



ERIE COUNTY WATER AUTHORITY
INTEROFFICE MEMORANDUM

February 1, 2023

To: Terrence D. McCracken, Secretary to the Authority

From: Michael J. Quinn, PE, Senior Distribution Engineer

A handwritten signature in black ink, appearing to read "MJQ", is written over the name Michael J. Quinn.

Subject: GP-010, Transmission and Distribution Mains
City of Lackawanna, Town of Hamburg and West Seneca NY
License Agreements
Norfolk Southern Railway Company
ECWA Project No. 202100035

The Erie County Water Authority (ECWA) is undertaking a transmission main replacement project in the City of Lackawanna and the Towns of Hamburg and West Seneca (GP-010). The project in part includes the replacement of two separate mains along Abbott Road beneath a Norfolk Southern Railway Company (Norfolk Southern) railroad bridge. In order to construct the improvements as well as to operate and maintain the mains following completion of the project, the ECWA must execute two separate License Agreements (Agreement), one for each main, with Norfolk Southern.

In the past as part of project WSA-015, the ECWA Law and Engineering Departments with the assistance of Harris Beach negotiated the terms of these Agreements and collectively are recommending that the Board review and approve the attached Agreements and authorize the Chairman to execute same. In addition to executing the Agreement itself, it is requested that the Board approve payment of the associated Risk Financing Fee of \$1,900.00 for each agreement (\$3,800.00 total) which covers the required Railroad Protective Liability coverage. The ECWA's current insurance policies do not include this type of coverage.

Funds for the Risk Financing Fee payments are available as follows:

- Budget Unit: 2595 Eng/Const Transmission Mains
- Item: 101599 GP-010 Transmission Main Replacement.

Attached find one copy of each Agreement for the Board's information. It is Norfolk Southern's policy that all agreements be executed electronically through the DocuSign platform. Following approval, the agreements will be forwarded directly to the Chairman for execution. Thank you and please feel free to contact me if you have any questions.

MJQ:jmf

Attachments

cc: L.Kowalski

W.Wheeler

CONT-GP-010-2101-X-10

ERIE COUNTY WATER AUTHORITY
 AUTHORIZATION FORM
 For Approval/Execution of Documents
 (check which apply)

Contract: GP-010 **Project No.:** 202100035
Project Description: Water System Improvements, Transmission and Distribution Mains
City of Lackawanna, Town of Hamburg and West Seneca, NY

Item Description:



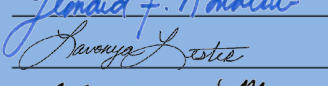




Agreement Professional Service Contract Amendment Change Order
 BCD NYSDOT Agreement Contract Documents Addendum
 Recommendation for Award of Contract Recommendation to Reject Bids
 Request for Proposals
 Other _____

Action Requested:

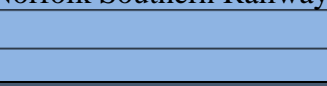
Board Authorization to Execute Legal Approval
 Board Authorization to Award Execution by the Chairman
 Board Authorization to Advertise for Bids Execution by the Secretary to the Authority
 Board Authorization to Solicit Request for Proposals
 Other _____

Approvals Needed:

APPROVED AS TO CONTENT:

<input checked="" type="checkbox"/> Sr Distribution Engineer		Date: <u>2/2/2023</u>
<input checked="" type="checkbox"/> Chief Operating Officer		Date: <u>2/2/2023</u>
<input checked="" type="checkbox"/> Executive Engineer		Date: <u>02/06/2023</u>
<input checked="" type="checkbox"/> Director of Administration		Date: <u>02/02/2023</u>
<input checked="" type="checkbox"/> Risk Manager		Date: <u>02/03/2023</u>
<input checked="" type="checkbox"/> Chief Financial Officer		Date: <u>02/03/2023</u>
<input checked="" type="checkbox"/> Legal		Date: <u>2/2/2023</u>

APPROVED FOR BOARD RESOLUTION:

<input checked="" type="checkbox"/> Secretary to the Authority		Date: <u>2/6/23</u>
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Remarks: Agreements with Norfolk Southern Railway Company for 24-inch and 12-inch
DIP mains.

Resolution Date: _____ **Item No:** _____



September 06, 2022

Leonard Kowalski
ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York, 14203-2494

RE: Proposed transverse underground 12" water DIP located within the public ROW at DOT Crossing# (519509X). Existing 12" pipe to be abandoned and filled with flowable grout material.

**Keystone Division, at Mile Post BX-3.03
Lackawanna, Erie County, New York
Latitude 42.813827, Longitude -78.800076
NS Activity No. 1302766**

Dear Leonard Kowalski:

RailPros, as consultant for Norfolk Southern Railway Company ("Railway"), has reviewed the above-referenced request. Based on the information and documentation presented, Railway has no objections to the proposed work.

Attached you will find the requested offer of agreement for execution, by an official authorized to execute contract agreements on behalf of the Licensee. Please have the agreement executed via DocuSign. Note, however, that the attached offer of agreement does not constitute a binding contract, unless or until it is executed by both the Licensee and Railway.

In order for Railway to countersign the document, the following items are needed for review:

1. **A Certificate of Insurance** as required in the agreement, is to be submitted within the Application System.
2. **A separate Railroad Protective Liability Insurance policy**, as required in the agreement, with Railway as the named insured, and the Activity ID referenced in the description, submitted within the Application System; OR
3. The submission of the Risk Management Fee adds the specific project/activity to the Norfolk Southern Master Railroad Protective insurance policy, and as such no further railroad protective liability insurance coverage is necessary or requested.

NOTE: No work shall be permitted on or about the Railway's property until the agreement becomes binding, and the Division Engineer or their authorized representative has reviewed and approved field services for the project, such as *flagging protection, construction monitoring, and post-construction inspection services*. Once the above items are received, the fully executed agreement will be sent, along with the name and contact information for field service coordination.

If we have not received the executed agreement and corresponding payments and/or documents within sixty (60) days from the date of this letter, we reserve the right to cancel this request.

If you have any questions, please contact me via the portal.

Sincerely,

Dan Pavlik
Real Estate Specialist

PO Box 642270
Omaha, NE 68164

P: (402) 965-0539 **F:** (866) 762 - 7619

www.railpros.com

NORFOLK SOUTHERN RAILWAY COMPANY

**ACKNOWLEDGMENT FORM FOR WIRE AND/OR PIPE OCCUPATION
WITHIN THE LIMITS OF A PUBLIC RIGHT OF WAY.**

APPLICANT: ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York, 14203-2494

SUBJECT: Lackawanna, Erie County, New York
Milepost BX-3.03, Buffalo Line, Keystone Division
Norfolk Southern Activity No. 1302766

Install a new transverse underground 12" water DIP located within the public ROW at DOT Crossing# (519509X). Existing 12" pipe to be abandoned and filled with flowable grout material. (collectively, the "Facilities")

In response to Applicant's submittal dated May 26, 2022 regarding the proposed construction of the subject project, Norfolk Southern Railway Company ("Railway") does not object to the installation of the Facilities as shown on the attached Drawing marked Exhibit "A", last revised August 8, 2022, provided Applicant adheres to the following terms and conditions:

- The Facilities shall be installed, constructed, maintained, repaired, operated and removed by and at the sole risk, cost and expense of the Applicant, (collectively, "Operate" or "Operations").
- The Facilities must conform with all Federal, State and local laws, rules and regulations and will not be attached to any railroad structure or appurtenance and will not be located on any private property of Railway.
- The design and construction of aerial Facilities shall comply with Railway's NSCE-4 Specification, latest edition, and underground Facilities shall comply with Railway's NSCE-8 Specification, latest edition.
- Insurance

(a) Insurance Requirements. Without limiting in any manner the liability and obligations assumed by Applicant under any other provision of this Agreement, and as additional protection to Railway, Applicant shall comply with the following provisions:

(i) Subject to subsection (ii) below, upon execution of this Agreement, Applicant shall pay Railway a risk financing fee of \$1,900 (the "Risk Financing Fee") to provide Railroad Protective Liability Insurance or such supplemental insurance (which may be self-insurance) as Railway, in its sole discretion, deems to be necessary or appropriate with respect to the initial construction and installation of the Facilities.

(ii) Prior to commencement of each Operations project that requires access to the Premises, unless Railway elects to make available and Applicant pays the then-current Risk Financing Fee for a given Operations project, Applicant shall furnish Railway with an original Railroad Protective Liability ("RPL") Insurance Policy naming Railway as the named insured and having a limit of (1) not less than a combined single limit of \$2,000,000 each occurrence and \$6,000,000 aggregate, or (2) if the value of a given operations project exceeds \$350,000, not less than a combined single limit of \$5,000,000 per occurrence and \$10,000,000 in the aggregate. Each RPL policy shall conform to CG 00 35 04 13 or equivalent and include coverage for Terrorism and the Physical Damage to Property Endorsement and shall name Norfolk Southern Corporation and its affiliates and subsidiaries as the insured. Applicant shall ensure that the project location, Applicant identification and work description appear on the declaration pages of a given RPL policy. Applicant shall provide an electronic copy of each RPL policy (and not merely the binder) to Railway at ns.permitting@railpros.com for review and approval prior to commencing any work on the associated Operations project. Applicant may submit inquiries about RPL issues at ns.permitting@railpros.com.

(iii) Applicant shall maintain a Commercial General Liability (“CGL”) policy containing products and completed operations and contractual liability coverage, with a combined single limit of not less than \$2,000,000 for each occurrence. Any portion of this requirement may be satisfied by a combination of General Liability and/or Excess/Umbrella Liability Coverage. The policy shall not deny any obligation of any insured under the Federal Employer’s Liability Act, as amended. The CGL policy shall provide additional insured coverage equivalent to ISO CG 20 10 11/85.

(iv) Applicant shall maintain Automobile Liability Insurance with a current ISO occurrence form policy (or equivalent) and apply on an “any auto” (Symbol 1) basis, including coverage for all vehicles used in connection with the Work or Services on the leased property, providing annual limits of at least \$1,000,000 per occurrence for bodily injury and property damage combined including uninsured and underinsured motorist coverage, medical payment protection, and loading and unloading.

(v) Applicant shall maintain Workers’ Compensation Insurance to meet fully the requirement of any compensation act, plan or legislative enactment applicable in connection with the death, disability or injury of Applicant’s officers, agents, servants or employees arising directly or indirectly out of the performance of this Agreement;

(vi) Applicant shall maintain Employers’ Liability Insurance with limits of not less than \$1,000,000 each accident \$1,000,000 policy limit for disease, and \$1,000,000 each employee for disease;

(b) General Insurance Requirements. Each insurance policy referred to in subsection (a) above shall also comply with the following requirements:

(i) Additional Insureds. Each insurance policy (excluding any RPL policy and Workers’ Compensation policy) shall name Railway and its parent, subsidiary and affiliated companies as additional insureds with an appropriate endorsement to each policy.

(ii) Applicant’s Coverage Primary and Without Right to Contribution. All policies secured by Applicant, whether primary, excess, umbrella or otherwise, and providing coverage to the Railway as an additional insured (i) are intended to take priority in responding and to pay before any insurance policies Railway may have secured for itself must respond or pay and (ii) may not seek contribution from any policies the Railway may have secured for itself.

(iii) Severability of Interests (Cross Liability). No cross-liability exclusions are permitted that would apply to the additional insureds, and there may not be any restrictions in any policy that limits coverage for a claim brought by an additional insured against a named insured.

(iv) Waiver of Subrogation. To the fullest extent permitted by law, all insurance furnished by Applicant pursuant to this Agreement shall include a waiver of subrogation in favor of Railway with an appropriate endorsement to each policy.

(v) Notice of Cancellation, Modification or Termination. Each insurance policy shall not be subject to cancellation, termination, modification, changed, or non-renewed except upon thirty (30) days prior written notice to the additional insureds.

(vi) No Limitation. Each insurance policy shall not limit any of Applicant’s indemnity obligations or other liabilities under this Agreement. The insurance available to Railway and its parent, subsidiary and affiliated companies as additional insureds shall not be limited by these requirements should Applicant maintain higher coverage limits.

(vii) Any deductibles or self-insured retentions of Applicant over \$50,000 must be declared and approved by Railway. Approval of such requests shall not be unreasonably withheld.

(viii) Applicant shall require all subcontractors who are not covered by the insurance carried by Applicant to maintain the insurance coverages set forth in subsection (a) above, except

for the RPL insurance, including but not limited to additional insured status for Railway and its parent, subsidiary and affiliated companies.

(ix) Applicant shall furnish their memorandum of insurance and the RPL Insurance Policy to Railway's Managing Agent prior to execution of this Agreement at ns.permitting@railpros.com. The insurance coverage required herein shall in no way limit Applicant's liability under this Agreement.

- Railway shall, at Railway's option, furnish, at the sole expense of Applicant, Support Services. The term "Support Services" means such materials and services as necessary, in Railway's sole judgment, to support Railway's tracks and to protect Railway's traffic, including without limitation flagging services and construction monitoring during the installation, maintenance, repair, renewal or removal of the Facilities. Support Services shall be provided unless Railway's Division Engineer or his or her authorized representative provides to Applicant a written waiver of Support Services, whether in whole or in any part, in a given instance. The term "Construction Monitoring" means services comprised of one or more Railway representatives being assigned and present to monitor construction activities of Applicant, which may include a preconstruction site assessment and a post-construction site assessment.
- Prior to commencement of any work to be performed on or about Premises, Applicant shall notify the appropriate Division Engineer or their authorized representative for the scheduling of "Support Services". Within seventy-two (72) hours after the Division Engineer's or their authorized representative's actual receipt of such notification, they shall review the necessity and availability of Support Services for the proposed work and advise Applicant of such matters and the estimated cost therefor. No work shall be permitted on or about the Premises without the presence of Railway's Support Services or the Division Engineer's waiver of the requirement for Support Services. Entry on or about the Premises or any other Railway right-of-way without the Division Engineer's prior approval shall be deemed trespassing. Applicant agrees to pay Railway, within thirty (30) days after delivery of an invoice therefor, for any protection and inspection costs incurred by Railway, in Railway's sole judgment, during any such entry.
- In the event it becomes necessary for Applicant to deviate from the approved plans and specifications, Applicant shall seek prior approval from Railway's Division Engineer or his or her authorized representative and, when applicable, an authorized representative of the Division Engineer in the field during Construction Monitoring or inspection.
- All cost or expense resulting from any and all loss of life or property, or injury or damage to the person or property of any person, firm or corporation (including the parties hereto and their respective officers, agents and employees) and any and all claims, demands or actions for such loss, injury or damage, caused by or growing out of the presence or use, or the construction, maintenance, renewal, change or relocation and subsequent removal of the Facilities and appurtenances herein referred to shall be borne by Applicant unless caused solely by the negligence or willful misconduct of Railway.
- Upon abandonment of the Facilities by Applicant, Applicant shall seek direction from Railway's Chief Engineer, or his representative, regarding the method of abandonment if the Facilities will be abandoned in place.
- In the event the Facilities consist of electrical power or communication wires and appurtenances, Applicant shall promptly remedy any inductive interference growing out of, or resulting from the presence of, the Facilities.
- In the event the Facilities consist of an underground occupation, Applicant will be responsible for any settlement caused to the roadbed, right of way and/or tracks, facilities and appurtenances of Railway arising from or as a result of the installation of the Facilities, and Applicant shall pay to Railway on demand the full cost and expense.
- All rights and obligations conferred hereby shall extend to the successors and assigns of the parties hereto, provided that the Applicant shall in no event transfer or assign its rights hereunder without the written consent of Railway, which will not be unreasonably withheld.

- If the public road is abandoned by the appropriate governmental authority and the Facilities remain within the limits of Railway's right of way after such abandonment, as a condition for the continuing presence of the Facilities within Railway's right of way, Railway and Applicant shall agree upon an appropriate occupancy fee or rental for the Facilities and execute an amendment to this Agreement within ninety (90) days after the date upon which such public road is abandoned.
- Any and all notices, demands or requests by or from Railway to Applicant, or Applicant to Railway, shall be in writing and shall be sent by (a) postage paid, certified mail, return receipt requested, or (b) a reputable national overnight courier service with receipt therefor, or (c) personal delivery, and addressed in each case as follows:

If to Railway: c/o Norfolk Southern Corporation
650 West Peachtree St. Box 22
Atlanta, Georgia 30308
Attention: Director Real Estate

If to Applicant: ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York, 14203-2494
Attention: Leonard Kowalski

Either party may, by notice in writing, direct that future notices or demands be sent to a different address. All notices hereunder shall be deemed given upon receipt (or, if rejected, upon rejection).

ACCEPTED BY:

NORFOLK SOUTHERN RAILWAY COMPANY

Real Estate Manager

DATE _____

ERIE COUNTY WATER AUTHORITY

Title _____

DATE _____

Activity Number: 1302766
Dan Pavlik: 09/06/2022

**ADDITIONAL REMARKS SCHEDULE**

AGENCY Lawley, LLC	License # 1009544	NAMED INSURED Erie County Water Authority 295 Main St Suite #350 Buffalo, NY 14203-2494
POLICY NUMBER SEE PAGE 1		
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:

When required by executed written contract, the following endorsements apply:

General Liability:

CG 24 17 10 01 - Contractual Liability - Railroads

CG 20 37 04 13 - Additional Insured - Owners, Lessees or Contractors - Completed Operations

PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

Automobile Liability:

PI-CA-003 (04/13) - Blanket Additional Insured

CA 20 70 10 13 - Coverage for Certain Operations in Connection with Railroads

PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

Excess Liability:

PI-WDI-101 (10/17) Commercial Excess Liability Coverage Form Water Districts Insurance Program

PI-CANXAICH-002 (05/11) - Cancellation Notice to Scheduled Additional Insured or Certificate Holder

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

^ ^ ^ ^ ^ ^ ^ ^ 166000337
LAWLEY LLC
361 DELAWARE AVE STE 200
BUFFALO NY 14202



SCAN TO VALIDATE
AND SUBSCRIBE

POLICYHOLDER ERIE COUNTY WATER AUTHORITY 295 MAIN STREET, ROOM 350 BUFFALO NY 142032494		CERTIFICATE HOLDER NORFOLK SOUTHERN CORPORATION 650 WEST PEACHTREE ST BOX 22 ATLANTA GA 30308	
POLICY NUMBER B2009 327-4	CERTIFICATE NUMBER 745414	POLICY PERIOD 07/01/2022 TO 07/01/2023	DATE 1/25/2023

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2009 327-4, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW, AND, WITH RESPECT TO OPERATIONS OUTSIDE OF NEW YORK, TO THE POLICYHOLDER'S REGULAR NEW YORK STATE EMPLOYEES ONLY.

