

ADDENDUM NO. 1
TO
BIDDING AND CONTRACT REQUIREMENTS AND SPECIFICATIONS
FOR
SALMON FALLS ROAD AND MILTON ROAD WATER AND SEWER
IMPROVEMENTS
ROCHESTER, NH
BID NO. 16-31
March 4, 2016



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FOR
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This Addendum amends and/or supplements the Bid Documents as indicated below. Only these items alter the Bid Documents; any conflicting oral discussions or responses are hereby declared null and void.

GENERAL

1. A pre-bid meeting was conducted on 3/3/16. Please find the attached meeting agenda and attendance sheet.
2. Any additional questions during this bidding period are due to the City by 5:00 PM on Tuesday, March 8, 2016. Questions received after this date and time may not be answered.
3. Easements: The City has obtained easements to install and maintain sewer main on private properties as delineated on C-16. The Contractor shall coordinate work in these areas with the City and the Property prior actual work being conducted.
4. The Contractor shall be required to maintain existing sewer flows to the Salmon Falls Pump Station while installing sewer main and making the connection to SMH 5440 at Sta 60+40.

DRAWINGS

1. REPLACE Drawings C-3, C-4, C-5, C-14, and C-15 with the attached drawings. Edits to these drawings includes the following changes:

C-3, C-14 and C-15 – Notes Related to Alternate C - DEDUCT Removing Installation of Non Participating Sewer to the Bid Schedule

C-3 and C-4 – Notes Relates to Alternate D - DEDUCT Removing Installation of Water Main on Salmon Falls Road from STA 1+00 to STA 17+00 to the Bid Schedule

C-4 and C-5 – Notes Related to Alternate E - DEDUCT Removing Installation of Water Main on Salmon Falls Road from STA 17+00 to STA 27+00 to the Bid Schedule

SPECIFICATIONS

1. REPLACE Specifications Section A, Bid Schedule pages A-3.4 through A-3.30 with the attached Bid Schedule. Changes to the Bid Schedule include:

ADD Alternate C - DEDUCT Removing Installation of Non-Participating Sewer to the Bid Schedule

ADD Alternate D - DEDUCT Removing Installation of Water Main on Salmon Falls Road from STA 1+00 to STA 17+00 to the Bid Schedule

ADD Alternate E - DEDUCT Removing Installation of Water Main on Salmon Falls Road from STA 17+00 to STA 27+00 to the Bid Schedule

ADD Bid Item 32A - Furnish and Install 4-inch Underdrain

Quantity Adjustment to Bid Item 29 - Tree Planting/Replacement

Quantity Adjustment to Bid Item 30 - Shrub Planting/Replacement

Quantity Adjustment to Bid Item 32 - Allowance: Landscaping

Quantity Adjustment to Bid Item 15 - Reclaim Pavement, 12-inch Depth

Quantity Adjustment to Bid Item 19 - Furnish and Install Hot Bituminous Pavement - Machine Placed

Quantity Adjustment to Bid Item 20 - Furnish and Install Hot Bituminous Pavement - Hand Placed

Quantity Adjustment to Bid Item 25 - Furnish and Install 2-inch Temporary Pavement Patch

Quantity Adjustment to Bid Item 33 - Remove and Disposal of Pavement and Earth Excavation - Ineligible for Funding

Quantity Adjustment to Bid Item 35 - Furnish and Install Hot Bituminous Pavement - Machine Placed - Ineligible for Funding

Quantity Adjustment to Bid Item 36 - Furnish and Install Hot Bituminous Pavement - Hand Placed - Ineligible for Funding

Quantity Adjustment to Bid Item C-4 - Removal and Disposal of Pavement and Earth Excavation - Ineligible for Funding

Quantity Adjustment to Bid Item C-6 - Furnish and Install Hot Bituminous Pavement - Machine Placed - Ineligible for Funding

Quantity Adjustment to Bid Item C-7 - Furnish and Install Hot Bituminous Pavement - Hand Placed - Ineligible for Funding

2. REPLACE Specifications Section 01150A Measurement and Payment, which includes edits to the following, with the attached Measurement and Payment:

- Alternate C - DEDUCT Removing Installation of Non Participating Sewer on Salmon Falls Road, Denali Drive and Kodiak Court
- Alternate D - DEDUCT Removing Installation of Water Main on Salmon Falls Road from STA 1+00 to STA 17+00
- Alternate E - DEDUCT Removing Installation of Water Main on Salmon Falls Road from STA 17+00 to STA 27+00
- ADD Item No. 32A - Furnish and Install 4-inch Underdrain
- MODIFY Item No. 52 – Maintenance of existing sewer flows shall be included in this item.

3. Specifications Section 01100 Alternates ADD to PART 2 - PRODUCTS the following:
- 2.4 ALTERNATE NO. C - DEDUCT
A. The work of this ALTERNATE shall consist of removing installation of a portion of the planned sewer main that is not eligible for EDA funding.
- 2.5 ALTERNATE NO. D - DEDUCT
A. The work of this ALTERNATE shall consist of removing installation of a portion of the planned water main on Salmon Falls Road from STA 1+00 to STA 17+00.
- 2.6 ALTERNATE NO. E - DEDUCT
A. The work of this ALTERNATE shall consist of removing installation of a portion of the planned water main on Salmon Falls Road from STA 17+00 to STA 27+00.
4. ADD Specifications Section 02623 Perforated Plastic Pipe

QUESTIONS AND CLARIFICATIONS

1. **Q:** If deduct alternatives are chosen, will that affect contract times?
A: Contract times shall stay the same as shown in the contract if any of the deduct alternates are chosen.
2. **Q:** Is C909 PVC acceptable for water main?
A: C909 is acceptable and called out in the Specification Section 02621.
3. **Q:** 7 feet is not wide enough for trench pavement patches, 9 feet is minimum for machine placed pavement.
A: Item changed in bid form to reflect 9 feet wide trench patch.
4. **Q:** Plans show active gas line conflicting with sewer manholes at certain locations.
A: Contractor is to coordinate with gas utility company to relocate gas line in any areas of conflict.
5. **Q:** No gas service lines are shown in the plans. Do all properties have gas service lines?
A: Most properties where underground gas main is shown on the plans have gas service. The Contractor shall be responsible for coordination with the DigSafe and the utility to locate and work around these services when installing water and sewer in these areas. If it is determined that the gas main needs to be relocated to install the sewer and water as shown on the plan, the Contractor in coordination with the Owner shall meet with the Utility Company to determine a location This coordination effort is incidental to the Contractor
6. **Q:** Is sand acceptable for initial backfill material above the springline of the pipe?
A: Sand for Pipe Bedding and Initial Backfill specified in Section 02200 Part 2.1.J is acceptable for pipe bedding and initial backfill for water mains. For gravity sewer applications, pipe bedding and initial backfill shall be screened stone.
7. **Q:** Is there a difference between Bid items 29-30 and bid item 32?

- A:** Bid Items 29-30 have been adjusted to 0 units on the Bid Schedule. The landscape allowance for Bid Item 32 will cover tree and shrub planting/replacement as requested by the Owner.
- 8. Q:** Underdrains are called out in the plans but there is not an associated bid item.
- A:** Bid Item No. 32A - Furnish and Install 4-inch Perforated Storm Drain Pipe (Underdrain) has been added to the Bid Schedule and measurement and payment specification.
- 9. Q:** Please clarify the extents and types of roadway restoration anticipated on the project.
- A:** The intent of Road Restoration for the project is as follows:
- Salmon Falls Road: Pavement Reclamation from Station 1+00 to Station 95+00. Road to be graded to match existing elevations the typical section shown on C-20. Pavement reclamation material shall be acceptable for aggregate base material.
 - Milton Road: Trench Paving. Milling of the wearing course to provide a shiplap joint with the existing pavement shall be required. Aggregate base material in the pipeline trench shall be replaced with NHDOT 304.3 material.
 - Denali Drive and Kodiak Court: Trench Paving and full road width overlay. Aggregate base material shall be NHDOT 304.3 material.
 - #65 Salmon Falls Road Driveway and Parking Lot: Removal and Replacement. The driveway from Salmon Falls Road to the North Parking Lot shall be repaved to match existing pavement depth and grade. Milling of the wearing course to provide a shiplap joint with the existing pavement shall be required. Aggregate base material in the trench area shall be NHDOT 304.3 material.

BID SCHEDULE

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices or lump sum:

NOTE: BIDS shall include sales tax and all other applicable taxes and fees.

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
Common Projects				
1	1 LS	Mobilization and Demobilization The Sum of _____ _____ per Lump Sum	\$ _____	\$ _____
2	1 LS	Furnish Temporary Field Office The Sum of _____ _____ per Lump Sum	\$ _____	\$ _____
3	1 LS	Erosion and Sedimentation Control (Right-of-Way) The Sum of _____ _____ per Lump Sum	\$ _____	\$ _____
4	1 (Allowance)	Allowance: Uniformed Police Officers for Traffic Control The Sum of <u>Sixty Five Thousand Dollars and zero Cents</u> per Allowance	\$ <u>65,000.00</u>	\$ <u>65,000.00</u>
5	1,944 HRS*	Flaggers for Traffic Control The Sum of _____ _____ per Hour	\$ _____	\$ _____

A-3.5

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
6	1 LS	Traffic Regulation and Control The Sum of _____ _____ per Lump Sum	\$ _____	\$ _____
7	1 LS	Development and Monitoring of SWPPP The Sum of _____ _____ per Lump Sum	\$ _____	\$ _____
8	1 (Allowance)	Allowance: Liquid Asphalt Adjustment The Sum of <u>Twenty Thousand Dollars and Zero Cents</u> _____ per Allowance	\$ <u>20,000.00</u>	\$ <u>20,000.00</u>
9	100 CY*	Removal and Disposal of Contaminated Soils The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
10	250 LF*	Furnish and Install Vinyl Fence The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
11	1 LS	As-Built Survey The Sum of _____ _____ per Lump Sum	\$ _____	\$ _____
*Indeterminate Quantities		Subtotal Common Project Items 1-11		\$ _____

Roadway and Storm Drain

12	60 CY*	Test Pit Excavation and Backfill The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
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A-3.6

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
13	1 LS	Clearing and Grubbing (Roadway Areas) The Sum of _____ _____ per Lump Sum	\$ _____	\$ _____
14	18,550 SY	Removal and Disposal of Pavement and Earth Excavation The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
15	25,333 SY	Reclaim Pavement, 12-inch Depth The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
16	2,200 SY*	Milling and Removal of Existing Bituminous Asphalt Pavement, 1.5-inches Thick The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
17	100 CY*	Unsuitable Excavation and Replacement Beneath the Roadway The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
18	5,881 CY	Furnish and Install Crushed Gravel Aggregate Base The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
19	7,401 TON	Furnish and Install Hot Bituminous Pavement – Machine Placed The Sum of _____ _____ per Ton	\$ _____	\$ _____

A-3.7

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
20	1,022 TON	Furnish and Install Hot Bituminous Pavement – Hand Placed The Sum of _____ _____ per Ton	\$ _____	\$ _____
21	200 LF*	Remove and Reset Vertical Granite Curb The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
22	1,000 LF*	Remove and Reset Sloped Granite Curb The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
23	310 LF*	Furnish and Install Stop Bars The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
24	22,300 LF*	Furnish and Install 4-inch Wide Pavement Striping The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
25	15,998 LF	Furnish and Install 2-inch Temporary Pavement Patch The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
26	4 EA*	Remove Large Trees, Greater Than 12-inch Diameter The Sum of _____ _____ per Each	\$ _____	\$ _____
27	4 EA*	Remove Small Trees, 4-inch to 12-inch Diameter The Sum of _____ _____ per Each	\$ _____	\$ _____

A-3.8

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
28	4 EA*	Remove and Dispose of Stumps, Backfill, Loam and Seed Within Right-Of-Way The Sum of _____ _____ per Each	\$ _____	\$ _____
29	0 EA*	Tree Planting/Replacement The Sum of _____ _____ per Each	\$ NA	\$ NA
30	0 EA*	Shrub Plantings/Replacement The Sum of _____ _____ per Each	\$ NA	\$ NA
31	5,735 SY	Loam & Seed The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
32	1 (Allowance)	Allowance: Landscaping The Sum of <u>Twenty Thousand Dollars and Zero Cents</u> _____ per Allowance	\$ <u>20,000.00</u>	\$ <u>20,000.00</u>
32A	600 LF	Furnish and Install 4-inch Underdrain The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
33	510 SY	Remove and Disposal of Pavement and Earth Excavation – Ineligible for Funding The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
34	110 CY	Furnish and Install Crushed Gravel Aggregate Base – Ineligible for Funding The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____

A-3.9

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
35	300 TON	Furnish and Install Hot Bituminous Pavement – Machine Placed – Ineligible for Funding The Sum of _____ per Ton	\$ _____	\$ _____
36	100 TON*	Furnish and Install Hot Bituminous Pavement – Hand Placed – Ineligible for Funding The Sum of _____ per Ton	\$ _____	\$ _____
37	1,920 LF	Furnish and Install 2-inch Temporary Pavement Patch – Ineligible for Funding The Sum of _____ per Linear Foot	\$ _____	\$ _____
*Indeterminate Quantities		Subtotal Roadway and Storm Drainage Project Items 12 – 37		\$ _____
Sanitary Sewer				
38	16 LF	Furnish and Install 8-inch PVC Gravity Sewer Pipe The Sum of _____ per Linear Foot	\$ _____	\$ _____
39	6,700 LF	Furnish and Install 12-inch PVC Gravity Sewer Pipe The Sum of _____ per Linear Foot	\$ _____	\$ _____
40	2,130 LF	Furnish and Install 6-inch Sanitary Service Connections within the Right-of-Way The Sum of _____ per Linear Foot	\$ _____	\$ _____

A-3.10

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
41	252 LF	Furnish and Install 12-inch Ductile Iron Gravity Sewer Pipe The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
42	1,000 LF*	Furnish and Install Homeowner Option 6-inch Sanitary Service Connections (outside the Right of Way) The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
43	100 LF*	Removal and Disposal of Asbestos Cement Pipe The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
44	330 VF	Furnish and Install 4-foot Diameter Sewer Manholes The Sum of _____ _____ per Vertical Foot	\$ _____	\$ _____
45	50 VF	Furnish and Install 5-foot Diameter Sewer Manholes The Sum of _____ _____ per Vertical Foot	\$ _____	\$ _____
46	31 EA	Furnish and Install Sewer Manhole Frames and Covers The Sum of _____ _____ per Each	\$ _____	\$ _____
47	5 VF	Furnish and Install 8-inch Inside Manhole Drop Connections The Sum of _____ _____ per Vertical Foot	\$ _____	\$ _____
48	5 VF	Furnish and Install 12-inch Inside Manhole Drop Connections The Sum of _____ _____ per Vertical Foot	\$ _____	\$ _____

A-3.11

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
49	30 CY*	Excavation of Unsuitable Material and Replacement Backfill - Sewer The Sum of _____ per Cubic Yard	\$ _____	\$ _____
50	30 CY*	Trench Ledge Excavation - Sewer The Sum of _____ per Cubic Yard	\$ _____	\$ _____
51	251 LF	Furnish and Install Trench Pipe Insulation - Sewer The Sum of _____ per Linear Foot	\$ _____	\$ _____
52	1 EA	Reconnection to Existing Structures The Sum of _____ per Each	\$ _____	\$ _____
53	600 LF	Horizontal Directional Drill of 6" Sewer Siphon Pipe The Sum of _____ per Linear Foot	\$ _____	\$ _____
54	1 EA	Removal and Disposal of Existing Manhole Structures The Sum of _____ per Each	\$ _____	\$ _____
55	1,920 LF	Furnish and Install 8-inch PVC Gravity Sewer Pipe – Ineligible for EDA Funding The Sum of _____ per Linear Foot	\$ _____	\$ _____
55A	850 LF	Furnish and Install 6-inch Sanitary Service Connections within the Right-of-Way – Ineligible for EDA funding The Sum of _____ per Linear Foot	\$ _____	\$ _____

A-3.12

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
56	76 VF	Furnish and Install 4-foot Diameter Sewer Manholes – Ineligible for Funding The Sum of _____ _____ per Vertical Foot	\$ _____	\$ _____
57	10 EA	Furnish and Install Sewer Manhole Frames and Covers – Ineligible for Funding The Sum of _____ _____ per Each	\$ _____	\$ _____
58	9 VF	Furnish and Install 8-inch Inside Manhole Drop Connections – Ineligible for Funding The Sum of _____ _____ per Vertical Foot	\$ _____	\$ _____
59	20 CY*	Excavation of Unsuitable Material and Replacement Backfill – Ineligible for Funding The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
60	20 CY*	Trench Ledge Excavation – Ineligible for Funding The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
*Indeterminate Quantities		Subtotal Sanitary Sewer		\$ _____
		Items 38-60		

A-3.13

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
Water Distribution				
61	20 LF*	Furnish and Install 6-inch Ductile Iron Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
62	266 LF	Furnish and Install 8-inch Ductile Iron Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
63	8,700 LF	Furnish and Install 10-inch Ductile Iron Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
64	20 LF*	Furnish and Install 12-inch Ductile Iron Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
65	2,500 LF	Furnish and Install 1-inch Copper Service Pipe The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
66	6 EA	Furnish and Install 8-inch Gate Valves The Sum of _____ _____ per Each	\$ _____	\$ _____
67	26 EA	Furnish and Install 10-inch Gate Valves The Sum of _____ _____ per Each	\$ _____	\$ _____

A-3.14

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
68	100 LF*	Removal and Disposal of Out-of-Service Existing Pipes The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
69	50 CY*	Excavation of Unsuitable Material and Replacement Backfill - Water The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
70	50 CY*	Trench Ledge Excavation - Water The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
71	40 LF*	Furnish and Install Pipe Trench Insulation - Water The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
72	100 EA	Furnish and Install 1-inch Corporation and Service Setup Assembly The Sum of _____ _____ per Each	\$ _____	\$ _____
73	21 EA	Furnish and Install Hydrant Assemblies The Sum of _____ _____ per Each	\$ _____	\$ _____
74	4,285 LF	Furnish, Install, and Maintain Temporary Water Main during Construction The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____

A-3.15

Item No.	Approximate Quantity	Brief Description of Item With Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
75	605 LF	Horizontal Directional Drill of Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
*Indeterminate Quantities		Subtotal Water Distribution		\$ _____
		Items 61-75		

BID SUBTOTALS

Subtotal	Common Project – Items 1-11	\$ _____
Subtotal	Roadway and Storm Drain – Items 12-37	\$ _____
Subtotal	Sanitary Sewer – Items 38-60	\$ _____
Subtotal	Water Distribution – Items 61-75	\$ _____
Total Base Bid Amount		\$ _____

Total Base Bid in Words:

