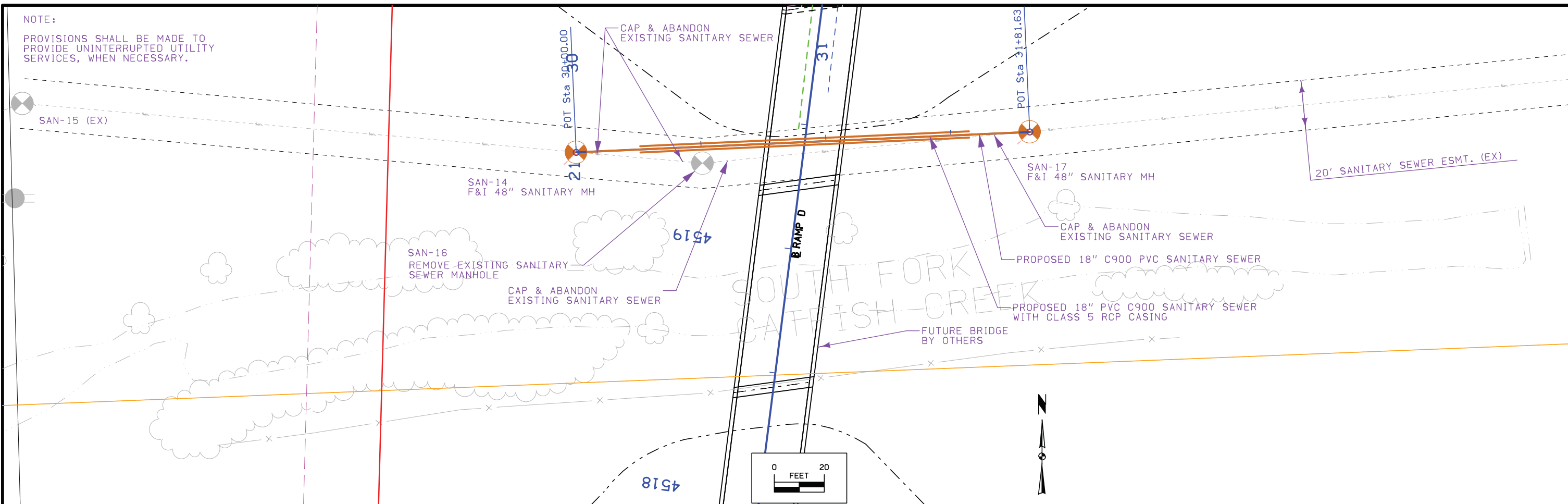
- EXISTING GROUND
- PROPOSED GROUND
- EXISTING PIPE/STRUCTURE
- PROPOSED PIPE
- PROPOSED STRUCTURE

NOTE:
 PROVISIONS SHALL BE MADE TO
 PROVIDE UNINTERRUPTED UTILITY
 SERVICES, WHEN NECESSARY.



SANITARY SEWER DETAILS

NOTE:
PROVISIONS SHALL BE MADE TO
PROVIDE UNINTERRUPTED UTILITY
SERVICES, WHEN NECESSARY.



SANITARY SEWER DETAILS

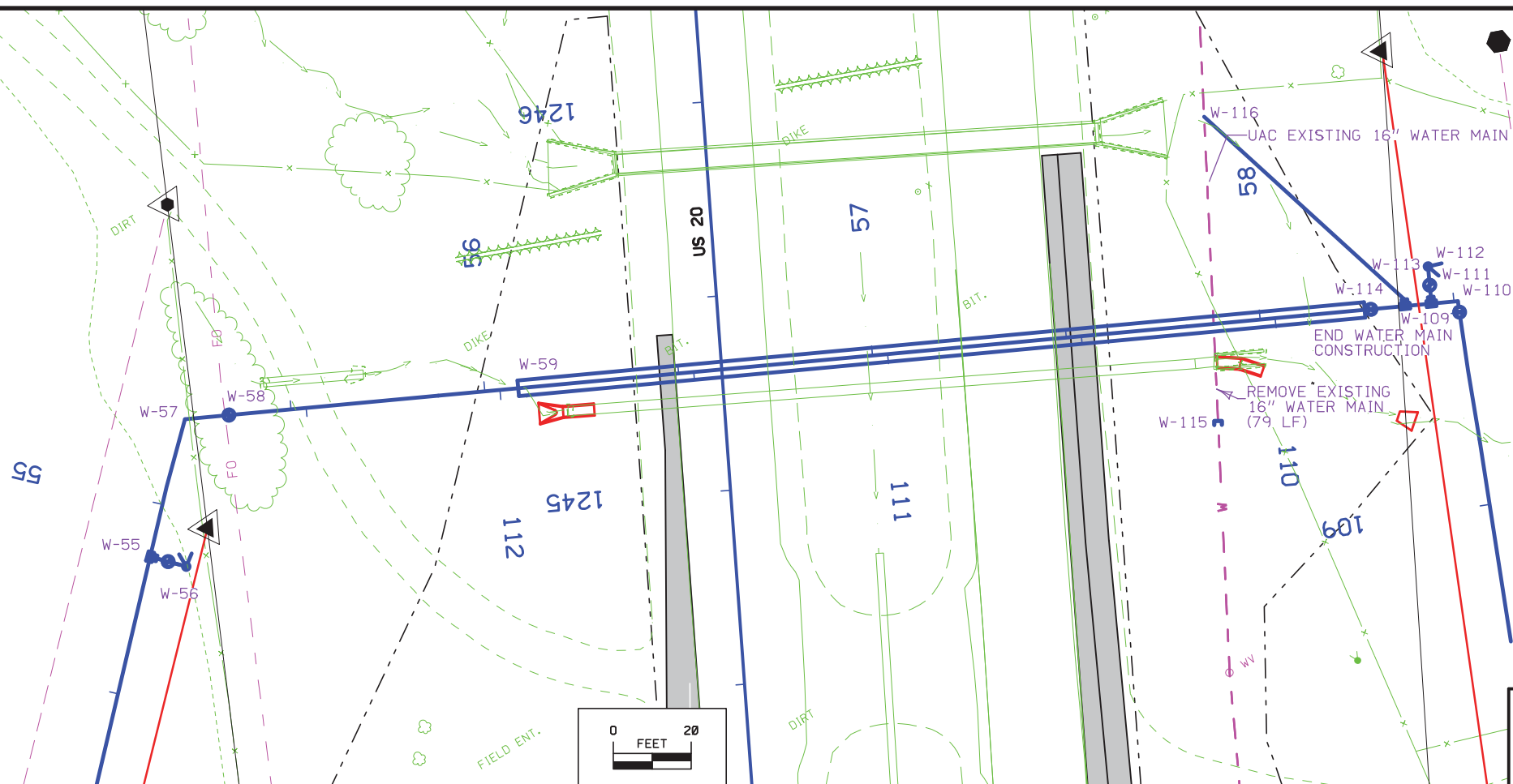
NOTE:
F&I WATER MAIN FIELD
MARKERS/TRACER WIRE
BOXES ON WATER MAIN
ALIGNMENT SPACED NO
GREATER THAN 500'

