



## City of Auburn, Maine

Engineering Department

[www.auburnmaine.gov](http://www.auburnmaine.gov) | 60 Court Street

Auburn, Maine 04210

207.333.6601

February 16, 2018

Dear Bidder:

The City of Auburn is accepting written proposals for the Auburn Public Services Department's **2018 Reconstruction Project**. The City reserves the right to accept or reject any or all proposals in whole or in part and to waive any informality the City may determine necessary. The City also reserves to itself the exclusive right to accept any proposal when it is deemed by the City to be in its best interest. The City of Auburn is governed by Title 1 M.R.S.A. § 401-410, otherwise known as the Freedom of Information Act, which considers bid specifications as public documents. In awarding any proposal, the City may consider, but not be limited to, any of the following factors: Bidder qualifications, price, experience, financial standing with the City, warranties, references, bonding, delivery date, and service of Bidder. Vendors/Contractors shall be current on all amounts due to the City of Auburn prior to the City entering into any contract agreement. All proposals must include FOB to Auburn, Maine unless otherwise specified.

Proposals will not receive consideration unless submitted in accordance with the following instructions to bidders. Please mark sealed envelopes plainly: **"2018 Reconstruction Project – Bid #2018-024"**.

Bid packages will be available beginning on Friday, February 16, 2018. Documents can be obtained from the City of Auburn's website: [www.auburnmaine.gov/business/bid-notice](http://www.auburnmaine.gov/business/bid-notice). Questions regarding this Request for Bids should be directed to Kris Bennett P.E., Project Engineer, at (207) 333-6601, ext. 1134. **A mandatory pre-bid will be held on Tuesday, February 27th, 2018, at 2:00pm in the Community Room (206), Auburn City Hall.**

Please submit your proposal to the City of Auburn by 2:00 p.m. **Thursday, March 8th, 2018**. Proposals must be delivered to **Derek Boulanger, Facilities Manager/Purchasing Agent, 60 Court Street, Auburn, Maine 04210** on or before the date and time appointed. No proposals will be accepted after the time and date listed above. Proposals will be opened at 2:00 p.m. on that date in the Community Room (206), Auburn City Hall.

Sincerely,

Derek Boulanger  
Facilities Manager/Purchasing Agent

60 Court Street • Suite 114 • Auburn, ME 04210  
(207) 333-6600 Voice • (207) 333-6601 Automated • (207) 333-6620 Fax

## CONDITIONS AND INSTRUCTIONS TO BIDDERS

1. Bidders shall use the enclosed bid form for quotations. Whenever, in bid forms, an article is defined by using a trade name or catalog number, the term "or approved equal", if not inserted, shall be implied.
2. Submit a separate unit price for each item unless otherwise specified in the bid request. Award will be made on a basis of each item, or as a group, whichever is in the best interest of the City. Prices stated are to be "delivered to destination".
3. Bid proposals must be completed in full, in ink and must be signed by firm official. Bid proposal **must be notarized** prior to bid being sealed and will be disqualified if not notarized. Bids may be withdrawn prior to the time set for the official opening
4. Bids will be opened publicly. Bidders or representatives may be present at bid opening.
5. Awards will be made to the lowest responsible bidder, considering the quality of the materials, date of delivery, cost which meets specification and is in the best interest to the City of Auburn.
6. All transportation charges, including expense for freight, transfer express, mail, etc. shall be prepaid and be at the expense of the vendor unless otherwise specified in the bid.
7. The terms and cash discounts shall be specified. Time, in connection with discount offered, will be computed from date of delivery at destination after final inspection and acceptance or from date of correct invoice, whichever is later.
8. The City is exempt from payment of Federal Excise Taxes on the articles not for resale, Federal Transportation Tax on all shipments and Maine Sales Tax and Use Taxes. Please quote less these taxes. Upon application, exemption certificate will be furnished with the Purchase Order when required.
9. No contract may be assigned without the written consent of the Purchasing Director or his designate. The contract shall not be considered valid until a purchase order has been issued to the successful bidder.
10. Please state "2018 Reconstruction Project – Bid # 2018-024", on submitted, sealed envelope.
11. The City of Auburn reserves the right to waive any formality and technicality in bids whichever is deemed best for the interest of the City of Auburn.
12. All work must be completed from 7:00AM to 7:00PM. The start date for this project is April 30th, 2018. The completion date for this project is November 3rd, 2018. Liquidated damages of \$500/calendar day will be assessed on uncompleted work.

## **GENERAL CONDITIONS**

### **1. Equal Employment Opportunity**

The City of Auburn is an Equal Opportunity Employer and shall not discriminate against an applicant for employment, and employee or a citizen because of race, color, sex, marital status, physical and/or mental handicap, religion, age, ancestry or natural origin, unless based upon a bona-fide occupation qualification. Vendors and contractor or their agents doing business with the City shall not violate the above clause or the Civil Rights Acts of 1964. Violations by vendors shall be reviewed on a case-by-case basis and may mean an automatic breach of contract or service to the City of Auburn.

### **2. Save Harmless**

The Bidder agrees to protect and save harmless the owner from all costs, expenses or damages that may arise out of alleged infringement of patents of materials used.

### **3. Subcontracting**

The Bidder shall not subcontract any part of the work or materials or assign any monies due it without first obtaining the written consent of the municipality. Neither party shall assign or transfer its interest in the contract without the written consent of the other party.

### **4. Warranty**

The Bidder warrants that all work will be of good quality and free from faults and defects, and in conformance with the specifications. All work not so conforming to these standards may be considered defective. The Bidder agrees to be responsible for the acts and omissions of all of its employees and all subcontractors, their agents and employees, and all other persons performing any of the work under a contract with the Bidder.

### **5. Bonds, Retainage and Payments**

A bid bond shall be submitted with appropriate bid forms in the amount of 5% of the total contract value. Also, payment and performance bonds in the amount of 100% will be required from the contractor who is awarded this contract. Retainage in the amount of 10% will be held from each progress payment and shall be released at the discretion of the Project Engineer. Payments shall be made by the City to the Contractor 30 days after receipt of the request for payment.

## BID PROPOSAL FORM

Due: Thursday, March 8th, 2018

To: City of Auburn  
Derek Boulanger, Facilities Manager/Purchasing Agent  
60 Court Street  
Auburn, ME 04210

The undersigned individual/firm/business guarantees this price for Thirty days (30) from the bid due date. The undersigned submits this proposal without collusion with any other person, individual, or firm or agency. The undersigned ensures the authority to act on behalf of the corporation, partnership or individual they represent; and has read and agreed to all of the terms, requests, or conditions written herein by the City of Auburn, Maine. By signing this bid form, the firm listed below hereby affirms that its bid meets the minimum specifications and standards as listed above.

Signature \_\_\_\_\_ Name (print) \_\_\_\_\_

Title \_\_\_\_\_ Company \_\_\_\_\_

Address \_\_\_\_\_

Telephone No. \_\_\_\_\_

Email Address: \_\_\_\_\_

STATE OF MAINE

\_\_\_\_\_, SS.

Date: \_\_\_\_\_

Personally appeared and acknowledged the foregoing instrument to be his/her free act and deed in his/her capacity and the free act and deed of said company.

Notary Public \_\_\_\_\_

Print Name \_\_\_\_\_

Commission Expires \_\_\_\_\_

## BID FORM – CITY OF AUBURN

MDOT ITEM	DESCRIPTION	UNIT	QNTY	UNIT COST	TOTAL COST
201.23	Removing Single Tree Top Only	EA	1		
201.24	Removing Stump	EA	1		
202.15	Remove Existing Manhole or Catch Basin	EA	6		
202.16	Remove Existing Storm Pipe	LF	300		
202.20	Remove Bituminous Concrete Surface	SY	10,000		
202.201	Sawcut Pavement	LF	1,000		
202.203	Pavement Butt Joints	SY	100		
203.20	Common Excavation	CY	6,800		
203.24	Common Borrow	CY	200		
304.09	Aggregate Base Course – Type A	CY	900		
304.10	Aggregate Subbase Course – Gravel Type D	CY	5,100		
304.141	Aggregate Base Course – Type A (Driveway/Sidewalks)	CY	800		
403.209	Hot Mix Asphalt, Hand Placed	TON	400		
403.210	Hot Mix Asphalt, 9.5mm	TON	720		
403.213	Hot Mix Asphalt, 12.5mm HMA Base	TON	950		
409.15	Bituminous Tack Coat. Applied	GAL	350		
603.159	12” Culvert Pipe Option III	LF	420		
603.169	15” Culvert Pipe Option III	LF	350		
603.199	24” Culvert Pipe Option III	LF	20		
603.219	36” Culvert Pipe Option III	LF	20		
604.18	Adjust Catch Basin or Manhole to Grade	EA	15		
604.151	Drainage Manhole (4-foot diameter)	EA	3		
604.152	Drainage Manhole (6-foot diameter)	EA	1		
604.161	Alter Existing Catch Basin/ Manhole – Core 6”	EA	9		
604.162	Alter Existing Catch Basin/ Manhole – Core 12”	EA	5		
604.245	Catch Basin Type F4-C	EA	4		
604.252	Catch Basin Type A5-C	EA	2		
605.09	6” HDPE Underdrain Type B	LF	3,420		
605.11	12” HDPE Underdrain Type C	LF	100		
608.26	Pedestrian Ramp W/ Detectable Warning Surf.	SF	72		
609.11	Vertical Curb Type 1	LF	2,990		
609.111	Vertical Curb Drainage Inlet	EA	17		
609.12	Vertical Curb Type 1 – Circular	LF	176		
609.238	Terminal Curb Type 1 – 8 Foot	EA	33		
609.234	Terminal Curb Type 1 – 4 Foot	EA	45		

615.08	Loam & Seed	SY	4,000		
621.011	1.5”-2” Ivory Silk Lilac	EA	4		
621.012	1.5”-2” Ornamental Pear Tree	EA	4		
627.733	4” White Pavement Marking Line	LF	1,650		
627.75	White Pavement Markings	SF	660		
652.36	Work Zone Traffic Control	LS	1		
653.22	2” Polystyrene Plastic Insulation	SY	100		
659.10	Mobilization	LS	1		
TOTAL AMOUNT OF BID WRITTEN AND IN NUMBERS BASED ON ESTIMATE OF QUANTITIES					
(Written)					

### BID FORM - AUBURN WATER AND SEWER DISTRICT

MDOT ITEM	DESCRIPTION	UNIT	QNTY	UNIT COST	TOTAL COST
824.29	Demolishing Existing Hydrant Assembly	EA	2		
824.30	Install Hydrant Assembly	EA	2		
830.02	Install 8”PVCO Water Main	LF	1,385		
830.03	Install 8” Gate Valve	EA	10		
830.04	Install Water Service – Shortside	EA	12		
830.05	Install Water Service – Longside	EA	8		
TOTAL AMOUNT OF BID WRITTEN AND IN NUMBERS BASED ON ESTIMATE OF QUANTITIES					
(Written)					

## BID ALTERNATE #1 – CITY OF AUBURN

MDOT ITEM	DESCRIPTION	UNIT	QNTY	UNIT COST	TOTAL COST
202.15	Remove Existing Manhole or Catch Basin	EA	1		
202.20	Remove Bituminous Concrete Surface	SY	1,500		
202.201	Sawcut Pavement	LF	320		
202.203	Pavement Butt Joints	SY	30		
203.20	Common Excavation	CY	1,550		
203.24	Common Borrow	CY	70		
304.09	Aggregate Base Course – Type A	CY	200		
304.10	Aggregate Subbase Course – Gravel Type D	CY	1,200		
304.141	Aggregate Base Course – Type A (Driveway/Sidewalks)	CY	150		
403.209	Hot Mix Asphalt, Hand Placed	TON	120		
403.210	Hot Mix Asphalt, 9.5mm	TON	180		
403.213	Hot Mix Asphalt, 12.5mm HMA Base	TON	230		
409.15	Bituminous Tack Coat. Applied	GAL	105		
603.159	12” Culvert Pipe Option III	LF	20		
603.199	24” Culvert Pipe Option III	LF	40		
604.161	Alter Existing Catch Basin/ Manhole – Core 6”	EA	3		
604.18	Adjust Catch Basin or Manhole to Grade	EA	4		
604.252	Catch Basin Type A5-C	EA	3		
605.09	6” HDPE Underdrain Type B	LF	860		
608.09	Pedestrian Ramp W/ Detectable Warning Surf.	SF	28		
609.11	Vertical Curb Type 1	LF	940		
609.111	Vertical Curb Drainage Inlet	EA	3		
609.238	Terminal Curb Type 1 – 8 Foot	EA	20		
615.08	Loam & Seed	SY	800		
627.75	White Pavement Markings	SF	470		
652.36	Work Zone Traffic Control	LS	1		
653.22	2” Polystyrene Plastic Insulation	SY	20		
659.10	Mobilization	LS	1		
TOTAL AMOUNT OF BID WRITTEN AND IN NUMBERS BASED ON ESTIMATE OF QUANTITIES					
(Written)					