BID ALTERNATES

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
Bid Alternate A- Deduct Substitution of Water Main Pipe Material from Ductile Iron to Polyvinyl Chloride (PVC)				
A-1	20 LF*	Furnish and Install 6-inch PVC Water Main The Sum of \$_____	\$_____	\$_____
		_____ per Linear Foot		
A-2	266 LF	Furnish and Install 8-inch PVC Water Main The Sum of \$_____	\$_____	\$_____
		_____ per Linear Foot		
A-3	8,700 LF	Furnish and Install 10-inch PVC Water Main The Sum of \$_____	\$_____	\$_____
		_____ per Linear Foot		
A-4	20 LF*	Furnish and Install 12-inch PVC Water Main The Sum of \$_____	\$_____	\$_____
		_____ per Linear Foot		
*Indeterminate Quantities		<i>Subtotal – Items A-1 to A-4</i>		\$_____
<i>Subtotal Base Bid – Items 61-64 from page A-3.13</i>				\$_____
Bid Alternate A - Deduct Substitution of Water Main Pipe Material from Ductile Iron to Polyvinyl Chloride (PVC) Cost Differential of Above Subtotals				\$_____

A-3.17

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
Bid Alternate B- Deduct Removing Installation of Water Main On Salmon Falls Rd From STA 78+00 to STA 95+00				
B-1	1 LS	Mobilization and Demobilization The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
B-2	265 HRS*	Flaggers for Traffic Control The Sum of \$ _____ _____ per Hour	\$ _____	\$ _____
B-3	1 LS	Traffic Regulation and Control The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
B-4	3,655 SY	Removal and Disposal of Pavement and Earth Excavation The Sum of \$ _____ _____ per Square Yard	\$ _____	\$ _____
B-5	3,655 SY	Reclaim Pavement, 12-inch Depth The Sum of \$ _____ _____ per Square Yard	\$ _____	\$ _____
B-6	831 TON	Furnish and Install Hot Bituminous Pavement: Machine Placed The Sum of \$ _____ _____ per Ton	\$ _____	\$ _____
B-7	140 TON	Furnish and Install Hot Bituminous Pavement: Hand Placed The Sum of \$ _____ _____ per Ton	\$ _____	\$ _____

A-3.18

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
B-8	110 LF*	Furnish and Install Stop Bars The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
B-9	1,700 LF	Furnish and Install 4-inch Wide Pavement Striping The Sum of \$ _____ _____ per Linear Foot	\$ _____	\$ _____
B-10	1,800 LF	Furnish and Install 2-inch Temporary Pavement Patch The Sum of \$ _____ _____ per Linear Foot	\$ _____	\$ _____
B-11	578 SY	Loam & Seed The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
B-12	11 LF	Furnish and Install Pipe Trench Insulation The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
B-13	20 LF*	Furnish and Install 6-inch PVC Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
B-14	100 LF	Furnish and Install 8-inch PVC Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
B-15	1,700 LF	Furnish and Install 10-inch PVC Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____

A-3.19

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
B-16	20 LF*	Furnish and Install 12-inch PVC Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
B-17	297 LF	Furnish and Install 1-inch Copper Service Pipe The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
B-18	2 EA	Furnish and Install 8-inch Gate Valves The Sum of _____ _____ per Each	\$ _____	\$ _____
B-19	6 EA	Furnish and Install 10-inch Gate Valves The Sum of _____ _____ per Each	\$ _____	\$ _____
B-20	15 EA	Furnish and Install 1-inch Corporation and Service Setup Assembly The Sum of _____ _____ per Each	\$ _____	\$ _____
B-21	5 EA	Furnish and Install Hydrant Assemblies The Sum of _____ _____ per Each	\$ _____	\$ _____
B-22	1,700 LF	Furnish, Install, and Maintain Temporary Water Main During Construction The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
*Indeterminate Quantities		Subtotal Bid Alternate B – Deduct Removing Installation of Water Main On Salmon Falls Rd From STA 78+00 to STA 95+00 – Items B-1 to B-22		\$ _____

A-3.20

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
Bid Alternate C- Deduct Removing Installation of Non Participating Sewer				
C-1	1 LS	Mobilization and Demobilization The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
C-2	150 HRS*	Flaggers for Traffic Control The Sum of \$ _____ _____ per Hour	\$ _____	\$ _____
C-3	1 LS	Traffic Regulation and Control The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
C-4	510 SY	Removal and Disposal of Pavement and Earth Excavation – Ineligible for Funding The Sum of \$ _____ _____ per Square Yard	\$ _____	\$ _____
C-5	110 CY	Furnish and Install Crushed Gravel Aggregate Base – Ineligible for Funding The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
C-6	300 TON	Furnish and Install Hot Bituminous Pavement – Machine Placed – Ineligible for Funding The Sum of _____ _____ per Ton	\$ _____	\$ _____
C-7	100 TON*	Furnish and Install Hot Bituminous Pavement – Hand Placed – Ineligible for Funding The Sum of _____ _____ per Ton	\$ _____	\$ _____

A-3.21

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
C-8	1,920 LF	Furnish and 2-inch Temporary Pavement Patch – Ineligible for Funding The Sum of _____ per Linear Foot	\$ _____	\$ _____
C-9	1,920 LF	Furnish and Install 8-inch PVC Gravity Sewer Pipe – Ineligible for EDA Funding The Sum of _____ per Linear Foot	\$ _____	\$ _____
C-10	850 LF	Furnish and Install 6-inch Sanitary Service Connections within the Right-of-Way – Ineligible for EDA funding The Sum of _____ per Linear Foot	\$ _____	\$ _____
C-11	76 VF	Furnish and Install 4-foot Diameter Sewer Manholes – Ineligible for Funding The Sum of _____ per Vertical Foot	\$ _____	\$ _____
C-12	10 EA	Furnish and Install Sewer Manhole Frames and Covers – Ineligible for Funding The Sum of _____ per Each	\$ _____	\$ _____
C-13	9 VF	Furnish and Install 8-inch Inside Manhole Drop Connections – Ineligible for Funding The Sum of _____ per Vertical Foot	\$ _____	\$ _____
C-14	20 CY*	Excavation of Unsuitable Material and Replacement Backfill – Ineligible for Funding The Sum of _____ per Cubic Yard	\$ _____	\$ _____

A-3.22

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
C-15	20 CY*	Trench Ledge Excavation – Ineligible for Funding The Sum of _____ _____ per Cubic Yard	\$ _____	\$ _____
*Indeterminate Quantities		Subtotal Bid Alternate C – Deduct Removing Installation of Non Participating Sewer - Items C-1 to C-15		\$ _____
Bid Alternate D - Deduct Removing Installation of Water Main on Salmon Falls Rd from STA 1+00 to STA 17+00				
D-1	1 LS	Mobilization and Demobilization The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
D-2	320 HRS*	Flaggers for Traffic Control The Sum of \$ _____ _____ per Hour	\$ _____	\$ _____
D-3	1 LS	Traffic Regulation and Control The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
D-4	4,267 SY	Removal and Disposal of Pavement and Earth Excavation The Sum of \$ _____ _____ per Square Yard	\$ _____	\$ _____
D-5	4,267 SY	Reclaim Pavement, 12-inch Depth The Sum of _____ _____ per Square Yard	\$ _____	\$ _____

A-3.23

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
D-6	831 TON	Furnish and Install Hot Bituminous Pavement – Machine Placed The Sum of _____ _____ per Ton	\$ _____	\$ _____
D-7	140 TON*	Furnish and Install Hot Bituminous Pavement – Hand Placed The Sum of _____ _____ per Ton	\$ _____	\$ _____
D-8	80 LF*	Furnish and Install Stop Bars The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
D-9	3,200 LF*	Furnish and Install 4-inch Wide Pavement Striping The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
D-10	1,500 LF	Furnish and Install 2-inch Temporary Pavement Patch The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
D-11	680 SY	Loam & Seed The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
D-12	0 LF*	Furnish and Install Trench Pipe Insulation The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
D-13	10 LF*	Furnish and Install 6-inch PVC Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____

A-3.24

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
D-14	50 LF	Furnish and Install 8-inch PVC Water Main The Sum of _____ per Linear Foot	\$ _____	\$ _____
D-15	1,550 LF	Furnish and Install 10-inch PVC Water Main The Sum of _____ per Linear Foot	\$ _____	\$ _____
D-16	0 LF*	Furnish and Install 12-inch PVC Water Main The Sum of _____ per Linear Foot	\$ _____	\$ _____
D-17	510 LF	Furnish and Install 1-inch Copper Service Pipe The Sum of _____ per Linear Foot	\$ _____	\$ _____
D-18	1 EA	Furnish and Install 8-inch Gate Valves The Sum of _____ per Each	\$ _____	\$ _____
D-19	4 EA	Furnish and Install 10-inch Gate Valves The Sum of _____ per Each	\$ _____	\$ _____
D-20	17 EA	Furnish and Install 1-inch Corporation and Service Setup Assembly The Sum of _____ per Each	\$ _____	\$ _____
D-21	2 EA	Furnish and Install Hydrant Assemblies The Sum of _____ per Each	\$ _____	\$ _____

A-3.25

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
D-22	1,700 LF	Furnish, Install, and Maintain Temporary Water Main During Construction The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
*Indeterminate Quantities		Subtotal Bid Alternate D – Deduct Removing Installation of Water Main on Salmon Falls Rd from STA 1+00 to 17+00 - Items D-1 to D-22		\$ _____
Bid Alternate E - Deduct Removing Installation of Water Main on Salmon Falls Rd from STA 17+00 to STA 27+00				
E-1	1 LS	Mobilization and Demobilization The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
E-2	320 HRS*	Flaggers for Traffic Control The Sum of \$ _____ _____ per Hour	\$ _____	\$ _____
E-3	1 LS	Traffic Regulation and Control The Sum of \$ _____ _____ per Lump Sum	\$ _____	\$ _____
E-4	2,933 SY	Removal and Disposal of Pavement and Earth Excavation The Sum of \$ _____ _____ per Square Yard	\$ _____	\$ _____
E-5	2,933 SY	Reclaim Pavement, 12-inch Depth The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
E-6	600 TON	Furnish and Install Hot Bituminous Pavement – Machine Placed The Sum of _____ _____ per Ton	\$ _____	\$ _____

A-3.26

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
E-7	140 TON*	Furnish and Install Hot Bituminous Pavement – Hand Placed The Sum of _____ _____ per Ton	\$ _____	\$ _____
E-8	20 LF*	Furnish and Install Stop Bars The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
E-9	2,000 LF*	Furnish and Install 4-inch Wide Pavement Striping The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
E-10	1,500 LF	Furnish and Install 2-inch Temporary Pavement Patch The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
E-11	400 SY	Loam & Seed The Sum of _____ _____ per Square Yard	\$ _____	\$ _____
E-12	0 LF*	Furnish and Install Trench Pipe Insulation The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
E-13	10 LF*	Furnish and Install 6-inch PVC Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____
E-14	50 LF	Furnish and Install 8-inch PVC Water Main The Sum of _____ _____ per Linear Foot	\$ _____	\$ _____

A-3.27

Item No.	Quantity	Brief Description of Item with Unit Bid Price in Words	Unit Bid In Figures	Amount In Figures
E-15	1,000 LF	Furnish and Install 10-inch PVC Water Main The Sum of _____ per Linear Foot	\$ _____	\$ _____
E-16	0 LF*	Furnish and Install 12-inch PVC Water Main The Sum of _____ per Linear Foot	\$ _____	\$ _____
E-17	420 LF	Furnish and Install 1-inch Copper Service Pipe The Sum of _____ per Linear Foot	\$ _____	\$ _____
E-18	1 EA	Furnish and Install 8-inch Gate Valves The Sum of _____ per Each	\$ _____	\$ _____
E-19	5 EA	Furnish and Install 10-inch Gate Valves The Sum of _____ per Each	\$ _____	\$ _____
E-20	14 EA	Furnish and Install 1-inch Corporation and Service Setup Assembly The Sum of _____ per Each	\$ _____	\$ _____
E-21	2 EA	Furnish and Install Hydrant Assemblies The Sum of _____ per Each	\$ _____	\$ _____
E-22	885 LF	Furnish, Install, and Maintain Temporary Water Main During Construction The Sum of _____ per Linear Foot	\$ _____	\$ _____

*Indeterminate Quantities

**Subtotal Bid Alternate E – Deduct
Removing Installation of Water Main
on Salmon Falls Rd from STA 17+00
to STA 27+00 - Items E-1 to E-22**

\$ _____

BID SUBTOTALS

Subtotal:	Base Bid	\$ _____
Subtotal:	Bid Alternate A - Deduct (Differential)	\$ _____
Subtotal:	Bid Alternate B - Deduct	\$ _____
Subtotal:	Bid Alternate C - Deduct	\$ _____
Subtotal:	Bid Alternate D - Deduct	\$ _____
Subtotal:	Bid Alternate E - Deduct	\$ _____

Total Base Bid Amount in Words:

Total Base Bid less Alternate A in Words:

Total Base Bid less Alternate A, Alternate B and Alternate C in Words:

Total Base Bid less Alternate A, Alternate B, Alternate C and Alternate D in Words:

Total Base Bid less Alternate A, Alternate B, Alternate C, Alternate D and Alternate E in Words:

Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. The above unit prices shall include all labor, materials, equipment, taxes, overhead, profit, insurance, bonding and all costs to cover the finished work of the several kinds called for. Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding.

Determination of the Low Bid shall be made on the basis of the lowest total cost of one of the following combinations:

1. Total Base Bid
2. Total Base Bid less Alternate A
3. Total Base Bid less Alternate A and Alternate B
4. Total Base Bid less Alternate A, Alternate B and Alternate C
5. Total Base Bid less Alternate A, Alternate B, Alternate C and Alternate D
6. Total Base Bid less Alternate A, Alternate B, Alternate C, Alternate D and Alternate E

The bidder agrees that this bid shall be good and may not be withdrawn for a period of **90** calendar days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by the General Conditions. The bid security attached in the amount of 5% of the Base Bid is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

SUBMITTED on _____, 20__

A-3.30

If BIDDER is:

An Individual

By _____ (SEAL)
(Individual's Name)

Doing business as _____

Business address: _____

Phone No.: _____

A Partnership

By _____ (SEAL)
(Firm Name)

Business address: _____

Phone No.: _____

A Corporation

By _____ (SEAL)
(Corporation Name)

By _____ (SEAL)
(Name of Person Authorized to Sign)

(SEAL - if BID is by a corporation)

Attest _____

END OF SECTION

SECTION 01150AMEASUREMENT AND PAYMENTPART 1 - GENERAL1.1 DESCRIPTION

- A. For lump sum items, payment shall be made to the contractor in accordance with an accepted progress schedule and schedule of values on the basis of actual work completed.
- B. For unit-price items, payment shall be based on the actual amount of work accepted and for the actual amount of materials in place, as shown by final measurements.
 - 1. All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by the Engineer.
 - 2. At the end of each day's work, the Contractor's Superintendent or other authorized representative of the Contractor shall meet with the Resident Project Representative and determine the quantities of unit price work accomplished and/or completed during the work day.
 - 3. Once each month the Contractor will produce a payment request that will be based upon quantities reconciled with the Owner and Resident Project Representative.
 - 4. After the work is completed and before final payment is made, the Engineer may make final measurements to determine the quantities of various items of work accepted as the basis for final settlement.

1.2 SCOPE OF PAYMENT

- A. Payments to the Contractor will be made for the actual quantities of the Contract items performed and accepted in accordance with the Contract Documents.
- B. The Contractor shall accept in compensation, as herein provided, in full payment for furnishing all materials, labor, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced by the Contract
- C. The payment of any partial estimate or of any retained percentage except by and under the approved final invoice, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damage due to such defects.

1.3 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

- A. When alterations in the quantities of work not requiring supplemental agreements, as here in before provided for, are ordered and performed, the Contractor shall accept payment in full at the Contract price for the actual quantities of work done. No allowance will be made for anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as stipulated in such agreements.

1.4 OMITTED ITEMS

- A. Should any items contained in the bid form be found unnecessary for the proper completion of the work contracted, the Engineer may eliminate such items from the Contract, and such action shall in no way invalidate the Contract, and no allowance will be made for items so eliminated in making final payment to the Contractor.

1.5 PARTIAL PAYMENTS

- A. Partial payments shall be made monthly as the work progresses. Partial payments shall be made subject to the provisions of the Supplemental and General Conditions. The breakdown of partial payments for lump sum items shall be agreed upon at the start of the project, according to the approved schedule of values.

1.6 PAYMENT FOR MATERIAL DELIVERED

- A. When requested by the Contractor and at the discretion of the Owner, payment may be made for all or part of the value of acceptable, non-perishable materials and equipment which are to be incorporated into bid items, have not been used and have been delivered to the construction site, or placed in storage places acceptable to the Owner. Payment shall be subject to the provisions of the General and Supplemental Conditions.
- B. No payment shall be made upon fuels, supplies, lumber, false work, or other materials, or on temporary structures of any kind which are not a permanent part of the Contract.

1.7 FINAL PAYMENT

- A. The Engineer will make, as soon as practicable after the entire completion of the project, a final quantity invoice of the amount of the Work performed and the value of such Work. Owner shall make final payments of the sum found due less retainages subject to provisions of the General and Supplemental Conditions.

1.8 INCIDENTAL WORK

- A. Incidental work items for which separate payment will not be made includes, but is not limited to, the following items:
 - 1. Project record documents maintained during course of project.
 - 2. Marking public and private utilities.
 - 3. Signs damaged and not scheduled for replacement.
 - 4. Tree trimming as required for utility installations
 - 5. Preparing the site for construction.
 - 6. Cooperation and coordination with other Contractors and utility companies including related inspection costs and other costs (Refer to Section 01050).
 - 7. Utility crossings and relocations, unless otherwise paid for.
 - 8. Temporary utility services to buildings, as required to maintain service during construction.
 - 9. Minor Items--such as relocation of mail boxes, curbs, traffic loop detectors, pavement markings, etc., damaged as a result of construction activities.
 - 10. Trench boxes, steel and/or wood sheeting as required, including that left in place.
 - 11. Maintaining existing sewer flows and repair of existing sewer pipes.

12. Dewatering as necessary.
13. Dust control (Section 01532).
14. Quality assurance testing (Section 01400).
15. Final cleaning of sewers, force mains and storm drains.
16. Repair and replacement of water lines under 2-inches in size, culverts, underdrains, rock-lined drainage trenches in streets and other utilities damaged by construction activities and corresponding proper disposal of removed materials unless otherwise paid for.
17. Temporary construction necessary for construction sequencing and other facilities not permanently incorporated into the work, unless otherwise indicated.
18. Weather protection as necessary.
19. Visits to the project site or elsewhere by personnel or agents of the Contractor, including manufacturer's representatives, as may be required.
20. All excavation except the test pits specifically shown or ordered by the Engineer to establish sewer line and water line locations, earth excavation below grade and rock excavation.
21. Test pits to establish in place field soils density, groundwater conditions, or requirements for dewatering and all others test pitting for the Contractor's convenience.
22. Pipe markings.
23. Removal of existing castings, signs and existing granite curbing and transport to City of Rochester Public Works Facility.
24. Winterization of site.
25. Temporary sheds, field offices, telephone, power, water and sanitation facilities for the contractors own needs and those of any subcontractor.
26. Project record documentation (Section 01720)

1.9 DESCRIPTION OF PAY ITEMS

- A. The following sections describe the measurement of and payment for the work to be done under the respective items listed in the Bid Form.
- B. Each unit or lump-sum price stated in the Bid Form shall constitute full compensation, as herein specified, for each item of the work completed.