ALL EXISTING VALVES, FIRE
HYDRANTS, FLUSH MOUNT HOSE
BIBS SALVAGE TO CITY.

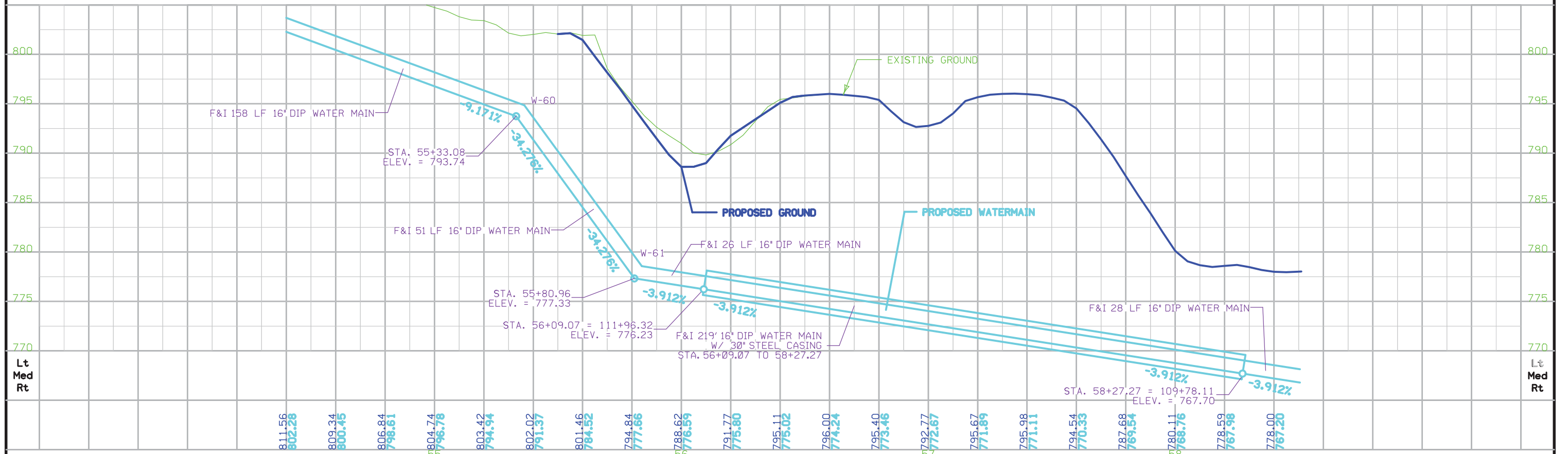
GRADE TRENCH EXCAVATION
OUTSIDE OF GRADING LIMITS TO
MATCH EXISTING GROUND
ELEVATIONS.

NOTE: SEE SHEET M.36
FOR PLAN & PROFILE OF
WATER LINE WEST OF
US 20

- W-55
STA. 54+85.80
F&I 16" X 6" MJ TEE
- W-56
STA. 54+85.50
F&I FIRE HYDRANT
ASSEMBLY
BRK. OFF EL. 806.40
- W-57
STA. 55+22.60
F&I 16" 45° MJ BEND
F&I 16" 22½° MJ BEND
DEFLECT PIPES 2.000°
- W-58
STA. 54+34.00
F&I 16" BUTTERFLY VALVE AND
BOX
- W-59
STA. 56+08.62 TO 58+26.97
F&I 219' 16" DIP WATER MAIN
W/ 30" STEEL CASING
& RESTRAINED JOINTS
(TRENCHLESS CONSTRUCTION)
- W-60
STA. 55+33.08
F&I 16" 11¼° MJ BEND (VERT.)
F&I 16" 22½° MJ BEND (VERT.)
- W-61
STA. 55+80.96
F&I 16" 45° MJ BEND (VERT.)



**PLAN & PROFILE
WATER MAIN**



Changed by Addenda