IF YOU WISH TO RECEIVE NOTIFICATIONS REGARDING SAID POLICY, INCLUDING ANY NOTIFICATION OF CANCELLATIONS, OR TO VALIDATE THIS CERTIFICATE, VISIT OUR WEBSITE AT [HTTPS://WWW.NYSIF.COM/CERT/CERTVAL.ASP](https://www.nysif.com/cert/certval.asp). THE NEW YORK STATE INSURANCE FUND IS NOT LIABLE IN THE EVENT OF FAILURE TO GIVE SUCH NOTIFICATIONS.

THE POLICY INCLUDES A WAIVER OF SUBROGATION ENDORSEMENT UNDER WHICH NYSIF AGREES TO WAIVE ITS RIGHT OF SUBROGATION TO BRING AN ACTION AGAINST THE CERTIFICATE HOLDER TO RECOVER AMOUNTS WE PAID IN WORKERS' COMPENSATION AND/OR MEDICAL BENEFITS TO OR ON BEHALF OF AN EMPLOYEE OF OUR INSURED IN THE EVENT THAT, PRIOR TO THE DATE OF THE ACCIDENT, THE CERTIFICATE HOLDER HAS ENTERED INTO A WRITTEN CONTRACT WITH OUR INSURED THAT REQUIRES THAT SUCH RIGHT OF SUBROGATION BE WAIVED.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE INSURANCE FUND



DIRECTOR, INSURANCE FUND UNDERWRITING

VALIDATION NUMBER: 710002741

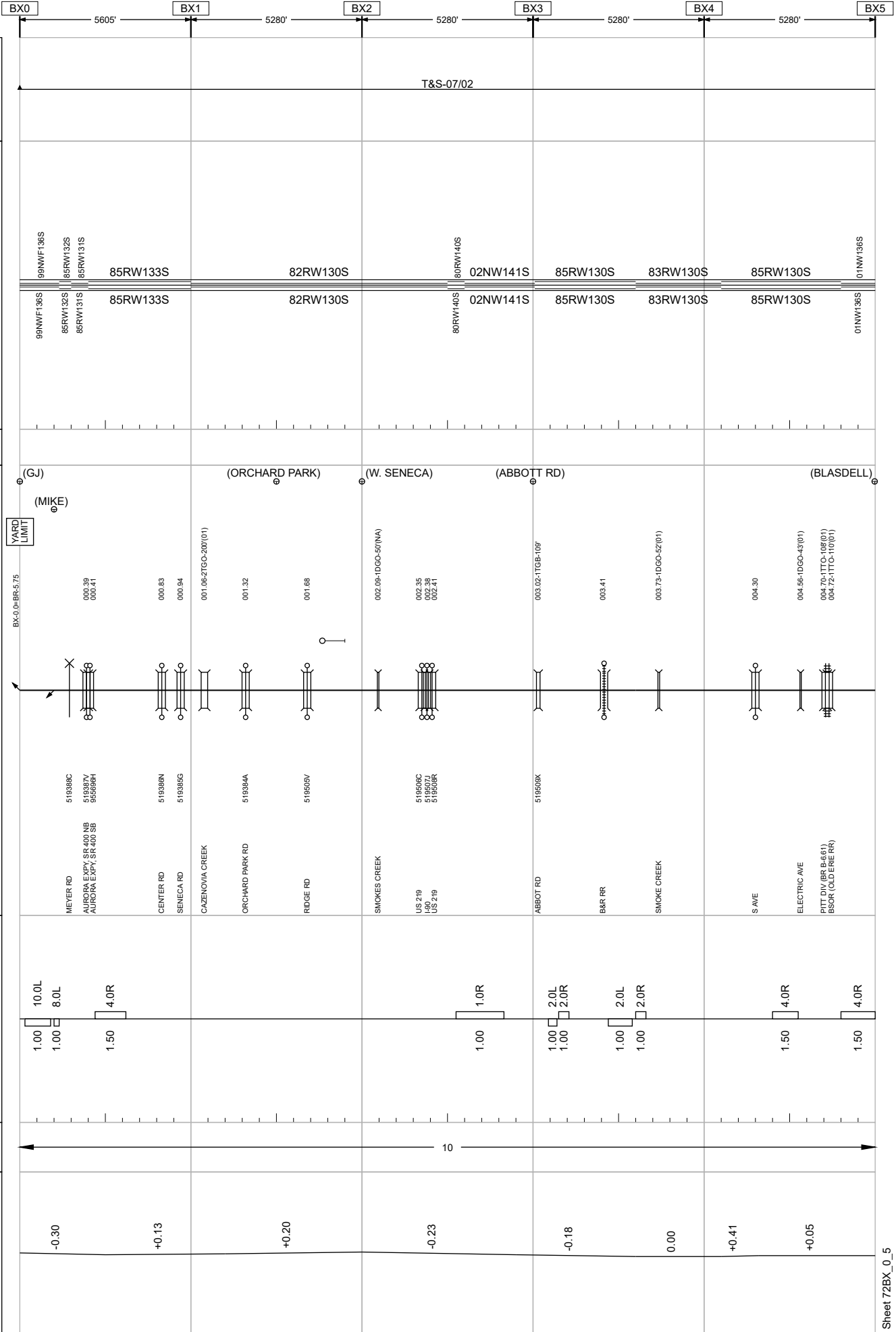
PIPE DATA SHEET

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	Potable Water	
MAX. ALLOWABLE OPERATING PRESSURE		
NOMINAL SIZE OF PIPE	12 inch	
OUTSIDE DIAMETER	13.2 inches	
INSIDE DIAMETER	12 inches	
WALL THICKNESS	0.37 inches	
WEIGHT PER FOOT	730 lbs	
MATERIAL	Ductile Iron Pipe	
PROCESS OF MANUFACTURE	Centrifugally Cast	
SPECIFICATION	AWWA C151/A21.5	
GRADE OR CLASS (Specified Minimum Yield Strength)	Class 52 (42,000 psi)	
TEST PRESSURE	170 PSI	
TYPE OF JOINT	Bell & Spigot (Restrained)	
TYPE OF COATING	Asphaltic w/ Polyethylene Encasement	
DETAILS OF CATHODIC PROTECTION		
DETAILS OF SEALS OR PROTECTION AT END OF CASING		
CHARACTER OF SUBSURFACE MATERIAL		
APPROXIMATE GROUND WATER LEVEL		
SOURCE OF INFORMATION ON SUBSURFACE CONDITIONS		

Proposed method of installation (refer to NSCE-8 Specification):

- Bore & Jack
 Jacking
 Tunneling (with Tunnel Liner Plate)
 Directional Bore/Horizontal Direction Drilling – Method A
 Directional Bore/Horizontal Direction Drilling – Method B
 Open Cut – *All installations directly under any track must be designed as a bored installation. Open cut installations will be considered on a case-by-case basis by Norfolk Southern's Division Superintendent at the time of installation.*
 Other – Please Specify: _____

304841

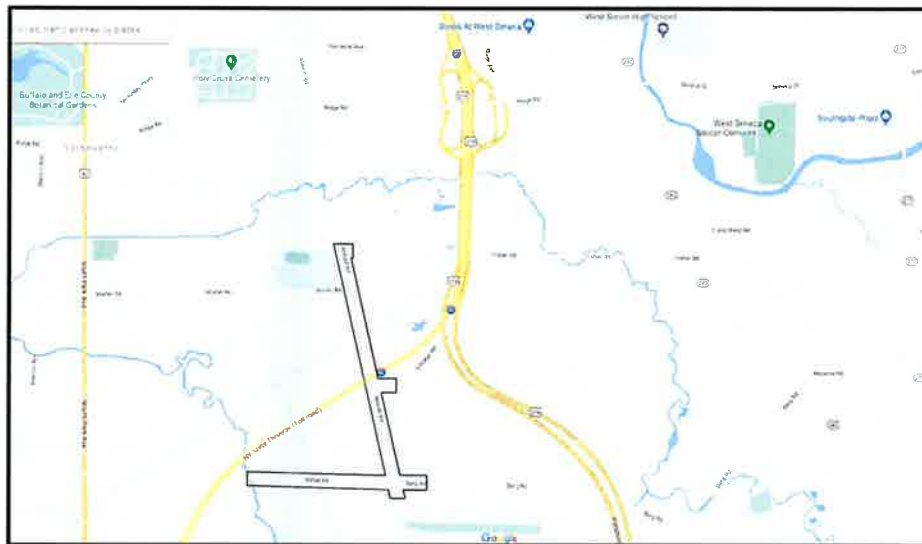


Sheet 72BX_0_5

*E.C.W.A. CONTRACT NO. GP-010
 WATER SYSTEM IMPROVEMENTS –
 TRANSMISSION & DISTRIBUTION MAINS
 WILLET RD., ABBOTT RD. and NORTH DR.
 CITY OF LACKAWANNA, TOWN OF HAMBURG
 and ORCHARD PARK, NY*

SECTIONS ALONG

1. WILLET ROAD – CR204
 (530 WILLET RD. TO
 INTERSECTION OF ABBOTT/BERG RD.)
2. ABBOTT ROAD – CR4
 (WILLET RD. TO FISHER RD.)
3. NORTH DRIVE – CITY STREET
 (ABBOTT RD. TO 40 NORTH DR.)



PROJECT LOCATION MAP

NOT-TO-SCALE

*E.C.W.A. PROJECT NO. 202100035
 JULY 2022*

ERIE COUNTY WATER AUTHORITY

350 ELLICOTT SQUARE BUILDING
 295 MAIN STREET
 BUFFALO, N.Y. 14203-2415

AUTHORITY MEMBERS

JEROME D. SCHAD, ESQ. – CHAIR
 PEGGY A. LaGREE – VICE CHAIR
 MICHELE M. IANNELLO – TREASURER

APPROVED BY:

Leonard F. Kowalski
 ERIE COUNTY WATER AUTHORITY
 LEONARD F. KOWALSKI, P.E.—EXECUTIVE ENGINEER



EXHIBIT A

1 of 12

Norfolk Southern Railway Company
 Accompanying Agreement With
 Erie County Water Authority

Activity No.: 1302766 **E.S.:** 157+85
Division: Keystone **Mile Post:** BX-3.03
Val Sec: 22 **Map No.:** 137
City: Lackawanna **County:** Erie
State: New York
Lat: 42.813827 **Long:** -78.800076

All work to be performed in accordance
 with the latest approved Norfolk Southern
 NSCE-4 and NSCE-8 Specifications

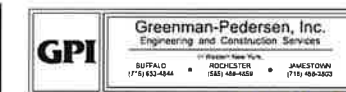
BLASTING NOT PERMITTED

8/8/2022

Sheet List Table

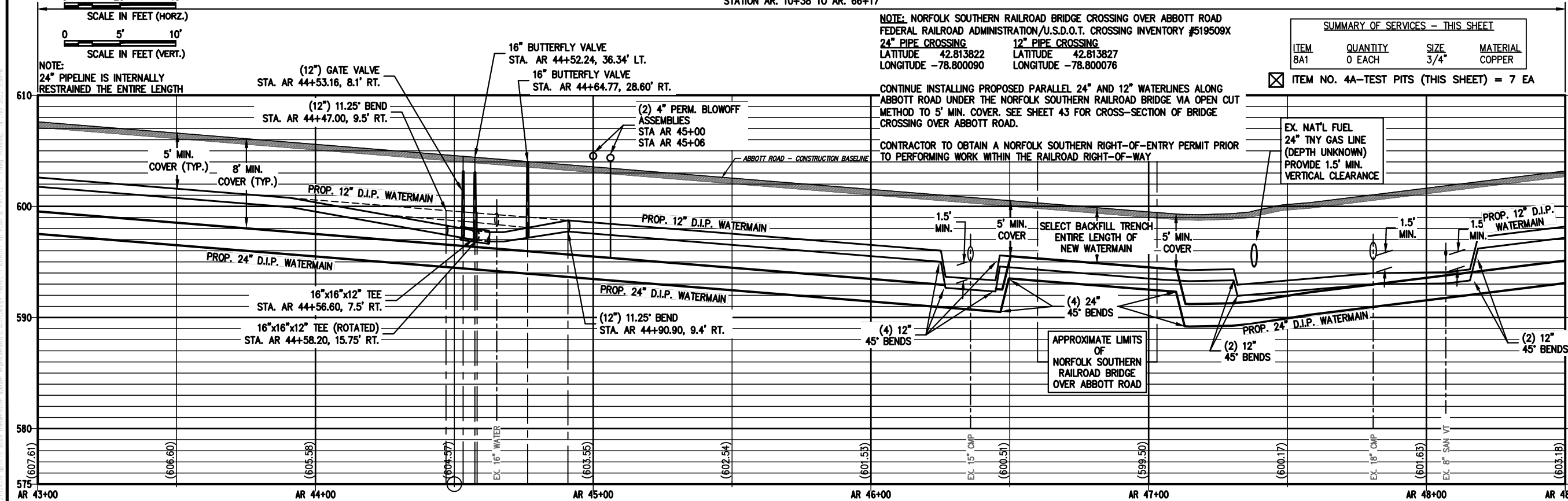
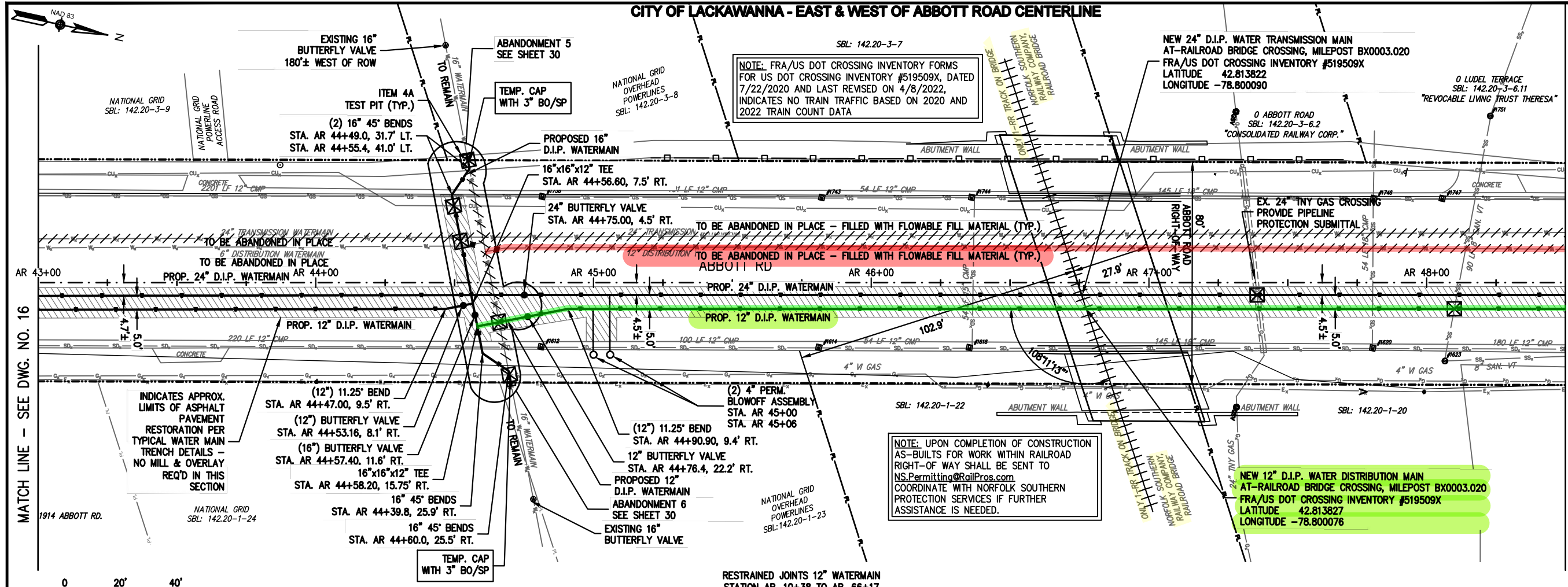
Sheet Number	Sheet Title
01	TITLE SHEET
02	LOCATION MAPS
03	GENERAL NOTES & LEGEND
04	WILLET RD PLAN & PROFILE – 1
05	WILLET RD PLAN & PROFILE – 2
06	WILLET RD PLAN & PROFILE – 3
07	WILLET RD PLAN & PROFILE – 4
08	WILLET RD PLAN & PROFILE – 5
09	WILLET RD PLAN & PROFILE – 6
10	WILLET RD PLAN & PROFILE – 7
11	ABBOTT RD PLAN & PROFILE – 1
12	ABBOTT RD PLAN & PROFILE – 2
13	ABBOTT RD PLAN & PROFILE – 3
14	ABBOTT RD PLAN & PROFILE – 4
15	ABBOTT RD PLAN & PROFILE – 5
16	ABBOTT RD PLAN & PROFILE – 6
17	ABBOTT RD PLAN & PROFILE – 7
18	ABBOTT RD PLAN & PROFILE – 8
19	ABBOTT RD PLAN & PROFILE – 9
20	ABBOTT RD PLAN & PROFILE – 10
21	ABBOTT RD PLAN & PROFILE – 11
22	NORTH DR PLAN & PROFILE – 1
23	INTERCONNECTION & ABANDONMENT DETAILS – 1
24	INTERCONNECTION & ABANDONMENT DETAILS – 2
25	INTERCONNECTION & ABANDONMENT DETAILS – 3
26	INTERCONNECTION & ABANDONMENT DETAILS – 4
27	INTERCONNECTION & ABANDONMENT DETAILS – 5
28	INTERCONNECTION & ABANDONMENT DETAILS – 6
29	INTERCONNECTION & ABANDONMENT DETAILS – 7
30	INTERCONNECTION & ABANDONMENT DETAILS – 8
31	INTERCONNECTION & ABANDONMENT DETAILS – 9
32	INTERCONNECTION & ABANDONMENT DETAILS – 10
33	INTERCONNECTION & ABANDONMENT DETAILS – 11
34	INTERCONNECTION & ABANDONMENT DETAILS – 12
35	INTERCONNECTION & ABANDONMENT DETAILS – 13
36	INTERCONNECTION & ABANDONMENT DETAILS – 14
37	INTERCONNECTION & ABANDONMENT DETAILS – 15
38	WATERLINE DETAILS – 1
39	WATERLINE DETAILS – 2
40	WATERLINE DETAILS – 3
41	WATERLINE DETAILS – 4
42	MISCELLANEOUS DETAILS 1
43	MISCELLANEOUS DETAILS 2
44	WORK ZONE TRAFFIC CONTROL – 1
45	WORK ZONE TRAFFIC CONTROL – 2
46	WORK ZONE TRAFFIC CONTROL – 3
47	WORK ZONE TRAFFIC CONTROL – 4
48	WORK ZONE TRAFFIC CONTROL – 5
49	WORK ZONE TRAFFIC CONTROL – 6
50	WORK ZONE TRAFFIC CONTROL – 7
51	WORK ZONE TRAFFIC CONTROL – 8
52	WORK ZONE TRAFFIC CONTROL – 9

PREPARED BY:



Thomas J. Wolanski
 THOMAS J. WOLANSKI, P.E.