## BID ALTERNATE #1 – AUBURN WATER AND SEWER DISTRICT

MDOT ITEM	DESCRIPTION	UNIT	QNTY	UNIT COST	TOTAL COST
830.01	Install 2”CTS Water Main	LF	325		
830.06	Install Water Service – Shortside	EA	3		
830.07	Install Water Service – Longside	EA	1		
TOTAL AMOUNT OF BID WRITTEN AND IN NUMBERS BASED ON ESTIMATE OF QUANTITIES					
(Written)					



**BASIS OF AWARD BID FORM  
2018 RECONSTRUCTION PROJECT  
AUBURN, ME**

<b>(A)</b> Total of City of Auburn Base Bid Written in Numbers	\$
<b>(B)</b> Total of Auburn Water and Sewer District Base Bid Written in Numbers	\$
<b>TOTAL: BASIS OF AWARD (A+B)</b>	\$
Total of City of Auburn Bid Alternate #1 Bid Written in Numbers	\$
Total of Auburn Water and Sewer District Alternate #1 Bid Written in Numbers	\$

Company Name: \_\_\_\_\_

Signed by: \_\_\_\_\_

Title: \_\_\_\_\_

Print Name: \_\_\_\_\_

Address: \_\_\_\_\_

Tel. # \_\_\_\_\_

Date: \_\_\_\_\_

Addendum Acknowledged:

# \_\_\_\_\_ Date \_\_\_\_\_

# \_\_\_\_\_ Date \_\_\_\_\_

## **SCOPE OF WORK**

The following scope of work is being proposed for the 2018 Reconstruction Project for the City of Auburn. The scope of work is a brief overview of the expected extent of work on the street included in this contract. This is only a proposed scope with associated estimated quantities. Items, extent and entire streets may be added or deleted as work progresses or to meet the available funding for this work. Refer to Appendix A for conceptual site plans of the proposed City project and Appendix C for the AWSO plans.

### **Seventh Street: South Main Street to Truman Avenue (Approximately 2,350' x 28')**

- Follow general horizontal and vertical alignments of the existing roadway.
- Remove 1 tree top and stump within the right of way.
- Remove pavement and subgrade material within roadway.
- Install catch basins, storm drains, and underdrains.
- Install granite curbing following existing edge of road alignment.
- Remove existing sidewalk pavement and 12" subgrade material for sidewalks and driveway aprons. Build new sidewalks next to curb as shown on plans after Mary Carroll Street. Sidewalk to have 2.0% pitch toward road. Use common borrow (Item 203.24) to match grade on back side of new sidewalk.
- Install ADA detectable warning surfaces at crosswalk locations.
- Sawcut driveway limits and grind 3' wide butt joints at roadway intersections, or as directed.
- Sidewalks: add 12" Type A gravel, 1" 9.5mm base course, and 1" 9.5mm surface
- Driveway aprons: add 12" Type A gravel, 2" 12.5mm base course, and 1" 9.5mm surface
- Roadway: add 18" Type D gravel, 3" Type A gravel, 2" 12.5mm base course, 1.5" 9.5mm surface
- Loam, seed and mulch as directed.
- Delineate parking stalls with Item 627.733 as directed.
- The Auburn Water District will supply all components necessary for the installation of the new infrastructure. The water main shall be bedded in screened sand. Tracer wire will be connected to all infrastructure installed. The District will conduct all necessary pressure and bacteria tests of the new main. All pre existing water main material must be removed.
- From South Main Street intersection, tie into existing 6" gate valve and replace 6" main with new 8" pvc water main. Proceed 1,385' South-East to the Mary Carroll Street Intersection. Install 1385' of 8" pvc water main
- Replace 20 water service lines including taps and service boxes
- 12 Short side services
- 8 Long side services
- Install 2 fire hydrants
- 10, 8" gate valves
- Connect to cross streets, Roak, Gill East, Gill Southwest and Mary Carroll

**Bid Alternate – Seventh Street: South Main Street to Broad Street (Approx. 780' x 22')**

- Install catch basins, storm drains, and underdrains.
- Superelevate portion from South Main Street to Cook Street to shed water north similar to current conditions.
- Box cut and build up road as stated in base bid.
- Build new sidewalks on the north side of the roadway.
- Install granite curbing on both sides of the road.
- Install ADA detectable warning surfaces at crosswalk locations.
- Replace existing 8" water main on Seventh from the Broad Street intersection to the Cook Street Intersection.
- Install 325' of 2" cts water main
- Replace 4 water service lines including taps and service boxes
- 3 Short side services
- 1 long side service

## **SPECIAL PROVISIONS**

The following Supplemental Specifications and Special Provisions shall amend the "Maine, Department of Transportation Standard Specifications, **November 2014 Edition**" including any and all applicable revisions and special provisions. In case of conflicts, these Supplemental Specifications (1) and Special Provisions (2) shall take precedence and shall govern.

(1) Supplemental Specifications - modifications, additions and deletions to the existing Standard Specifications.

(2) Special Provisions - specifications in the contract which are for additional items not covered in the Standard Specifications

### **F-1 Work Hours**

No work shall proceed on this project prior to the hour of 7:00 AM or after 7:00 PM (prevailing time) on any working day unless the City has granted prior approval. The definition of work for this specification shall include starting or moving of equipment, machinery, or materials. Any day worked for four hours or more will be considered a full working day.

### **F-2 Notification of Residents**

Residents shall be notified sufficiently in advance of any construction affecting the driveway to allow adequate time for their removal of personal vehicles. Locations of cuts for drive access affecting individual residents shall be brought to their attention.

### **F-3 Traffic Signs**

All existing traffic signs, which are to be removed during construction, shall be dismantled and the posts removed and shall be stacked in an area approved by the Engineer. Contractor shall protect the signs from damage while in his possession and shall repair, at no additional cost to the City, any damages caused by his operations.

The road shall be open to 1-way traffic during construction hours and shall be opened to two-way traffic outside construction hours.

Stop signs are to be maintained at their original locations at all times during the progress work.

Prior to the start of any construction work, the Contractor shall prepare an acceptable inventory of all signs within the project limits which shall be used as a guide for replacement should signs be removed for construction purposes.

This work shall be considered as subsidiary obligation of the contract for which no special payment will be made.

#### F-4 Protection of Trees

The Contractor shall be responsible for the preservation of all trees on the project, which are not to be removed. Any trees damaged by the Contractor's operations shall be repaired as approved by tree dressing or paint in accordance with the appropriate provisions of Section 201 of Standard Specifications.

#### F-5 Maintenance and Protection of Traffic

The Contractor shall be responsible for the maintenance and protection of all vehicular and pedestrian traffic at all times during construction and shall erect suitable warning signs, flashing barriers or temporary lighting devices of sufficient size and number to afford protection to the traveling public in accordance with the most recent edition of "Manual on Uniform Traffic Control Devices for Streets Highways" published by the Department of Transportation of the Federal Highway Administration.

The Contractor shall be held responsible for all damage to the work due to any failure of the warning devices to properly protect the work from the traffic, pedestrians or other causes. Traffic control shall be in accordance with the City of Auburn's Traffic Detail Policy effective April 1, 2006.

#### F-5A Materials

Materials shall meet the requirements specified for the various subsections of the Specifications. Equals shall be approved only prior to the bid opening.

#### F-6 Survey

The City of Auburn, Department of Public Services will establish, at their discretion, a benchmark location and one construction baseline. The Contractor shall be responsible for maintaining these controls during construction and providing all additional survey required, which shall be done by a competent Engineer or Surveyor.

#### F-7 Waste Areas

The disposal of waste and surplus material and slash from tree cutting shall be as outlined in Section 203.06 - Waste Areas of the Supplemental Specifications.

#### F-8 Occupational Safety and Health

The Contractor is hereby advised that all work to be furnished to the City shall be performed with equipment, methods, and use of personnel in conformance with the pertinent Occupational Safety and Health Act requirements of the State of Maine and with the regulations for construction as specified by the Department of Labor and Occupational Safety and Health Administration (OSHA) as currently amended.

#### F-9 Pre-Construction Conference

A conference will be held at 60 Court Street, Auburn, Maine within ten (10) days after the awarding of the contract. At this time, the contractor will be required to submit a graphically illustrated schedule and a plan showing project activities. City officials and representatives of the various utility companies involved in the project will be present at this meeting.

It is the purpose of this meeting to inform the various agencies of the proposed work schedule, and to give them the opportunity of discussing any difficulties and of offering suggestions to the Contractor concerning his proposed schedule in order that full cooperation may be reached.

#### F-10 Schedule of Operations

The above-mentioned schedule of operations in Section F-10 shall consist of a bar chart detailing the activities included in the contract. Although a bar chart is acceptable as a minimum, more complex and detailed schedules (i.e., flow charts, critical paths, etc.) are encouraged and will be accepted by the City. Updates will be required.

#### F-11 Traffic Officers

Traffic control shall be the responsibility of the Contractor and as directed. Traffic control officers will be employed by the contractor. City of Auburn police officers may be required in certain traffic situations but not anticipated in this contract and will be paid for by the City if required.

#### F-12 Limitation of Operations

The Contractor shall conduct the work at all times in such a manner and in such sequence as will assure the least interference with traffic. The Contractor shall not open up work to the prejudice or detriment of work already started. The Engineer may require the Contractor to finish a section on which work is in progress before work is started on any additional sections, if finishing such section is essential to public convenience.

Waste and surplus material shall not be stockpiled, but shall be disposed of in areas as designated in Section 203.06, Waste Areas, of the Supplemental Specifications.

#### F-13 Questions Regarding Plans and Documents

Questions from prospective bidders relative to this Contract shall be submitted no later than one week before bid opening and directed to:

Kris Bennett P.E.  
Project Engineer  
Engineering Division  
Tel. 333-6601 ext. 1134

#### F-14 Record Drawings

The Contractor shall keep daily records of all changes in the work and records of underground infrastructure. Upon completion of the project, the Contractor shall deliver to the Engineer copies of daily records. Final payment will not be made until Engineer receives copies of daily records.

#### F-15 Waste Material

All waste material shall be removed from the site and the area left clean upon completion of work. Any equipment or structures damaged by the Contractor shall be repaired or replaced at no additional cost to the City.

#### F-16 Quality Assurance

The Contractor shall be responsible at all times for maintaining top quality assurance during performance of his work.

#### F-17 Bids

No bids shall be withdrawn within a period of sixty -(60)- days after the opening of the bids.

#### F-18 Aggregate Base and Subbase Courses

All gravel products shall meet MDOT specifications and shall also be produced from quarry rock.

#### F-19 Manhole Structures

The contractor shall be responsible for removing the frame and cover of sewer manholes during construction. Steel plates shall be used to cover the existing manhole opening. Offsets shall be installed to determine location. This work shall be considered incidental to the contract. The Auburn Water & Sewer District will be responsible to adjust sewer manhole frames and covers to grade, including water shutoffs. Adjusting existing drainage structures are paid under Item 604.18 Adjust Catch Basin or Manhole to Grade.

#### F-20 Tree Top Removal

First refusal of wood from tree top removal shall be given to the abutting property owner.

#### F-21 Sawcut Joints

Joints created by sawcutting shall be protected prior to paving. Damaged joints will be cut back at no additional cost to the City.

## F- 22 Pipe Materials

All pipe supplied on this project shall be High Density Polyethylene (HDPE) pipe unless otherwise specified.

## F- 23 Driveways

Matching of existing driveways to new roadway elevations shall be paid for under the following contract items:

202.201 Sawcut Pavement

203.20 Common Excavation

304.141 Aggregate Base Course- Crushed Type "A" (Driveways & Sidewalks)

403.209 Hot Mix Asphalt, Hand Work

Driveway aprons shall receive a minimum of 12" of new gravel with 2" of 12.5mm and 1" of 9.5mm HMA. Existing pavement edges shall be protected from damage. Construction of aprons shall follow Division 800 Miscellaneous Details, Section 801 Drive Aprons of the Standard Specifications.