Item No. 1 – Mobilization and Demobilization

- A. Method of Measurement: Mobilization and Demobilization shall be paid for on a lump sum basis. The amount bid for this item shall not exceed 10% of the Base Bid.
- B. Basis of Payment: Mobilization/demobilization costs are those costs of initiating and ending the contract. Payment for mobilization/demobilization shall be a lump sum at the price bid as stated in the Bid Form. One half of the lump sum will be payable when the Contractor is operational on the site and the remaining half of the lump sum will be payable when the Contractor leaves the site following completion of all contract work. For purposes of payment on this item, "operational" shall mean the Engineer has approved the following: Construction Schedule, Erosion Control Plan, SWPPP plan, Traffic Control Plan, and pre-construction photographs. Only one lump sum payment divided into the two partial payments described herein shall be made to cover all mobilization/demobilization costs throughout the entire contract

including but not limited to Preconstruction photographs and documentation, EDA project sign, bonds, insurance, contract administration, shop drawings, warranties, guarantees, certifications and other submittals required by the Contract Documents.

Item No. 2 – Furnish Temporary Field Office

- A. Method of Measurement: Furnish Temporary Field Office shall be paid for on a lump sum basis. The amount bid for this item shall not exceed 1% of the Base Bid.
- B. Basis of Payment: Temporary field office costs are those costs associated with providing the appropriate temporary office space as well as required furnishings and supplies as outlined in the specification section 01590. Payment for furnishing a temporary field office shall be lump sum at the bid price as stated in the Bid Form. The lump sum will be paid out monthly over the course of the project based on the established project schedule and when the temporary field office is operational on the site, and any remainder of the lump sum will be payable when the Contractor leaves the site following completion of all contract work, removes the temporary field office, and reclaims the field office site as indicated by owner.

Item No. 3 –Erosion and Sedimentation Control (Right-of-Way)

- A. Method of Measurement: Erosion and Sedimentation controls shall be paid for on a lump sum basis.
- B. Basis of Payment: The lump sum payment shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including installation and maintenance of erosion and sedimentation control measures, catch basin inserts, preparing the site for construction, handling stormwater flows during construction, proper disposal of dewatering discharge, and all else incidental thereto and in accordance with all applicable permit requirements, for which payment is not provided under other items. This item includes erosion and sediment control installation as directed by Engineer, as well as re-installation or repair of erosion control prior to or following a storm event. Erosion and Sedimentation Control for the area containing outfall construction, as determined by engineer, is covered under a separate item. The lump sum shall be paid in partial payments over the course of the project, where the percentage paid is equal to the percentage of completion of the entire Contract.

Item No. 4 – Allowance: Uniformed Police Officers for Traffic Control

- A. Method of Measurement: Allowance to be included and carried in the bid schedule.
- B. Basis of Payment:
 - 1. The payment shall cover the cost charged to the Contractor by the Rochester Police for providing Uniformed Police Officers for traffic control, only in areas required by the Owner, Engineer and/or City of Rochester Chief of Police. Excluded from this payment are any costs associated with traffic control, including flaggers, where the Owner, Engineer and/or City of Rochester Chief of Police do not specifically require the use of Uniformed Police Officers.
 - 2. Payment for this item shall be on the basis of invoices presented by the Police Department to the Contractor for the work. A 5% mark-up may be added by the Contractor to the invoice.

Item No. 5 – Flaggers for Traffic Control

- A. Method of Measurement: Flaggers for Traffic Control will be paid for on an hourly basis as stated in the bid schedule.
- B. Basis of Payment:
 - 1. The payment shall be full compensation for furnishing flaggers for traffic control completed to the satisfaction of the Owner and Engineer. The payment shall be on an hourly basis per flagger, and payment shall be based on invoiced hours for this project.
 - 2. Payment will only be made if the traffic control effort is satisfactory to the Owner/Engineer. Contractor will be notified if daily effort is not satisfactory, such that improvements can be made in order to receive full payment under the item. Owner reserves the right to make partial payment or no payment under this item if traffic control is not to the Owner's satisfaction.

Item No. 6 - Traffic Regulation and Control

- A. Method of Measurement: Traffic regulation and control will be paid for at the Lump Sum unit price as stated in the Bid Schedule.
- B. Basis of Payment: Payment for traffic regulation and control shall constitute full compensation for all traffic regulation and control efforts (excluding uniformed Police Officers and flaggers) and including all labor, materials, equipment and supervision required to provide comprehensive and professional traffic regulation and control at all project locations. The traffic control plan, signage, temporary pavement markings for traffic re-routing and pedestrian safety are included in this item. The lump sum shall be paid in partial payments over the course of the project, where the percentage paid is equal to the percentage of completion of the entire Contract.

Item No. 7 – Development and Monitoring of Stormwater Pollution Prevention Plan

- A. Method of Measurement: Development and Monitoring of Stormwater Pollution Prevention Plan (SWPPP) shall be measured on a lump sum unit price as stated in the Bid Schedule.
- B. Basis of Payment: Payment for activities required under this item to prepare, obtain approval and implement and manage a Storm Water Pollution Prevention Plan will be lump sum. Said lump sum payment shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including preparation of SWPPP document in accordance with NHDES requirements, approval of document, monitoring best management practices and site controls, appropriate documentation required for plan compliance documentation, coordination, permit fees, compliance with the NHDES requirements and for all other work and expenses incidental thereto. The lump sum shall be paid in partial payments over the course of the project, where the percentage paid is equal to the percentage of completion of the entire Contract.

Item No. 8 – Allowance: Liquid Asphalt Adjustment

- A. Method of Measurement: Allowance to be included and carried in the bid schedule.
- B. Basis of Payment:
 - 1. The payment for Liquid Asphalt Adjustment Allowance shall be based on NHDOT published data and shall be reviewed at the start of each construction season.

Item No. 9 – Removal and Disposal of Contaminated Soils

- A. Method of Measurement: Removal and Disposal of Contaminated Soils measured for payment shall be the number of cubic yards of contaminated soil material at the direction of the Engineer and disposed of at a licensed disposal facility.
- B. Basis for Payment:
 - 1. The contract unit price per cubic yard shall constitute full compensation for all materials, labor and equipment necessary to complete this work including excavation, temporary storage, transportation and disposal of material at a facility certified to receive and dispose of contaminated soils, and all else incidental thereto for which payment is not provided under other items.

Item No. 10 - Furnish and Install Vinyl Fence

- A. Installation of fence line shall be measured by the actual linear footage of fence installed by the contractor and accepted by the Engineer.
- B. Basis of Payment: The unit price for fence installation shall be full compensation for furnishing all labor, materials, and equipment required to install fence, support posts and footings as indicated on the plans and/or as directed by the Engineer.

Item No. 11 - As-Built Survey

- A. Method of Measurement: The digital AutoCAD As-built Survey will be paid for at the lump sum unit price as stated in the Bid Schedule. Normal project record documentation is incidental to the contract.
- B. Basis of Payment:
 - 1. Payment for the As-built Survey shall constitute full compensation for all field survey and computer processing, recording and delivery of data, including all labor, materials, equipment and supervision required to provide a complete digital AutoCAD and hard copy as-built survey.
 - 2. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Electronic version of the draft (90%) complete survey submitted and approved by the Engineer - 50 percent.
 - b. Paper and electronic versions of final survey submitted and approved by the Engineer - 50 percent.

Item No. 12 - Test Pit Excavation and Backfill

- A. Method of Measurement: The quantity to be paid for under this item shall be the actual cubic yards excavated as authorized by the Engineer.
- B. Basis of Payment: Test pit excavations shall be paid for at the unit price per cubic yard as stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all labor, tools, and equipment; for excavation, backfilling and

compacting; for temporary pavement; providing the test pit result information to the Engineer and for all other work and expenses incidental thereto for which payment is not provided under other items. Measurements shall be made by taking the average length times width times height of the test pit excavation.

Item No. 13 – Clearing and Grubbing

- A. Method of Measurement: Cleaning and grubbing will be paid for at the lump sum price as stated in the Bid Schedule.
- B. Basis of Payment: Payment for clearing and grubbing shall be full compensation for furnishing all materials, labor, tools, and construction equipment; for complete removal, temporary relocation and protection and/or disposal of the trees 4-inch caliper or less, shrubs, brush, roots, topsoil removal and other vegetation, walkways and all other materials required to be cleared for the purpose of construction and preliminary grading the area, and for all other work and expenses incidental thereto for which payment is not provided under other items. Clearing and grubbing of outfall area is covered under separate item.

Items No. 14 and 33 – Removal and Disposal of Pavement and Earth Excavation

- A. Method of Measurement: Removal and Disposal of Pavement and Earth Excavation measured for payment shall be the number of square yards of existing pavement and aggregate material removed, measured and calculated within the limits indicated on the drawings.
- B. Basis for Payment:
 - 1. The contract unit price per square yard for Removal and Disposal of Pavement and Earth Excavation shall constitute full compensation for all materials, labor and equipment necessary to complete excavation for roadway reconstruction and pavement to the depths as indicated in the plans, including excavation, saw cutting, removal of existing pavement, removal of existing aggregate materials, removal of sidewalks from back edge of sidewalk, transportation of existing bituminous pavement and existing base material off site, subgrade preparation, dust control and all else incidental thereto for which payment is not provided under other items.
 - 2. Project areas scheduled for mill and overlay covered under separate items.
 - 3. Project areas scheduled for pavement reclamation covered under separate item.
 - 4. Item 33 is ineligible for EDA funding, therefore will be funded separately.

Item No. 15 – Reclaim Pavement, 12” Depth

- A. Method of Measurement: The number of square yards of pavement to be measured for payment shall be the actual number of square yards placed as requested by and/or authorized by the Engineer as measured in place.
- B. Basis of Payment:
 - 1. Reclaim Pavement shall be paid for at the Contract Unit Price per square yard stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for all materials, labor, construction equipment, tools; and for all other work and expenses incidental thereto.

Item No. 16 - Milling and Removal of Existing Bituminous Asphalt Pavement, 1.5" Thick

- A. Method of Measurement: Milling and removal of existing bituminous asphalt pavements shall consist of the number of square yards of pavement milled and removed within the payment limits shown on the drawings and as directed by Engineer removed for the intent of replacement resurfacing only.
- B. Basis of Payment:
 - 1. Pavement removal shall be paid for at the Contract Unit Price per square yard stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for all materials, labor, equipment and tools necessary for milling and removal of existing pavement.

Item No. 17 – Unsuitable Excavation and Replacement Beneath the Roadway

- A. Method of Measurement: The quantity to be paid for unsuitable excavation beneath roadway shall be the actual number of cubic yards of material replaced within the excavation and reconstruction as directed with materials from off – site as authorized by the Engineer and as measured in place. The removal (excavation, hauling and disposal) shall be included within the cost of replacement material and shall be included herein. No separate costs shall be provided for the removal of material.
- B. Basis of Payment:
 - 1. Unsuitable excavation beneath roadway shall be paid for at the unit price per cubic yard stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, tools, and construction equipment for the excavation of unsuitable material including disposal; for placing and compacting backfill material; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 - 2. Material deemed unsuitable for roadway backfill due to being worked in the presence of groundwater that could have, in the opinion of the Engineer, been avoided by adequate dewatering efforts shall be replaced by the Contractor at no additional cost to the Owner.
 - 3. Excess backfill material will be available throughout the Contract. This item shall be used to pay for excavation of unsuitable materials only if no suitable backfill material previously excavated under this Contract is available.

Items No. 18 and 34- Furnish and Install Crushed Gravel Aggregate Base

- A. Method of Measurement: Placement of aggregate measured for payment shall be the number of cubic yards of aggregate placed for roadways, driveways and sidewalks measured and calculated within the limits indicated on the plans, complete and in place.
- B. Basis for Payment:
 - 1. The contract unit price per cubic yard for placement of aggregate base shall constitute full compensation for all materials, labor and equipment necessary to complete this work including excavation, saw cutting, furnishing and transporting aggregate base to the project site, preparing subgrade, placing, grading, fine grading, compaction, dust control and all else incidental thereto for which payment is not provided under other items.
 - 2. It includes gravel shoulders driveways and walkways.
 - 3. Item 34 is ineligible for EDA funding, therefore will be funded separately.

Items No. 19, 20, 35 and 36 – Furnish and Install Hot Bituminous Pavement: Machine Placed and Hand Placed

A. Method of Measurement:

1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. Machine placed - The number of tons of machine placed pavement within the limits as shown on the drawings.
 - b. Hand Placed - The number of tons of hand placed pavement within the limits as shown on the drawings.
 - c. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.

B. Basis of Payment:

1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam "shoe" if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
3. Items 35 and 36 are ineligible for EDA funding, therefore will be funded separately.

Item No. 21 – Remove and Reset Vertical Granite Curb

- A. Method of Measurement: Vertical granite curb measured for payment shall be the actual linear footage of curb installed and accepted complete and in place and measured along its face.
- B. Basis of Payment: The Contract unit price per linear foot for vertical granite curb shall constitute full compensation for all labor, equipment and materials necessary to complete this work including furnishing and installing curb, subgrade preparation, placement of concrete fill, backfill and all labor and appurtenances incidental thereto for which payment is not provided under other items.

Item No. 22 – Remove and Reset Sloped Granite Curb

- A. Method of Measurement: Sloped granite curb measured for payment shall be the actual linear footage of curb installed as and accepted complete and measured in place measured along its face.
- B. Basis of Payment: The Contract unit price for sloped granite curb shall constitute full compensation for all labor, equipment and materials necessary to complete this work including furnishing and installing curb, subgrade preparation, placement of concrete fill, backfill and all labor and appurtenances incidental thereto for which payment is not provided under other items.

Item No. 23 and 24 - Furnish and Install Stop Bars and 4-inch Wide Pavement Striping

- A. Method of Measurement: Stop bars shall be measured as the actual length of the stop bars installed. The quantity of 4-inch wide pavement stripes to be paid for under this item shall consist of the actual number of linear feet of single width stripes placed at the direction of the Engineer within the payment limits shown on the Drawings.
- B. Basis of Payment:
 - 1. Payment for Stop Bars and 4-inch wide stripes shall be paid at the Contract Unit Prices per linear feet stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for furnishing and placement of striping and stop bars.

Items No. 25 and 37 – Furnish and Install 2-inch Temporary Pavement Patch

- A. Method of Measurement:
 - 1. The quantity of temporary trench patch to be paid for under this item includes:
 - a. Temporary Pavement - The linear feet of temporary pavement placed.
 - b. Temporary pavement shall be measured along the length of the pipe installed. Temporary patch along service lines shall be measured from the edge of the patch placed along the main line to the back of the existing pavement.
 - 2. All temporary patch should have a minimum thickness of 2-inches.
- B. Basis of Payment:
 - 1. Pavement shall be paid for at the Contract unit price per linear foot stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the preparation of base material, installation of temporary pavement to 2-inch thick, and installation of temporary pavement markings. No additional payment will be made to the contractor for repair work done by him in maintaining temporary bituminous concrete pavement.
 - 3. Item 37 is ineligible for EDA funding, therefore will be funded separately.

Item No. 26 and 27 – Remove Large Trees, greater than 12-inch diameter and Removal Small Trees, 4-inch to 12-inch diameter within Right-of-Way (ROW)

- A. Method of Measurement: The quantity to be paid for under this item shall be the actual number of trees with stumps completely removed with the resulting void completely restored. The diameter of a tree shall be determined by measuring its diameter, 4'-0" above the ground surface.
- B. Basis of Payment: Removal of trees shall be paid for at the unit price per each as stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, tools, and construction equipment; for complete removal of the tree, and for all other work and expenses incidental thereto for which payment is not provided under other items.

Item No. 28 – Remove and Dispose of Stumps, Backfill, Loam and Seed Within ROW

- A. Method of Measurement: The quantity to be paid for under this item shall be the actual number of stumps completely removed with the resulting void completely restored.
- B. Basis of Payment: Removal of stumps shall be paid for at the unit price per each as stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, tools, and construction equipment; for complete removal of the stump, backfilling the void with suitable material compacted in 8-inch lifts, providing 6-inch of loam and seeding to the top of the restored area for new grass growth unless otherwise required, proper disposal of waste material, and for all other work and expenses incidental thereto for which payment is not provided under other items.

Item No. 29 and 30 – Tree Planting/Replacement and Shrub Plantings/Replacement

- A. Method of Measurement: Tree planting and replacement and Shrub plantings and replacement shall be measured by the actual number of trees planted by the contractor and accepted by the Engineer.
- B. Basis of Payment: The unit price for each tree shall be full compensation for furnishing all labor, materials, and equipment required to plant trees as indicated on the plans and as directed by the Engineer. Trees, shrubs and other flora disturbed for the Contractor's convenience shall be restored at no additional cost to the Owner.

Item No. 31 – Loam and Seed

- A. Method of Measurement: Loaming and seeding measured for payment shall be the number of square yards of surface area completed. Measurement shall be the linear foot of standard plane geometric shapes with conversion to square yards.
- B. Basis of Payment: The unit price bid per square yard of loaming and seeding shall be full compensation for all labor, material and equipment necessary to complete the installation including excavation, preparing the bed, spreading and compacting loam, preparing the seed bed, spreading the seed, installing fertilizer, lime and mulch, establishing a satisfactory growth of grass and all else incidental thereto for which payment is not provided under other items.

Item No. 32 – Allowance for Landscaping

- A. Method of Measurement: The Allowance for Landscaping may be used to reimburse the Contractor for furnishing and installing additional landscaping elements, as may be added into the project. Such charges will be subject to the approval of the Owner and Engineer.
- B. Basis of Payment: Payment for Landscaping will include full compensation for furnishing and installing landscaping elements and features that may be requested and approved by the Owner as the project progresses. A 10% markup to subcontracted items is acceptable.

Item No. 32A - Furnish and Install 4-inch Perforated Storm Drain Pipe (Underdrain)

- A. Method of Measurement: Underdrain pipe measured for payment under these items shall be the number of linear feet installed measured along the center line of the pipe as laid. Underdrain pipes between structures shall be measured between

centers of manholes or structures minus half the inside diameter of each structure. Pipes installed between trench dams and structures shall be the actual installed lengths of pipe. Pipe installed into the structure will not be measured for payment. Relief Drains installed shall be the actual installed lengths of pipe.

- B. Basis of Payment: The contract unit price per linear foot for underdrain pipe installed shall be full compensation for all labor, materials, and equipment necessary to complete this work including excavation (except ledge excavation), dewatering, bedding, furnishing and installing pipe and fittings, connecting the pipe to structures, coring of structures, screened stone, aggregate base backfill where required, filter fabric, backfill, compaction, removal and disposal of existing storm drain pipes, catch basins, and replacement drainage structures, connections to existing piping and existing structures as required, impervious clay dams and all else incidental thereto for which payment is not provided under other items.