CITY OF LACKAWANNA - EAST & WEST OF ABBOTT ROAD CENTERLINE



PROPOSED WATERMAIN: FIELD CONDITIONS MAY REQUIRE MINOR ALIGNMENT AND BEND LOCATION ADJUSTMENTS WHICH WILL BE PERMITTED AS LONG AS ALL MINIMUM OFFSETS FROM OTHER UTILITIES AND MAXIMUM ALLOWABLE JOINT DEFLECTIONS ARE MAINTAINED AND PROPER RESTRAINING IS INSTALLED.

EXISTING SANITARY SEWER SERVICE LATERALS: THE LOCATION OF EXISTING SANITARY SEWER SERVICE LATERALS ARE UNKNOWN.

2021024.00_FR_ALG_ABBOTT RD
HORIZ 1" = 20'
VERT 1" = 5'

PROPERTY LINES: PROPERTY LINES SHOWN ARE APPROXIMATE SOURCE NY STATE GIS PROGRAM OFFICE STATEWIDE PARCEL MAP PROGRAM.

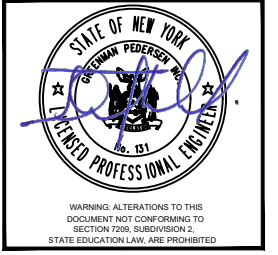
DISPOSAL OF EXCAVATED MATERIAL: CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF EXCESS EXCAVATED MATERIAL. NOTIFY ENGINEER & MUNICIPALITY OF DISPOSAL SITE.

MATCH LINE - SEE DWG. NO. 18



PREPARED FOR
ERIE COUNTY
WATER AUTHORITY
PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY



REVISIONS

A. N.S. RR COMMENTS 7/14/22

NO.	REVISION	DATE

MAY 2022

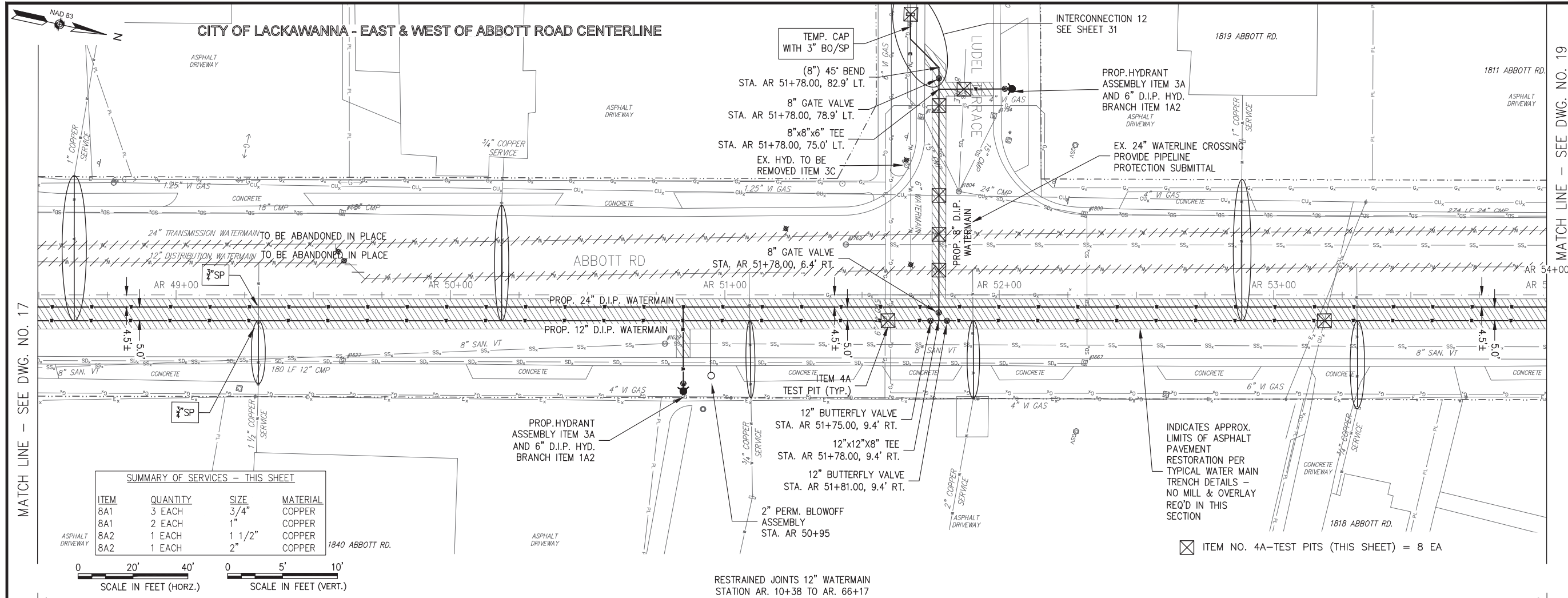
DRAWN/DESIGN BY: AB CHECKED BY: PC

ABBOTT RD PLAN & PROFILE - 7

SCALE: 1"=20'

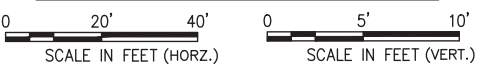
WNY-2021024.00

17 OF 52



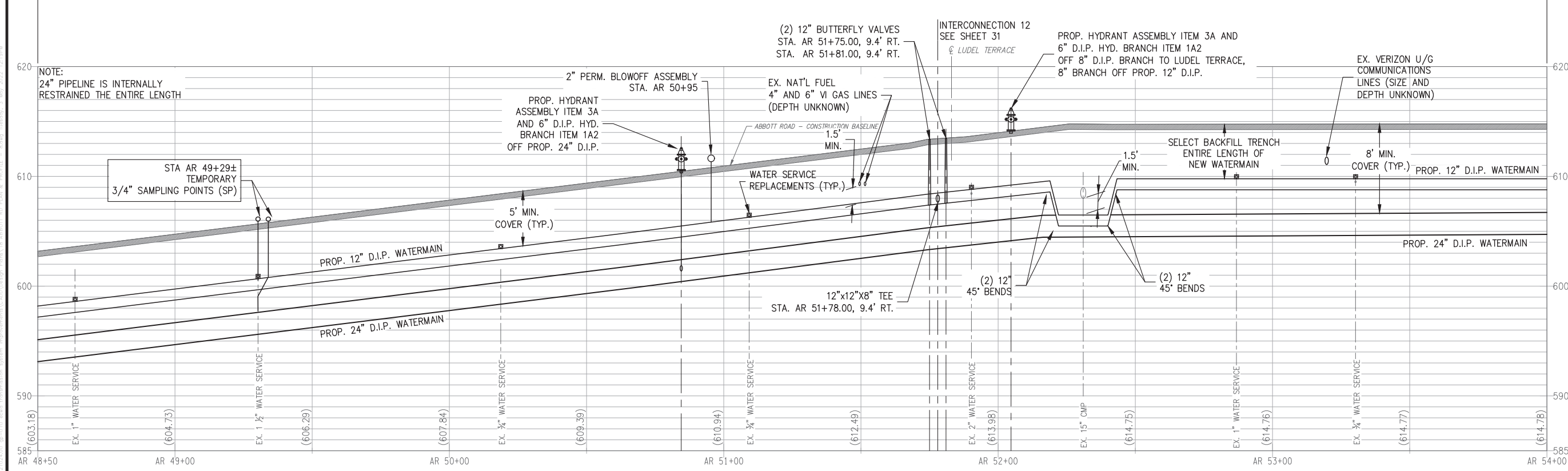
SUMMARY OF SERVICES - THIS SHEET

ITEM	QUANTITY	SIZE	MATERIAL
8A1	3 EACH	3/4"	COPPER
8A1	2 EACH	1"	COPPER
8A2	1 EACH	1 1/2"	COPPER
8A2	1 EACH	2"	COPPER



RESTRAINED JOINTS 12" WATERMAIN
STATION AR. 10+38 TO AR. 66+17

⊠ ITEM NO. 4A-TEST PITS (THIS SHEET) = 8 EA



NOTE:
24" PIPELINE IS INTERNALLY
RESTRAINED THE ENTIRE LENGTH

PROPOSED WATERMAIN:
FIELD CONDITIONS MAY REQUIRE MINOR ALIGNMENT AND BEND LOCATION ADJUSTMENTS WHICH WILL BE PERMITTED AS LONG AS ALL MINIMUM OFFSETS FROM OTHER UTILITIES AND MAXIMUM ALLOWABLE JOINT DEFLECTIONS ARE MAINTAINED AND PROPER RESTRAINING IS INSTALLED.

EXISTING SANITARY SEWER SERVICE LATERALS:
THE LOCATION OF EXISTING SANITARY SEWER SERVICE LATERALS ARE UNKNOWN.

2021024_00_PR_ALG_ABBOTT RD
HORIZ: 1" = 20'
VERT: 1" = 5'

PROPERTY LINES:
PROPERTY LINES SHOWN ARE APPROXIMATE SOURCE NY STATE GIS PROGRAM OFFICE STATEWIDE PARCEL MAP PROGRAM.

DISPOSAL OF EXCAVATED MATERIAL:
CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF EXCESS EXCAVATED MATERIAL. NOTIFY ENGINEER & MUNICIPALITY OF DISPOSAL SITE.

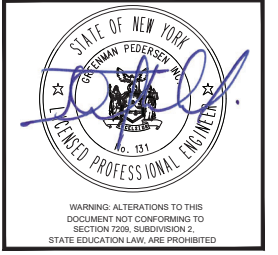
MATCH LINE - SEE DWG. NO. 19

MATCH LINE - SEE DWG. NO. 17

GPI Engineering
Design
Planning
Construction Management
(716) 633-4844
Greenman - Pedersen, Inc.
4950 Genesee Street, Suite 100
Buffalo, NY, 14225

PREPARED FOR
**ERIE COUNTY
WATER AUTHORITY**
PN 202100035

**ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY**



REVISIONS

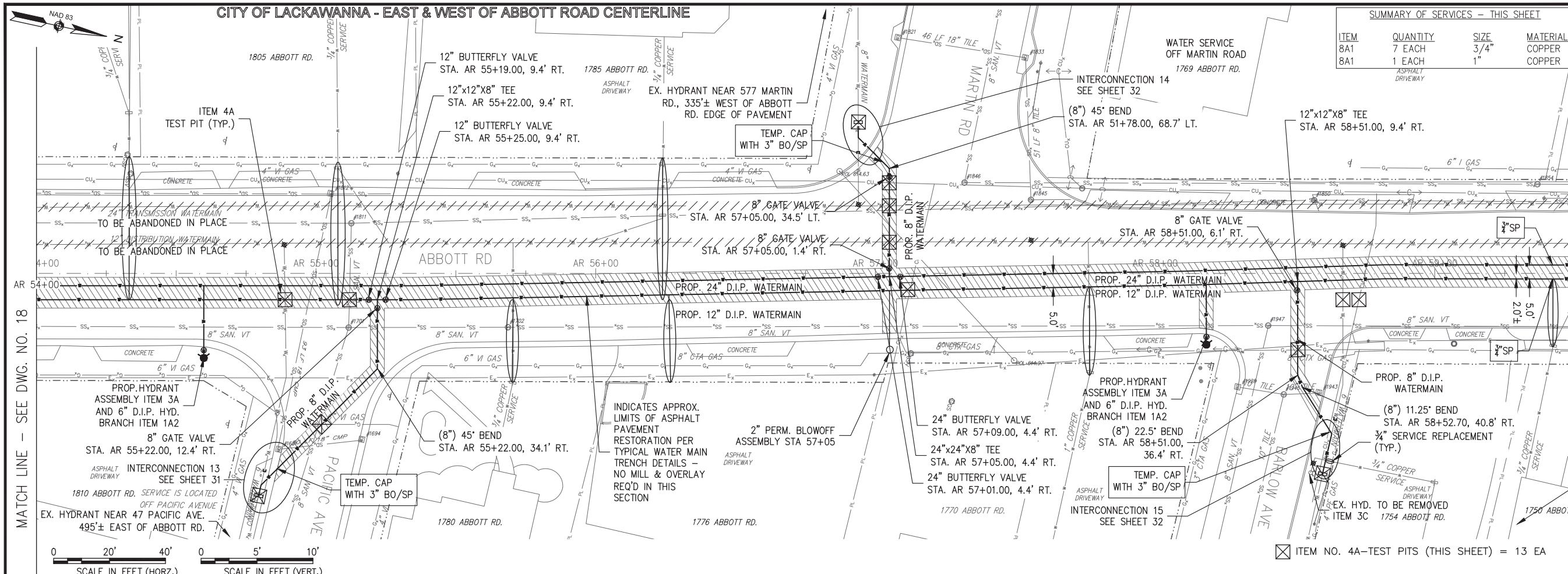
NO.	REVISION	DATE

MAY 2022
DRAWN/DESIGN BY: AB CHECKED BY: PC

**ABBOTT RD PLAN
& PROFILE - 8**

SCALE: 1"=20'
WNY-2021024.00

18 OF 52

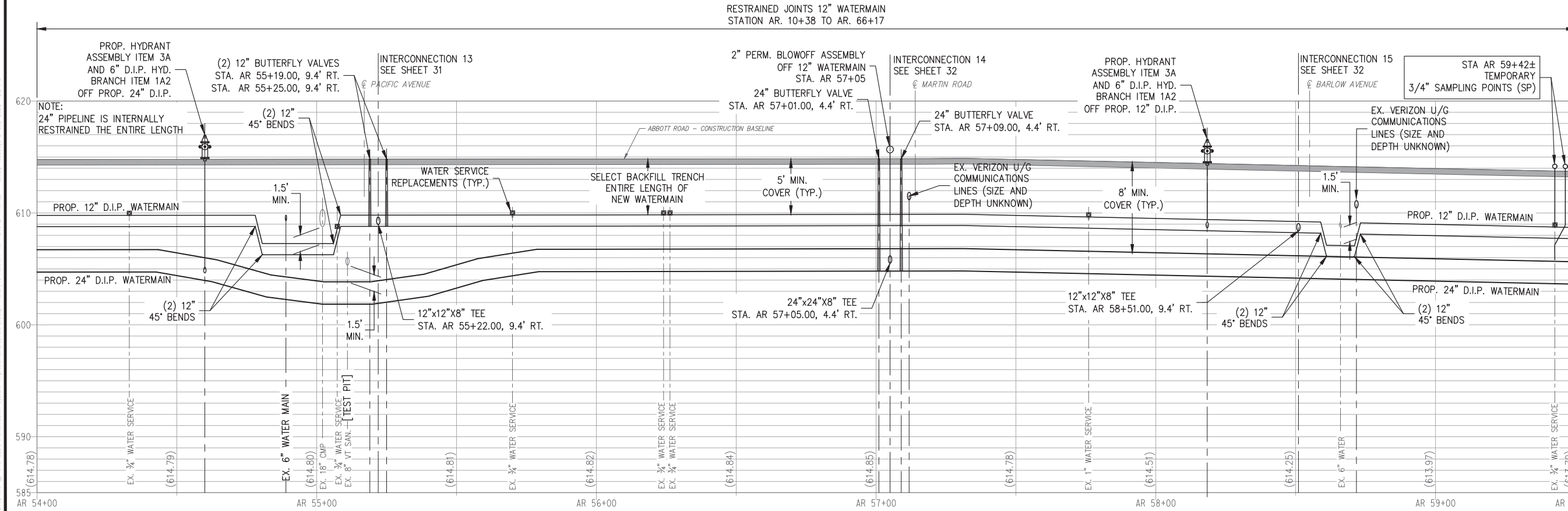
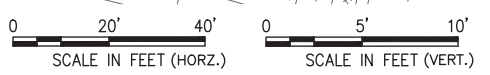


SUMMARY OF SERVICES - THIS SHEET

ITEM	QUANTITY	SIZE	MATERIAL
8A1	7 EACH	3/4"	COPPER
8A1	1 EACH	1"	COPPER

MATCH LINE - SEE DWG. NO. 20

MATCH LINE - SEE DWG. NO. 18



PROPOSED WATERMAIN:
FIELD CONDITIONS MAY REQUIRE MINOR ALIGNMENT AND BEND LOCATION ADJUSTMENTS WHICH WILL BE PERMITTED AS LONG AS ALL MINIMUM OFFSETS FROM OTHER UTILITIES AND MAXIMUM ALLOWABLE JOINT DEFLECTIONS ARE MAINTAINED AND PROPER RESTRAINING IS INSTALLED.