## F- 24 Sidewalks

Reconstructing sidewalks shall be paid for under the following contract items:

203.20 Common Excavation

304.141 Aggregate Base Course- Crushed Type "A" (Driveways & Sidewalks)

403.209 Hot Mix Asphalt, Hand Work

Sidewalks shall receive a minimum of 12" of new gravel with 2" of 9.5mm HMA placed in two lifts. Sidewalks shall be constructed 5' wide unless otherwise directed and shall follow current ADA standards. Sidewalk ramps at intersections shall have a detectable warning surface and shall be paid under Item 608.09.

## F- 25 Weekly Quantity Reports

The Contractor shall submit weekly electronic reports of daily quantities by the end of the day the following Monday. These reports shall be emailed to [kbennett@auburnmaine.gov](mailto:kbennett@auburnmaine.gov).

## F- 26 Change Orders

Changes in the scope of work will be approved by the Project Engineer and adjusted by Change Orders.



## **F- 27 Second Street Haul Site**

Excavated material from this project shall be hauled to the Second Street Site. The Contractor will be responsible for hauling, leveling, and compacting the fill. A control will be established prior to construction for desired grades. The Contractor shall install and maintain perimeter erosion and sediment control measures. Item 202.20 Remove Bituminous Concrete Surface will not be accepted as fill for this haul site. Fill material shall be generated from the following Items:

- 203.20 Common Excavation
- 603 Culvert Pipes
- 604 Catch Basins & Manholes
- 605 Underdrains

## **SUPPLEMENTAL SPECIFICATIONS SECTION 100 - GENERAL PROVISIONS**

### **1. SCOPE**

The work covered by this section includes furnishing all labor, equipment, materials, incidentals, and the performing of all operations in connection with the work encompassed by these contract documents. All work shall be subject to the terms and conditions of the contract documents.

### **2. STANDARD SPECIFICATIONS**

The City of Auburn, Maine has adopted for this project, the “State of Maine, Department of Transportation, Standard Specifications, **November 2014 Edition**”, and the Standard Details (December 2002) and the following Supplemental Specifications including all current additions or modifications thereof. In the case of conflict with the following Supplemental Specifications, addenda shall take precedence and shall govern.

Wherever in the Specifications and in this Contract the term “Department”, “the Department of Transportation”, “MDOT”, or any reference to the “State of Maine, Department of Transportation” or its “Engineers” is mentioned, the intent and meaning shall be interpreted to refer to the CITY OF AUBURN, MAINE, or their authorized representative.

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 201 – CLEARING RIGHT-OF-WAY**

The provisions of Section 201 of the Standard Specifications shall apply with the following additions and modifications:

#### **201.01 Description**

This work shall consist of clear cutting and the removal of single trees and stumps in the proposed roadway and green space.

#### **201.08 Removing Single Trees and Stumps**

One tree located in the right of way shall be completely removed and disposed of and stump hole backfilled. The area shall be graded to conform to the surrounding terrain. First refusal of wood from tree top removal shall be given to the abutting property owner.

#### **201.10 Basis of payment**

Stumps will be paid for at the contract unit price per each which price will be full compensation for removing, hauling, and disposal of material. The accepted quantity of single trees removed will be paid for at the contract unit price each. Payment for trees shall include removal and disposal of the entire tree except stumps. Removal of trees and stumps less than 12” in diameter are considered incidental.

Pay Item		Pay Unit
201.23	Removing Single Tree Top Only	Each
201.24	Removing Stump	Each

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 202 - REMOVING OF STRUCTURES & OBSTRUCTIONS**

The provisions of Section 202 of the Standard Specifications shall apply with the following additions and modifications:

#### **202.01 Description**

This work shall consist of the removal (milling, grinding or planing) of the surface of the bituminous concrete pavement to the depth, width, grade and cross sections as directed by the Engineer at intersection joints. The sawcut item will be used for cutting the match line in driveways. This work shall consist of the removal of catch basins and storm drains.

#### **202.061 Removing Material**

The equipment for removing the bituminous surface shall be a power operating planing machine or grinder capable of removing the bituminous concrete pavement to the required depth. The equipment shall be capable of accurately establishing profile grade by referencing from either the existing paving or from an independent grade control and shall have a positive means for removing excess material from the surface and for preventing accidents from flying material in compliance with subsection 107.24, Safety and Accident Prevention, of the Standard Specification. Pavement millings shall become the property of the contractor and shall be disposed of in an approved location.

#### **202.08 Basis of Payment**

The accepted quantity of removing pavement surface for butt joints will be paid for at the contract unit price per square yard which price will be full compensation for removing, hauling, clean up and stockpiling the material. The accepted quantity of sawcutting will be paid for at the contract unit price per linear foot which price will be full compensation for cutting, cleaning, and protecting joints prior to paving. The accepted quantity of catch basin or manhole removal will be paid for at the contract unit price per each and will be full compensation for removing at full depth, hauling, clean up and stockpiling the material. The accepted quantity of removal of existing storm and sewer pipe shall be at the contract unit price per linear foot, which will be full compensation for removal of a pipe outside the horizontal limits of excavation for a proposed pipe or structure by four or more feet. Removal of existing pipe within four feet of the horizontal limits of excavation for a proposed pipe will be considered incidental to that applicable pipe pay item.

Pay Item		Pay Unit
202.15	Remove Existing Manhole or Catch Basin	Each
202.16	Remove Existing Storm Pipe	Linear Foot
202.20	Remove Bituminous Concrete Surface	Square Yard
202.201	Sawcut Pavement	Linear Foot
202.203	Pavement Butt Joints	Square Yard

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 203 – COMMON EXCAVATION**

The provisions of Section 203 of the Standard Specifications shall apply with the following additions and modifications:

#### **203.01 Description**

Common Excavation item shall be used for box cutting the roadway, sidewalks, and driveway aprons. Common Borrow shall be used for matching grades on the back of new sidewalks and curbing.

#### **203.19 Basis of Payment**

The accepted quantity of common excavation will be paid for at the contract unit price per cubic yard which price will be full compensation for removing and hauling the material to the Second Street Site and leveling and compacting the material. The accepted quantity of common borrow will be paid for at the contract unit price per cubic yard.

Pay Item		Pay Unit
203.20	Common Excavation	Cubic Yard
203.24	Common Borrow	Cubic Yard

## SUPPLEMENTAL SPECIFICATIONS

### SECTION 304 – AGGREGATE BASE AND SUBBASE COURSE

The provisions of Section 304 of the Standard Specifications shall apply with the following additions and modifications.

#### 304.01 Description

Aggregate Base Course Type A and Aggregate Subbase Course Type D material **shall** be crushed products sourced from a quarry and meet 703.06 specifications.

**Dust Control.** The Contractor shall employ dust control measures to minimize the creation of airborne dust during the construction process. As a minimum, standard dust control techniques shall be employed where heavy equipment and the public will be traveling. These may include techniques such as watering-down the site or spreading hygroscopic salts.

#### 304.07 Basis of Payment

The accepted quantities of base course and subbase course materials will be paid for at the respective contract unit price per cubic yard. Dust control is considered incidental to the applicable pay items.

Pay Item		Pay Unit
304.10	Aggregate Subbase Course-Gravel Type D	Cubic Yard
304.14	Aggregate Base Course - Type A	Cubic Yard
304.141	Aggregate Base Course – Type A (Driveways/Sidewalks)	Cubic Yard

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 403 - HOT BITUMINOUS PAVEMENT**

The provisions of Section 403 of the Standard Specifications shall apply with the following additions and modifications.

#### **403.01 Description**

This work shall include machine placing HMA as indicated in the Scope of Work. Materials and their use shall conform to the requirements of all related and applicable sections of this contract. The **most recently** revised special provision Section 108 using the New England Selling Price shall apply to this contract. A mix design for the HMA shall be submitted to the City prior to placement.

#### **403.05 Basis of Payment**

The accepted quantities of hot mix asphalt pavement will be paid for at the contract unit price per ton for the mixtures, including hot mix asphalt material complete in place. Roadway intersection pavement shall be paid under corresponding machine placed items.

Pay Item	Pay Unit
403.209 Hot Mix Asphalt, Hand Placed	Ton
403.210 Hot Mix Asphalt, 9.5mm (Machine Placed)	Ton
403.213 Hot Mix Asphalt, 12.5mm Base (Machine Placed)	Ton

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 409 - BITUMINOUS TACK COAT**

The provisions of Section 409 of the Standard Specifications shall apply with the following additions and modifications.

#### **409.07 Application of Bituminous Material**

The rate of application shall be 0.02 to 0.2 gallons per square yard as directed. During application, care shall be taken to assure areas outside of the work area shall not be discolored. Tack coat shall be required between all layers of Hot Mix Asphalt.

#### **409.09 Basis of Payment**

The accepted quantity of bituminous tack coat will be paid for at the contract unit price per gallon for the designated type of material complete in place.

Pay Item	Pay Unit
409.15 Bituminous Tack Coat. Applied	Gallon



## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 603 – PIPE CULVERTS AND STORM DRAINS**

The provisions of Section 603 of the Standard Specifications shall apply with the following additions and modifications.

#### **603.01 Description**

This work shall consist of installing conveyance storm drain at locations specified on the plans or as directed.

#### **603.02 Materials**

All pipe shall be High Density Polyethylene (HDPE) and equal to or larger than the existing pipe. Pipe backfill shall meet MaineDOT Standard specifications Subsection 703.22 Underdrain Type C. HDPE to Vitrified Clay Pipe (VCP) connection shall be made using MarMac PolySeal Couplers.

#### **603.12 Basis of Payment**

The accepted quantity of culvert pipe will be paid for at the contract unit price per linear foot. This price shall include the cost of excavation, all labor, materials, and equipment necessary to install the storm drains. Pipe fittings shall be considered part of the linear footage. The accepted quantity of inlet grate unit will be paid for at the contract unit price per each. MarMac PolySeal Couplers will be considered incidental to the culvert item.

Pay Item	Pay Unit
603.159 12" Culvert Pipe Option III	Linear Foot
603.169 15" Culvert Pipe Option III	Linear Foot
603.199 24" Culvert Pipe Option III	Linear Foot
603.219 36" Culvert Pipe Option III	Linear Foot

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 604 – CATCH BASINS**

The provisions of Section 604 of the Standard Specifications shall apply with the following additions and modifications.

#### **604.01 Description**

Construct manholes, inlets and catch basins. New catch basins shall be priced for a minimum of three inverts. Additional inverts, if required, shall be paid separately. Item 604.152 (DMH2 on Plans) shall be priced for 21-foot depth and 7 inverts.

Adjust existing manholes (storm drains) to grade.

#### **604.06 Basis of Payment**

The accepted quantities of catch basins will be paid for at the contract unit price complete in place. The accepted quantities of altering existing catch basin and manhole adjustments to grade will be paid for at the contract unit price each.

Pay Item	Pay Unit
604.18     Adjusting Manhole or Catch Basin to Grade	Each
604.151    Drainage Manhole (4-foot diameter)	Each
604.152    Drainage Manhole (6-foot diameter)	Each
604.161    Alter Existing Catch Basin/ Manhole – Core 6”	Each
604.162    Alter Existing Catch Basin/ Manhole – Core 12”	Each
604.245    Catch Basin Type F4-C	Each
604.252    Catch Basin Type A5-C	Each

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 605 – UNDERDRAINS**

The provisions of Section 605 of the Standard Specifications shall apply with the following additions and modifications.

#### **605.01 Description**

This work shall consist of installing underdrain using pipe and filter material and pipe outlets in accordance with MaineDOT Standard Specification Subsection 605.04.

#### **605.02 Materials**

All pipe shall be High Density Polyethylene (HDPE) and equal to or larger than the existing pipe. Pipe backfill shall meet MaineDOT Standard specifications Subsection 703.22 Underdrain Backfill.

#### **605.07 Basis of Payment**

The accepted quantity of underdrain will be paid for at the contract unit price per linear foot. This price shall include the cost of excavation, all labor, materials, and equipment necessary to install the underdrain. Pipe fittings shall be considered part of the linear footage.

Pay Item		Pay Unit
605.09	6" HDPE Underdrain Type B	Linear Foot
605.11	12" HDPE Underdrain Type C	Linear Foot

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 608 – PEDESTRIAN RAMP WITH DETECTABLE WARNING SURFACE**

The provisions of Section 608 of the Standard Specifications shall apply with the following additions and modifications.