Items No. 38, 39 and 55 - Furnish and Install 8-inch PVC Gravity Sewer Pipe and 12-inch PVC Gravity Sewer Pipe

- A. Method of Measurement: Sewer pipe measured for payment shall be the number of linear feet installed measured along the center line of the pipe as laid including fittings. Pipes shall be measured between centers of the manholes minus half the inside diameter of each manhole. Pipe installed into the manhole will not be measured for payment.
- B. Basis of Payment:
1. The contract unit price per linear foot for sewer pipe shall be full compensation for all labor, materials, and equipment necessary to complete this work including excavation (except ledge excavation), dewatering, bedding, furnishing and installing pipe and fittings, making connections to new and existing manholes, installation of impervious material dams, backfill, compaction, cleaning, testing, maintaining existing flows during construction of new facilities and all else incidental thereto for which payment is not provided under other items.
 2. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Sewer pipe acceptably set in place and backfilled - 90 percent.
 - b. Sewer pipe successfully tested - 10 percent.
 3. Item 55 is ineligible for EDA funding, therefore, will be funded separately.

Item No. 40 and Item 55A – Furnish and Install 6-inch Sanitary Service Connections within the Right-of-Way

- A. Method of Measurement: This item shall consist of installing house sanitary service leads from sanitary sewer mains to the edge of right-of-way as shown on the Drawings and/or as determined in the field. Measurement shall be from the top of the tee or wye in the main to the edge of right-of-way measured along the centerline of the pipe.
- B. Basis of Payment:
1. The contract unit price per linear foot shall be full compensation for all labor, materials, and equipment necessary to complete this work including locating the existing service, excavation (except ledge excavation), dewatering,

bedding, furnishing and installing pipe and fittings, adequately capping service connection and marking location as specified and shown on the Drawings or connection to existing service, backfilling, compaction, cleaning, resetting existing features, maintaining existing flows during construction of new facilities and all else incidental thereto for which payment is not provided under other items.

2. Item 55A is ineligible for EDA funding, therefore, will be funded separately.

Item No. 41 – Furnish and Install 12-inch Ductile Iron Gravity Sewer Pipe

- A. Method of Measurement: Sewer pipe measured for payment shall be the number of linear feet installed measured along the center line of the pipe as laid including fittings. Pipes shall be measured between centers of the manholes minus half the inside diameter of each manhole. Pipe installed into the manhole will not be measured for payment.
- B. Basis of Payment:
 1. The contract unit price per linear foot for sewer pipe shall be full compensation for all labor, materials, and equipment necessary to complete this work including excavation (except ledge excavation), dewatering, bedding, furnishing and installing pipe and fittings, making connections to new and existing manholes, installation of impervious material dams, backfill, compaction, cleaning, testing, maintaining existing flows during construction of new facilities and all else incidental thereto for which payment is not provided under other items.
 2. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Sewer pipe acceptably set in place and backfilled - 90 percent.
 - b. Sewer pipe successfully tested - 10 percent.

Item No. 42 – Furnish and Install Homeowner Option 6-inch Sanitary Service Connections (outside the Right-of-Way)

- A. Method of Measurement: This item shall consist of installing house sanitary service leads from the edge of right-of-way to the outside of buildings or location as determined in the field. Measurement shall be from edge of right-of-way as installed measured along the centerline of the pipe.
- B. Basis of Payment:
 1. The contract unit price per linear foot shall be full compensation for all labor, materials, and equipment necessary to complete this work including locating the existing service, excavation (except ledge excavation), dewatering, bedding, furnishing and installing pipe and fittings, installation from the right of way limit of work to the service entrance at the homeowner's house foundation, connection to existing service, backfilling, compaction, cleaning, resetting existing features, maintaining existing flows during construction of new facilities, loaming and seeding and all else incidental thereto for which payment is not provided under other items. Contractor shall be solely responsible for coordination with homeowners for service connections.

2. Contractor is to coordinate with Owner and Engineer to determine which homeowners have agreed to the performance of this work. This work shall be billed to the homeowners by the Owner.
3. Basis of Bid for Homeowner Option assumes 100% installation participation. Final participation will be determined following bidding. Contractor price should reflect all percentages of participation. No extensions of time on any interim or final completion dates will be allowed due to completion of the homeowner option work.

Item No. 43 - Removal and Disposal of Asbestos Cement Pipe

- A. Method of Measurement: Removal and Disposal of Asbestos Cement Pipe accepted for payment shall be the actual number of linear feet of Asbestos Cement Pipe (all diameters) removed and disposed of in accordance with local, State and Federal Regulations.
- B. Basis of Payment: The Contract unit price per linear foot for Removal and Disposal of Asbestos Cement Pipe shall be full compensation for all labor, subcontractors, materials, tools and equipment necessary to complete this work including excavation, handling and removing of pipe, bagging of pipe and miscellaneous friable pieces of pipe and contaminated trench materials, transporting to a licensed disposal site, disposal fees, coordination with regulatory agencies and Owner, and all else incidental thereto for which payment is not provided under other items.

Items No. 44, 45 and 56 - Furnish and Install 4-foot and 5-foot Diameter Sewer Manholes

- A. Method of Measurement: Sanitary manholes accepted for payment shall be the actual vertical feet of structures installed and accepted complete in place, from the lowest invert to the top of the precast structure.
- B. Basis of Payment:
 1. The contract unit price per vertical foot shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation (except ledge excavation), bedding, furnishing and installing precast concrete sections, frost protective wrap, masonry materials, waterproofing, constructing inverts, backfilling, compaction, cleaning, testing, maintaining existing flows during construction, and all else incidental thereto for which payment is not provided under other items.
 2. Payment for this item shall be as follows:
 - a. 90 percent of the unit price upon installation of manholes.
 - b. 10 percent of the unit price upon successful completion of cleaning and final manhole testing.
 3. Item 56 is ineligible for EDA funding, therefore will be funded separately.

Items No. 46 and 57 - Furnish and Install Sewer Manholes Frames and Covers

- A. Method of Measurement: The quantity of sewer manhole frames and covers to be paid for under these items shall be the number of frames and covers installed and accepted complete in place.
- B. Basis of Payment: sewer manhole frames and covers shall be paid for as stated in the Bid Schedule. Said unit price shall be full compensation for all labor, materials and equipment necessary to complete the installations including excavation, bedding,

furnishing and installing frames and covers, including locking frames and covers where called for in the plans, installation of brick between the frame and top of precast structure, installation at proper grade first for the binder course and again for the wearing course pavement, backfilling, compaction, and all else incidental thereto for which payment is not provided under other items. Item 57 is ineligible for EDA funding, therefore will be funded separately.

Items No. 47, 48 and 58 - Furnish and Install 8-inch & 12-inch Inside Manhole Drop Connections

- A. Method of Measurement: Manhole Drop Connections measured for payment shall be the actual vertical feet of pipe furnished and installed measured from the invert of the inlet pipe to the lowest manhole invert.
- B. Basis of Payment: The contract unit price per vertical foot shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including furnishing and installing pipe, coring structures, fittings and pipe supports, constructing inverts and all else incidental thereto for which payment is not provided under other items. Item 58 is ineligible for EDA funding, therefore will be funded separately.

Items No. 49, 59 and 69 – Excavation of Unsuitable Material and Replacement Backfill

- A. Method of Measurement: Quantity to be paid for under this item shall be the number of cubic yards of material replaced with materials from off-site as authorized by the Engineer.
- B. Basis of Payment:
 - 1. Excavated unsuitable materials shall be paid for at the unit price per cubic yard stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all labor, equipment, and tools necessary for the excavation of unsuitable material including the disposal of materials; furnishing installing and compacting replacement suitable backfill, and for all other work and expenses incidental thereto for which payment is not provided under other items.
 - 2. Material excavated that could have, in the opinion of the Engineer, remained in place through the use of adequate dewatering efforts shall be replaced by the Contractor at no additional cost to the Owner.
 - 3. Removal and disposal of Contaminated Soil is covered under separate items.
 - 4. Item 59 is ineligible for EDA funding, therefore will be funded separately.

Items No. 50, 60 and 70 - Trench Excavation - Ledge

- A. Method of Measurement: Ledge excavation measured for payment shall be the number of cubic yards of ledge removed during construction. This quantity shall be determined by:
 - 1. Exposing the ledge profile for measurement. Excavation and backfill of the earth overburden shall be considered incidental, and no separate payment shall be made therefore.
 - 2. Should the Contractor elect to pre-drill and blast ledge without exposing the ledge surface for measurement, ledge depths shall be determined by the Resident Project Representative at the time of drilling or, when direct drilling

observation is not conducted, the ledge profile shall be measured after excavation, and 20% of the ledge volume thus measured shall be deducted due to ledge expansion caused by the blasting operation.

3. The payment limit for trench width shall be between vertical planes which are a distance apart equal to the sum of 18 inches plus 1-1/3 times the nominal outside diameter of pipe which is to be installed in the trench (min. of 3 feet) and extending from the top of the ledge surface to a depth of 6 inches below the invert grade of the pipe. Where two pipes are installed in the same trench, trench ledge excavation shall be measured as the actual volume of ledge removed between vertical planes which are a distance apart equal to the sum of 3 feet plus the sum of the pipes nominal outside diameter. Where three pipes are installed in the same trench, trench ledge excavation shall be measured as the actual volume of ledge removed between vertical planes which are a distance apart equal to the sum of 4.5 feet plus the sum of the pipes nominal outside diameter.
 - a. Ledge excavation for structures (including manholes) shall be measured as 18 inches outside the structure and extending to a depth of 6 inches below the base of the structure indicated on the Drawings.
 - b. Rocks or boulders greater than two cubic yards volume shall be considered as ledge excavation. Volume of rocks shall be determined from their average length, width, and depth as measured by the Engineer.
- B. Basis of Payment: The contract unit price per cubic yard for ledge excavation shall be full compensation for all labor, materials, tools and equipment necessary to complete the excavation including conducting the pre-blast survey, drilling, blasting, excavating, loading and disposing the excess or unusable material outside the work limits, suitable replacement backfill, and all else incidental thereto for which payment is not provided under other items. Item 60 is ineligible for EDA funding, therefore will be funded separately.

Items No. 51 and 71 - Furnish and Install Pipe Trench Insulation

- A. Method of Measurement: Pipe trench insulation accepted for payment shall be the actual linear feet of trench insulation installed and accepted complete in place.
- B. Basis of Payment: The contract unit price per linear foot for pipe trench insulation shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items.

Item No. 52 – Reconnection to Existing Structures

- A. Method of Measurement: Reconnection to Existing Structures shall be the number of connections made and accepted in place.
- B. Basis of Payment: Reconnection to Existing Structures shall be paid for at the unit price per each as stated in the Bid Schedule. Said unit price shall be full compensation for all labor, materials and equipment necessary to complete the pipe reconnections including excavation, coring and replacement of boots, removal of existing inverts and channels, constructing new inverts, maintenance of existing sewer flows, including bypass pumping if necessary, backfilling, compaction,

removal and disposal of existing connection, cleaning and all else incidental thereto for which payment is not provided under other items.

Item No. 53 and 75 - Horizontal Directional Drill of Sewer Siphon and Water Main

- A. Method of Measurement: Pipe accepted for payment shall be the actual linear feet of HDPE water main or sewer siphon installed and accepted complete in place for all work to the limits of work as shown in the Drawings and summarized as follows:
1. Directional Drill No. 1 – Water Main STA 61+00 to STA 63+50
 2. Directional Drill No. 2 – Water Main STA 34+50 to STA 38+50
 3. Directional Drill No. 3 – Sewer Siphon STA 33+00 to STA 38+00
- B. Basis of Payment:
1. The contract unit price shall per linear foot shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including furnishing and installing pipe, fittings, excavation (for receiving pits) and disposal of surplus material, backfill for receiving pits, dewatering (where applicable), pipe restraint anchors connecting to pipes at the limit of the directional drill, and all else incidental thereto and all in accordance with all applicable permit requirements, for which payment is not provided under other items.
 - a. Siphon manholes will be paid for separately under a separate item.
 2. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Pipe acceptably installed - 90 percent.
 - b. Pipe successfully cleaned and tested - 10 percent.

Item No. 54 - Removal and Disposal of Manhole Structures

- A. Method of Measurement: The quantity of removal and disposal of manhole structures shall be the actual number of structures removed and disposed of at an approved location, except for out of service structures that are encountered in the trench during the excavation and installation of new pipe and structures. All structures within the limits of the work that are not to remain in service shall be removed.
- B. Basis of Payment:
1. Removed and disposed of manhole structures shall be paid for at the unit price per each as stated in the Bid Schedule. Said unit price shall be full compensation for all labor, equipment, tools, and other materials required for the removal and disposal of the structures, for excavating and replacement backfill and compaction of the void created by the removed structure, for stockpiling the structures on site until the Engineer has counted it and for hauling it off to an approved disposal site and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Payment for this work will not be made for removed and disposed of out of service structures that have not been counted for payment by the Engineer.
 3. Payment will not be made for out of service structures that are encountered within the trench limits of new pipe and structure installation; only for out of service structures that are located outside the trench limits for new pipe and structure installation.

Item No. 61, 62, 63 and 64 - Furnish and Install 6-inch, 8-inch, 10-inch and 12-inch Ductile Iron Water Main

- A. Method of Measurement: The quantity of water main to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid including all fittings and valves.
- B. Basis of Payment:
 - 1. Water main shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all pipes, pipe fittings (except valves), bronze wedges, polywrap, labor, equipment, tools, and other materials required for the installation of the pipelines; for installing the polywrap; for excavating, laying, setting, and jointing all pipes and fittings; for connections and couplings to existing pipes; for dewatering; for furnishing and placing all bedding, haunching and initial backfill; for backfilling; for thrust blocks and supports; for restraining joints; saddles; for furnishing and placing all temporary sheeting and bracing; for cleaning and testing; for removal and disposal of existing water lines being replaced within the trench; for all labor, tools and construction equipment; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 - 2. Payment for fire hydrant branch piping will be paid for under the Furnish and Install Hydrant Assemblies Item.
 - 3. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Water main successfully set in place and backfilled - 80 percent.
 - b. Water main pressure tested and disinfected - 20 percent.

Item No. 65 - Furnish and Install 1-inch Copper Service Pipe

- A. Method of Measurement: The quantity of service pipe to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid.
- B. Basis of Payment: Pipe shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for all service pipe and fittings, labor, equipment, tools, and other materials required for the installation of service pipes; for excavating, laying, setting, and jointing all pipes and fittings; dewatering; for making all connections to existing services; for cleaning, testing, and disinfecting; for backfilling; for replacing or rebuilding shrubs, fences, lawns, trees, or other materials, except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.

Item No. 66 and 67 - Furnish and Install 8-inch and 10-inch Gate Valves

- A. Method of Measurement: The quantity of gate valves to be paid for under this item shall be the actual number of valves and valve boxes installed complete in place. Payment for gate valves installed on hydrant branches shall be paid for under the Furnish and Install Hydrant Assemblies Item.
- B. Basis of Payment: Gate valves shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, polywrap, and tools; for installing, setting, and jointing the valve

and valve box; for restraining joints; for thrust blocks and supports; for valve box extensions; for testing all valves and valve boxes; and for all other work and expenses incidental thereto for which payment is not provided under other items.

Item No. 68 - Removal and Disposal of Out-of-Service Existing Pipes

- A. Method of Measurement: The quantity of removal and disposal of out-of-service and abandoned pipe (excluding asbestos pipe) shall be the actual linear feet of pipe removed and disposed of at an approved location, except for out of service pipe that is encountered in the trench during the excavation and installation of new pipe. Removed pipe sections will be measured by the linear foot, by the Engineer, once it is removed from the excavation, but before it is removed from the project site for disposal.
- B. Basis of Payment:
 - 1. Removed and disposed of pipe shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for all labor, equipment, tools, and other materials required for the removal and disposal of the pipe, for excavating and replacement backfill and compaction of the void created by the removed pipe, for stockpiling the pipe on site until the Engineer has measured it and for hauling it off to an approved disposal site and for all other work and expenses incidental thereto for which payment is not provided under other items.
 - 2. Payment for this work will not be made for removed and disposed of out of service pipe that has not been measured for payment by the Engineer.
 - 3. Payment will not be made for out of service pipe that is encountered within the trench limits of new pipe installation; only for out of service pipe that is located outside the trench limits for new pipe installation where additional excavation for removal is requested by the Engineer.

Item No. 72 - Furnish and Install 1-inch Corporation and Service Setup Assembly

- A. Method of Measurement: The quantity of 1-inch corporation and service setup assemblies to be paid for under this item shall be the actual number furnished and installed for service connections.
- B. Basis of Payment: 1-inch corporation and service setup assemblies shall be paid for at the unit price per each 1-inch corporation and service setup assembly stated in the Bid Schedule. Said unit price shall be full compensation for all fittings, labor, equipment, tools, and materials required for the installation of the 1-inch corporation stop installed in main, curb stop and box installed to the right of way, protection of services, curb stops and boxes during the construction period, and the connection of service and all service pipe required; for excavating and backfilling, raising to grade, for replacing or rebuilding shrubs, fences, lawns, trees, tapping of main, and all materials except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.

Item No. 73 - Furnish and Install Hydrant Assemblies

- A. Method of Measurement: The quantity of hydrant assemblies to be paid for under this item shall be the actual number installed complete in place.

- B. Basis of Payment:
1. Hydrant assemblies shall be paid for at the unit price for each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for installing, setting, and jointing; for excavation; for removal of existing hydrants where directed; for all thrust blocks and supports; restraining joints; for the hydrant branch gate valve, tee, pipe and hydrant; hydrant snow markers; polywrap; cleaning, testing and disinfection and of all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Hydrant assembly successfully set in place and backfilled - 80 percent
 - b. Hydrant assembly pressure tested and disinfected - 20 percent.

Item No. 74 – Furnish, Install, and Maintain Temporary Water Main during construction

- A. Method of Measurement: Temporary water main accepted for payment shall be the linear feet of roadway on which temporary water main is installed and accepted complete in place.
- B. Basis of Payment: The contract unit price per linear foot for temporary water main shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items. Payment will be made based on the linear foot of the roadway centerline where temporary water has been installed. Multiple lines on a roadway or individual service connections will not be counted.
1. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Temporary water main successfully set in place, pressure tested and disinfected with all customers connected to the system - 80 percent
 - b. After removal of the temporary water main once the proposed water main is in service - 20 percent.

BID ALTERNATE A – DEDUCT Substitution of Water Main Pipe Material from Ductile Iron to Polyvinyl Chloride (PVC)

(A-1/A-2/A-3/A-4) Furnish and Install 6-inch, 8-inch, 10-inch, and 12-inch PVC Water Main

- A. Method of Measurement: The quantity of water main to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid including all fittings and valves.
- B. Basis of Payment:
1. Water main shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all pipes, pipe fittings (except valves), labor, equipment, tools, and other materials required for the installation of the pipelines; for excavating, laying, setting, and jointing all pipes and fittings; for connections and couplings to existing pipes;

for dewatering; for furnishing and placing all bedding, haunching and initial backfill; for backfilling; for thrust blocks and supports; for restraining joints; service saddles; for furnishing and placing all temporary sheeting and bracing; for cleaning and testing; for removal and disposal of existing water lines being replaced within the trench; for all labor, tools and construction equipment; and for all other work and expenses incidental thereto for which payment is not provided under other items.