EXISTING SANITARY SEWER SERVICE LATERALS:
THE LOCATION OF EXISTING SANITARY SEWER SERVICE LATERALS ARE UNKNOWN.

2021024.00_PR_ALG_ABBOTT RD
HORIZ: 1" = 20'
VERT: 1" = 5'

PROPERTY LINES
PROPERTY LINES SHOWN ARE APPROXIMATE SOURCE NY STATE GIS PROGRAM OFFICE STATEWIDE PARCEL MAP PROGRAM.

DISPOSAL OF EXCAVATED MATERIAL:
CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF EXCESS EXCAVATED MATERIAL. NOTIFY ENGINEER & MUNICIPALITY OF DISPOSAL SITE.



PREPARED FOR
ERIE COUNTY WATER AUTHORITY
PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG, NY



REVISIONS

NO.	REVISION	DATE

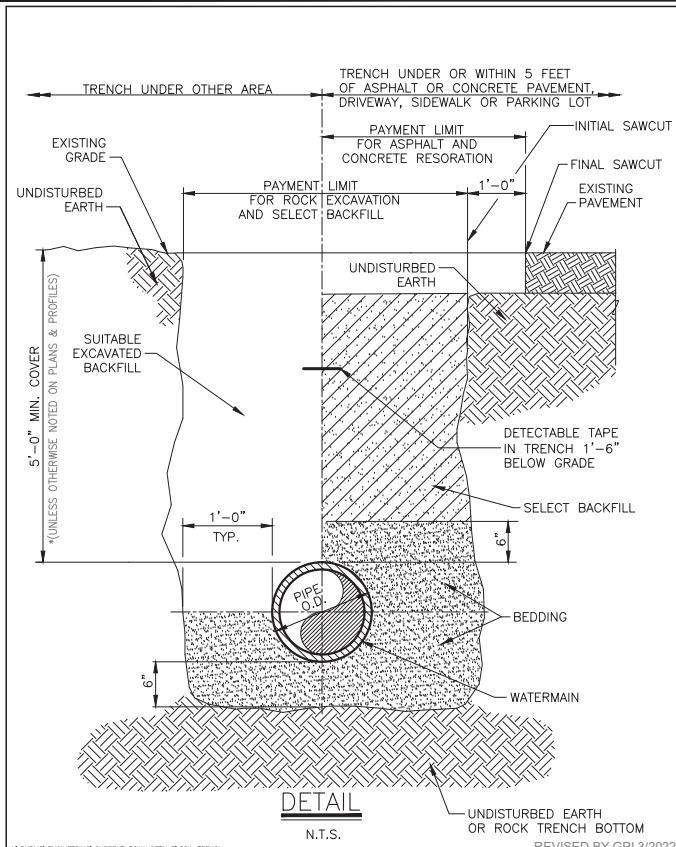
MAY 2022
DRAWN/DESIGN BY: AB
CHECKED BY: PC

ABBOTT RD PLAN & PROFILE - 9

SCALE: 1"=20'

WNY-2021024.00

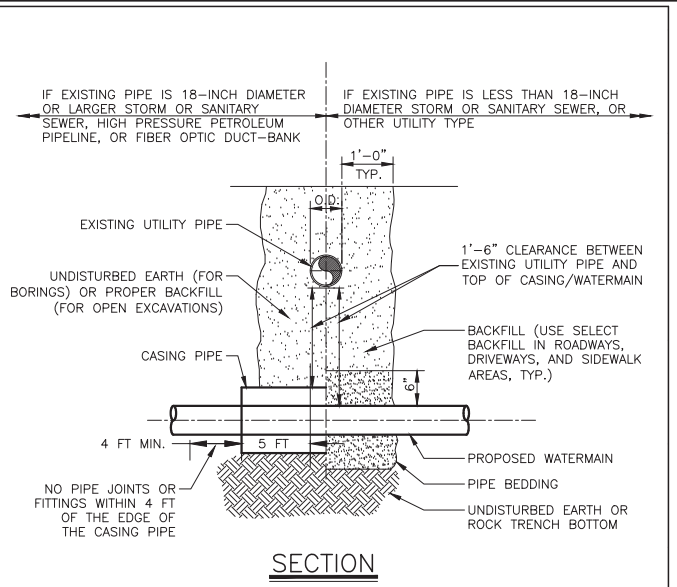
19 OF 52



ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL TRENCH THROUGH 24-INCH DIAMETER WATERMAIN

DWG. NO. SD1
DATE 4/28/92
REVISED 11/20



SECTION
N.T.S.

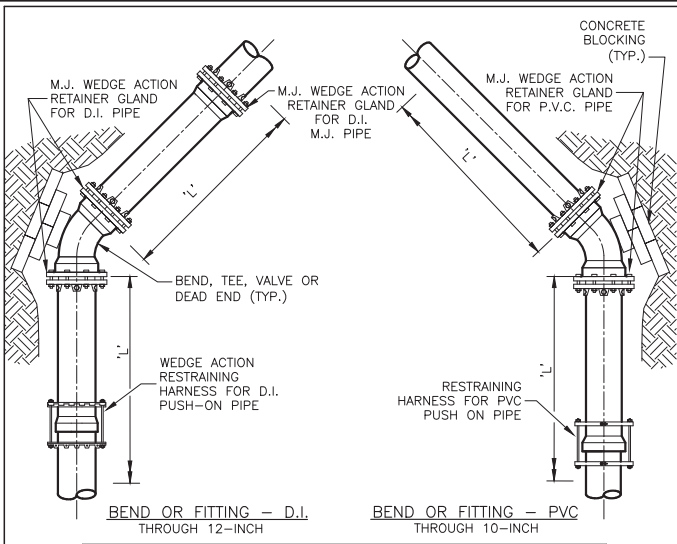
NOTES:

- ALL EXISTING UTILITIES MUST BE SUPPORTED WITH APPROPRIATE CHAINS/STRAPS DURING CONSTRUCTION OF THE NEW WATERMAIN.
- WHEN CROSSING A SEWERLINE WITH A NEW WATERMAIN (AND WITHOUT CASING PIPE), ONE FULL PIPE LENGTH (18 FT. MIN.) SHALL BE USED AT THE POINT OF CROSSING. THE WATERMAIN SHALL BE PLACED SO THAT BOTH JOINT ENDS ARE AS FAR AS POSSIBLE FROM THE EXISTING SEWERLINE.
- IF CASING PIPE IS USED, IT SHALL EXTEND 5 FEET BEYOND THE EXISTING PIPE OUTER WALL EDGE IN EACH DIRECTION, AND NO WATERLINE JOINTS OR FITTINGS SHALL BE LOCATED WITHIN 4 FEET FROM THE CASING PIPE EDGE.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL PIPE CROSSING

DWG. NO. SD2
DATE 4/92
REVISED 8/21



RESTRAINED JOINT SCHEDULE

PIPE SIZE	PIPE TYPE	11.25' ELBOW	22.5' ELBOW	45' ELBOW	TEE BRANCH, 90° BEND, VALVE OR DEAD END
6"	D.I.P.	10'	15'	30'	150'
8"	D.I.P.	15'	20'	40'	200'
10"	D.I.P.	15'	25'	45'	235'
12"	D.I.P.	15'	30'	55'	280'
16"	D.I.P.	PIPELINE IS INTERNALLY RESTRAINED THE ENTIRE LENGTH			
24"	D.I.P.	PIPELINE IS INTERNALLY RESTRAINED THE ENTIRE LENGTH			

NOTES:

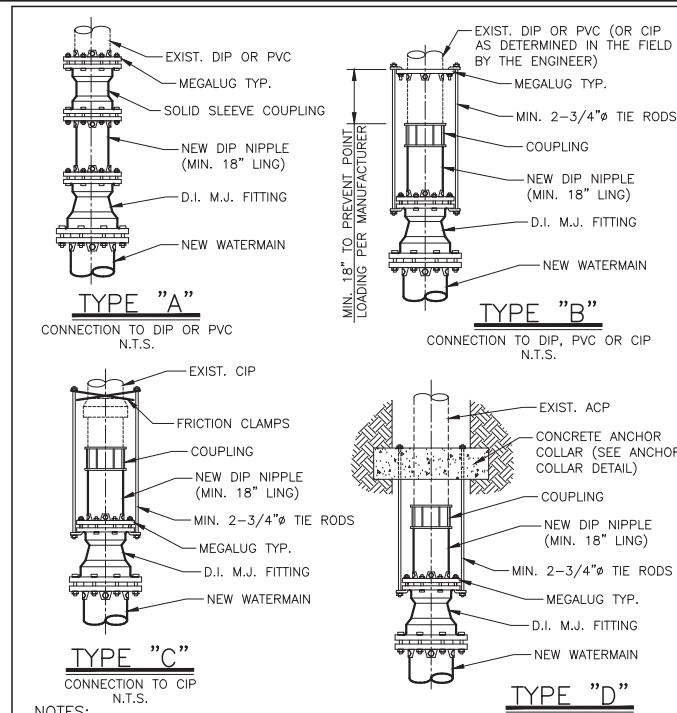
- DIMENSION 'L' REPRESENTS THE LENGTH OF RESTRAINING PIPE REQUIRED IN FEET EACH SIDE OF THE PIPE FITTING.
- BASED ON POLYWRAPPED DUCTILE IRON PIPE @ 200-PSI, WITH SAFETY FACTOR OF 3.0, AND 5-FOOT MINIMUM BURY DEPTH.
- ALL PIPE JOINTS WITHIN 115° OF A 45-DEGREE VERTICAL BEND SHALL BE RESTRAINED.

PLAN
N.T.S.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL RESTRAINED JOINT SCHEDULE

DWG. NO. SD4
DATE 4/28/92
REVISED 7/16



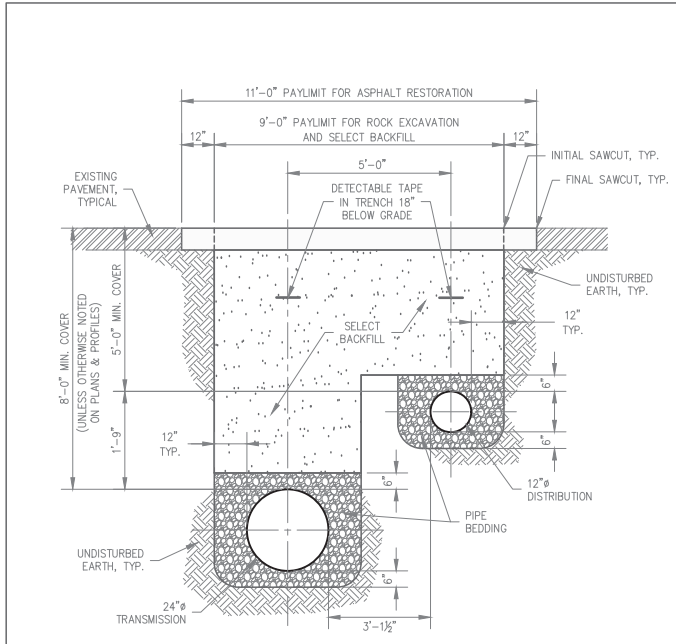
NOTES:

- VALVES AND TEES MAY BE HARNESSED SIMILARLY.
- HARNESSING IS FOR RESISTANCE TO INTERNAL PRESSURE—PIPE ITSELF MUST BE SUPPORTED ON FIRM BEDDING AND CAREFULLY BACKFILLED.
- COAT ALL EXPOSED SURFACES OF HARNESS ASSEMBLY WITH BITUMINOUS COATING.
- TIE RODS SHALL BE PLACED ON SIDES OF PIPE.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL TYPICAL CONNECTION TO EXISTING WATERMAIN THROUGH 12-INCH DIAMETER WATERMAIN

DWG. NO. SD5
DATE 3/05
REVISED 7/16

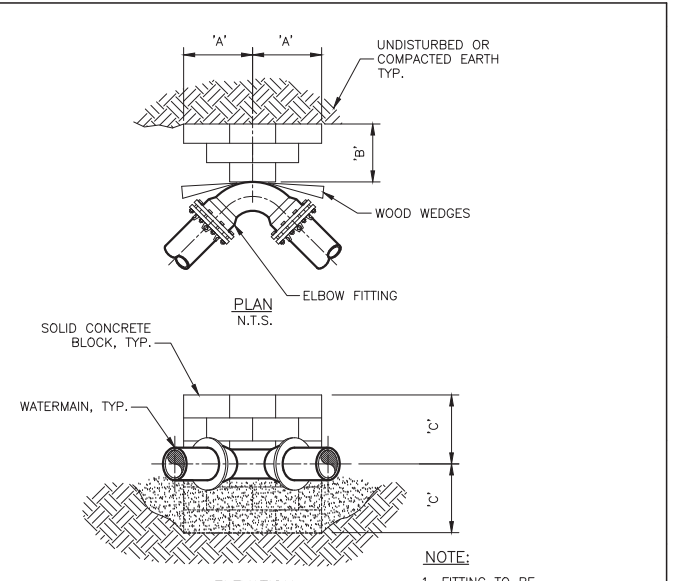


DETAIL
N.T.S.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

TYPICAL TRENCH DETAIL FOR PARALLEL TRANSMISSION & DISTRIBUTION WATERMAINS

DWG. NO. SD6
DATE 4/28/92
REVISED 11/20



PLAN
N.T.S.

ELEVATION
N.T.S.

NOTE:

- FITTING TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK PLACEMENT.

DIMENSION SCHEDULE

PIPE SIZE	11.25' ELBOW			22.5' ELBOW			45' ELBOW			90° ELBOW		
	'A'	'B'	'C'	'A'	'B'	'C'	'A'	'B'	'C'	'A'	'B'	'C'
6"	0'-6"	1'-0"	0'-6"	1'-0"	0'-6"	0'-9"	1'-0"	0'-6"	0'-6"	1'-0"	0'-6"	1'-0"
8"	0'-6"	1'-0"	0'-6"	1'-0"	0'-6"	1'-6"	1'-0"	0'-6"	1'-6"	1'-0"	0'-6"	1'-0"
10"	1'-0"	1'-0"	0'-8"	1'-0"	1'-0"	0'-8"	1'-6"	1'-6"	0'-10"	1'-6"	1'-6"	1'-0"
12"	1'-2"	1'-2"	0'-9"	1'-2"	1'-2"	0'-9"	1'-9"	1'-9"	0'-10"	2'-0"	2'-0"	1'-0"

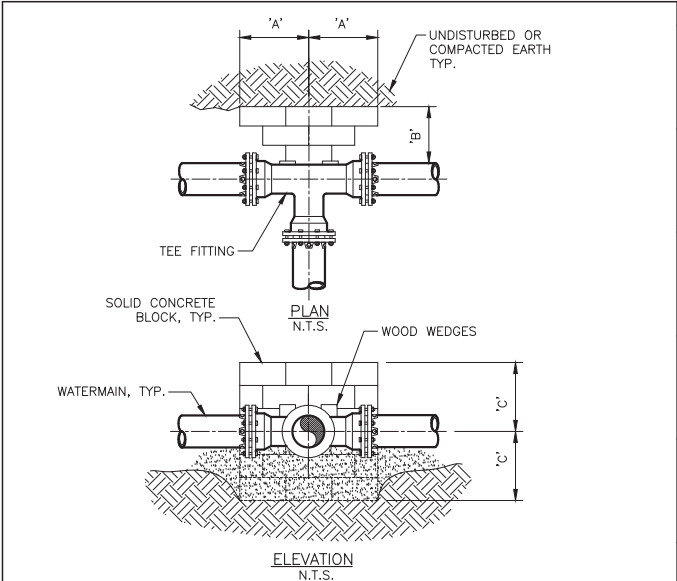
BRANCH TEE
DIMENSION SCHEDULE

BRANCH TEE SIZE	DIMENSION SCHEDULE		
	'A'	'B'	'C'
6"	1'-0"	1'-0"	0'-6"
8"	1'-6"	1'-0"	0'-6"
10"	1'-6"	2'-0"	0'-8"
12"	1'-6"	2'-0"	0'-9"

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL THRUST BLOCKS FOR ELBOW FITTING

DWG. NO. SD6
DATE 4/28/92
REVISED 11/20



PLAN
N.T.S.

ELEVATION
N.T.S.