#### **608.01 Description**

This item shall consist of constructing the concrete portion of the sidewalk ramp at an intersecting street. The bid price shall include all necessary work to install concrete (precast acceptable) and truncated domes. Work shall follow Section 608 of MDOT Standard Details, November 2014 edition and current ADA specifications.

#### **608.05 Method of Measurement**

Detectable warning plates will be measured for payment by the square foot of actual plate area, only, not including the surrounding concrete.

#### **608.06 Basis of Payment**

The accepted quantities of pedestrian ramp with detectable warning surface will be paid for at the contract unit price per square foot and shall include concrete and cast iron truncated dome.

Pay Item	Pay Unit
608.26      Pedestrian Ramp with Detectable Warning Surface	Square Foot

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 609 – CURB**

The provisions of Section 609 of the Standard Specifications shall apply with the following additions and modifications.

#### **609.01 Description**

This item consists of the installation of granite curb. Granite curb shall be backfilled front and back and under with concrete up to HMA base course elevation.

#### **609.02 Materials**

Granite curbing, which contains pink quartz (Caledonia Type), shall not be used on this project. All granite curbing shall be predominately gray in color.

A mix design for the Portland Cement Concrete shall be submitted to the City. Concrete shall be used for the base for the curb with a minimum designed compressive strength of 1,500 psi.

#### **609.10 Basis of Payment**

The accepted quantities of granite curb will be paid for at the contract unit price complete in place. Concrete base is incidental to granite placement.

Pay Item	Pay Unit
609.11 Vertical Curb Type 1	Linear Foot
609.111 Vertical Curb Drainage Inlet	Each
609.12 Vertical Curb Type 1 – Circular	Linear Foot
609.234 Terminal Curb Type 1 – 4 Foot	Each
609.238 Terminal Curb Type 1 – 8 Foot	Each

## SUPPLEMENTAL SPECIFICATIONS

### SECTION 615 - LOAM

The provisions of Section 615 of the Standard Specifications shall apply with the following additions and modifications.

#### 615.01 Description

This work shall consist of loaming and seeding areas adjacent to existing lawn areas along Highland Avenue. Loam and its applications shall conform to the requirements of Section 615 of the Standard Specifications. Loam shall have a finished depth of four (6") inches and shall be screened through a one (1") inch square mesh screen. **Loam areas shall be rolled (compacted) prior to placement of seed and mulch.**

Seeding shall be Method Number 1 and shall conform to the requirements of Section 618 of the Standard Specifications. The Contractor shall be required to continually seed area of loam and seed until a satisfactory growth of grass is established. If so required, all areas to be loamed and seeded shall be mulched with an approved wood cellulose fiber compatible with recommended hydro-seeding practices. This mulch shall be applied simultaneously with the seed and shall be of sufficient quantity to protect the seed and hold moisture in to insure a satisfactory growth of grass.

The specifications for the wood cellulose fiber proposed to be used shall be presented to the Engineer for acceptance at least ten (10) days (working days) prior to the application thereof.

The Contractor shall also be responsible for mowing any and all areas loamed and seeded. The mowings will be required if deemed necessary to insure and maintain a satisfactory growth of grass and shall not exceed two mowings.

#### 615.02 Materials

After a sample of loam has been submitted to the Engineer, he may require that a sample be submitted to a testing agency to determine its organic content, characteristics, and potential use as loam suited to the site. Loam shall meet the required 5 percent minimum organic content prior to placement.

#### 615.06 Basis of Payment

The accepted quantity of loam and seed will be paid for at the contract unit price per square yard. This price shall include the cost of excavation and all labor, materials, and equipment necessary to satisfactorily complete the work. All costs for watering, furnishing labor and equipment for mowing will not be paid for separately, but shall be considered as incidental to this pay item.

Pay Item	Pay Unit
615.08      Loam and Seed	Square Yard

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 621 - LANDSCAPING**

The provisions of Section 621 of the Standard Specifications shall apply with the following additions and modifications.

#### **621.0001 Description**

This work shall consist of the Contractor furnishing and planting trees and shall include all planting operations and material as well as the care and replacement of the plants during the Maintenance Period. Tree planting locations will be marked by the City.

#### **621.0002 Materials**

All non-plant material shall conform to the requirements specified in the following Sections of Division 700 – Materials.

Fertilizer	717.01
Mulch	717.04
Organic Humus	717.09

#### **621.0037 Method of Measurement**

The quantity of plants to be measured for payment will be the number of individual plants furnished and planted as required and accepted, excluding replacements.

#### **621.0038 Basis of Payment**

Each item of “Planting” will be paid for at the contract unit price for each accepted plant furnished and planted. Payment shall constitute full compensation for; furnishing and placing plants, digging, delivering, rodent protection, preparing plant pits, beds and drains; planting, watering, fertilizing, mulching, pruning, and the cleanup of planting areas; for all, fertilizer, mulch and other necessary materials; all labor, equipment, tools, Maintenance Period work and any other incidentals necessary to complete the work.

Pay Item	Pay Unit
621.011 1.5” – 2” Ivory Silk Lilac	Each
621.012 1.5” – 2” Ornamental Pear Tree	Each

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 627 – PAVEMENT MARKINGS**

The provisions of Section 627 of the Standard Specifications shall apply with the following additions and modifications.

#### **627.01 Description**

This item shall consist of furnishing and placing reflectorized pavement lines and markings in accordance with Section 708.03 and Section 712.05. Crosswalk markings shall be 6' x 2' with 2' gap. This item shall consist of pavement marking lines for parking spot delineation.

#### **627.10 Basis of payment**

Pavement markings will be paid for at the contract unit price per square foot. Line pavement markings will be paid for at the contract unit price per linear foot.

Pay Item		Pay Unit
627.733	4" White Pavement Marking Line	Linear Foot
627.75	White Pavement Markings	Square Foot



## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 652 – MAINTENANCE OF TRAFFIC**

The provisions of Section 652 of the Standard Specifications shall apply with the following additions and modifications.

#### **652.3.6 Traffic Control**

The Contractor shall maintain access to all drives on Seventh Street during construction. Two-way traffic flow shall be required on all streets during non-working hours.

#### **652.7 Method of Measurement**

This subsection shall be amended by the addition of the following paragraph:

Work Zone Traffic Control shall be measured as a percentage of work completed to date relative to total work estimated.

#### **652.02 Basis of Payment**

This subsection shall be amended by the addition of the following paragraph:

Preparation of traffic control plans, constructions signage, barrels, cones, barriers, maintenance of traffic control devices, flaggers and other necessary incidentals to maintain traffic in accordance with the specifications and the MUTCD shall be paid for Lump Sum under item 652.36 Work Zone Traffic Control.

Pay Item		Pay Unit
652.36	Work Zone Traffic Control	Lump Sum

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 653 – POLYSTYRENE PLASTIC INSULATION**

The provisions of Section 653 of the Standard Specifications shall apply with the following additions and modifications.

#### **653.04 Placing of Board**

Unless there are high winds, using pegs to hold the foam in place is not required if a few shovelfuls of suitable backfill material is available.

#### **653.05 Placing of Backfill**

Insulation should not come in direct contact with the pipes, especially water pipes. In frost protection situations, typically keep a minimum 6-inch layer of backfill between the insulation and the pipe. In cases of pipe crossings where there is not enough separation, place the insulation in the middle of the separation. The width of the insulation should extend at least 6-inches over the diameter of the pipe.

#### **653.10 Basis of Payment**

Insulation shall be paid for at the contract unit price per square yard.

Pay Item	Pay Unit
653.22      2" Polystyrene Plastic Insulation	Square Yard

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 659 – MOBILIZATION**

The provisions of Section 659 of the Standard Specifications shall apply with the following additions and modifications.

#### **659.01 Description**

This item shall consist of preparatory work and operations including, but not limited to those necessary to the movement of personnel, equipment, supplies and incidentals to the project site; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.

#### **659.02 Basis of Payment**

Partial payments will be made in accordance with Section 108.2.3 Mobilization of the Standard Specifications.

Pay Item		Pay Unit
659.10	Mobilization	Lump Sum

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 824 – FIRE HYDRANTS**

The provisions of Section 824 of the Standard Specifications shall apply with the following additions and modifications.

#### **824.01 Description**

This work shall consist of demolishing existing hydrant assembly and installing new hydrant assembly including installation and connection to water main. The Contractor shall coordinate and attend a Pre-Construction meeting with the Auburn Water and Sewerage District, and provide all necessary notifications to the Water District and the City during construction.

#### **824.02 Materials**

Hydrant assembly, including hydrant, piping, fittings, and valve boxes will be furnished by the Auburn Water and Sewerage District.

Backfill and bedding materials shall be provided by the Contractor and shall be considered incidental to the applicable pay item.

#### **824.03 Method of Measurement**

Hydrant assembly shall be measured by each unit demolished or installed, complete in place.

#### **824.04 Basis of Payment**

The accepted quantities of hydrant assembly demolition shall be paid for at the contract unit price each complete in place. The amount bid shall be full compensation for furnishing all labor, equipment, tools, adaptors, and materials necessary to satisfactorily remove and properly dispose of existing hydrant assembly including, but not limited to the hydrant, fittings, and standpipe. Trench excavation, backfill material, and all other effort necessary to satisfactorily complete the work shall be included.

The accepted quantities of hydrant assembly installation shall be paid for at the contract unit price each complete in place. Payment shall constitute full compensation for; installing hydrant assembly materials furnished by the Auburn Water and Sewerage District; excavation, shoring and bracing, dewatering; furnishing and placing backfill and other necessary materials; testing; and all labor, equipment, tools and any other incidentals necessary to complete the work.

Pay Item		Pay Unit
824.29	Demolishing Existing Hydrant Assembly	Each
824.30	Install Hydrant Assembly	Each

## **SUPPLEMENTAL SPECIFICATIONS**

### **SECTION 830 – WATER MAIN SERVICES**

The provisions of Section 830 of the Standard Specifications shall apply with the following additions and modifications.

#### **803.01 Description**

All connections shall be made in conformance with the Maine State Plumbing Code. All new service lines shall match the size of the existing lines unless other specifically directed by the Auburn Water and Sewerage District. The Contractor shall install locating/warning tape over the water service as required by City ordinance. The Contractor shall provide all necessary labor, equipment, tools, and materials necessary to complete the water service replacements as directed by the Auburn Water and Sewerage District.

The Contractor shall coordinate and attend a Pre-Construction meeting with the Auburn Water and Sewer District, and provide all necessary notifications to the District and the City during construction.

#### **803.02 Materials**

All water main and services piping, fitting, tracer wire, bends, tees, valves, curb stops, and service boxes materials will be furnished by the Auburn Water and Sewerage District. Water mains will be Bionax PVCO Pressure Pipe and a specification for the material is provided in Appendix B.

Backfill and bedding materials shall be provided by the Contractor and shall be considered incidental to the applicable pay items.

#### **803.03 Method of Measurement**

PVCO water mains shall be measured per linear foot along the centerline of the pipe, complete in place. Tees and gate valves shall be measured by each unit installed, complete in place. Water services shall be measured by each unit installed, complete in place.

#### **803.04 Basis of Payment**

The accepted quantities of PVCO water mains installation shall be paid for at the contract unit price per linear foot, complete in place. Payment shall constitute full compensation for; laying and jointing of piping and appurtenances furnished by the Auburn Water and Sewer District; excavation, shoring and bracing, dewatering; removal and disposal of existing piping and appurtenances; furnishing and placing bedding, backfilling; installing tracer wire; and all labor, equipment, tools and any other incidentals necessary to complete the work.

The accepted quantities of tees and gates valves installation shall be paid for at the contract unit price per each complete in place. Payment shall constitute full compensation for; installation of

tees and gate valves furnished by the Auburn Water and Sewerage District; excavation, shoring and bracing, dewatering; removal and disposal of existing piping and appurtenances; furnishing and placing bedding, backfilling; and all labor, equipment, tools and any other incidentals necessary to complete the work.

The accepted quantities of water services installation shall be paid for at the contract unit price per each complete in place. Payment shall constitute full compensation for; installation of piping, service boxes and curb stops furnished by the Auburn Water and Sewerage Districts; excavation, shoring and bracing, dewatering; removal and disposal of existing piping and appurtenances; connection to existing service, furnishing and placing bedding, backfilling; and all labor, equipment, tools and any other incidentals necessary to complete the work.

The adjustment of new curb stops to grade shall be considered incidental to the contract and shall not require payment. Adjustment of existing curb stops to remain shall be completed by the Auburn Water and Sewerage District.