2. Payment for fire hydrant branch piping will be paid for under the Furnish and Install Hydrant Assemblies Item.
3. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Water main successfully set in place and backfilled - 80 percent.
 - b. Water main pressure tested and disinfected - 20 percent.
4. Payment for this work shall replace cost for Items 61, 62, 63, and 64 in the base bid.

BID ALTERNATE B – DEDUCT Removing Installation of planned water main on Salmon Falls Rd from STA 78+00 to STA 95+00

(B-1) Mobilization and Demobilization

- A. Method of Measurement: Mobilization and Demobilization shall be paid for on a lump sum basis. The amount bid for this item shall not exceed 10% of the Base Bid.
- B. Basis of Payment: Mobilization/demobilization costs are those costs of initiating and ending the contract. Payment for mobilization/demobilization shall be a lump sum at the price bid as stated in the Bid Form. One half of the lump sum will be payable when the Contractor is operational on the site and the remaining half of the lump sum will be payable when the Contractor leaves the site following completion of all contract work. For purposes of payment on this item, "operational" shall mean the Engineer has approved the following: Construction Schedule, Erosion Control Plan, SWPPP plan, Traffic Control Plan, and pre-construction photographs. Only one lump sum payment divided into the two partial payments described herein shall be made to cover all mobilization/demobilization costs throughout the entire contract including but not limited to Preconstruction photographs and documentation, bonds, insurance, contract administration, shop drawings, warranties, guarantees, certifications and other submittals required by the Contract Documents.

(B-2) Flaggers for Traffic Control

- A. Method of Measurement: Flaggers for Traffic Control will be paid for on an hourly basis as stated in the bid schedule.
- B. Basis of Payment:
 - 1. The payment shall be full compensation for furnishing flaggers for traffic control completed to the satisfaction of the Owner and Engineer. The payment shall be on an hourly basis per flagger, and payment shall be based on invoiced hours for this project.
 - 2. Payment will only be made if the traffic control effort is satisfactory to the Owner/Engineer. Contractor will be notified if daily effort is not satisfactory, such that improvements can be made in order to receive full payment under the item. Owner reserves the right to make partial payment or no payment under this item if traffic control is not to the Owner's satisfaction.
 - 3. Deducted unit price for this item shall be the same as the unit price for Item 5 in the base project bid.

(B-3) Traffic Regulation and Control

- A. Method of Measurement: Traffic regulation and control will be paid for at the Lump Sum unit price as stated in the Bid Schedule.
- B. Basis of Payment: Payment for traffic regulation and control shall constitute full compensation for all traffic regulation and control efforts (excluding uniformed Police Officers and flaggers) and including all labor, materials, equipment and supervision required to provide comprehensive and professional traffic regulation and control at all project locations. The traffic control plan, signage, temporary pavement markings for traffic re-routing and pedestrian safety are included in this item. The lump sum shall be paid in partial payments over the course of the project,

where the percentage paid is equal to the percentage of completion of the entire Contract.

(B-4) Removal and Disposal of Pavement and Earth Excavation

- A. Method of Measurement: Removal and Disposal of Pavement and Earth Excavation measured for payment shall be the number of square yards of existing pavement and aggregate material removed, measured and calculated within the limits indicated on the drawings.
- B. Basis for Payment:
 - 1. The contract unit price per square yard for Removal and Disposal of Pavement and Earth Excavation shall constitute full compensation for all materials, labor and equipment necessary to complete excavation for roadway reconstruction and pavement to the depths as indicated in the plans, including excavation, saw cutting, removal of existing pavement, removal of existing aggregate materials, removal of sidewalks from back edge of sidewalk, transportation of existing bituminous pavement and existing base material off site, subgrade preparation, dust control and all else incidental thereto for which payment is not provided under other items.
 - 2. Project areas scheduled for mill and overlay covered under separate items.
 - 3. Project areas scheduled for pavement reclamation covered under separate item.
 - 4. Deducted unit price for this item shall be the same as the unit price for Item 14 in the base project bid.

(B-5) Reclaim Pavement, 12" Depth

- A. Method of Measurement: The number of square yards of pavement to be measured for payment shall be the actual number of square yards placed as requested by and/or authorized by the Engineer as measured in place.
- B. Basis of Payment:
 - 1. Reclaim Pavement shall be paid for at the Contract Unit Price per square yard stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for all materials, labor, construction equipment, tools; and for all other work and expenses incidental thereto.
 - 3. Deducted unit price for this item shall be the same as the unit price for Item 15 in the base project bid.

(B-6) Furnish and Install Hot Bituminous Pavement: Machine Placed

- A. Method of Measurement:
 - 1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. The number of tons of machine placed pavement within the limits as shown on the drawings.
 - b. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
 - 2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.

- B. Basis of Payment:
1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam “shoe” if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
 3. Deducted unit price for this item shall be the same as the unit price for Item 19 in the base project bid.

(B-7) Furnish and Install Hot Bituminous Pavement: Hand Placed

- A. Method of Measurement:
1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. The number of tons of hand placed pavement within the limits as shown on the drawings.
 - b. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
 2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.
- B. Basis of Payment:
1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam “shoe” if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
 3. Deducted unit price for this item shall be the same as the unit price for Item 20 in the base project bid.

(B-8/B-9) Furnish and Install Stop Bars and 4-inch Wide Pavement Striping

- A. Method of Measurement: Stop bars shall be measured as the actual length of the stop bars installed. The quantity of 4-inch wide pavement stripes to be paid for under this item shall consist of the actual number of linear feet of single width stripes placed at the direction of the Engineer within the payment limits shown on the Drawings.
- B. Basis of Payment:
1. Payment for stop bars and 4-inch wide stripes shall be paid at the Contract Unit Prices per linear feet stated in the Bid Schedule.
 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for furnishing and placement of stop bars and striping.
 3. Deducted unit price for these items shall be the same as the unit price for Items 23 and 24 in the base project bid.

(B-10) Furnish and Install 2-inch Temporary Pavement Patch

A. Method of Measurement:

1. The quantity of temporary trench patch to be paid for under this item includes:
 - a. Temporary Pavement - The linear feet of temporary pavement placed.
 - b. Temporary pavement shall be measured along the length of the pipe installed. Temporary patch along service lines shall be measured from the edge of the patch placed along the main line to the back of the existing pavement.
2. All temporary patches should have a minimum thickness of 2-inches.

B. Basis of Payment:

1. Pavement shall be paid for at the Contract unit price per linear foot stated in the Bid Schedule.
2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the preparation of base material, installation of temporary pavement to 2-inch thick, and installation of temporary pavement markings. No additional payment will be made to the contractor for repair work done by him in maintaining temporary bituminous concrete pavement.
3. Deducted unit price for this item shall be the same as the unit price for Item 25 in the base project bid.

(B-11) Loam and Seed

A. Method of Measurement: Loaming and seeding measured for payment shall be the number of square yards of surface area completed. Measurement shall be the linear foot of standard plane geometric shapes with conversion to square yards.

B. Basis of Payment:

1. The unit price bid per square yard of loaming and seeding shall be full compensation for all labor, material and equipment necessary to complete the installation including excavation, preparing the bed, spreading and compacting loam, preparing the seed bed, spreading the seed, installing fertilizer, lime and mulch, establishing a satisfactory growth of grass and all else incidental thereto for which payment is not provided under other items.
2. Deducted unit price for this item shall be the same as the unit price for Item 31 in the base project bid.

(B-12) Furnish and Install Pipe Trench Insulation

A. Method of Measurement: Pipe trench insulation accepted for payment shall be the actual linear feet of trench insulation installed and accepted complete in place.

B. Basis of Payment:

1. The contract unit price per linear foot for pipe trench insulation shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items.
2. Deducted unit price for this item shall be the same as the unit price for Item 71 in the base project bid.

(B-13/B-14/B-15/B-16) Furnish and Install 6-inch, 8-inch, 10-inch, and 12-inch PVC Iron Water Main

- A. Method of Measurement: The quantity of water main to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid including all fittings and valves.
- B. Basis of Payment:
1. Water main shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all pipes, pipe fittings (except valves), labor, equipment, tools, and other materials required for the installation of the pipelines; for excavating, laying, setting, and jointing all pipes and fittings; for connections and couplings to existing pipes; for dewatering; for furnishing and placing all bedding, haunching and initial backfill; for backfilling; for thrust blocks and supports; for restraining joints; service saddles; for furnishing and placing all temporary sheeting and bracing; for cleaning and testing; for removal and disposal of existing water lines being replaced within the trench; for all labor, tools and construction equipment; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Payment for fire hydrant branch piping will be paid for under the Furnish and Install Hydrant Assemblies Item.
 3. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Water main successfully set in place and backfilled - 80 percent.
 - b. Water main pressure tested and disinfected - 20 percent.
 4. Deducted unit price for these items shall be the same as the unit price for Items A-1, A-2, A-3 and A-4 in the bid alternate A.

(B-17) Furnish and Install 1-inch Copper Service Pipe

- A. Method of Measurement: The quantity of service pipe to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid.
- B. Basis of Payment:
1. Pipe shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for all service pipe and fittings, labor, equipment, tools, and other materials required for the installation of service pipes; for excavating, laying, setting, and jointing all pipes and fittings; dewatering; for making all connections to existing services; for cleaning, testing, and disinfecting; for backfilling; for replacing or rebuilding shrubs, fences, lawns, trees, or other materials, except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Deducted unit price for this item shall be the same as the unit price for Item 65 in the base project bid.

(B-18/B-19) Furnish and Install 8-inch and 10-inch Gate Valves

- A. Method of Measurement: The quantity of gate valves to be paid for under this item shall be the actual number of valves and valve boxes installed complete in place.

Payment for gate valves installed on hydrant branches shall be paid for under the Furnish and Install Hydrant Assemblies Item.

B. Basis of Payment:

1. Gate valves shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, polywrap, and tools; for installing, setting, and jointing the valve and valve box; for restraining joints; for thrust blocks and supports; for valve box extensions; for testing all valves and valve boxes; and for all other work and expenses incidental thereto for which payment is not provided under other items.
2. Deducted unit price for these items shall be the same as the unit price for Items 66 and 67, respectively, in the base project bid.

(B-20) Furnish and Install 1-inch Corporation and Service Setup Assembly

A. Method of Measurement: The quantity of 1-inch corporation and service setup assemblies to be paid for under this item shall be the actual number furnished and installed for service connections.

B. Basis of Payment:

1. 1-inch corporation and service setup assemblies shall be paid for at the unit price per each 1-inch corporation and service setup assembly stated in the Bid Schedule. Said unit price shall be full compensation for all fittings, labor, equipment, tools, and materials required for the installation of the 1-inch corporation stop installed in main, curb stop and box installed to the right of way, protection of services, curb stops and boxes during the construction period, and the connection of service and all service pipe required; for excavating and backfilling, raising to grade, for replacing or rebuilding shrubs, fences, lawns, trees, tapping of main, and all materials except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.
2. Deducted unit price for this item shall be the same as the unit price for Item 72.

(B-21) Furnish and Install Hydrant Assemblies

A. Method of Measurement: The quantity of hydrant assemblies to be paid for under this item shall be the actual number installed complete in place.

B. Basis of Payment:

1. Hydrant assemblies shall be paid for at the unit price for each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for installing, setting, and jointing; for excavation; for removal of existing hydrants where directed; for all thrust blocks and supports; restraining joints; for the hydrant branch gate valve, tee, pipe and hydrant; hydrant snow markers; polywrap; cleaning, testing and disinfection and of all other work and expenses incidental thereto for which payment is not provided under other items.
2. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Hydrant assembly successfully set in place and backfilled - 80 percent
 - b. Hydrant assembly pressure tested and disinfected - 20 percent.

3. Deducted unit price for this item shall be the same as the unit price for Item 73.

(B-22) Furnish, Install, and Maintain Temporary Water Main during Construction

- A. Method of Measurement: Temporary water main accepted for payment shall be the linear feet of roadway on which temporary water main is installed and accepted complete in place.
- B. Basis of Payment: The contract unit price per linear foot for temporary water main shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items. Payment will be made based on the linear foot of the roadway centerline where temporary water has been installed. Multiple lines on a roadway or individual service connections will not be counted.
 1. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Temporary water main successfully set in place, pressure tested and disinfected with all customers connected to the system - 80 percent
 - b. After removal of the temporary water main once the proposed water main is in service - 20 percent.
 2. Deducted unit price for this item shall be the same as the unit price for Item 74.

BID ALTERNATE C – DEDUCT Removing Installation of Non Participating Sewer

(C-1) Mobilization and Demobilization

- A. Method of Measurement: Mobilization and Demobilization shall be paid for on a lump sum basis. The amount bid for this item shall not exceed 10% of the Base Bid.
- B. Basis of Payment: Mobilization/demobilization costs are those costs of initiating and ending the contract. Payment for mobilization/demobilization shall be a lump sum at the price bid as stated in the Bid Form. One half of the lump sum will be payable when the Contractor is operational on the site and the remaining half of the lump sum will be payable when the Contractor leaves the site following completion of all contract work. For purposes of payment on this item, "operational" shall mean the Engineer has approved the following: Construction Schedule, Erosion Control Plan, SWPPP plan, Traffic Control Plan, and pre-construction photographs. Only one lump sum payment divided into the two partial payments described herein shall be made to cover all mobilization/demobilization costs throughout the entire contract including but not limited to Preconstruction photographs and documentation, bonds, insurance, contract administration, shop drawings, warranties, guarantees, certifications and other submittals required by the Contract Documents.

(C-2) Flaggers for Traffic Control

- A. Method of Measurement: Flaggers for Traffic Control will be paid for on an hourly basis as stated in the bid schedule.
- B. Basis of Payment:
 1. The payment shall be full compensation for furnishing flaggers for traffic control completed to the satisfaction of the Owner and Engineer. The

- payment shall be on an hourly basis per flagger, and payment shall be based on invoiced hours for this project.
2. Payment will only be made if the traffic control effort is satisfactory to the Owner/Engineer. Contractor will be notified if daily effort is not satisfactory, such that improvements can be made in order to receive full payment under the item. Owner reserves the right to make partial payment or no payment under this item if traffic control is not to the Owner's satisfaction.
 3. Deducted unit price for this item shall be the same as the unit price for Item 5 in the base project bid.

(C-3) Traffic Regulation and Control

- A. Method of Measurement: Traffic regulation and control will be paid for at the Lump Sum unit price as stated in the Bid Schedule.
- B. Basis of Payment: Payment for traffic regulation and control shall constitute full compensation for all traffic regulation and control efforts (excluding uniformed Police Officers and flaggers) and including all labor, materials, equipment and supervision required to provide comprehensive and professional traffic regulation and control at all project locations. The traffic control plan, signage, temporary pavement markings for traffic re-routing and pedestrian safety are included in this item. The lump sum shall be paid in partial payments over the course of the project, where the percentage paid is equal to the percentage of completion of the entire Contract.

(C-4) Removal and Disposal of Pavement and Earth Excavation - Ineligible for Funding

- A. Method of Measurement: Removal and Disposal of Pavement and Earth Excavation measured for payment shall be the number of square yards of existing pavement and aggregate material removed, measured and calculated within the limits indicated on the drawings.
- B. Basis for Payment:
 1. The contract unit price per square yard for Removal and Disposal of Pavement and Earth Excavation shall constitute full compensation for all materials, labor and equipment necessary to complete excavation for roadway reconstruction and pavement to the depths as indicated in the plans, including excavation, saw cutting, removal of existing pavement, removal of existing aggregate materials, removal of sidewalks from back edge of sidewalk, transportation of existing bituminous pavement and existing base material off site, subgrade preparation, dust control and all else incidental thereto for which payment is not provided under other items.
 2. Project areas scheduled for mill and overlay covered under separate items.
 3. Project areas scheduled for pavement reclamation covered under separate item.
 4. Deducted unit price for this item shall be the same as the unit price for Item 33 in the base project bid.

(C-5) Furnish and Install Crushed Gravel Aggregate Base - Ineligible for Funding

- A. Method of Measurement: Placement of aggregate measured for payment shall be the number of cubic yards of aggregate placed for roadways, driveways and sidewalks

measured and calculated within the limits indicated on the plans, complete and in place.

B. Basis for Payment:

1. The contract unit price per cubic yard for placement of aggregate base shall constitute full compensation for all materials, labor and equipment necessary to complete this work including excavation, saw cutting, furnishing and transporting aggregate base to the project site, preparing subgrade, placing, grading, fine grading, compaction, dust control and all else incidental thereto for which payment is not provided under other items.
2. It includes gravel shoulders driveways and walkways.
3. Deducted unit price for this item shall be the same as the unit price for Item 34 in the base project bid.

(C-6/C-7) Furnish and Install Hot Bituminous Pavement: Machine Placed and Hand Placed - Ineligible for Funding

A. Method of Measurement:

1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. Machine placed - The number of tons of machine placed pavement within the limits as shown on the drawings.
 - b. Hand Placed - The number of tons of hand placed pavement within the limits as shown on the drawings.
 - c. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.

B. Basis of Payment:

1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam "shoe" if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
3. Deducted unit prices for these items shall be the same as the unit prices for Items 35 and 36, respectively, in the base project bid.

(C-8) Furnish and Install 2-inch Temporary Pavement Patch - Ineligible for Funding

A. Method of Measurement:

1. The quantity of temporary trench patch to be paid for under this item includes:
 - a. Temporary Pavement - The linear feet of temporary pavement placed.
 - b. Temporary pavement shall be measured along the length of the pipe installed. Temporary patch along service lines shall be measured from the edge of the patch placed along the main line to the back of the existing pavement.
2. All temporary patch should have a minimum thickness of 2-inches.

- B. Basis of Payment:
1. Pavement shall be paid for at the Contract unit price per linear foot stated in the Bid Schedule.
 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the preparation of base material, installation of temporary pavement to 2-inch thick, and installation of temporary pavement markings. No additional payment will be made to the contractor for repair work done by him in maintaining temporary bituminous concrete pavement.
 3. Deducted unit price for this item shall be the same as the unit price for Item 37 in the base project bid.

(C-9) Furnish and Install 8-inch PVC Gravity Sewer Pipe - Ineligible for Funding

- A. Method of Measurement: Sewer pipe measured for payment shall be the number of linear feet installed measured along the center line of the pipe as laid including fittings. Pipes shall be measured between centers of the manholes minus half the inside diameter of each manhole. Pipe installed into the manhole will not be measured for payment.
- B. Basis of Payment:
1. The contract unit price per linear foot for sewer pipe shall be full compensation for all labor, materials, and equipment necessary to complete this work including excavation (except ledge excavation), dewatering, bedding, furnishing and installing pipe and fittings, making connections to new and existing manholes, installation of impervious material dams, backfill, compaction, cleaning, testing, maintaining existing flows during construction of new facilities and all else incidental thereto for which payment is not provided under other items.
 2. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Sewer pipe acceptably set in place and backfilled - 90 percent.
 - b. Sewer pipe successfully tested - 10 percent.
 3. Deducted unit price for this item shall be the same as the unit price for Item 55 in the base project bid.