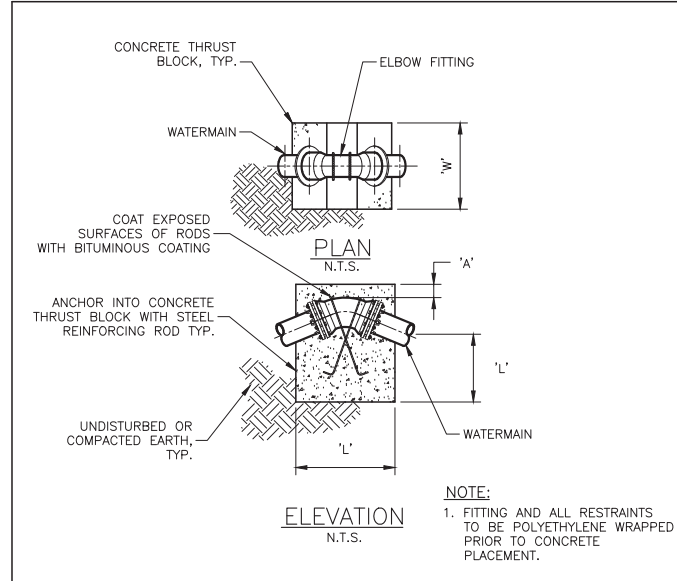
NOTES:

- THRUST BLOCK REQUIRED FOR TEES, HYDRANT LATERAL TEES AND TAPPING SLEEVE INSTALLATIONS.
- FITTING TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL THRUST BLOCKS FOR TEE OR "DEAD END" FITTING

DWG. NO. SD7
DATE 4/28/92
REVISED 11/20



PLAN
N.T.S.

ELEVATION
N.T.S.

NOTE:

- FITTING AND ALL RESTRAINTS TO BE POLYETHYLENE WRAPPED PRIOR TO CONCRETE PLACEMENT.

DIMENSION SCHEDULE

PIPE SIZE	PIPE TYPE	11.25' ELBOW			22.5' ELBOW			45' ELBOW				
		'A'	'W'	'L'	'A'	'W'	'L'	'A'	'W'	'L'		
6"	D.I.P.	1'-0"	1'-0"	1'-0"	1'-0"	3/8"	1'-0"	3/8"	1'-0"	1'-6"	1'-6"	3/8"
8"	D.I.P.	1'-0"	1'-0"	1'-0"	1'-0"	1/2"	1'-9"	1'-9"	1'-6"	2'-0"	2'-0"	1/2"
10"	D.I.P.	1'-0"	3'-4"	3'-4"	5/8"	1'-0"	4'-0"	4'-5"	5/8"	1'-6"	4'-4"	5/8"
12"	D.I.P.	1'-0"	3'-5"	4'-0"	5/8"	1'-0"	4'-6"	5'-0"	5/8"	1'-6"	4'-6"	7'-2 1/2"

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL THRUST BLOCKS FOR VERTICAL BEND

DWG. NO. SD8
DATE 4/28/92
REVISED 11/20

GPI Engineering Planning Construction Management
(716) 633-4844
Greenman - Pedersen, Inc.
4950 Genesee Street, Suite 100
Buffalo, NY, 14225

PREPARED FOR
ERIE COUNTY WATER AUTHORITY
PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY

STATE OF NEW YORK
GREENMAN PEDERSEN INC.
LICENSED PROFESSIONAL ENGINEER
No. 151

WARNING: ALTERATIONS TO THIS DOCUMENT NOT CONFORMING TO SECTION 7209, SUBDIVISION 2, STATE EDUCATION LAW, ARE PROHIBITED.

REVISIONS

NO.	REVISION	DATE

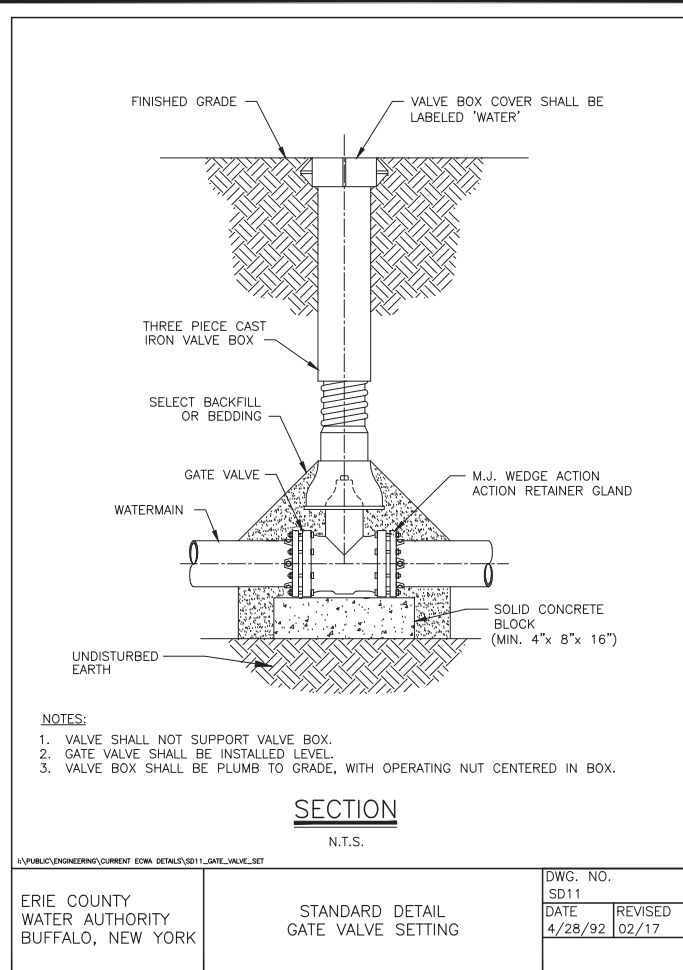
MAY 2022

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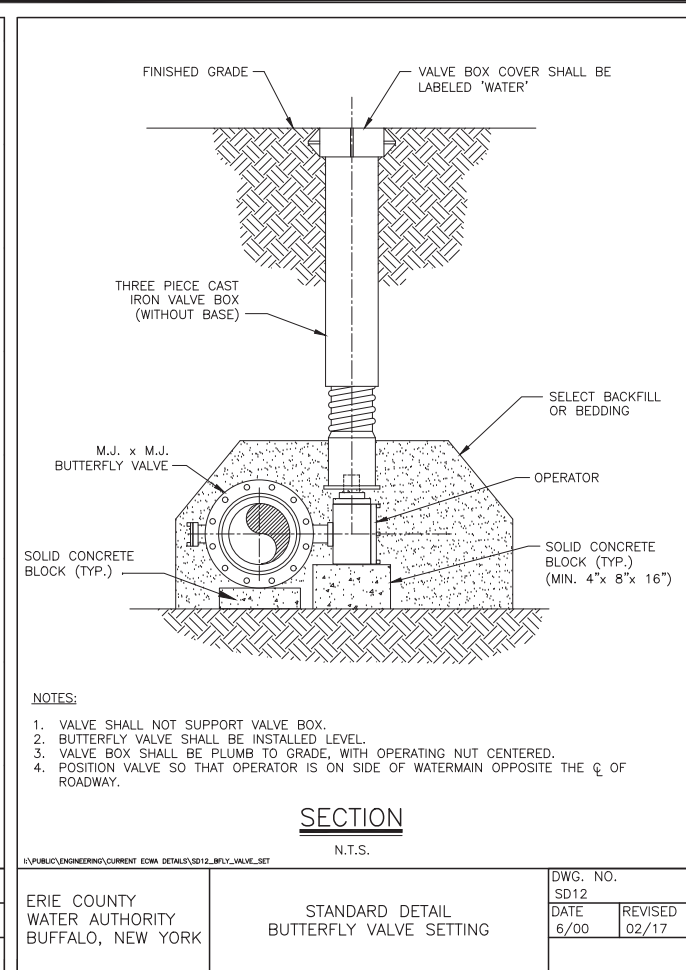
WATERLINE DETAILS - 1

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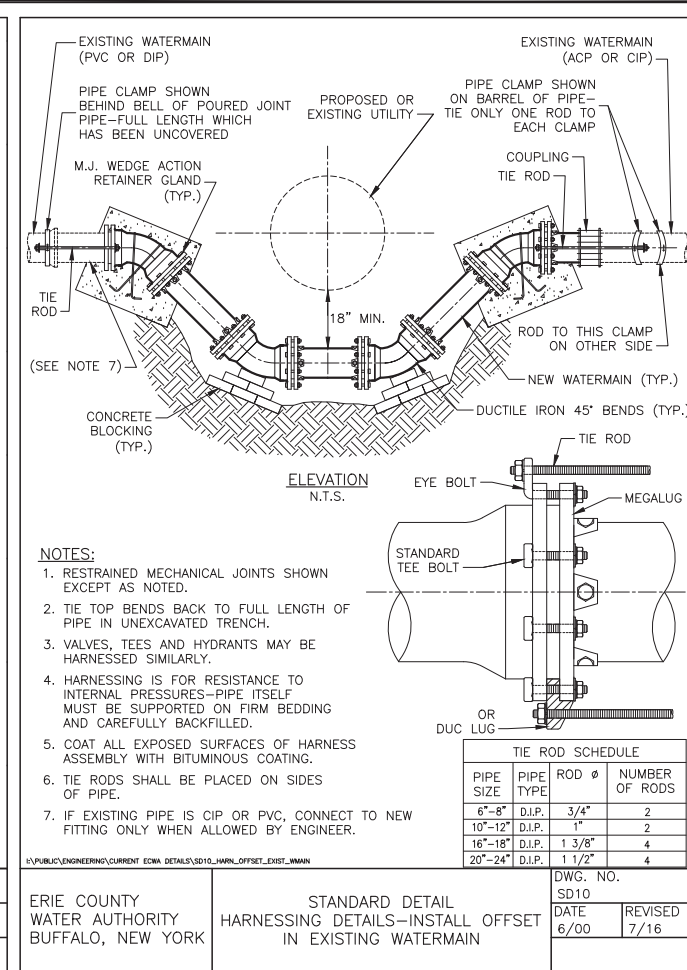
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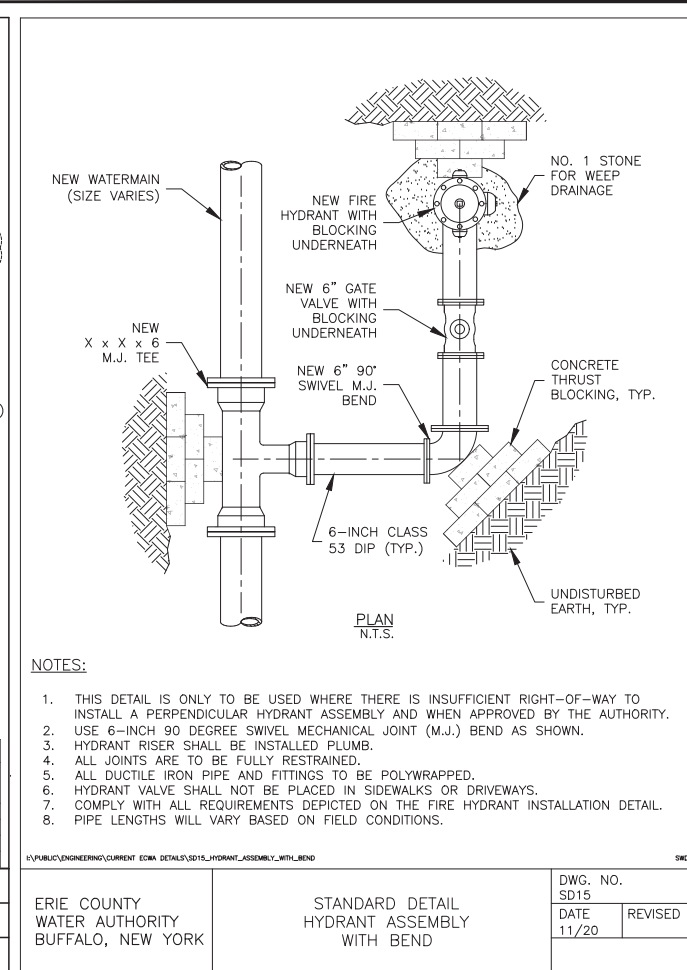
ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK



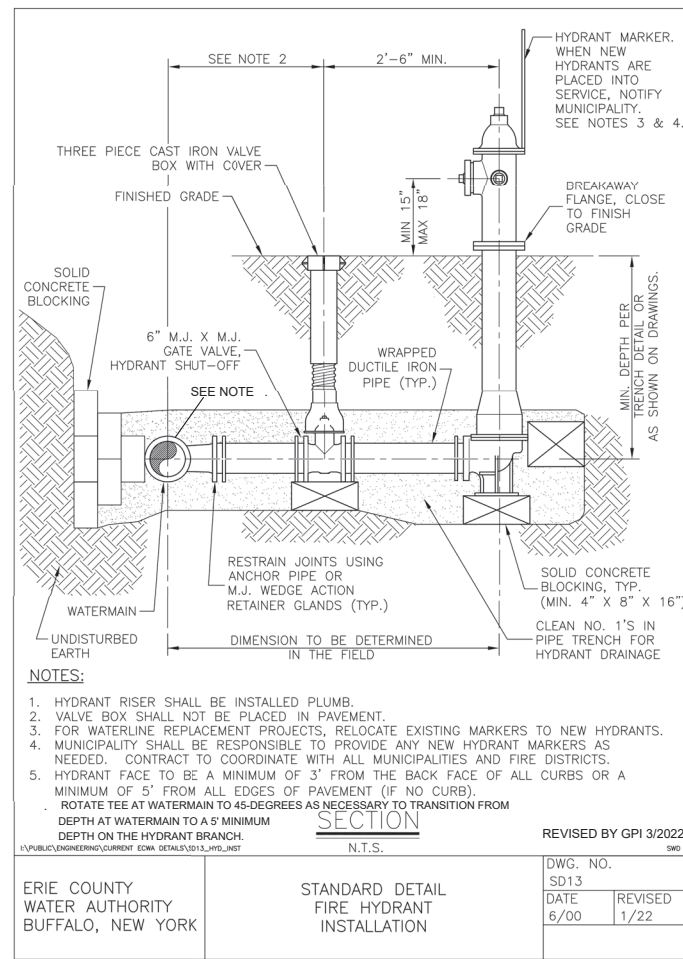
ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK



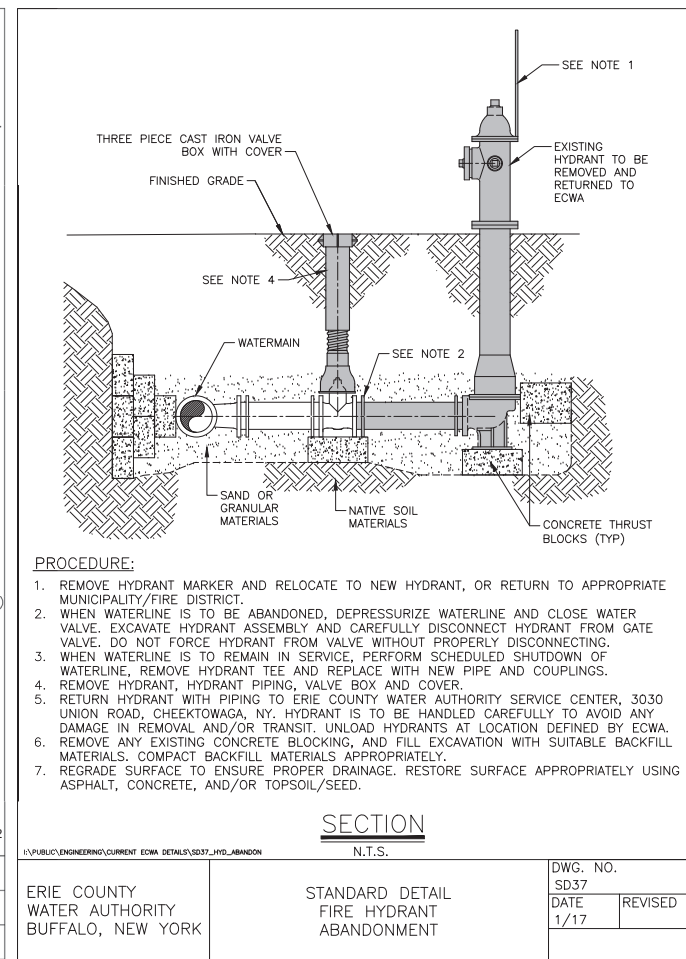
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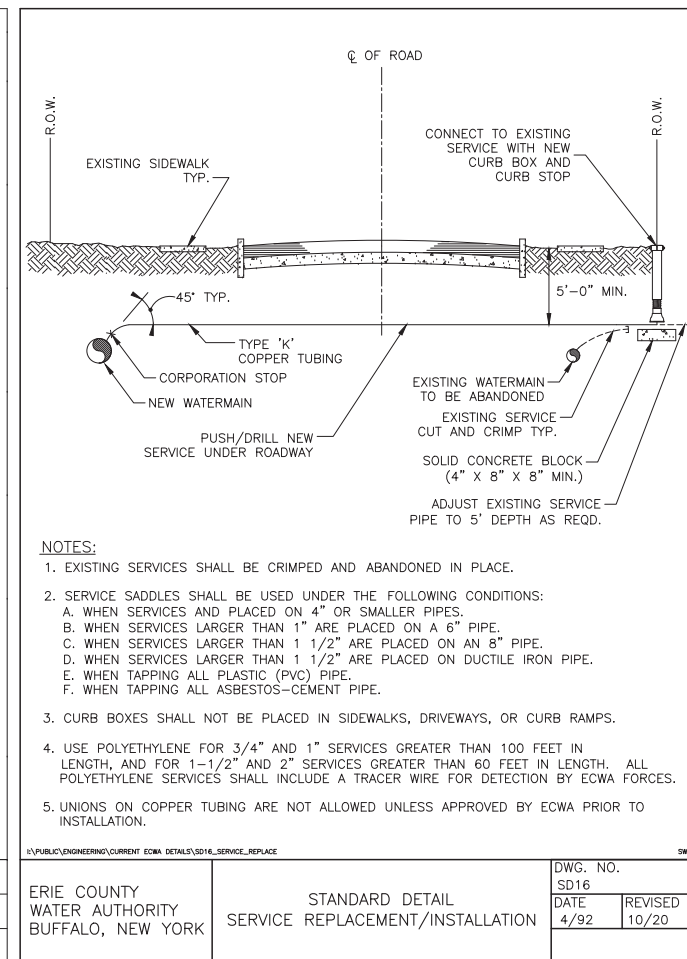
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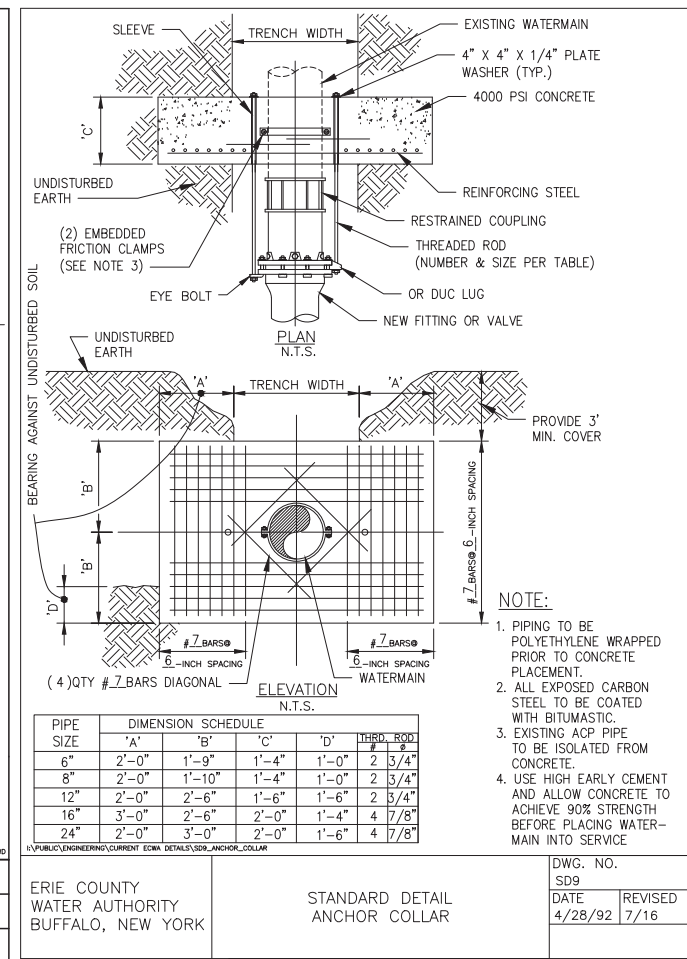
ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK



ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK



ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

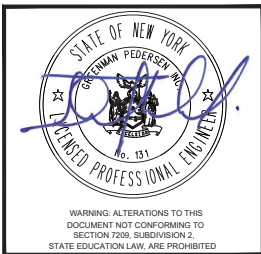


ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK



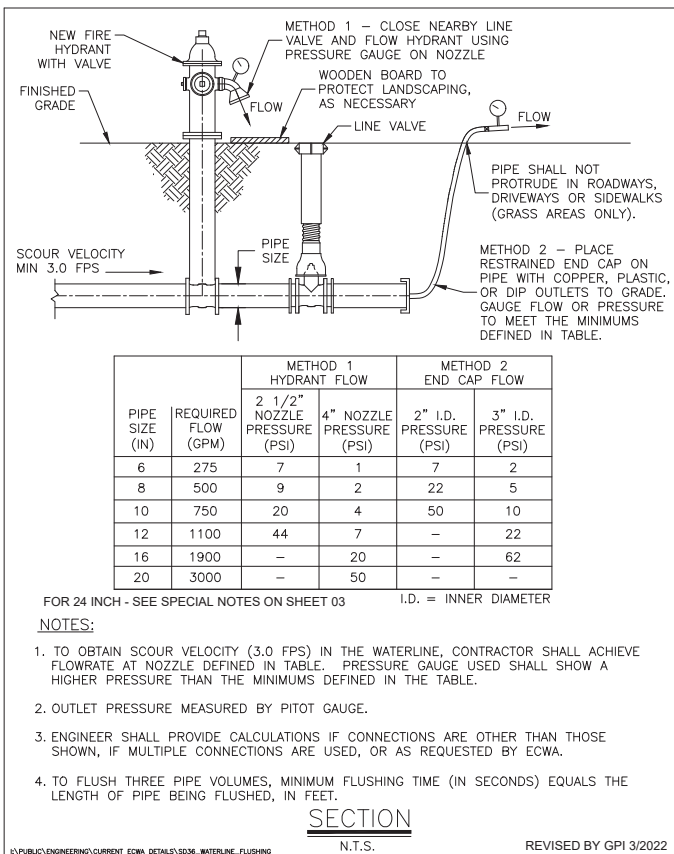
PREPARED FOR
ERIE COUNTY WATER AUTHORITY
PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
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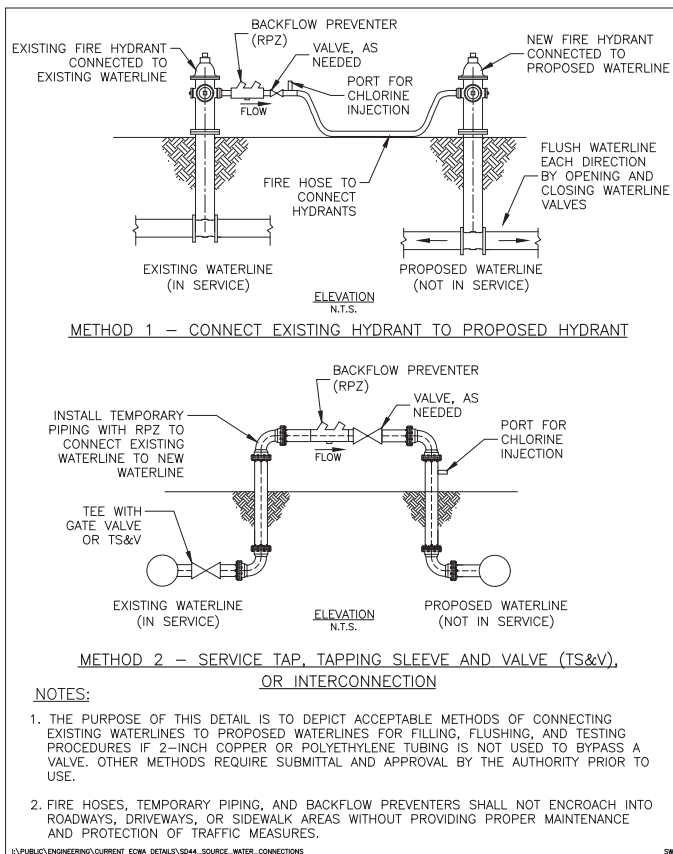
REVISIONS		
NO.	REVISION	DATE

MAY 2022
DRAWN/DESIGN BY: AB
CHECKED BY: PC
SCALE: N.T.S.
WNY-2021024.00
39 OF 52



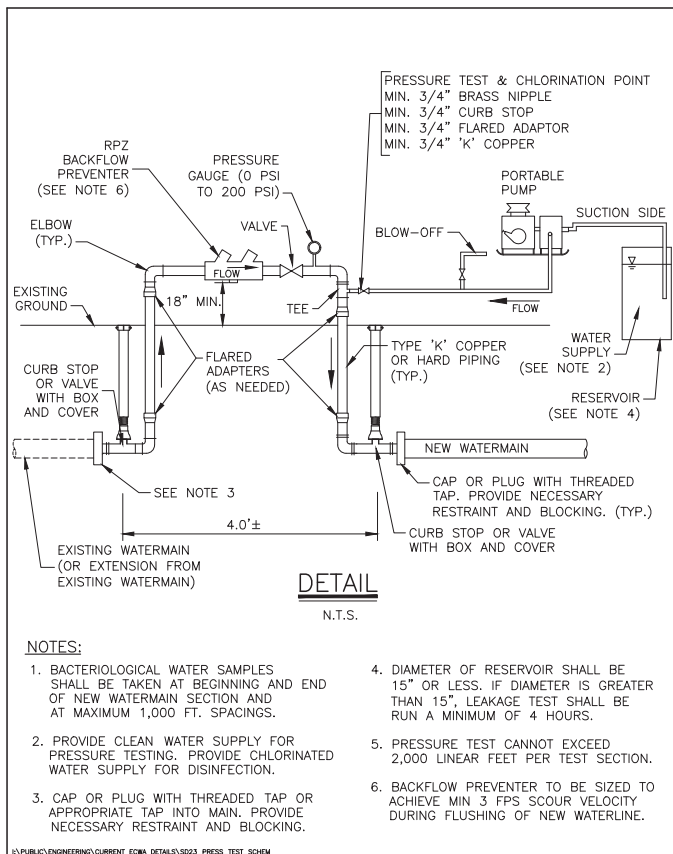
SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL WATERLINE FLUSHING	DWG. NO. SD36	DATE 6/16	REVISED 8/18
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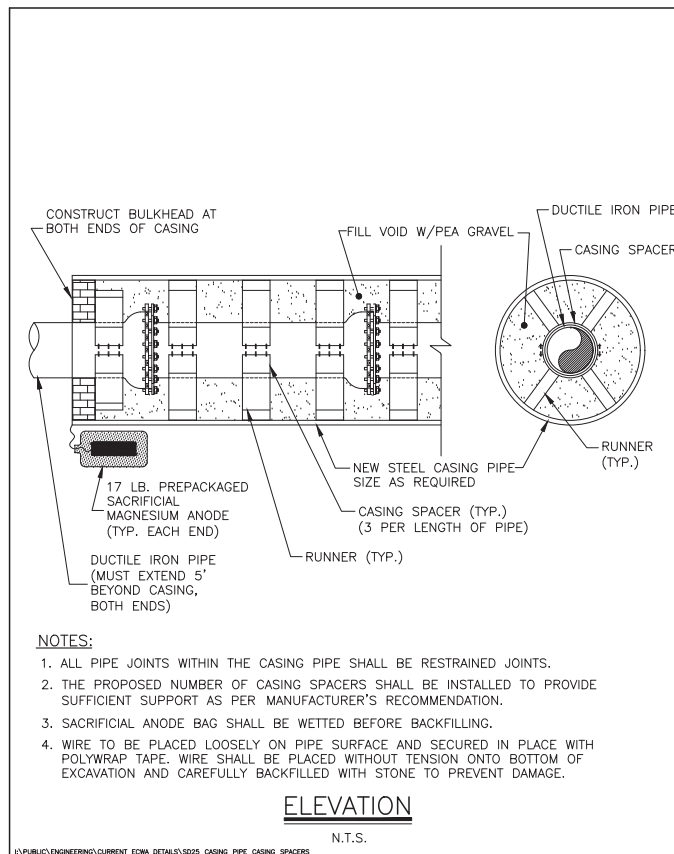
SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL SOURCE WATER CONNECTIONS	DWG. NO. SD44	DATE 10/20	REVISED
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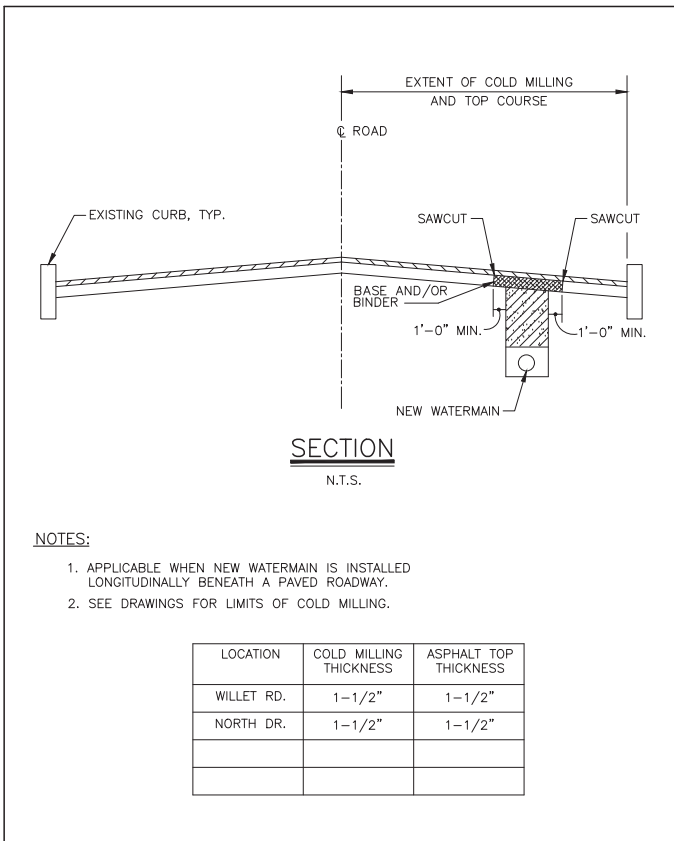
SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL PRESSURE TESTING AND DISINFECTION APPARATUS SCHEMATIC	DWG. NO. SD23	DATE 6/00	REVISED 11/20
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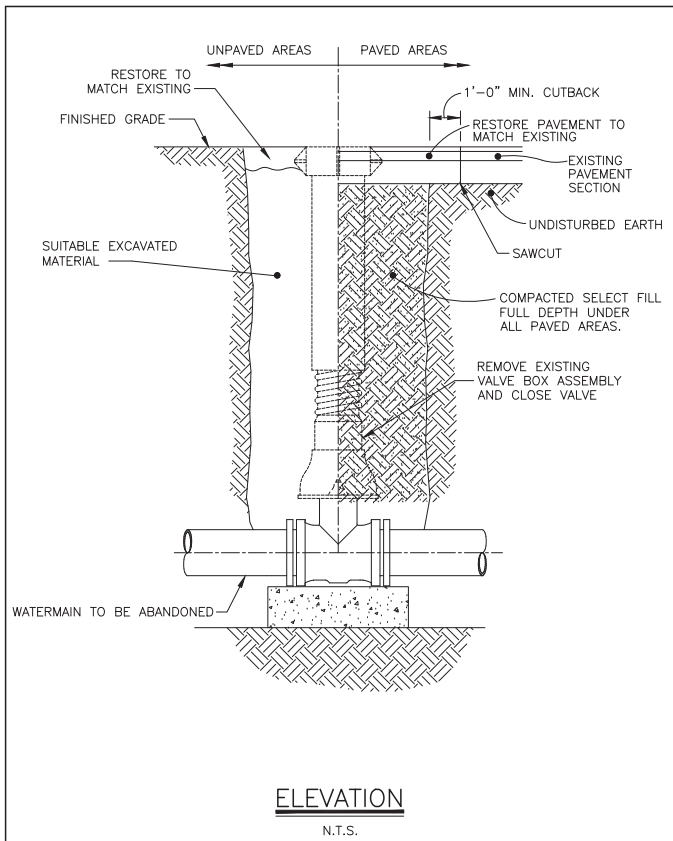
SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL CASING PIPE WITH CASING SPACERS	DWG. NO. SD25	DATE 6/00	REVISED 8/16
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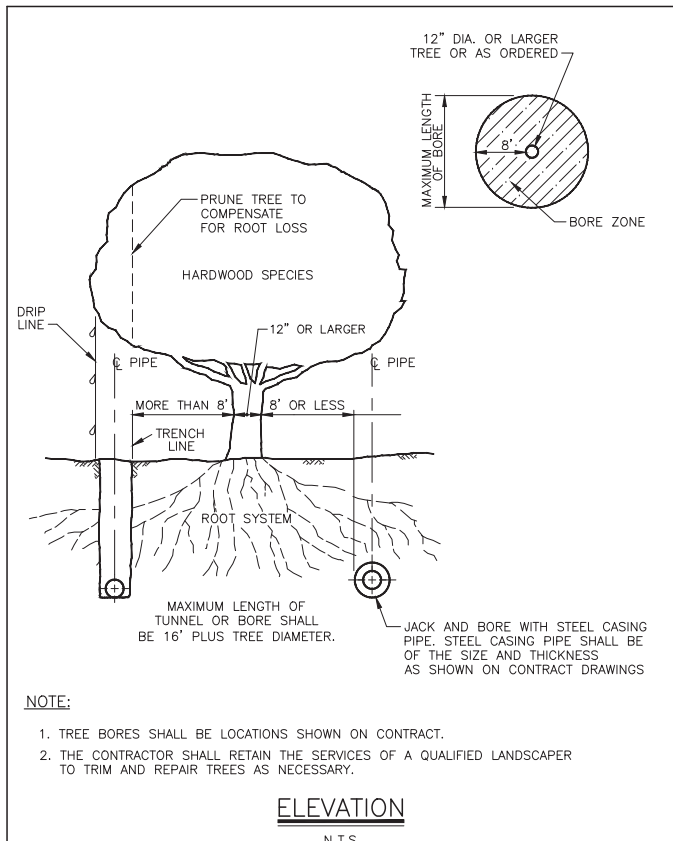
SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL COLD MILLING	DWG. NO. SD28	DATE 6/00	REVISED 8/16
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SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL EXISTING VALVE BOX ABANDONMENT	DWG. NO. SD26	DATE 6/00	REVISED 8/16
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SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL TREE BORE	DWG. NO. SD27	DATE 6/00	REVISED 8/16
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PIPE DIAMETER (in)	PIPE MATERIAL		WORKING PRESSURE (psi)	TEST PRESSURE (psi)
	Type (DIP, PVC, etc.)	Rating (Class/DR)		
6	D.I.P.	CLASS 52	150	170
8	D.I.P.	CLASS 52	150	170
12	D.I.P.	CLASS 52	150	170
16	D.I.P.	CLASS 52	150	170
24	D.I.P.	CLASS 52	150	170

REVISIONS

NO.	REVISION	DATE

MAY 2022
DRAWN/DESIGN BY: AB CHECKED BY: PC

SCALE: N.T.S.