Pay Item	Pay Unit
830.01      Install 2" Water Main	Linear Foot
830.02      Install 8" PVC Water Main	Linear Foot
830.03      Install Gate Valve	Each
830.04      Install Water Service – Shortside	Linear Foot
830.05      Install Water Service - Longside	Linear Foot

## BID BOND

KNOW ALL BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_ as Principal, and \_\_\_\_\_ as Surety, are hereby held and firmly bound unto \_\_\_\_\_ as OWNER in the penal sum of \_\_\_\_\_ for payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 2018.

The Condition of the above obligation is such that whereas the principal has submitted to \_\_\_\_\_ a certain BID,

attached hereto and hereby made a part hereof to enter into a contract in writing, for the \_\_\_\_\_

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for all and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_  
(L.S)

Principal

Surety

By: \_\_\_\_\_

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

## **SAMPLE AGREEMENT**

THIS AGREEMENT is made this ### day of Month Year, by and between the CITY OF AUBURN, a municipal corporation existing under the laws of the State of Maine and located in the County of Androscoggin, State of Maine (hereinafter "CITY"), Company Name, Address, EIN, (hereinafter "CONTRACTOR"),

### **WITNESSETH:**

In consideration of the mutual covenants and conditions contained herein, the CITY and the CONTRACTOR agree as follows:

### **SPECIFICATIONS:**

1. The CONTRACTOR shall furnish all of the material and perform all of the work shown on the drawings and described in the specifications entitled: Bid # XXXXX Bid Title which are attached hereto and made a part hereof, and the CONTRACTOR covenants that it shall do everything required by this Agreement, the Special Provisions of the Agreement, the Invitation to Bid and the Specifications in return for payment as provided herein.

### **COMPLETION DATE:**

2. The work to be performed under this Agreement shall be commenced by Month day, year and fully completed on or before Month day, year.

### **CONTRACT PRICE:**

3. The CITY shall pay the CONTRACTOR for the performance of the Agreement the sum of \$XXX

### **PERFORMANCE BOND:**

4. If required by the City, the CONTRACTOR shall furnish to the CITY at the time of the execution of this Agreement a performance bond and a labor and material payment bond each in the amount of \$Dollar amount or N/A (whichever applies) executed by a surety company satisfactory to the CITY, guaranteeing the performance and payment by the CONTRACTOR. ☐ Yes, Required (Initials: \_\_\_\_ ) ☐ No, Waived (Initials \_\_\_\_ )

### **GUARANTEE:**

5. The CONTRACTOR shall guarantee his work against any defects in workmanship and materials for a period of one year from the date of the CITY's written acceptance of the project.



#### PERMITS AND LICENSES:

6. Permits and licenses necessary for the prosecution of the work shall be secured and paid by the CONTRACTOR.

#### CITY'S RIGHT TO TERMINATE CONTRACT:

7. If the CONTRACTOR should be adjudged a bankrupt, or if it should make a general assignment for the benefit of creditors, or if a receiver should be appointed on account of its insolvency, or if it should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if it should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, and ordinances, or otherwise be guilty of a substantial violation of any provision of the Agreement, then the CITY when sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the CONTRACTOR, and his surety, seven (7) days written notice, terminate the employment of the CONTRACTOR and take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method it may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the Agreement price shall exceed the expense of the finishing the work, including compensation for additional architectural, managerial and administrative services, such excess shall be paid to the CONTRACTOR. If such expense shall exceed such unpaid balance, the CONTRACTOR shall pay the difference to the CITY.

#### CONTRACTOR'S LIABILITY INSURANCE:

8. The CONTRACTOR shall not commence work under this Agreement until he has obtained all insurance required under this paragraph and such insurance has been approved by the CITY, nor shall the CONTRACTOR allow any subcontractor to commence work on his subcontract until all similar insurance required of subcontractor has been so obtained and approved. It is a requirement that the CITY be named as an Additional Insured on the General Liability and Automobile Liability policies.

Commercial General Liability to include products and completed operations, and blanket contractual. The limits of liability shall be as follows:

Bodily Injury and Property Damage	\$1,000,000
Personal Injury and Advertising Injury	\$1,000,000
Per Project Aggregate	\$1,000,000
General Aggregate	\$2,000,000
Products and Completed Operations Aggregate	\$2,000,000
Medical Payments	\$10,000

(b) Business Automobile Liability

The CONTRACTOR shall maintain and cause all sub-contractors and lower tier contractors to maintain business automobile liability insurance covering all owned non-owned, leased, rented or hired automobiles (symbol 1). The limits of liability shall be as follows:

Bodily Injury and Property Damage	\$1,000,000
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Automobile physical damage coverage shall be at the option of the CONTRACTOR, all sub-contractors and lower tier contractors. The CITY shall not be liable for physical loss or damage to any owned, non-owned, leased, rented or hired automobile.

Workers' Compensation Insurance

The CONTRACTOR shall maintain and cause all sub-contractors and lower tier contractor's to maintain Workers' Compensation and Employers Liability in accordance with the laws and regulations of the State of Maine. The limits of liability provided shall be as follows:

Coverage A:	Statutory
Coverage B:	\$100,000/\$500,000/\$100,000

Professional Liability

If the CONTRACTOR is an Architect, Engineer or Surveyor, they shall maintain a policy of insurance to pay on their behalf whatever amounts that may become legally required to pay on account of an error, omission or negligent act.

Limits of Liability shall be as follows:

\$1,000,000 per occurrence and in the aggregate site specific.

It is a requirement that this policy be maintained for a period of three (3) years following completion of the project.

Certificates of Insurance of the types and in the amounts required shall be delivered to the CITY prior to the commencement of any work by the CONTRACTOR, subcontractor or lower tier contractor or any person or entity working at the direction or under control of the CONTRACTOR. The CONTRACTOR shall assume the obligation and responsibility to confirm insurance coverage for all sub-contractors or lower tier contractors who will participate in the project.

The Certificate of Insurance and the policies of insurance shall include a sixty (60) day notice to the CITY of cancellation, non-renewal or material change in coverage or form.

The CONTRACTOR and his surety shall indemnify and save harmless the CITY, his officers and employees from all suits, actions or claims of any character brought because of any injuries

or damage received or sustained by any person, persons or property on account of the operations of the said CONTRACTOR; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in construction of the work; or because of any act or omission, neglect, or misconduct of said CONTRACTOR; or because of any claims or amounts recovered from any infringements or patent trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act" or of any other law, ordinance, order or decree; and so much of the money due to the said CONTRACTOR under and by virtue of his/her contract as shall be considered necessary by the CITY for such purpose, may be retained; or in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims, for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the CITY.

#### Waiver of Subrogation

Payment of any claim or suit including any expenses incurred in connection therewith by the CITY, or any insurance company on behalf of the CITY shall not constitute a waiver of subrogation against the CONTRACTOR, sub-contractors or any lower tier contractor in the event that such claim or suit was caused by or contributed to as a result of the negligent acts of the CONTRACTOR, any sub-contractors or lower tier contractors.

#### Construction Agreement

The CONTRACTOR shall and does hereby agree to indemnify, save harmless and defend the CITY from the payment of any sum or sums of money to any person whomsoever on account of claims or suits growing out of injuries to persons, including death, or damages to property, caused by the CONTRACTOR, his employees, agents or sub-contractors or in any way attributable to the performance and execution of the work herein contracted for, including (but without limiting the generality of the foregoing), all claims for service, labor performed, materials furnished, provisions and suppliers, injuries to persons or damage to property, liens, garnishments, attachments, claims, suits, costs, attorney's fees, costs of investigation and defense. It is the intention of this paragraph to hold the CONTRACTOR responsible for the payment of any and all claims, suits, or liens, of any nature character in any way attributable to or asserted against the CITY, or the CITY and the CONTRACTOR, which the City may be required to pay. In the event the liability of the CONTRACTOR shall arise by reason of the sole negligence of the CITY and/or the sole negligence of the CITY's agents, servants or employees, then and only then, the CONTRACTOR shall not be liable under the provisions of this paragraph.

#### DAMAGES:

9. The CONTRACTOR shall defend, indemnify and save harmless the CITY and all persons acting for or in behalf of it against all claims for injuries (including death), loss or damage, arising out of the performance out this contract.

#### LIENS:

10. Neither the final payment nor any part of the retained percentage shall become due until the CONTRACTOR, if required, shall deliver to the CITY a complete release of all liens arising out of the Agreement, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as it has knowledge or information the releases and receipts include all the labor and material for which a lien could be filed; but the CONTRACTOR may, if any SUB-CONTRACTOR refuses to furnish a release or receipt in full, furnish a bond satisfactory to the CITY to indemnify it against any lien. If any lien remains unsatisfied after all payment are made, the CONTRACTOR shall refund to the CITY all moneys that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

#### ASSIGNMENT:

11. Neither party to the Agreement shall assign the Agreement or sublet it as a whole without the written consent of the other, nor shall the CONTRACTOR assign any moneys due or to become due to it hereunder, without the previous written consent of the CITY.

#### SUBCONTRACTS:

12. The CONTRACTOR shall not sublet any part of this Agreement without the written permission of the CITY. The CONTRACTOR agrees that it is as fully responsible to the CITY for the acts and omissions of its SUB-CONTRACTORS and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

#### USE OF PREMISES:

13. The CONTRACTOR shall confine its apparatus, the storage of materials and operations of its workers to limits indicated by law, ordinance and permits and shall not otherwise unreasonably encumber the premises with its materials. If any part of the project is completed and ready for use, the CITY may, by written and mutual consent, without prejudice to any of its rights or the rights of the CONTRACTOR, enter in and make use of such completed parts of the project. Such use or occupancy shall in no case be construed as an acceptance of any work or materials.

#### CLEANING UP:

14. The CONTRACTOR shall at all times keep the premises free from accumulation of waste materials or rubbish caused by its employees or work, and at the completion of the work it shall remove all its rubbish from and about the project, and all its tools, scaffolding and surplus materials and shall leave its work "broom-clean" or its equivalent, unless more exactly specified. In case of dispute, the CITY may remove the rubbish and charge the cost to the CONTRACTOR.

PAYMENTS:

15. Unless otherwise agreed to, the CITY shall make payments on account of the Agreement as follows:

Within 30 days, as invoices are submitted for work completed to the satisfaction of the CITY.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