(C-10) Furnish and Install 6-inch Sanitary Service Connections within the Right-of-Way - Ineligible for Funding

- A. Method of Measurement: This item shall consist of installing house sanitary service leads from sanitary sewer mains to the edge of right-of-way as shown on the Drawings and/or as determined in the field. Measurement shall be from the top of the tee or wye in the main to the edge of right-of-way measured along the centerline of the pipe.
- B. Basis of Payment:
1. The contract unit price per linear foot shall be full compensation for all labor, materials, and equipment necessary to complete this work including locating the existing service, excavation (except ledge excavation), dewatering, bedding, furnishing and installing pipe and fittings, adequately capping service connection and marking location as specified and shown on the

Drawings or connection to existing service, backfilling, compaction, cleaning, resetting existing features, maintaining existing flows during construction of new facilities and all else incidental thereto for which payment is not provided under other items.

2. Item 55A is ineligible for EDA funding, therefore, will be funded separately.

(C-11) Furnish and Install 4-foot Diameter Sewer Manholes - Ineligible for Funding

- A. Method of Measurement: Sanitary manholes accepted for payment shall be the actual vertical feet of structures installed and accepted complete in place, from the lowest invert to the top of the precast structure.
- B. Basis of Payment:
 1. The contract unit price per vertical foot shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation (except ledge excavation), bedding, furnishing and installing precast concrete sections, frost protective wrap, masonry materials, waterproofing, constructing inverts, backfilling, compaction, cleaning, testing, maintaining existing flows during construction, and all else incidental thereto for which payment is not provided under other items.
 2. Payment for this item shall be as follows:
 - a. 90 percent of the unit price upon installation of manholes.
 - b. 10 percent of the unit price upon successful completion of cleaning and final manhole testing.
 3. Deducted unit price for this item shall be the same as the unit price for Item 56 in the base project bid.

(C-12) Furnish and Install Sewer Manholes Frames and Covers - Ineligible for Funding

- A. Method of Measurement: The quantity of sewer manhole frames and covers to be paid for under these items shall be the number of frames and covers installed and accepted complete in place.
- B. Basis of Payment: sewer manhole frames and covers shall be paid for as stated in the Bid Schedule. Said unit price shall be full compensation for all labor, materials and equipment necessary to complete the installations including excavation, bedding, furnishing and installing frames and covers, including locking frames and covers where called for in the plans, installation of brick between the frame and top of precast structure, installation at proper grade first for the binder course and again for the wearing course pavement, backfilling, compaction, and all else incidental thereto for which payment is not provided under other items. Deducted unit price for this item shall be the same as the unit price for Item 57 in the base project bid.

(C-13) Furnish and Install 8-inch Inside Manhole Drop Connections - Ineligible for Funding

- A. Method of Measurement: Manhole Drop Connections measured for payment shall be the actual vertical feet of pipe furnished and installed measured from the invert of the inlet pipe to the lowest manhole invert.
- B. Basis of Payment: The contract unit price per vertical foot shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including furnishing and installing pipe, coring structures, fittings and

pipe supports, constructing inverts and all else incidental thereto for which payment is not provided under other items. Deducted unit price for this item shall be the same as the unit price for Item 58 in the base project bid.

(C-14) Excavation of Unsuitable Material and Replacement Backfill - Ineligible for Funding

- A. Method of Measurement: Quantity to be paid for under this item shall be the number of cubic yards of material replaced with materials from off-site as authorized by the Engineer.
- B. Basis of Payment:
 - 1. Excavated unsuitable materials shall be paid for at the unit price per cubic yard stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all labor, equipment, and tools necessary for the excavation of unsuitable material including the disposal of materials; furnishing installing and compacting replacement suitable backfill, and for all other work and expenses incidental thereto for which payment is not provided under other items.
 - 2. Material excavated that could have, in the opinion of the Engineer, remained in place through the use of adequate dewatering efforts shall be replaced by the Contractor at no additional cost to the Owner.
 - 3. Removal and disposal of Contaminated Soil is covered under separate items.
 - 4. Deducted unit price for this item shall be the same as the unit price for Item 59 in the base project bid.

(C-15) Trench Excavation - Ledge - Ineligible for Funding

- A. Method of Measurement: Ledge excavation measured for payment shall be the number of cubic yards of ledge removed during construction. This quantity shall be determined by:
 - 1. Exposing the ledge profile for measurement. Excavation and backfill of the earth overburden shall be considered incidental, and no separate payment shall be made therefore.
 - 2. Should the Contractor elect to pre-drill and blast ledge without exposing the ledge surface for measurement, ledge depths shall be determined by the Resident Project Representative at the time of drilling or, when direct drilling observation is not conducted, the ledge profile shall be measured after excavation, and 20% of the ledge volume thus measured shall be deducted due to ledge expansion caused by the blasting operation.
 - 3. The payment limit for trench width shall be between vertical planes which are a distance apart equal to the sum of 18 inches plus 1-1/3 times the nominal outside diameter of pipe which is to be installed in the trench (min. of 3 feet) and extending from the top of the ledge surface to a depth of 6 inches below the invert grade of the pipe. Where two pipes are installed in the same trench, trench ledge excavation shall be measured as the actual volume of ledge removed between vertical planes which are a distance apart equal to the sum of 3 feet plus the sum of the pipes nominal outside diameter. Where three pipes are installed in the same trench, trench ledge excavation shall be measured as the actual volume of ledge removed between vertical planes

which are a distance apart equal to the sum of 4.5 feet plus the sum of the pipes nominal outside diameter.

- a. Ledge excavation for structures (including manholes) shall be measured as 18 inches outside the structure and extending to a depth of 6 inches below the base of the structure indicated on the Drawings.
 - b. Rocks or boulders greater than two cubic yards volume shall be considered as ledge excavation. Volume of rocks shall be determined from their average length, width, and depth as measured by the Engineer.
- B. Basis of Payment: The contract unit price per cubic yard for ledge excavation shall be full compensation for all labor, materials, tools and equipment necessary to complete the excavation including conducting the pre-blast survey, drilling, blasting, excavating, loading and disposing the excess or unusable material outside the work limits, suitable replacement backfill, and all else incidental thereto for which payment is not provided under other items. Deducted unit price for this item shall be the same as the unit price for Item 60 in the base project bid.

BID ALTERNATE D – DEDUCT Removing Installation of Water Main on Salmon Falls Rd from STA 1+00 to STA 17+00

(D-1) Mobilization and Demobilization

- A. Method of Measurement: Mobilization and Demobilization shall be paid for on a lump sum basis. The amount bid for this item shall not exceed 10% of the Base Bid.
- B. Basis of Payment: Mobilization/demobilization costs are those costs of initiating and ending the contract. Payment for mobilization/demobilization shall be a lump sum at the price bid as stated in the Bid Form. One half of the lump sum will be payable when the Contractor is operational on the site and the remaining half of the lump sum will be payable when the Contractor leaves the site following completion of all contract work. For purposes of payment on this item, "operational" shall mean the Engineer has approved the following: Construction Schedule, Erosion Control Plan, SWPPP plan, Traffic Control Plan, and pre-construction photographs .

(D-2) Flaggers for Traffic Control

- A. Method of Measurement: Flaggers for Traffic Control will be paid for on an hourly basis as stated in the bid schedule.
- B. Basis of Payment:
 1. The payment shall be full compensation for furnishing flaggers for traffic control completed to the satisfaction of the Owner and Engineer. The payment shall be on an hourly basis per flagger, and payment shall be based on invoiced hours for this project.
 2. Payment will only be made if the traffic control effort is satisfactory to the Owner/Engineer. Contractor will be notified if daily effort is not satisfactory, such that improvements can be made in order to receive full payment under the item. Owner reserves the right to make partial payment or no payment under this item if traffic control is not to the Owner's satisfaction.

3. Deducted unit price for this item shall be the same as the unit price for Item 5 in the base project bid.

(D-3) Traffic Regulation and Control

- A. Method of Measurement: Traffic regulation and control will be paid for at the Lump Sum unit price as stated in the Bid Schedule.
- B. Basis of Payment: Payment for traffic regulation and control shall constitute full compensation for all traffic regulation and control efforts (excluding uniformed Police Officers and flaggers) and including all labor, materials, equipment and supervision required to provide comprehensive and professional traffic regulation and control at all project locations. The traffic control plan, signage, temporary pavement markings for traffic re-routing and pedestrian safety are included in this item. The lump sum shall be paid in partial payments over the course of the project, where the percentage paid is equal to the percentage of completion of the entire Contract.

(D-4) Removal and Disposal of Pavement and Earth Excavation

- A. Method of Measurement: Removal and Disposal of Pavement and Earth Excavation measured for payment shall be the number of square yards of existing pavement and aggregate material removed, measured and calculated within the limits indicated on the drawings.
- B. Basis for Payment:
 1. The contract unit price per square yard for Removal and Disposal of Pavement and Earth Excavation shall constitute full compensation for all materials, labor and equipment necessary to complete excavation for roadway reconstruction and pavement to the depths as indicated in the plans, including excavation, saw cutting, removal of existing pavement, removal of existing aggregate materials, removal of sidewalks from back edge of sidewalk, transportation of existing bituminous pavement and existing base material off site, subgrade preparation, dust control and all else incidental thereto for which payment is not provided under other items.
 2. Project areas scheduled for mill and overlay covered under separate items.
 3. Project areas scheduled for pavement reclamation covered under separate item.
 4. Deducted unit price for this item shall be the same as the unit price for Item 14 in the base project bid.

(D-5) Reclaim Pavement, 12" Depth

- A. Method of Measurement: The number of square yards of pavement to be measured for payment shall be the actual number of square yards placed as requested by and/or authorized by the Engineer as measured in place.
- B. Basis of Payment:
 1. Reclaim Pavement shall be paid for at the Contract Unit Price per square yard stated in the Bid Schedule.
 2. Said unit price shall be full compensation for all materials, labor, construction equipment, tools; and for all other work and expenses incidental thereto.
 3. Deducted unit price for this item shall be the same as the unit price for Item 15 in the base project bid.

(D-6) Furnish and Install Hot Bituminous Pavement: Machine Placed

A. Method of Measurement:

1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. The number of tons of machine placed pavement within the limits as shown on the drawings.
 - b. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.

B. Basis of Payment:

1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam "shoe" if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
3. Deducted unit price for this item shall be the same as the unit price for Item 19 in the base project bid.

(D-7) Furnish and Install Hot Bituminous Pavement: Hand Placed

A. Method of Measurement:

1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. The number of tons of hand placed pavement within the limits as shown on the drawings.
 - b. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.

B. Basis of Payment:

1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam "shoe" if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
3. Deducted unit price for this item shall be the same as the unit price for Item 20 in the base project bid.

(D-8/D-9) Furnish and Install Stop Bars and 4-inch Wide Pavement Striping

- A. Method of Measurement: Stop bars shall be measured as the actual length of the stop bars installed. The quantity of 4-inch wide pavement stripes to be paid for under this item shall consist of the actual number of linear feet of single width stripes placed at the direction of the Engineer within the payment limits shown on the Drawings.
- B. Basis of Payment:
 - 1. Payment for stop bars and 4-inch wide stripes shall be paid at the Contract Unit Prices per linear feet stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for furnishing and placement of stop bars and striping.
 - 3. Deducted unit price for these items shall be the same as the unit price for Items 23 and 24 in the base project bid.

(D-10) Furnish and Install 2-inch Temporary Pavement Patch

- A. Method of Measurement:
 - 1. The quantity of temporary trench patch to be paid for under this item includes:
 - a. Temporary Pavement - The linear feet of temporary pavement placed.
 - b. Temporary pavement shall be measured along the length of the pipe installed. Temporary patch along service lines shall be measured from the edge of the patch placed along the main line to the back of the existing pavement.
 - 2. All temporary patches should have a minimum thickness of 2-inches.
- B. Basis of Payment:
 - 1. Pavement shall be paid for at the Contract unit price per linear foot stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the preparation of base material, installation of temporary pavement to 2-inch thick, and installation of temporary pavement markings. No additional payment will be made to the contractor for repair work done by him in maintaining temporary bituminous concrete pavement.
 - 3. Deducted unit price for this item shall be the same as the unit price for Item 25 in the base project bid.

(D-11) Loam and Seed

- A. Method of Measurement: Loaming and seeding measured for payment shall be the number of square yards of surface area completed. Measurement shall be the linear foot of standard plane geometric shapes with conversion to square yards.
- B. Basis of Payment:
 - 1. The unit price bid per square yard of loaming and seeding shall be full compensation for all labor, material and equipment necessary to complete the installation including excavation, preparing the bed, spreading and compacting loam, preparing the seed bed, spreading the seed, installing fertilizer, lime and mulch, establishing a satisfactory growth of grass and all else incidental thereto for which payment is not provided under other items.

2. Deducted unit price for this item shall be the same as the unit price for Item 31 in the base project bid.

(D-12) Furnish and Install Pipe Trench Insulation

- A. Method of Measurement: Pipe trench insulation accepted for payment shall be the actual linear feet of trench insulation installed and accepted complete in place.
- B. Basis of Payment:
 1. The contract unit price per linear foot for pipe trench insulation shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items.
 2. Deducted unit price for this item shall be the same as the unit price for Item 71 in the base project bid.

(D-13/D-14/D-15/D-16) Furnish and Install 6-inch, 8-inch, 10-inch, and 12-inch PVC Iron Water Main

- A. Method of Measurement: The quantity of water main to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid including all fittings and valves.
- B. Basis of Payment:
 1. Water main shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all pipes, pipe fittings (except valves), labor, equipment, tools, and other materials required for the installation of the pipelines; for excavating, laying, setting, and jointing all pipes and fittings; for connections and couplings to existing pipes; for dewatering; for furnishing and placing all bedding, haunching and initial backfill; for backfilling; for thrust blocks and supports; for restraining joints; service saddles; for furnishing and placing all temporary sheeting and bracing; for cleaning and testing; for removal and disposal of existing water lines being replaced within the trench; for all labor, tools and construction equipment; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Payment for fire hydrant branch piping will be paid for under the Furnish and Install Hydrant Assemblies Item.
 3. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Water main successfully set in place and backfilled - 80 percent.
 - b. Water main pressure tested and disinfected - 20 percent.
 4. Deducted unit price for these items shall be the same as the unit price for Items A-1, A-2, A-3 and A-4 in the bid alternate A.

(D-17) Furnish and Install 1-inch Copper Service Pipe

- A. Method of Measurement: The quantity of service pipe to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid.
- B. Basis of Payment:

1. Pipe shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for all service pipe and fittings, labor, equipment, tools, and other materials required for the installation of service pipes; for excavating, laying, setting, and jointing all pipes and fittings; dewatering; for making all connections to existing services; for cleaning, testing, and disinfecting; for backfilling; for replacing or rebuilding shrubs, fences, lawns, trees, or other materials, except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.
2. Deducted unit price for this item shall be the same as the unit price for Item 65 in the base project bid.

(D-18/D-19) Furnish and Install 8-inch and 10-inch Gate Valves

- A. Method of Measurement: The quantity of gate valves to be paid for under this item shall be the actual number of valves and valve boxes installed complete in place. Payment for gate valves installed on hydrant branches shall be paid for under the Furnish and Install Hydrant Assemblies Item.
- B. Basis of Payment:
 1. Gate valves shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, polywrap, and tools; for installing, setting, and jointing the valve and valve box; for restraining joints; for thrust blocks and supports; for valve box extensions; for testing all valves and valve boxes; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Deducted unit price for these items shall be the same as the unit price for Items 66 and 67, respectively, in the base project bid.

(D-20) Furnish and Install 1-inch Corporation and Service Setup Assembly

- A. Method of Measurement: The quantity of 1-inch corporation and service setup assemblies to be paid for under this item shall be the actual number furnished and installed for service connections.
- B. Basis of Payment:
 1. 1-inch corporation and service setup assemblies shall be paid for at the unit price per each 1-inch corporation and service setup assembly stated in the Bid Schedule. Said unit price shall be full compensation for all fittings, labor, equipment, tools, and materials required for the installation of the 1-inch corporation stop installed in main, curb stop and box installed to the right of way, protection of services, curb stops and boxes during construction, and the connection of service and all service pipe required; for excavating and backfilling, raising to grade, for replacing or rebuilding shrubs, fences, lawns, trees, tapping of main, and all materials except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Deducted unit price for this item shall be the same as the unit price for Item 72.

(D-21) Furnish and Install Hydrant Assemblies

- A. Method of Measurement: The quantity of hydrant assemblies to be paid for under this item shall be the actual number installed complete in place.
- B. Basis of Payment:
 - 1. Hydrant assemblies shall be paid for at the unit price for each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for installing, setting, and jointing; for excavation; for removal of existing hydrants where directed; for all thrust blocks and supports; restraining joints; for the hydrant branch gate valve, tee, pipe and hydrant; hydrant snow markers; polywrap; cleaning, testing and disinfection and of all other work and expenses incidental thereto for which payment is not provided under other items.
 - 2. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Hydrant assembly successfully set in place and backfilled - 80 percent
 - b. Hydrant assembly pressure tested and disinfected - 20 percent.
 - 3. Deducted unit price for this item shall be the same as the unit price for Item 73.

(D-22) Furnish, Install, and Maintain Temporary Water Main during Construction

- A. Method of Measurement: Temporary water main accepted for payment shall be the linear feet of roadway on which temporary water main is installed and accepted complete in place.
- B. Basis of Payment: The contract unit price per linear foot for temporary water main shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items. Payment will be made based on the linear foot of the roadway centerline where temporary water has been installed. Multiple lines on a roadway or individual service connections will not be counted.
 - 1. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Temporary water main successfully set in place, pressure tested and disinfected with all customers connected to the system - 80 percent
 - b. After removal of the temporary water main once the proposed water main is in service - 20 percent.
 - 2. Deducted unit price for this item shall be the same as the unit price for Item 74.

BID ALTERNATE E – DEDUCT Removing Installation of Water Main on Salmon Falls Rd
from STA 17+00 to STA 27+00

(E-1) Mobilization and Demobilization

- A. Method of Measurement: Mobilization and Demobilization shall be paid for on a lump sum basis. The amount bid for this item shall not exceed 10% of the Base Bid.
- B. Basis of Payment: Mobilization/demobilization costs are those costs of initiating and ending the contract. Payment for mobilization/demobilization shall be a lump sum at the price bid as stated in the Bid Form. One half of the lump sum will be payable when the Contractor is operational on the site and the remaining half of the lump sum will be payable when the Contractor leaves the site following completion of all contract work. For purposes of payment on this item, "operational" shall mean the Engineer has approved the following: Construction Schedule, Erosion Control Plan, SWPPP plan, Traffic Control Plan, and pre-construction photographs.

(E-2) Flaggers for Traffic Control

- A. Method of Measurement: Flaggers for Traffic Control will be paid for on an hourly basis as stated in the bid schedule.
- B. Basis of Payment:
 - 1. The payment shall be full compensation for furnishing flaggers for traffic control completed to the satisfaction of the Owner and Engineer. The payment shall be on an hourly basis per flagger, and payment shall be based on invoiced hours for this project.
 - 2. Payment will only be made if the traffic control effort is satisfactory to the Owner/Engineer. Contractor will be notified if daily effort is not satisfactory, such that improvements can be made in order to receive full payment under the item. Owner reserves the right to make partial payment or no payment under this item if traffic control is not to the Owner's satisfaction.
 - 3. Deducted unit price for this item shall be the same as the unit price for Item 5 in the base project bid.