WNY-2021024.00

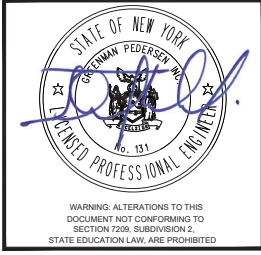
SECTION N.T.S. REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	PRESSURE TESTING SCHEDULE	DWG. NO. SD31	DATE 10/05	REVISED 11/20
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GPI Engineering
Design
Planning
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(716) 633-4844 GPINET.COM
Greenman - Pedersen, Inc.
4950 Genesee Street, Suite 100
Buffalo, NY, 14225

PREPARED FOR
ERIE COUNTY WATER AUTHORITY
PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG, NY
& ORCHARD PARK, NY



REVISIONS

NO.	REVISION	DATE

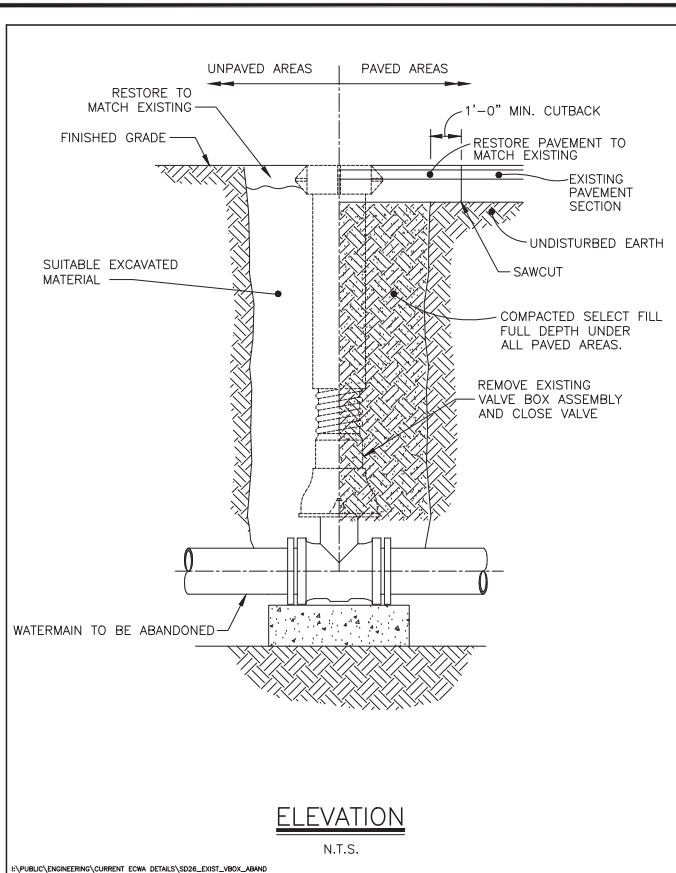
MAY 2022
DRAWN/DESIGN BY: AB CHECKED BY: PC

WATERLINE DETAILS - 3

SCALE: N.T.S.

WNY-2021024.00

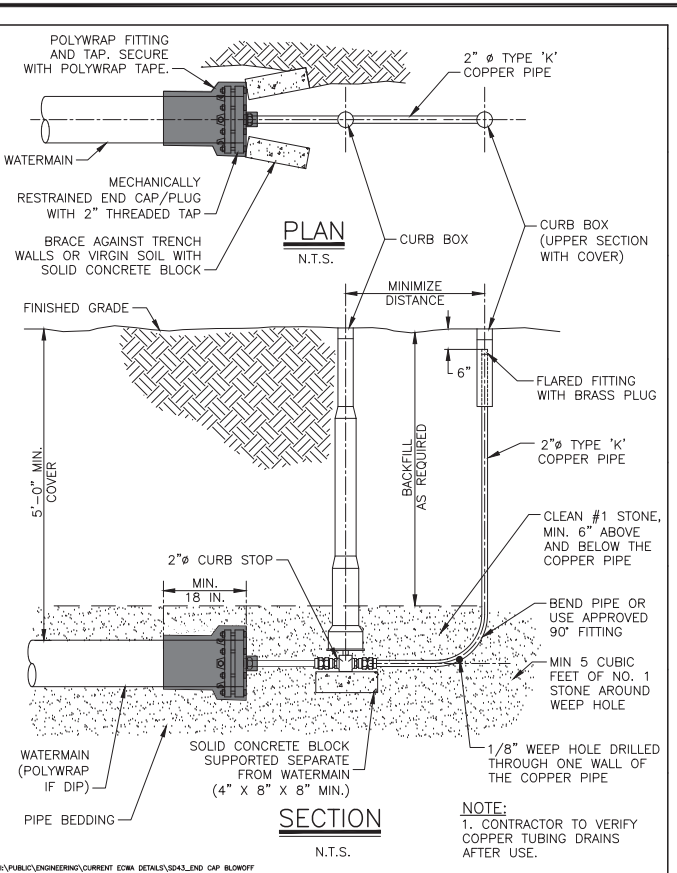
40 OF 52



ELEVATION
N.T.S.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL EXISTING VALVE BOX ABANDONMENT	
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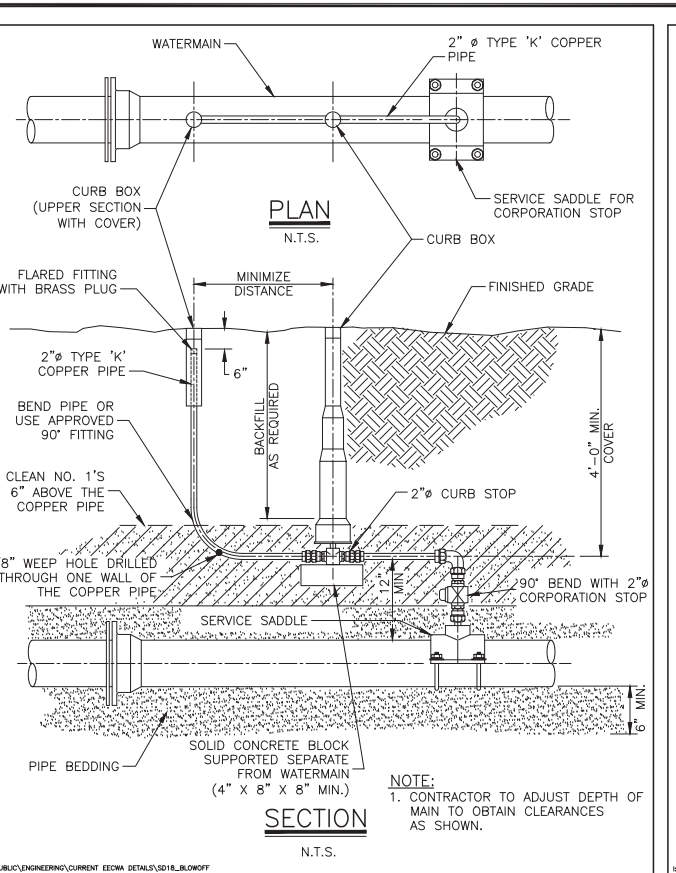
DWG. NO. SD26	DATE 6/00	REvised 8/16
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SECTION
N.T.S.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL END CAP BLOWOFF	
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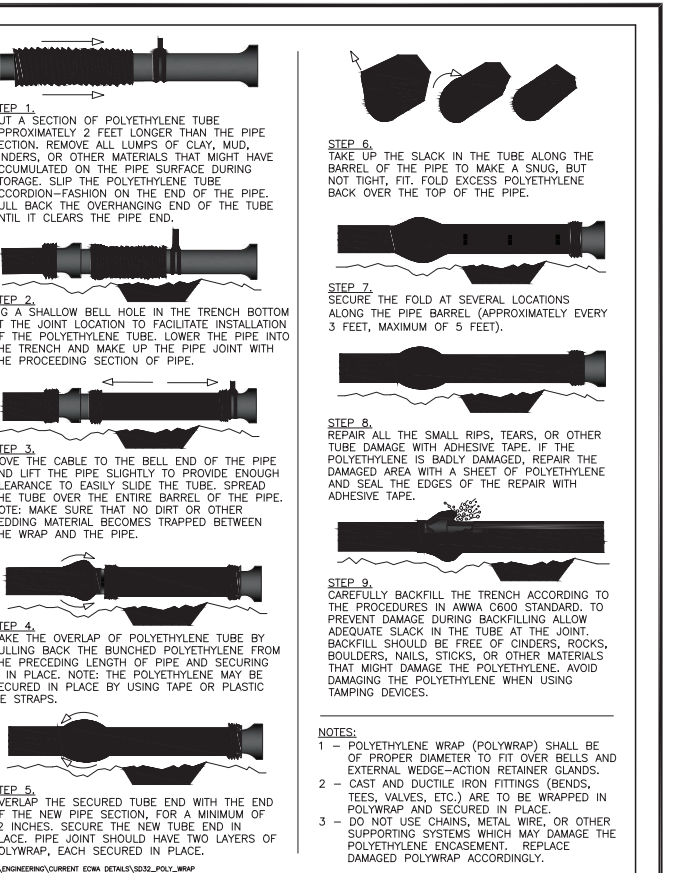
DWG. NO. SD43	DATE 5/19	REvised
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SECTION
N.T.S.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL BLOWOFF	
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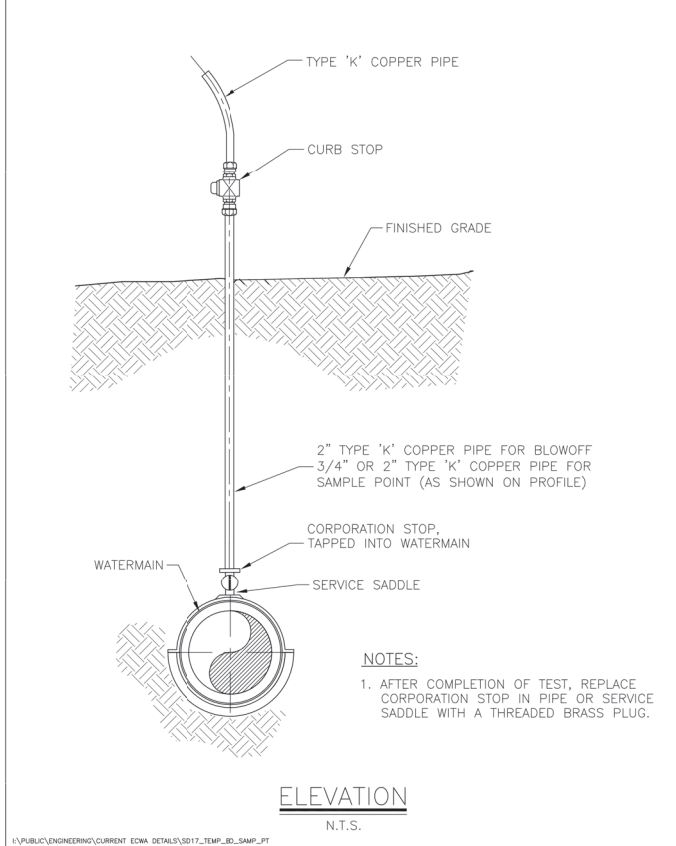
DWG. NO. SD18	DATE 4/28/92	REvised 7/16
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POLYETHYLENE ENCASEMENT OF DUCTILE IRON PIPE

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL	
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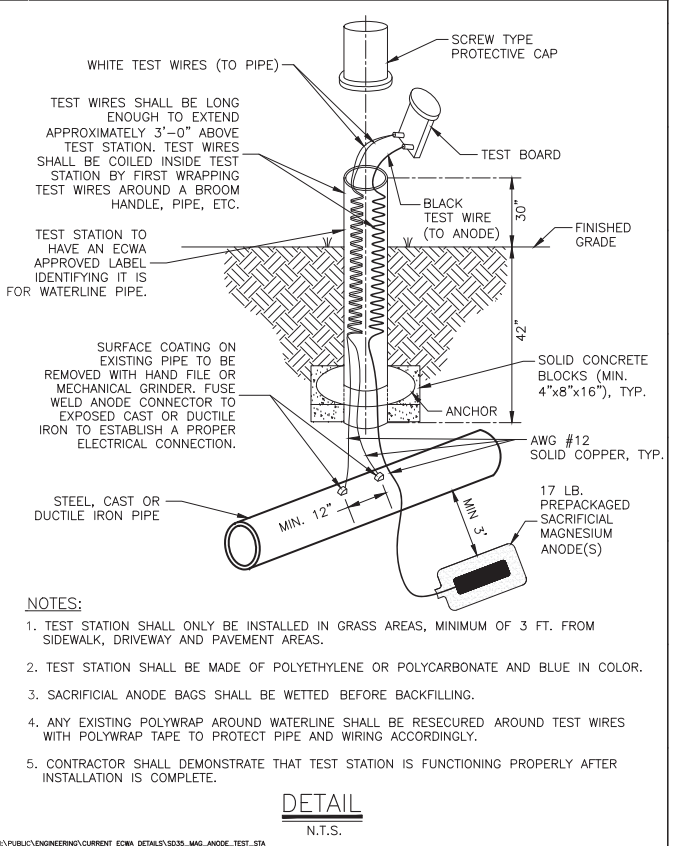
DWG. NO. SD32	DATE 06/16	REvised 02/19
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ELEVATION
N.T.S.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL TEMPORARY BLOW-OFF/SAMPLING POINT	
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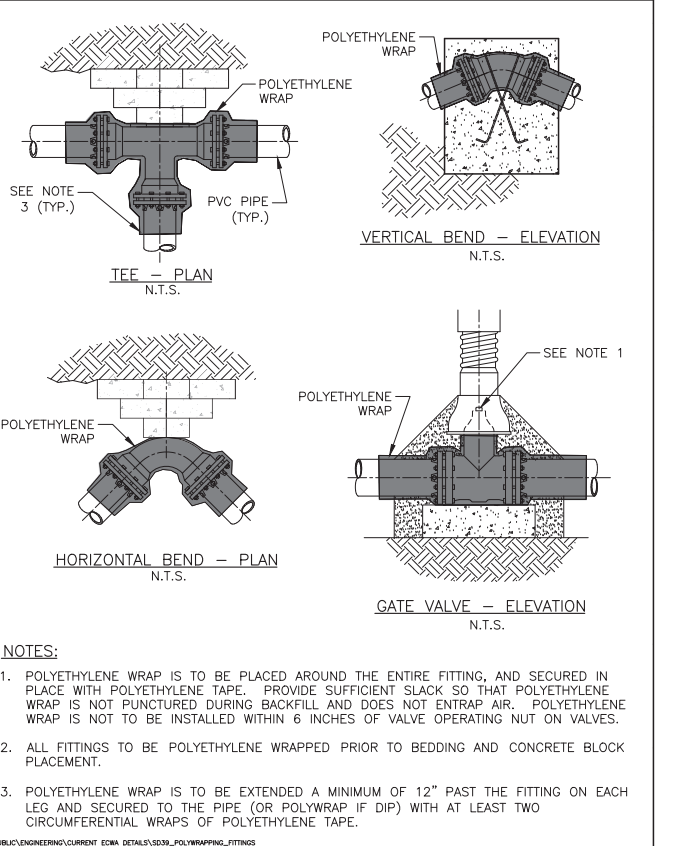
DWG. NO. SD17	DATE 4/28/92	REvised 7/16
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DETAIL
N.T.S.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL MAGNESIUM ANODE TESTING STATION FOR STEEL CASING PIPE AND CIP/DIP	
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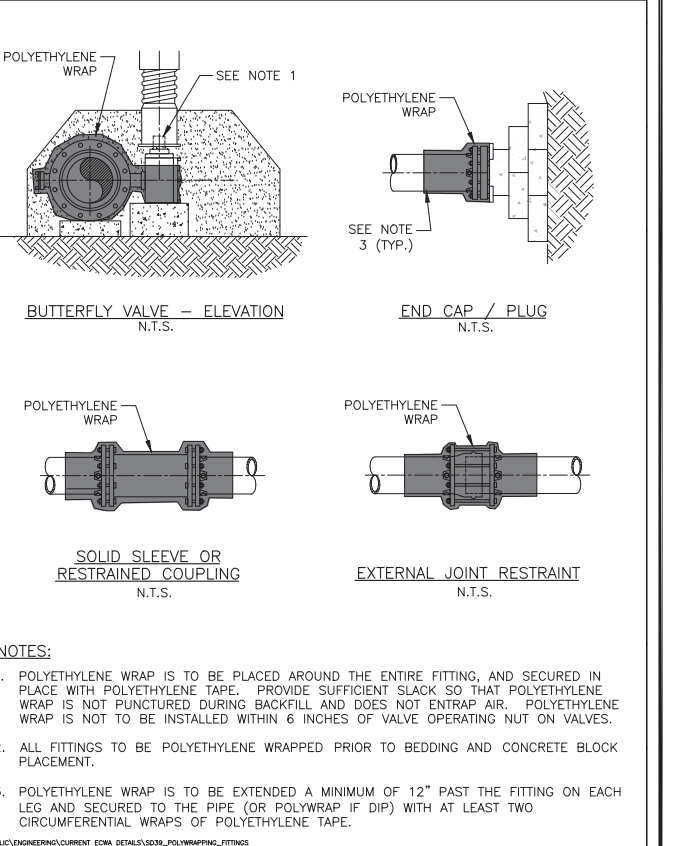
DWG. NO. SD35	DATE 7/16	REvised 10/19
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POLYWRAPPING CAST/DUCTILE IRON FITTINGS