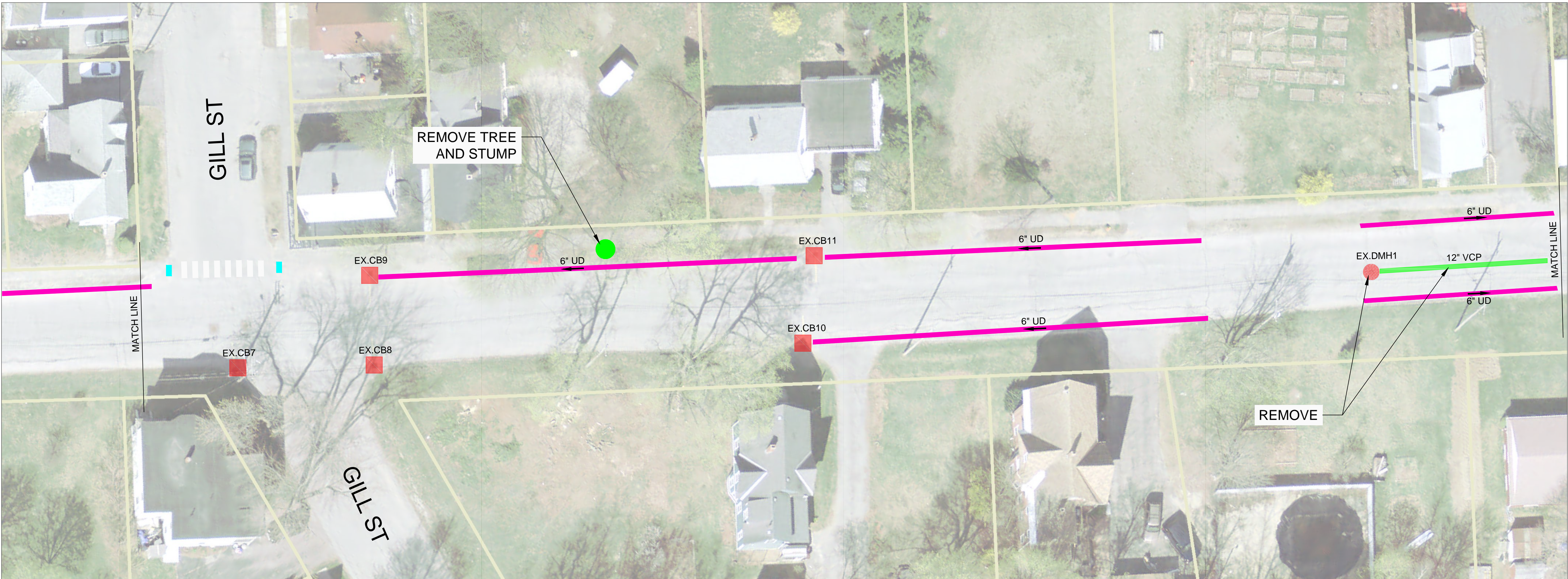
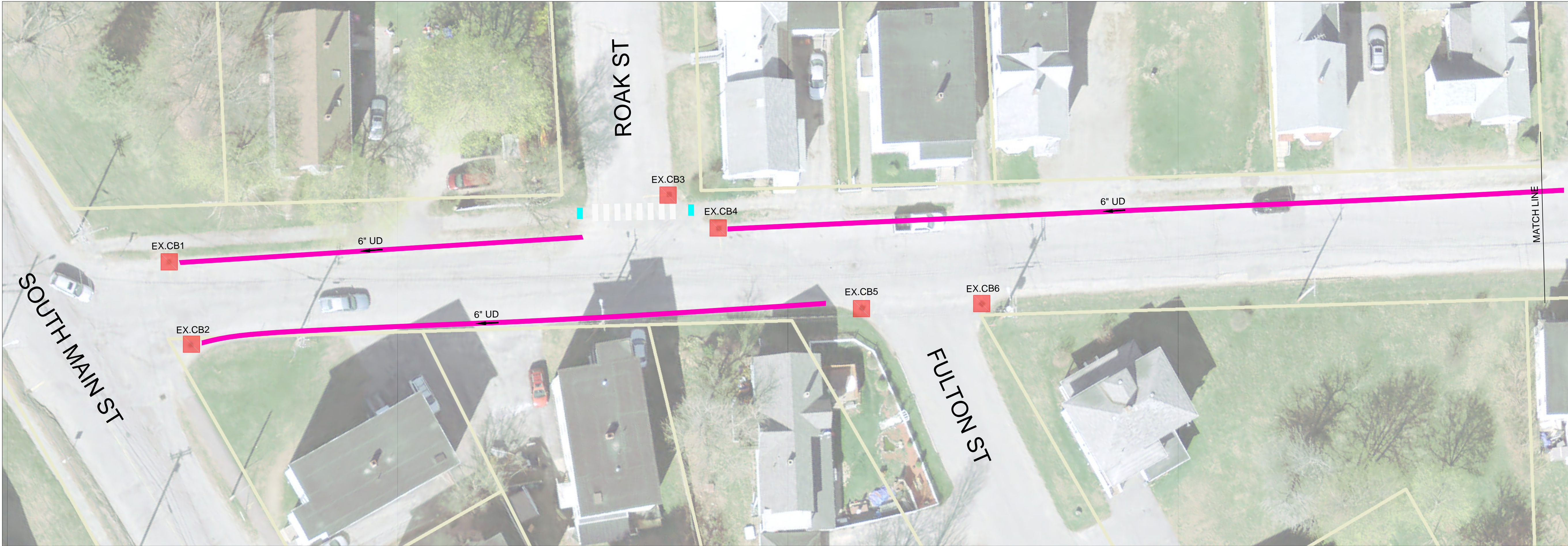
BY: \_\_\_\_\_ BY: \_\_\_\_\_  
Witness Finance Director

BY: \_\_\_\_\_ BY: \_\_\_\_\_  
Witness Contractor

# **APPENDIX A**

## CONCEPTUAL SITE PLAN





General Notes

1. DRIVEWAY BUILDUP:  
12" - TYPE A GRAVEL  
2" - 12.5mm BASE COURSE  
1" - 9.5mm SURFACE

2. SIDEWALK BUILDUP  
12" - TYPE A GRAVEL  
1" - 9.5mm BASE COURSE  
1" - 9.5mm SURFACE

3. ROADWAY BUILDUP  
18" - TYPE D GRAVEL  
3" - TYPE A GRAVEL  
2" - 12.5mm HMA BASE  
1.5" - 9.5mm HMA SURFACE

4. NEW SIDEWALK TO BE BUILD ABUTTING CURB AND COMMON BORROW USED TO MATCH GRADE

5. ROAD WIDTH CURB TO CURB SOUTH MAIN TO BOON 28' (10' LANES / 8' PARKING)

6. F-BASINS UTILIZED TO CATCH CURBLINE STORM WATER AND CONVEY TO EXISTING TRUNK LINE

7. RECONSTRUCT EXISTING SIDEWALKS AT THEIR EXISTING LOCATIONS 5' WIDE WITH 4' MINIMUM ESPLANADES

8. CELLAR DRAINS SHALL BE RECONNECTED INTO THE DRAINAGE SYSTEM

No.	Revision/Issue	Date

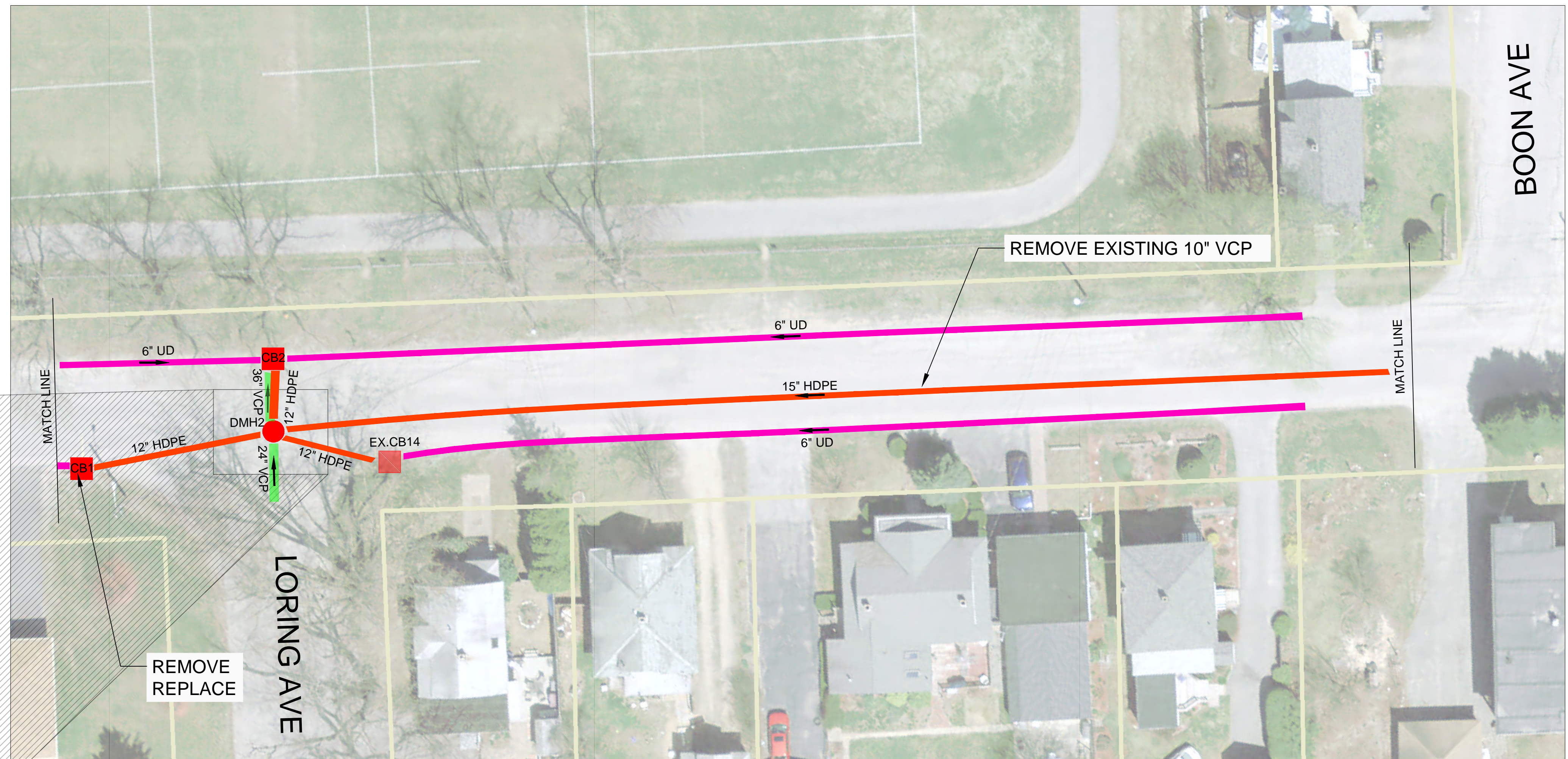
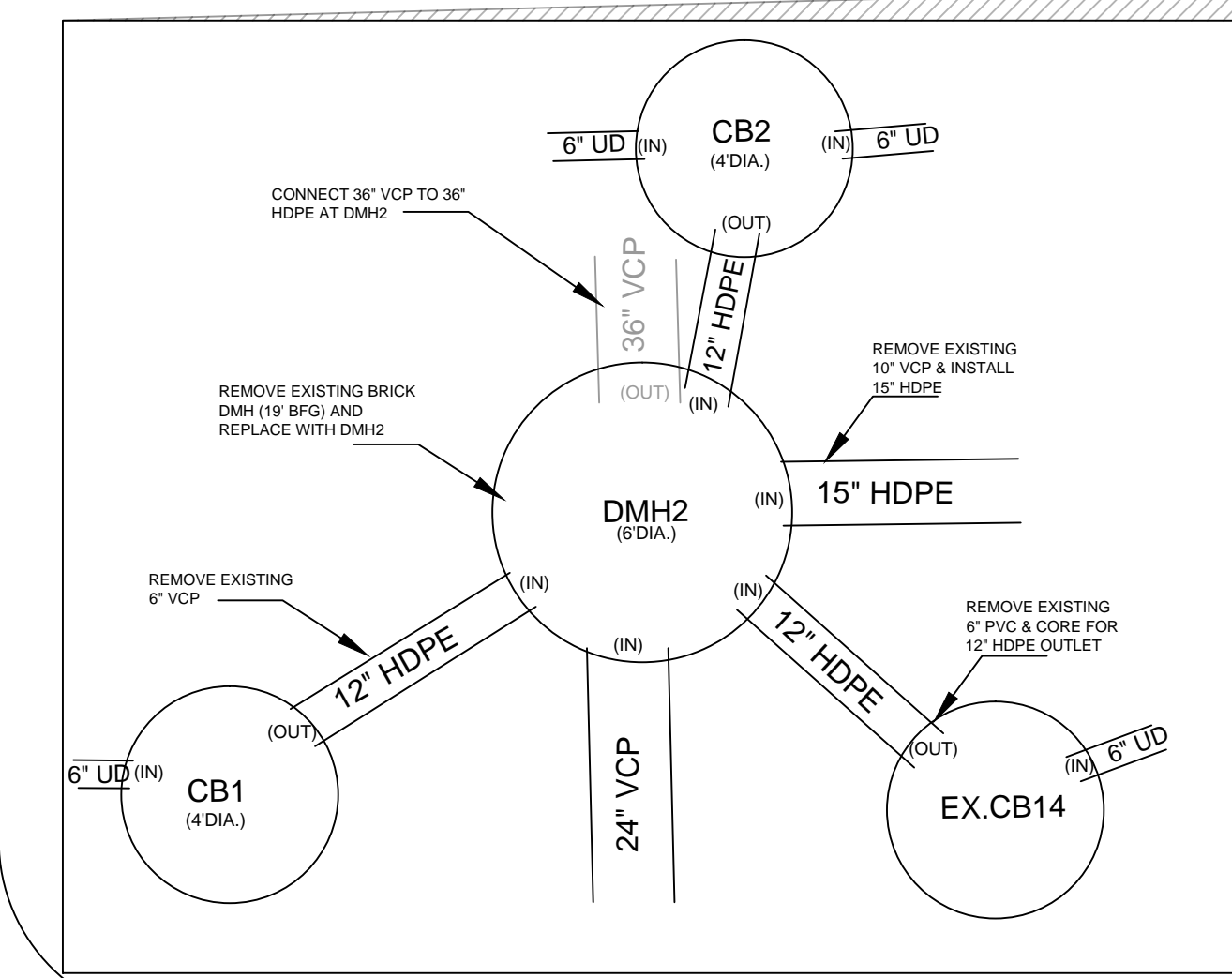
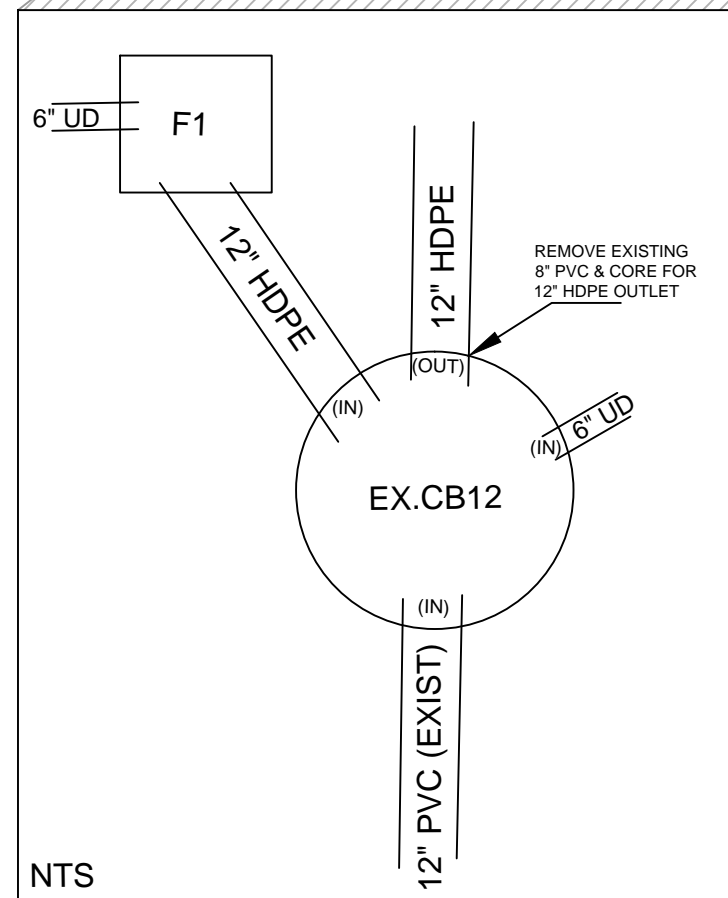
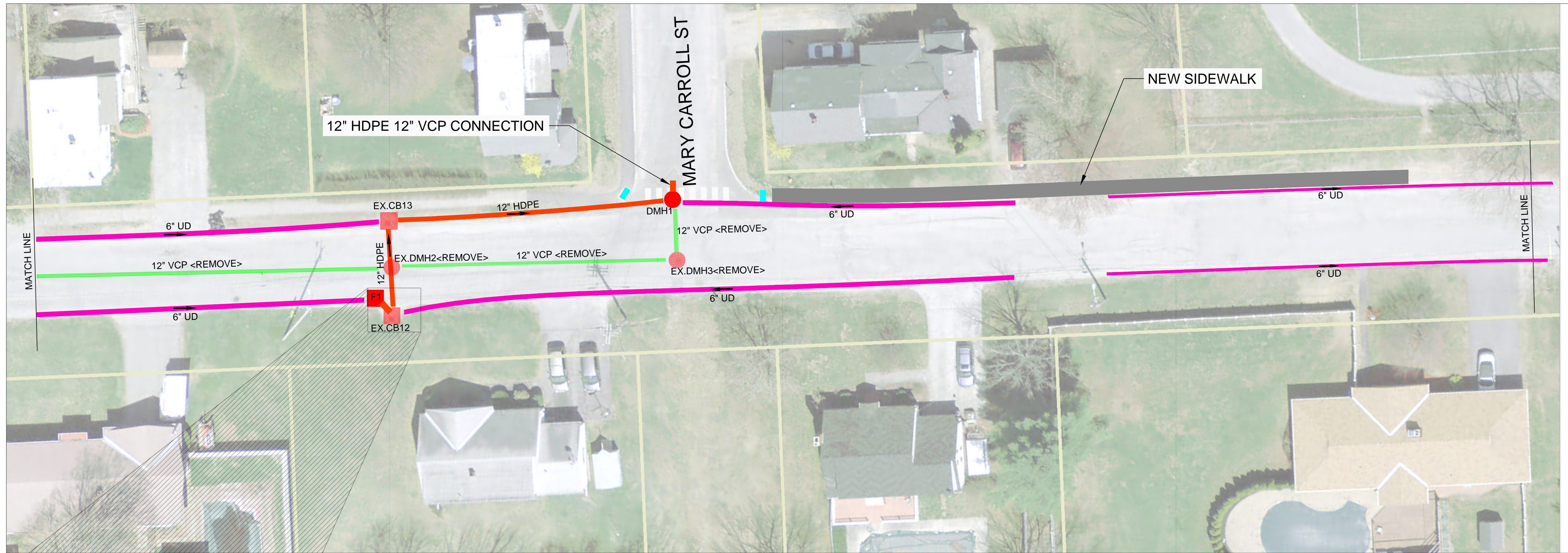
Firm Name and Address