(E-3) Traffic Regulation and Control

- A. Method of Measurement: Traffic regulation and control will be paid for at the Lump Sum unit price as stated in the Bid Schedule.
- B. Basis of Payment: Payment for traffic regulation and control shall constitute full compensation for all traffic regulation and control efforts (excluding uniformed Police Officers and flaggers) and including all labor, materials, equipment and supervision required to provide comprehensive and professional traffic regulation and control at all project locations. The traffic control plan, signage, temporary pavement markings for traffic re-routing and pedestrian safety are included in this item. The lump sum shall be paid in partial payments over the course of the project, where the percentage paid is equal to the percentage of completion of the entire Contract.

(E-4) Removal and Disposal of Pavement and Earth Excavation

- A. Method of Measurement: Removal and Disposal of Pavement and Earth Excavation measured for payment shall be the number of square yards of existing pavement and

aggregate material removed, measured and calculated within the limits indicated on the drawings.

B. Basis for Payment:

1. The contract unit price per square yard for Removal and Disposal of Pavement and Earth Excavation shall constitute full compensation for all materials, labor and equipment necessary to complete excavation for roadway reconstruction and pavement to the depths as indicated in the plans, including excavation, saw cutting, removal of existing pavement, removal of existing aggregate materials, removal of sidewalks from back edge of sidewalk, transportation of existing bituminous pavement and existing base material off site, subgrade preparation, dust control and all else incidental thereto for which payment is not provided under other items.
2. Project areas scheduled for mill and overlay covered under separate items.
3. Project areas scheduled for pavement reclamation covered under separate item.
4. Deducted unit price for this item shall be the same as the unit price for Item 14 in the base project bid.

(E-5) Reclaim Pavement, 12" Depth

A. Method of Measurement: The number of square yards of pavement to be measured for payment shall be the actual number of square yards placed as requested by and/or authorized by the Engineer as measured in place.

B. Basis of Payment:

1. Reclaim Pavement shall be paid for at the Contract Unit Price per square yard stated in the Bid Schedule.
2. Said unit price shall be full compensation for all materials, labor, construction equipment, tools; and for all other work and expenses incidental thereto.
3. Deducted unit price for this item shall be the same as the unit price for Item 15 in the base project bid.

(E-6) Furnish and Install Hot Bituminous Pavement: Machine Placed

A. Method of Measurement:

1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. The number of tons of machine placed pavement within the limits as shown on the drawings.
 - b. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.

B. Basis of Payment:

1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam

- “shoe” if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
3. Deducted unit price for this item shall be the same as the unit price for Item 19 in the base project bid.

(E-7) Furnish and Install Hot Bituminous Pavement: Hand Placed

- A. Method of Measurement:
 1. The quantity of bituminous concrete pavement to be paid for under this item includes:
 - a. The number of tons of hand placed pavement within the limits as shown on the drawings.
 - b. Actual widths will be used in computing areas wherever the width of pavement is less than the above specified limits.
 2. The conversion factor to change volume of bituminous concrete pavement measured in place to tons will be 0.055 tons per square yard per inch of thickness.
- B. Basis of Payment:
 1. Pavement shall be paid for at the Contract unit price per ton or square yard stated in the Bid Schedule.
 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the placement of all bituminous materials, including, preparation of base material, application of tack coat and seam “shoe” if requested. No additional payment will be made to the contractor for repair work done by him in maintaining bituminous concrete pavement.
 3. Deducted unit price for this item shall be the same as the unit price for Item 20 in the base project bid.

(E-8/E-9) Furnish and Install Stop Bars and 4-inch Wide Pavement Striping

- A. Method of Measurement: Stop bars shall be measured as the actual length of the stop bars installed. The quantity of 4-inch wide pavement stripes to be paid for under this item shall consist of the actual number of linear feet of single width stripes placed at the direction of the Engineer within the payment limits shown on the Drawings.
- B. Basis of Payment:
 1. Payment for stop bars and 4-inch wide stripes shall be paid at the Contract Unit Prices per linear feet stated in the Bid Schedule.
 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for furnishing and placement of stop bars and striping.
 3. Deducted unit price for these items shall be the same as the unit price for Items 23 and 24 in the base project bid.

(E-10) Furnish and Install 2-inch Temporary Pavement Patch

- A. Method of Measurement:
 1. The quantity of temporary trench patch to be paid for under this item includes:
 - a. Temporary Pavement - The linear feet of temporary pavement placed.

- b. Temporary pavement shall be measured along the length of the pipe installed. Temporary patch along service lines shall be measured from the edge of the patch placed along the main line to the back of the existing pavement.
- 2. All temporary patches should have a minimum thickness of 2-inches.
- B. Basis of Payment:
 - 1. Pavement shall be paid for at the Contract unit price per linear foot stated in the Bid Schedule.
 - 2. Said unit price shall be full compensation for furnishing all materials, labor, equipment and tools necessary for the preparation of base material, installation of temporary pavement to 2-inch thick, and installation of temporary pavement markings. No additional payment will be made to the contractor for repair work done by him in maintaining temporary bituminous concrete pavement.
 - 3. Deducted unit price for this item shall be the same as the unit price for Item 25 in the base project bid.

(E-11) Loam and Seed

- A. Method of Measurement: Loaming and seeding measured for payment shall be the number of square yards of surface area completed. Measurement shall be the linear foot of standard plane geometric shapes with conversion to square yards.
- B. Basis of Payment:
 - 1. The unit price bid per square yard of loaming and seeding shall be full compensation for all labor, material and equipment necessary to complete the installation including excavation, preparing the bed, spreading and compacting loam, preparing the seed bed, spreading the seed, installing fertilizer, lime and mulch, establishing a satisfactory growth of grass and all else incidental thereto for which payment is not provided under other items.
 - 2. Deducted unit price for this item shall be the same as the unit price for Item 31 in the base project bid.

(E-12) Furnish and Install Pipe Trench Insulation

- A. Method of Measurement: Pipe trench insulation accepted for payment shall be the actual linear feet of trench insulation installed and accepted complete in place.
- B. Basis of Payment:
 - 1. The contract unit price per linear foot for pipe trench insulation shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items.
 - 2. Deducted unit price for this item shall be the same as the unit price for Item 71 in the base project bid.

(E-13/E-14/E-15/E-16) Furnish and Install 6-inch, 8-inch, 10-inch, and 12-inch PVC Iron Water Main

- A. Method of Measurement: The quantity of water main to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid including all fittings and valves.
- B. Basis of Payment:
1. Water main shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all pipes, pipe fittings (except valves), labor, equipment, tools, and other materials required for the installation of the pipelines; for excavating, laying, setting, and jointing all pipes and fittings; for connections and couplings to existing pipes; for dewatering; for furnishing and placing all bedding, haunching and initial backfill; for backfilling; for thrust blocks and supports; for restraining joints; service saddles; for furnishing and placing all temporary sheeting and bracing; for cleaning and testing; for removal and disposal of existing water lines being replaced within the trench; for all labor, tools and construction equipment; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Payment for fire hydrant branch piping will be paid for under the Furnish and Install Hydrant Assemblies Item.
 3. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Water main successfully set in place and backfilled - 80 percent.
 - b. Water main pressure tested and disinfected - 20 percent.
 4. Deducted unit price for these items shall be the same as the unit price for Items A-1, A-2, A-3 and A-4 in the bid alternate A.

(E-17) Furnish and Install 1-inch Copper Service Pipe

- A. Method of Measurement: The quantity of service pipe to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid.
- B. Basis of Payment:
1. Pipe shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for all service pipe and fittings, labor, equipment, tools, and other materials required for the installation of service pipes; for excavating, laying, setting, and jointing all pipes and fittings; dewatering; for making all connections to existing services; for cleaning, testing, and disinfecting; for backfilling; for replacing or rebuilding shrubs, fences, lawns, trees, or other materials, except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.
 2. Deducted unit price for this item shall be the same as the unit price for Item 65 in the base project bid.

(E-18/E-19) Furnish and Install 8-inch and 10-inch Gate Valves

- A. Method of Measurement: The quantity of gate valves to be paid for under this item shall be the actual number of valves and valve boxes installed complete in place.

Payment for gate valves installed on hydrant branches shall be paid for under the Furnish and Install Hydrant Assemblies Item.

B. Basis of Payment:

1. Gate valves shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, polywrap, and tools; for installing, setting, and jointing the valve and valve box; for restraining joints; for thrust blocks and supports; for valve box extensions; for testing all valves and valve boxes; and for all other work and expenses incidental thereto for which payment is not provided under other items.
2. Deducted unit price for these items shall be the same as the unit price for Items 66 and 67, respectively, in the base project bid.

(E-20) Furnish and Install 1-inch Corporation and Service Setup Assembly

A. Method of Measurement: The quantity of 1-inch corporation and service setup assemblies to be paid for under this item shall be the actual number furnished and installed for service connections.

B. Basis of Payment:

1. 1-inch corporation and service setup assemblies shall be paid for at the unit price per each 1-inch corporation and service setup assembly stated in the Bid Schedule. Said unit price shall be full compensation for all fittings, labor, equipment, tools, and materials required for the installation of the 1-inch corporation stop installed in main, curb stop and box installed to the right of way, protection of services, curb stops and boxes during construction, and the connection of service and all service pipe required; for excavating and backfilling, raising to grade, for replacing or rebuilding shrubs, fences, lawns, trees, tapping of main, and all materials except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.
2. Deducted unit price for this item shall be the same as the unit price for Item 72.

(E-21) Furnish and Install Hydrant Assemblies

A. Method of Measurement: The quantity of hydrant assemblies to be paid for under this item shall be the actual number installed complete in place.

B. Basis of Payment:

1. Hydrant assemblies shall be paid for at the unit price for each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for installing, setting, and jointing; for excavation; for removal of existing hydrants where directed; for all thrust blocks and supports; restraining joints; for the hydrant branch gate valve, tee, pipe and hydrant; hydrant snow markers; polywrap; cleaning, testing and disinfection and of all other work and expenses incidental thereto for which payment is not provided under other items.
2. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Hydrant assembly successfully set in place and backfilled - 80 percent
 - b. Hydrant assembly pressure tested and disinfected - 20 percent.

3. Deducted unit price for this item shall be the same as the unit price for Item 73.

(E-22) Furnish, Install, and Maintain Temporary Water Main during Construction

- A. Method of Measurement: Temporary water main accepted for payment shall be the linear feet of roadway on which temporary water main is installed and accepted complete in place.
- B. Basis of Payment: The contract unit price per linear foot for temporary water main shall be full compensation for all labor, materials, tools and equipment necessary to complete this work including excavation, bedding, insulation, backfill, compaction and all else incidental thereto for which payment is not provided under other items. Payment will be made based on the linear foot of the roadway centerline where temporary water has been installed. Multiple lines on a roadway or individual service connections will not be counted.
 1. Payment for this work on interim requisitions shall be according to the following proceedings:
 - a. Temporary water main successfully set in place, pressure tested and disinfected with all customers connected to the system - 80 percent
 - b. After removal of the temporary water main once the proposed water main is in service - 20 percent.
 2. Deducted unit price for this item shall be the same as the unit price for Item 74.

END OF SECTION

SECTION 02623PERFORATED PLASTIC (UNDERDRAIN) PIPEPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included: Provide and install Perforated Plastic pipe and fittings of the size(s) and type(s) and in the location(s) shown on the Drawings and as specified herein.
- B. Related Work Specified Elsewhere: (When Applicable)
 - 1. Excavation and backfill, dewatering, pavement, borrow and bedding material are specified in the appropriate sections of this division.
 - 2. Pipe Fittings - General.
 - 3. As-built drawings

1.2 QUALITY ASSURANCE

- A. Manufacturers:
 - 1. Advanced Drainage Systems, Inc.
 - 2. J-M Manufacturing.
 - 3. Or equivalent.

PART 2 - PRODUCTS2.1 MATERIALS

- A. Pipe and Fittings:
 - 1. Smooth wall perforated PVC pipe shall conform to the requirements of AASHTO M 278.
 - 2. Corrugated Plastic Slot-perforated Pipe. This pipe shall conform to the requirements of AASHTO M 252 heavy duty.
- B. Joints:
 - 1. The gaskets shall be of a composition and texture which is resistant to common ingredients of sewage and industrial wastes, including oils and ground water, and which will endure permanently under the conditions of the proposed use.
 - 2. The joints shall be soil-tight.

PART 3 - EXECUTION3.1 INSTALLATION

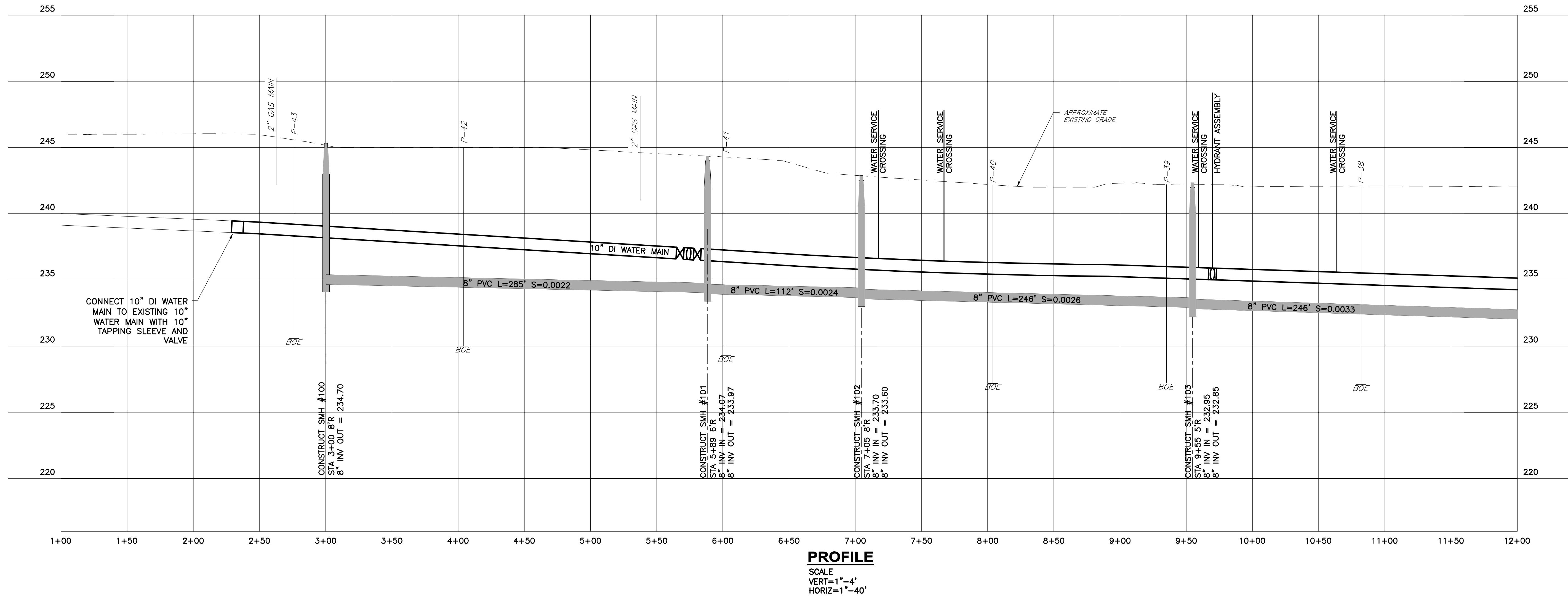
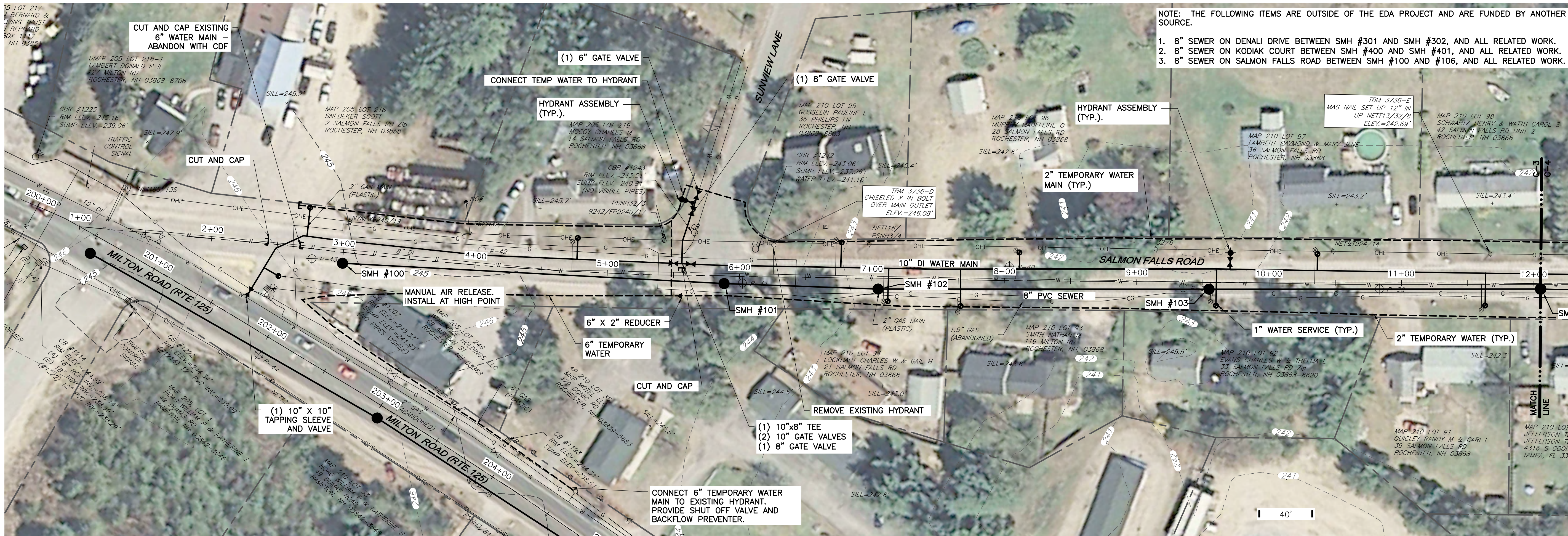
- A. Inspection:
 - 1. The centerline of the pipe shall not deviate from a straight line drawn between the centers of the openings at the ends of the pipe by more than 1/4 inch per foot of length.
 - 2. If a piece of pipe fails to meet this requirement for straightness it shall be rejected and removed from the site.