Project Name and Address

2018 RECONSTRUCTION PROJECT  
SEVENTH STREET  
AUBURN, ME 04210

Project	2018 RECON PROJECT	Sheet	C01
Date	2/16/2018		
Scale	1" = 20'		





#### General Notes

1. DRIVEWAY BUILDUP:
  - 12" - TYPE A GRAVEL
  - 2" - 12.5mm BASE COURSE
  - 1" - 9.5mm SURFACE
2. SIDEWALK BUILDUP:
  - 12" - TYPE A GRAVEL
  - 1" - 9.5mm BASE COURSE
  - 1" - 9.5mm SURFACE
3. ROADWAY BUILDUP:
  - 18" - TYPE D GRAVEL
  - 3" - TYPE A GRAVEL
  - 2" - 12.5mm HMA BASE
  - 1.5" - 9.5mm HMA SURFACE
4. GRANITE CURBING FULL LENGTH OF ROADWAY
5. ROAD WIDTH CURB TO CURB SOUTH MAIN TO BOON 28' (10' LANES / 8' PARKING)
6. F-BASINS UTILIZED TO CATCH CURBLINE STORM WATER AND CONVEY TO EXISTING TRUNK LINE
7. NEW SIDEWALK TO BE BUILD ABUTTING CURB AND COMMON BORROW USED TO MATCH BACKSIDE GRADE
8. RECONSTRUCT EXISTING SIDEWALKS AT THEIR EXISTING LOCATIONS 5' WIDE WITH 4' MINIMUM ESPLANADES
9. CELLAR DRAINS SHALL BE RECONNECTED INTO THE DRAINAGE SYSTEM

#### 10. EXISTING DRAINAGE MANHOLE INFORMATION:

EX.DMH3 - 12"VCP IN @ 8'BG 12" VCP OUT @ 9'BG  
DMH2 - EXISTING DMH @ 19'BG INVERT CHANNELS & SEVERAL OTHER INS

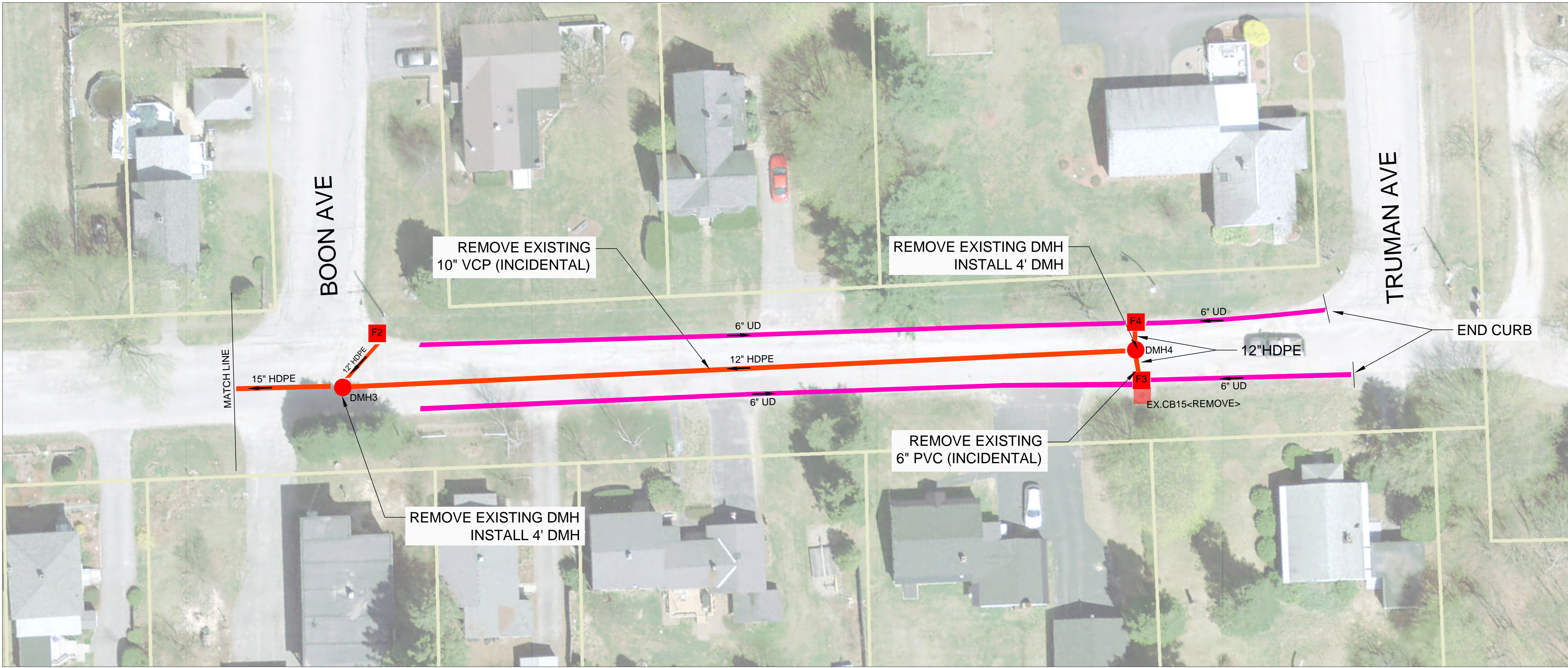
No.	Revision/Issue	Date

Firm Name and Address

Project Name and Address
2018 RECONSTRUCTION PROJECT SEVENTH STREET AUBURN, ME 04210

Project 2018 RECON PROJECT	Sheet C02
Date 2/16/2018	
Scale 1" = 20'	