3. Any pipe unit or fitting discovered to be defective either before or after installation shall be removed and replaced with a sound unit.
 4. Any pipe unit or fitting discovered to be defective either before or after installation shall be removed and replaced with a sound unit.
- B. Jointing:
1. All pipe and fittings shall be cleared of all debris, dirt, etc., before being installed and shall be kept clean until accepted in the completed work.
 2. Pipe and fittings shall be installed to the lines and grades indicated on the drawings or as required by the Engineer. Care shall be taken to insure true alignments and gradients.
 3. Joints shall not be "pulled" or "cramped" unless permitted by the Engineer.
- C. Pipe Deflection:
1. Pipe provided under this specification shall be installed so there is no more than a maximum deflection of 5.0 percent. Such deflection shall be computed by multiplying the amount of deflection (normal diameter less minimum diameter when measured) by 100 and dividing by the nominal diameter of the pipe.
- D. Construction:
1. The trench shall be excavated to the required width and depth and a bed of the specified granular material, to the depth as specified in the drawings, shall be prepared in the trench. Perforated pipe shall be laid in this bed with the perforations above the springline of the pipe.
 2. After the pipe has been firmly bedded and joints securely connected, it will be inspected before any backfill is placed. The remaining backfill shall be granular material meeting the same requirements as that used for bedding the pipe.
 3. For underdrain placed under areas of proposed pavement, the backfill material shall be placed in 8 inch layers, loose measure and thoroughly compacted except that the initial layer of backfill around the pipe may be placed in a layer not exceeding 12 inches. For underdrains placed under areas not proposed to be paved, the initial layer of backfill shall not exceed 12 inches and the remaining material may be placed in 1 lift to the elevation of the subgrade and compacted with heavy rubber tired or vibratory compaction equipment to the satisfaction of the Engineer.
 4. The upstream end of all completed underdrain pipe that is to be buried shall be sealed with PVC or HDPE cap, or other acceptable material. Care shall be taken that soil does not enter the pipe. Pipe so contaminated before backfilling shall be removed, cleaned and re-laid. The downstream end of the pipe shall be connected to a drainage structure unless the Engineer directs otherwise.
 5. When underdrain is to be constructed in embankment fill, the excavation for the trench shall be done after the embankment has been completed to subgrade elevations.
 6. Locations and connections of all underdrains, including retaining wall foundation drains shall be included in the recorded as built information and included in the drawings.

END OF SECTION

ALTERNATE NOTES:

1. ALTERNATE "C" - DEDUCT THE INSTALLATION OF NON PARTICIPATING 8" SEWER ON SALMON FALLS ROAD BETWEEN SMH #100 AND SMH #106.
2. ALTERNATE "D" - DEDUCT THE INSTALLATION OF WATER MAIN ON SALMON FALLS ROAD BETWEEN STA 1+00 AND STA 17+00.



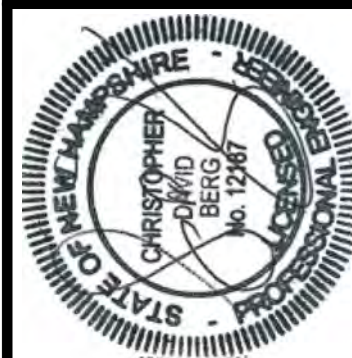
**CITY OF ROCHESTER, NEW HAMPSHIRE
SALMON FALLS & MILTON ROAD
WATER & SEWER IMPROVEMENTS**

DRAWING

C-3

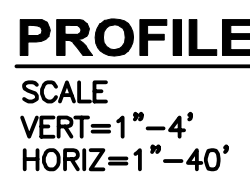
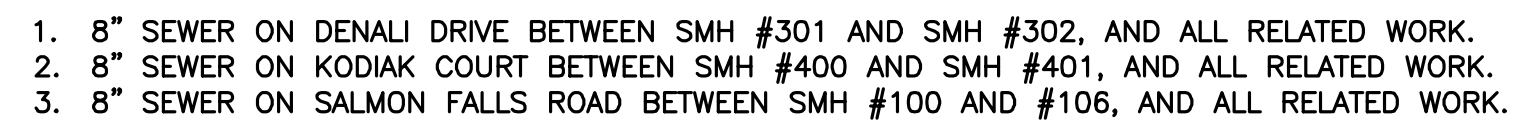
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DESIGNED BY	DDL/WTE	NO	ISSUED FOR BIDDING	SUBMISSIONS/REVISIONS	DATE
CAD COORD.	WTE				CDB 2/16
CAD	WTE	ADDENDUM 1			CDB 3/16
CHECKED BY:					
DATE:	2/10/16				
APPROVED BY:					
DATE:	2/15/16				
PROJECT NO.	12928B				

1. ALTERNATE "C" - DEDUCT THE INSTALLATION OF NON PARTICIPATING 8" SEWER ON SALMON FALLS ROAD BETWEEN SMH #100 AND SMH #106.
2. ALTERNATE "D" - DEDUCT THE INSTALLATION OF WATER MAIN ON SALMON FALLS ROAD BETWEEN STA 1+00 AND STA 17+00.
3. ALTERNATE "E" - DEDUCT THE INSTALLATION OF WATER MAIN ON SALMON FALLS ROAD BETWEEN STA 17+00 AND STA 27+00.

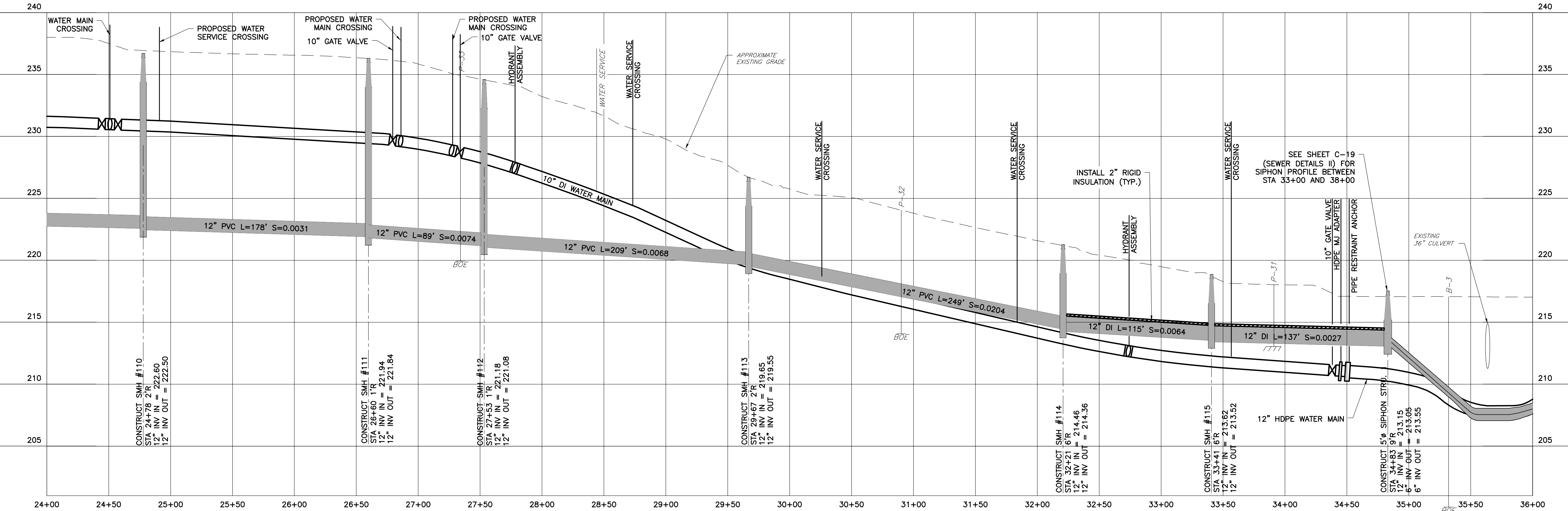


DRAWING
C-4

G:\DWG\NH\ROCHESTER\12928-CROSSROADS-SEWERWATER\12928B-FD\CIV\12928_PP_SALMONFALLSRD.DWG | PP_SalmonFalls3 | 1:4.56 | 3/3/2016 4:24:08 PM | WILLIAM.EDGAR | 3/3/2016 4:15 PM

ALTERNATE NOTES:

1. ALTERNATE "E" - DEDUCT THE INSTALLATION OF WATER MAIN ON SALMON FALLS ROAD BETWEEN STA 17+00 AND STA 27+00.



PROFILE
SCALE
VERT=1"=4'
HORIZ=1"=40'

SUBMISSIONS/REVISIONS		ISSUED FOR BIDDING		DESIGNED BY		CHECKED BY		APPROVED BY	
NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
1	2/16	1	2/16	1	2/16	1	2/16	1	2/16
2	3/16	2	3/16	2	3/16	2	3/16	2	3/16
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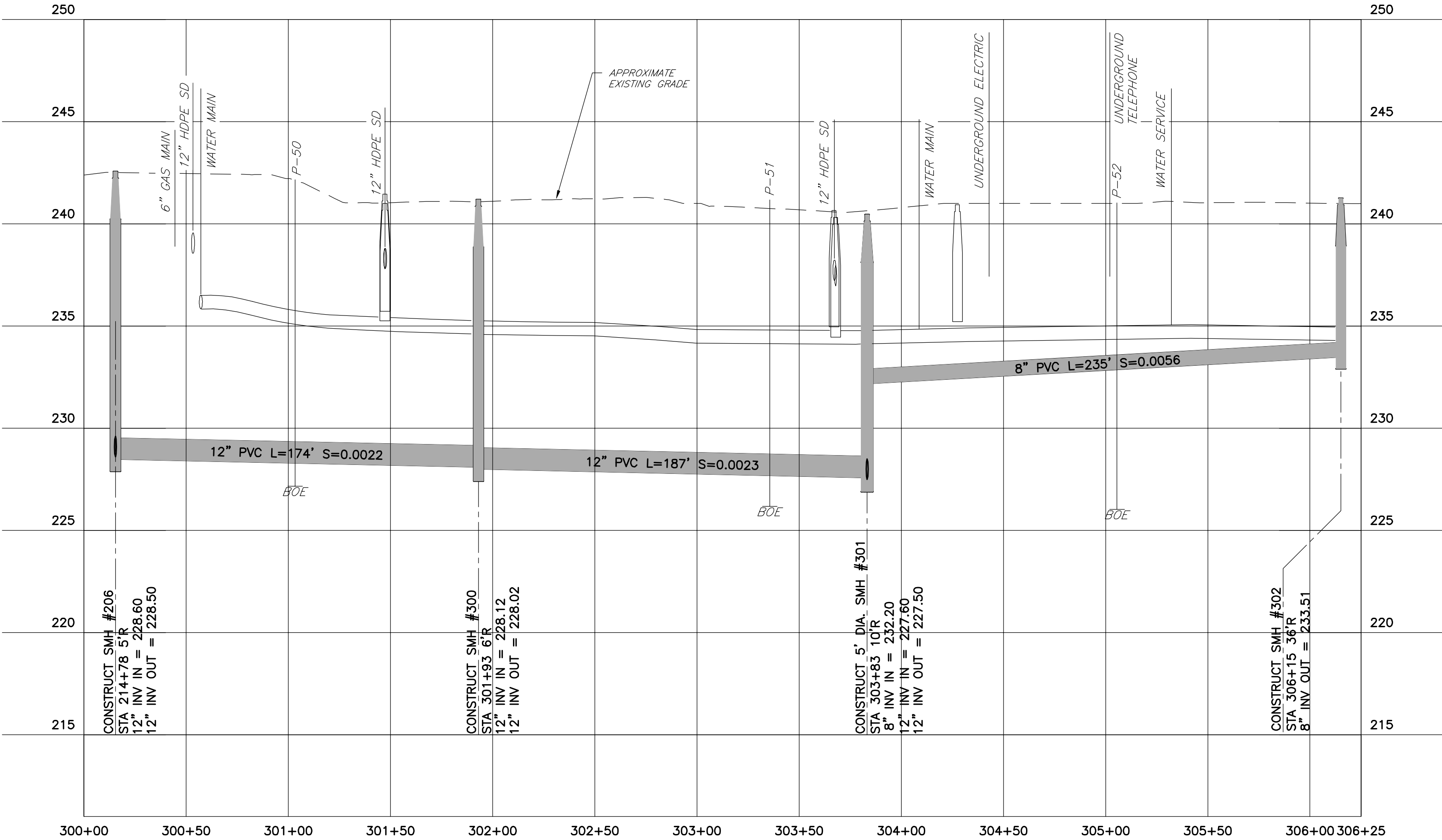
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SALMON FALLS & MILTON ROAD
WATER & SEWER IMPROVEMENTS



SALMON FALLS ROAD PLAN & PROFILE
STA. 24+00 TO STA. 36+00

DRAWING
C-5

ALTERNATE NOTES:
1. ALTERNATE "C" — DEDUCT THE INSTALLATION OF NON PARTICIPATING 8" SEWER ON DENALI DRIVE BETWEEN SMH #301 AND SMH #302.



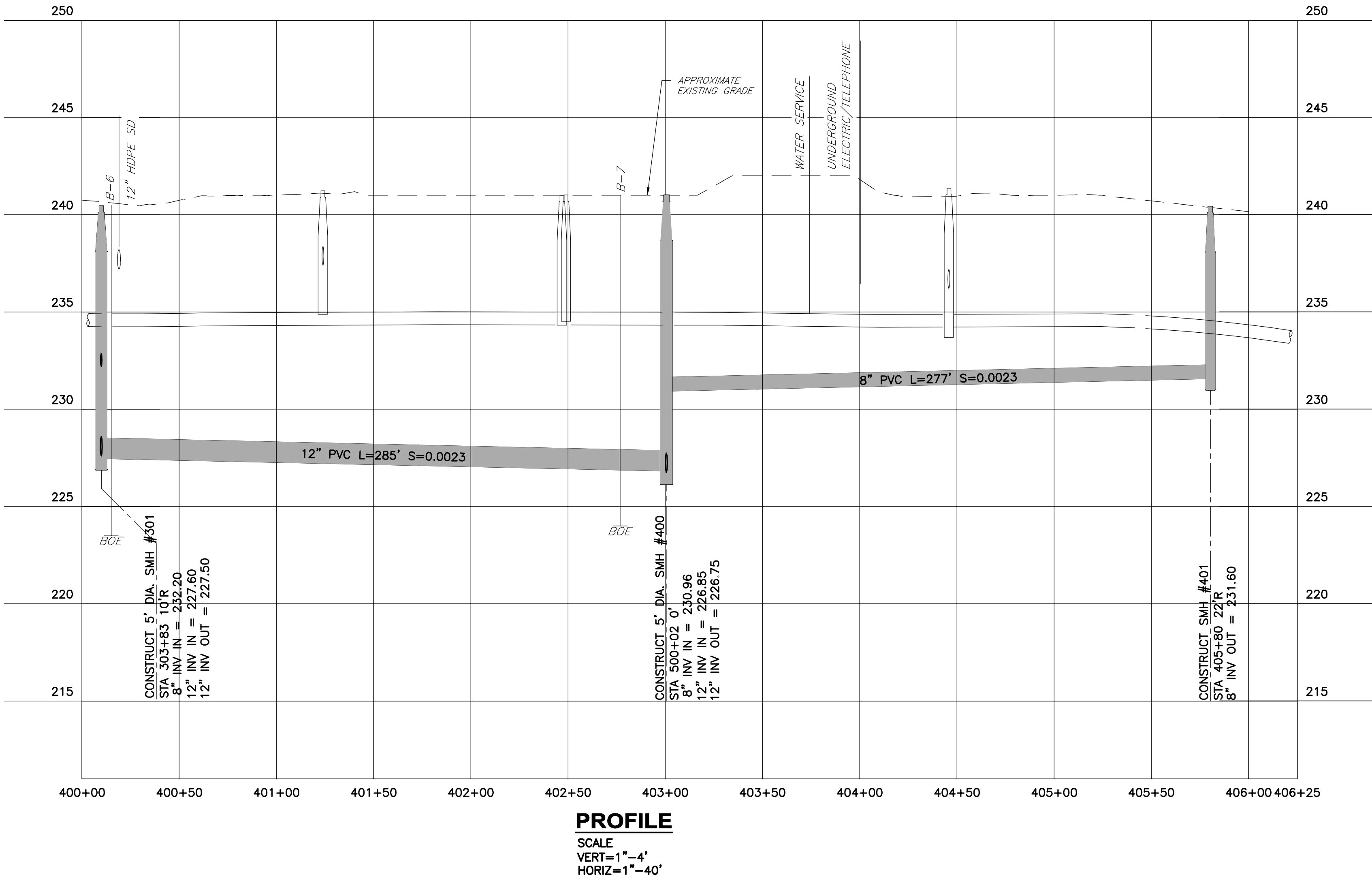
- NOTE: THE FOLLOWING ITEMS ARE OUTSIDE OF THE EDA PROJECT AND ARE FUNDED BY ANOTHER SOURCE.
- 8" SEWER ON DENALI DRIVE BETWEEN SMH #301 AND SMH #302, AND ALL RELATED WORK.
 - 8" SEWER ON KODIAK COURT BETWEEN SMH #400 AND SMH #401, AND ALL RELATED WORK.
 - 8" SEWER ON SALMON FALLS ROAD BETWEEN SMH #100 AND #106, AND ALL RELATED WORK.

CITY OF ROCHESTER, NEW HAMPSHIRE SALMON FALLS & MILTON ROAD WATER & SEWER IMPROVEMENTS	DRAWING C-14	DENALI DRIVE PLAN & PROFILE STA. 300+00 TO STA. 306+25	Offices Throughout New England 888.621.8156 www.wright-pierce.com	 WRIGHT-PIERCE Engineering a Better Environment		SUBMISSIONS/REVISIONS		ISSUED FOR BIDDING	DATE
						NO.	NO.	NO.	NO.
						DESIGNED BY: DOL/WTE	ISSUED FOR BIDDING	DATE	DATE
						CAD COORD: WTE	ADDENDUM 1	DATE	DATE
CHECKED BY: CDB		DATE: 2/10/16	DATE: 2/15/16	PROJECT NO: 12928B					



ALTERNATE NOTES:

1. ALTERNATE "C" – DEDUCT THE INSTALLATION OF NON PARTICIPATING 8" SEWER ON KODIAK CT. BETWEEN SMH #400 AND SMH #401.



NOTE: THE FOLLOWING ITEMS ARE OUTSIDE OF THE EDA PROJECT AND ARE FUNDED BY ANOTHER SOURCE.

1. 8" SEWER ON DENALI DRIVE BETWEEN SMH #301 AND SMH #302, AND ALL RELATED WORK.
2. 8" SEWER ON KODIAK COURT BETWEEN SMH #400 AND SMH #401, AND ALL RELATED WORK.
3. 8" SEWER ON SALMON FALLS ROAD BETWEEN SMH #100 AND #106, AND ALL RELATED WORK.

CITY OF ROCHESTER, NEW HAMPSHIRE SALMON FALLS & MILTON ROAD WATER & SEWER IMPROVEMENTS	DRAWING C-15	KODIAK COURT PLAN & PROFILE STA. 400+00 TO STA. 406+25	Offices Throughout New England 888.621.8156 www.wright-pierce.com	WRIGHT-PIERCE Engineering a Better Environment		SUBMISSIONS/REVISIONS		APP'D	DATE
						ISSUED FOR BIDDING	COB	2/16	
						ADDENDUM 1	COB	3/16	
DESIGNED BY: DOLAN/WTE CIVIL CORP.		CHECKED BY: COB DATE: 2/10/16		APPROVED BY: WTE DATE: 2/15/16		PROJECT NO.: 12928B			