General Notes

1. DRIVEWAY BUILDUP:  
12" - TYPE A GRAVEL  
2" - 12.5mm BASE COURSE  
1" - 9.5mm SURFACE

2. SIDEWALK BUILDUP  
12" - TYPE A GRAVEL  
1" - 9.5mm BASE COURSE  
1" - 9.5mm SURFACE

3. ROADWAY BUILDUP  
18" - TYPE D GRAVEL  
3" - TYPE A GRAVEL  
2" - 12.5mm HMA BASE  
1.5" - 9.5mm HMA SURFACE

4. GRANITE CURBING FULL LENGTH OF ROADWAY

5. ROAD WIDTH CURB TO CURB BOON TO TRUMAN 23'

6. F-BASINS UTILIZED TO CATCH CURBLINE STORM WATER AND CONVEY TO EXISTING TRUNK LINE

7. CELLAR DRAINS SHALL BE RECONNECTED INTO THE DRAINAGE SYSTEM

8. EXISTING DRAINAGE MANHOLE INFORMATION:  
DMH4 - EXISTING DMH 6"PVC IN @ 5'BG  
10"VCP OUT @ 6'BG

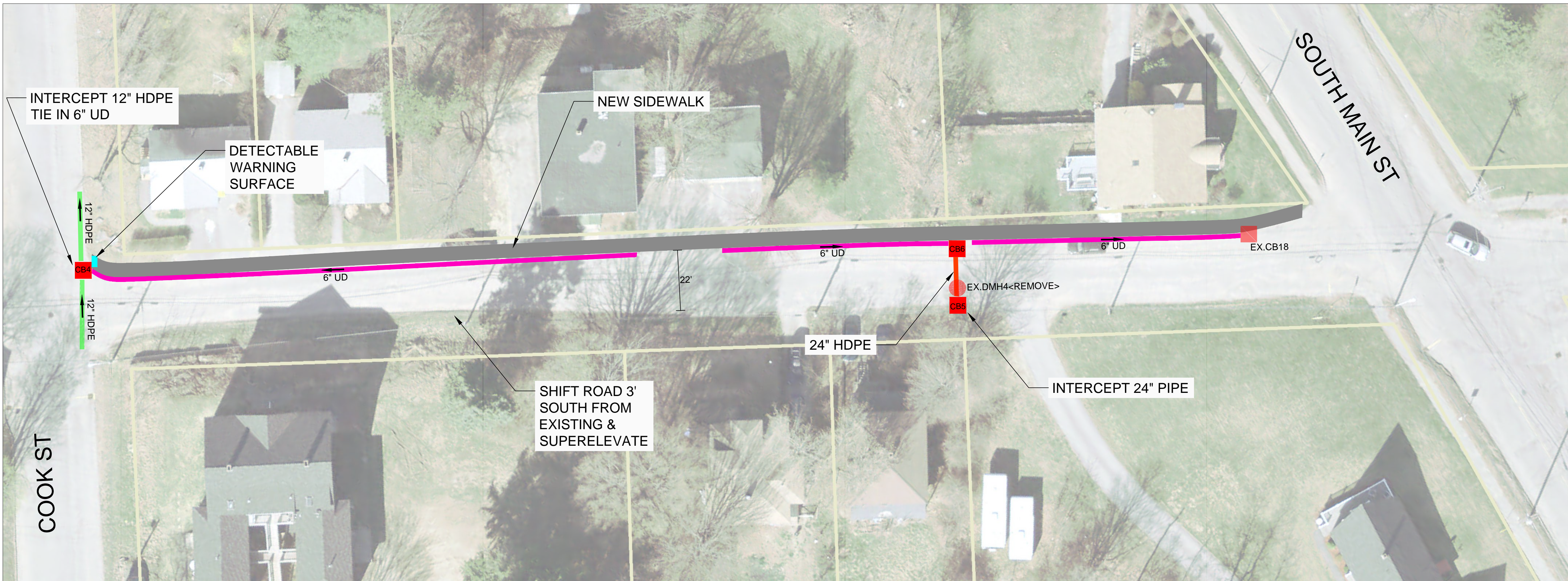
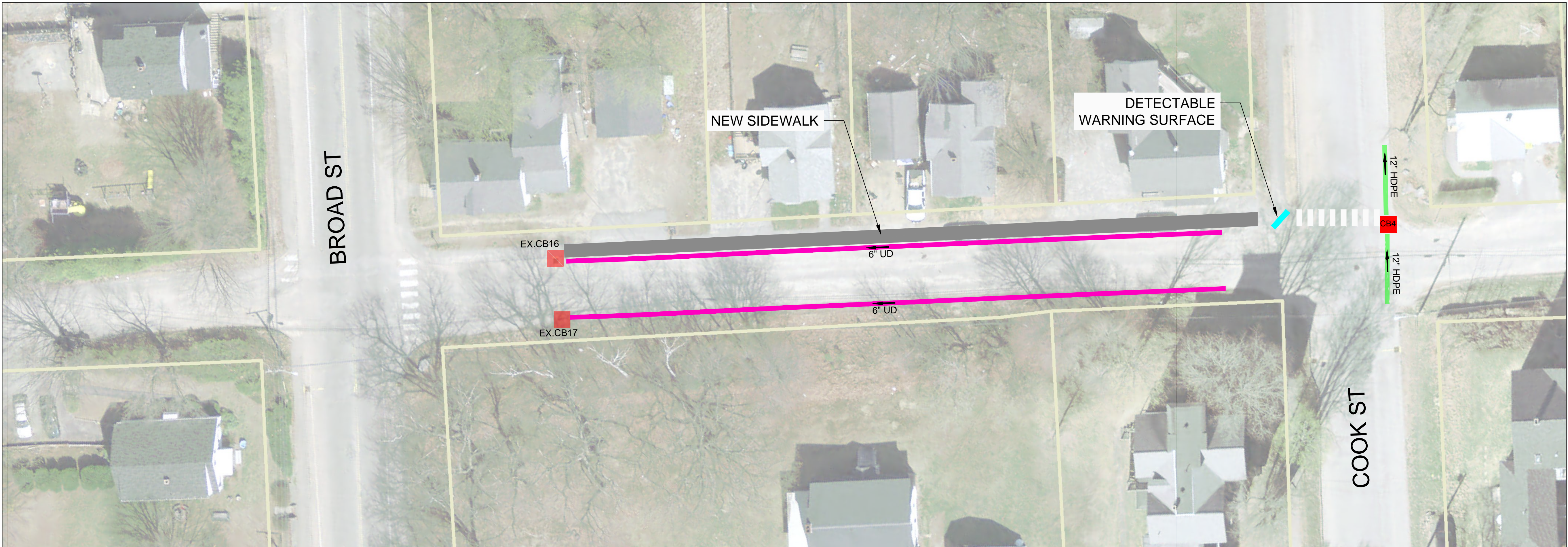
No.	Revision/Issue	Date

Firm Name and Address

2018 RECONSTRUCTION PROJECT  
SEVENTH STREET  
AUBURN, ME 04210

Project 2018 RECON PROJECT	Sheet
Date 2/16/2018	C03
Scale 1" = 20'	





General Notes

1. DRIVEWAY BUILDUP:  
12" - TYPE A GRAVEL  
2" - 12.5mm BASE COURSE  
1" - 9.5mm SURFACE

2. SIDEWALK BUILDUP  
12" - TYPE A GRAVEL  
1" - 9.5mm BASE COURSE  
1" - 9.5mm SURFACE

3. ROADWAY BUILDUP  
18" - TYPE D GRAVEL  
3" - TYPE A GRAVEL  
2" - 12.5mm HMA BASE  
1.5" - 9.5mm HMA SURFACE

4. ROAD WIDTH 22' CURB TO CURB

5. SECTION BETWEEN SOUTH MAIN STREET AND COOK STREET  
SUPERELEVATE TO SHED WATER NORTH

No.	Revision/Issue	Date

Firm Name and Address

Project Name and Address  
2018 RECONSTRUCTION PROJECT  
SEVENTH STREET  
AUBURN, ME 04210

Project 2018 RECON PROJECT	Sheet C04
Date 2/16/2018	
Scale 1" = 20'	



## **APPENDIX B**

### **BIONAX PVCO PRESSURE PIPE SPECIFICATION SHEET**



## ***BIONAX*** **PVCO Pressure Pipe**

### **Short-Form Specification**

#### **Scope**

This specification provides the requirements for *Bionax* molecularly oriented polyvinyl chloride (PVCO) pipe for potable-water systems and other pressure-pipe applications. *Bionax* Gasketed cast-iron-pipe outside diameter (CIOD) Pressure pipe is available in the following pressure classes and nominal sizes:

- PC 235psi 4" through 18" (100mm – 450mm)
- PC 165psi 16" through 18" (400mm – 450mm)

#### **Materials**

*Bionax* pipe shall be manufactured from rigid polyvinyl chloride (PVC) compound meeting the requirements of ASTM D1784 cell class 12454. *Bionax* gaskets shall meet ASTM F477 for high-head applications.

#### **Hydrostatic Design Basis**

Starting-stock for *Bionax* shall have a hydrostatic design basis (HDB) of 4000 psi and finished pipe shall have an HDB of 7100 psi as determined by testing in accordance with ASTM D1598, with data evaluated in accordance with ASTM D2837.

#### **Pipe**

*Bionax* shall be manufactured with cast-iron-pipe outside diameters (CIOD) in all sizes. Pipe walls shall meet minimum thickness requirements for AWWA C909 and CSA B137.3.1. Pipe shall be joined by means of integral-bell elastomeric-gasket joints conforming to ASTM D3139. Spigot ends shall be chamfered by the manufacturer. Pipe ends shall be capped at the production facility prior to storage and shipping.

#### **Standards**

PVCO pipe shall conform to the following standards:

- ANSI/NSF 14 Plastics Piping System Components and Related Materials
- ANSI/NSF Standard 61: Drinking Water System Components – Health Effects
- ASTM F1483 Standard Specification for Oriented Poly(Vinylchloride), PVCO, Pressure Pipe (PR 200psi)
- AWWA C909: Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 Inch Through 24 Inch (100 mm Through 600 mm) for Water Distribution
- BNQ NQ 3660-950 Safety of Products and Materials in Contact with Drinking Water
- CSA B137.3.1 Molecularly Oriented Polyvinylchloride (PVCO) Pipe for Pressure Applications (PR 1620kPa)
- FM 1612 Polyvinyl Chloride (PVC) Pipe and Fittings for Underground Fire Protection Services (PC 150psi, 4" through 12")

# ROMAC INDUSTRIES, INC.

## ROMAGRIP™ MECHANICAL JOINT RESTRAINING GLAND FOR STEEL AND DUCTILE IRON SIZE POLYVINYL CHLORIDE (PVC) PIPE 3 THROUGH 12 INCH

### SUBMITTAL INFORMATION

<b>USE</b>	The Romac RomaGrip restraining gland is used for the restraint of mechanical joint valves, fittings, and fire hydrants in water transmission and fire protection lines. The RomaGrip replaces costly concrete thrust blocks, corrodible steel tie rods and clamps.
<b>MATERIALS</b>	
Gland	Ductile (nodular) iron, meeting or exceeding ASTM A 536, Grade 65-45-12.
Gaskets	A Romac DI / IPS combination gasket may be used on either DI or IPS size pipe. Gasket compounded for water and sewer in accordance with ASTM D 2000. A standard MJ gasket may be used with this fitting on C900 PVC pipe. An MJ X IPS transition gasket is used for IPS size pipe.
Restraining Bolt	7/8 - 9 roll thread, Ductile (nodular) iron, meeting or exceeding ASTM A 536.
Restraining Lugs	Ductile (nodular) iron, meeting or exceeding ASTM A 536. Heat treated using a proprietary process.
Coatings	Shop coat applied to the casting for corrosion protection in transit. Fusion bonded Romabond Polyester coated glands and Xylan coated restraining bolts and lugs optional.

### PERFORMANCE

PIPE MATERIAL	PIPE SIZE	WORKING PRESSURE	RECOMMENDED TORQUE FOR T-BOLTS	RECOMMENDED TORQUE FOR RESTRAINING BOLTS
PVC - D.I. SIZE (C900 Class 165)	4" - 12"	RATING OF PIPE	45 - 60 FT-LBS	30 - 40 FT-LBS
PVC - D.I. SIZE (C900 Class 235 & 305)	4" - 12"	RATING OF PIPE	75 - 90 FT-LBS	TORQUE OFF HEADS
PVC - "CLASS PIPE" (IPS Size Less than ASTM D224 Class 160)	3" - 12"	RATING OF PIPE	45 - 60 FT-LBS	30 - 40 FT-LBS
PVC - "CLASS PIPE" (IPS Size ASTM D224 Class 160 & 200)	3"	RATING OF PIPE	45 - 60 FT-LBS	TORQUE OFF HEADS
PVC - "CLASS PIPE" (IPS Size ASTM D224 Class 160 & 200)	4" - 12"	RATING OF PIPE	75 - 90 FT-LBS	TORQUE OFF HEADS
PVC - SCHED. 40 & 80 ASTM D1785	3"	RATING OF PIPE	45 - 60 FT-LBS	TORQUE OFF HEADS
PVC - SCHED. 40 & 80 ASTM D1786	4" - 12"	RATING OF PIPE	75 - 90 FT-LBS	TORQUE OFF HEADS
PVC - D.I. SIZE (C909)	4" - 6"	235 PSI	75 - 90 FT-LBS	30 - 40 FT-LBS
PVC - D.I. SIZE (C909)	8"	235 PSI	75 - 90 FT-LBS	TORQUE OFF HEADS
PVC - D.I. SIZE (C909)	10" - 12"	150 PSI	75 - 90 FT-LBS	TORQUE OFF HEADS
DUCTILE IRON	NOT COMPATABLE WITH RG-PVC			
STEEL				
ASBESTOS CEMENT				
FIBERGLASS				
HDPE				
*PRESSURE RATINGS ARE DESIGNED WITH A 2:1 SAFTEY FACTOR / ALLOWABLE DEFLECTION 5 DEGREES 3-12"				

### FM Approval

FM approved for AWWA C900 pipe class 150 and 200, 4"-12".

## **APPENDIX C**

AUBURN WATER AND SEWER DISTRICT WATER MAIN PLAN