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL POLYWRAPPING CAST/DUCTILE IRON FITTINGS	
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DWG. NO. SD39A	DATE 3/18	REvised 12/18
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POLYWRAPPING CAST/DUCTILE IRON FITTINGS

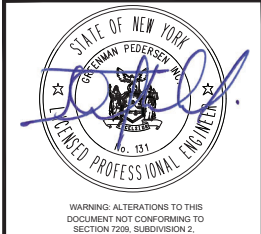
ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK		STANDARD DETAIL POLYWRAPPING CAST/DUCTILE IRON FITTINGS	
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DWG. NO. SD39B	DATE 12/18	REvised
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PREPARED FOR
ERIE COUNTY WATER AUTHORITY
PN 202100035

**ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG,
& ORCHARD PARK, NY**



REVISIONS

NO.	REVISION	DATE

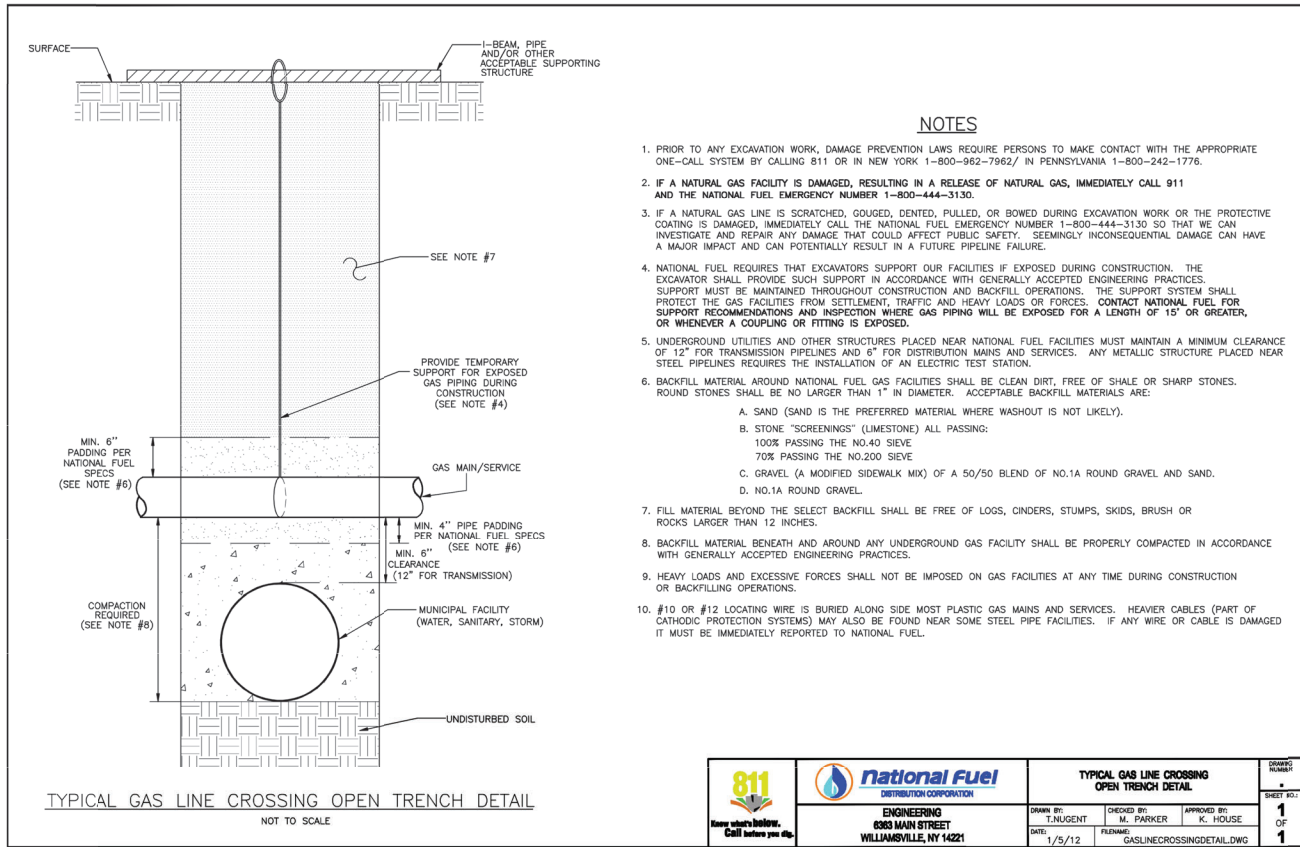
MAY 2022
DRAWN/DESIGN BY: AB CHECKED BY: PC

WATERLINE DETAILS - 4

SCALE: N.T.S.

WNY-2021024.00

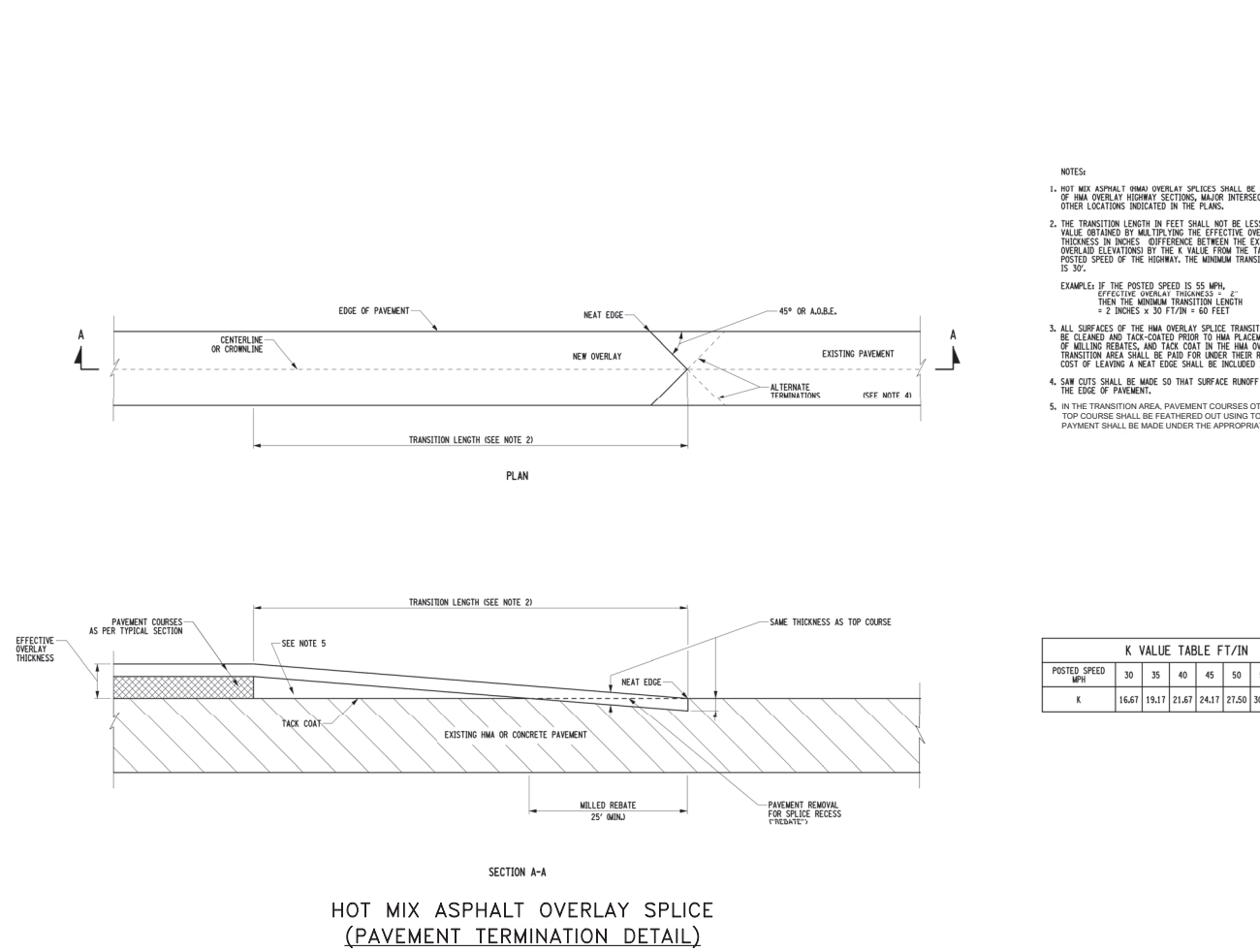
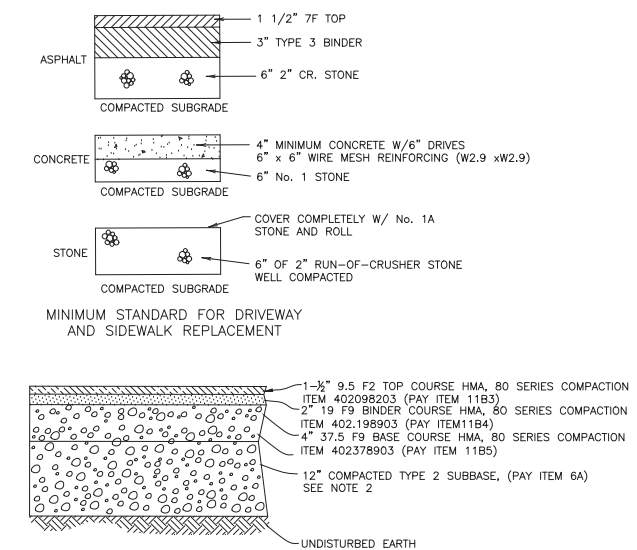
41 OF 52



NATIONAL FUEL NOTES

Summary of Responsibilities of Contractor/Excavator

- See One Call Regulations for details
- Notify the One Call center (Call 811) in accordance with regulations, typically 3 to 10 days prior to starting any work that might be considered excavation or demolition. Postponing the job will likely require re-notification to the One Call Center. Furthermore, if the job site becomes inactive, call to have the specific work area remarked prior to restarting the work.
 - Designating the dig site in white will aid in the timely marking of underground facilities. Pre-marking proposed facilities in white is required in some cases.
 - If work is to be performed at multiple sites or over a large area, take reasonable steps to work with facility owners so that they may locate their facilities. Limit the size of each ticket. Using reasonable start dates for individual tickets facilitates getting the proper areas marked when needed.
 - After commencement of excavation or demolition work, the excavator is responsible for protecting and preserving the saking, or marking until excavation or demolition work in the area is complete. If necessary, call the One Call center to have the lines remarked.
 - Where an underground facility has been staked, marked or otherwise designated, verify the precise location, type, size, direction of run and depth of the underground facility. Use prudent techniques such as vacuum excavation or hand-dug test holes, to verify the precise location of facilities. It is best to verify prior to excavating in the general area, but verification must be done prior to excavating in the tolerance zone. Call the facility owner if a marked facility cannot be found.
 - Inform each equipment operator of the information obtained from facility owners. Plan the excavation or demolition to avoid damage to or minimize interference with a facility owner's facilities in the construction area.
 - Consult the facility owner if:
 - Excavation or demolition work requires temporary or permanent interruption of a facility owner's service. Such interruption must be coordinated with the affected facility owner in all cases.
 - A facility is exposed or undermined. The excavator must provide support and mechanical protection for facility owner's lines at the construction site during excavation or demolition work, including during backfilling operations.
 - Report immediately to the facility owner any break, leak, dent, gouge, or other damage to the facility owner's lines made or discovered during the course of excavation or demolition work. Including, damage to pipeline coatings, locating wire and cables for cathodic protection.
 - In the event of an emergency involving danger to life, health or property as a result of damage to an underground facility containing gas or liquid petroleum products or as a result of an electrical short or escape of gas or hazardous liquids, the excavator shall:
 - Proceed to evacuate his or her employees and all other endangered persons from the immediate vicinity to the best of his or her ability.
- Immediately contact 911 and the Facility Owner, reporting the exact location, nature of the emergency and type of underground facility damaged.

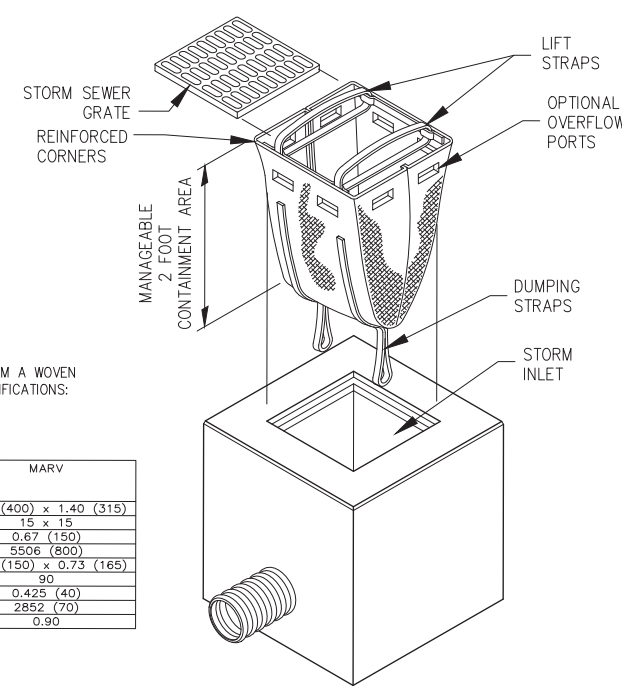


REGULAR FLOW DANDY SACK™ (BLACK)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m ² (gal/min/ft ²)	2852 (70)
Permittivity	ASTM D 4491	Sec ⁻¹	0.90

HI-FLOW DANDY SACK™ (SAFETY ORANGE)

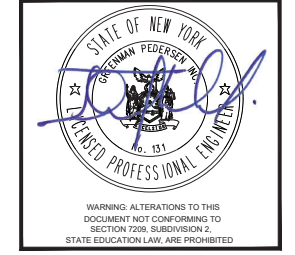
Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m ² (gal/min/ft ²)	5907 (145)
Permittivity	ASTM D 4491	Sec ⁻¹	2.1



GPI Engineering
Planning
Construction Management
(716) 633-4844
Greenman - Pedersen, Inc.
4950 Genesee Street, Suite 100
Buffalo, NY, 14225
GPI.NET.COM

PREPARED FOR
ERIE COUNTY WATER AUTHORITY
PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
T. OF HAMBURG, & ORCHARD PARK, NY



REVISIONS		
NO.	REVISION	DATE

MAY 2022

DRAWN/DESIGN BY AB	CHECKED BY PC
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MISCELLANEOUS DETAILS 1



September 06, 2022

Leonard Kowalski
ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York, 14203-2494

RE: Proposed transverse underground 24" DIP water pipe located within the public ROW at DOT Crossing# (519509X). Existing 24" main to be abandoned and filled with flowable fill.

**Keystone Division, at Mile Post BX-2.97
Lackawanna, Erie County, New York
Latitude 42.813822, Longitude -78.80009
NS Activity No. 1302654**

Dear Leonard Kowalski:

RailPros, as consultant for Norfolk Southern Railway Company ("Railway"), has reviewed the above-referenced request. Based on the information and documentation presented, Railway has no objections to the proposed work.

Attached you will find the requested offer of agreement for execution, by an official authorized to execute contract agreements on behalf of the Licensee. Please have the agreement executed via DocuSign. Note, however, that the attached offer of agreement does not constitute a binding contract, unless or until it is executed by both the Licensee and Railway.

In order for Railway to countersign the document, the following items are needed for review:

1. **A Certificate of Insurance** as required in the agreement, is to be submitted within the Application System.
2. **A separate Railroad Protective Liability Insurance policy**, as required in the agreement, with Railway as the named insured, and the Activity ID referenced in the description, submitted within the Application System; OR
3. The submission of the Risk Management Fee adds the specific project/activity to the Norfolk Southern Master Railroad Protective insurance policy, and as such no further railroad protective liability insurance coverage is necessary or requested.

NOTE: No work shall be permitted on or about the Railway's property until the agreement becomes binding, and the Division Engineer or their authorized representative has reviewed and approved field services for the project, such as *flagging protection, construction monitoring, and post-construction inspection services*. Once the above items are received, the fully executed agreement will be sent, along with the name and contact information for field service coordination.

If we have not received the executed agreement and corresponding payments and/or documents within sixty (60) days from the date of this letter, we reserve the right to cancel this request.

If you have any questions, please contact me via the portal.

Sincerely,

Dan Pavlik
Real Estate Specialist

PO Box 642270
Omaha, NE 68164

P: (402) 965-0539 **F:** (866) 762 - 7619

www.railpros.com

NORFOLK SOUTHERN RAILWAY COMPANY

**ACKNOWLEDGMENT FORM FOR WIRE AND/OR PIPE OCCUPATION
WITHIN THE LIMITS OF A PUBLIC RIGHT OF WAY.**

APPLICANT: ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York, 14203-2494

SUBJECT: Lackawanna, Erie County, New York
Milepost BX-2.97, Buffalo Line, Keystone Division
Norfolk Southern Activity No. 1302654

Install a new transverse underground 24" DIP water pipe located within the public ROW at DOT Crossing# (519509X). Existing 24" main to be abandoned and filled with flowable fill. (collectively, the "Facilities")

In response to Applicant's submittal dated May 17, 2022 regarding the proposed construction of the subject project, Norfolk Southern Railway Company ("Railway") does not object to the installation of the Facilities as shown on the attached Drawing marked Exhibit "A", last revised August 8, 2022, provided Applicant adheres to the following terms and conditions:

- The Facilities shall be installed, constructed, maintained, repaired, operated and removed by and at the sole risk, cost and expense of the Applicant, (collectively, "Operate" or "Operations").
- The Facilities must conform with all Federal, State and local laws, rules and regulations and will not be attached to any railroad structure or appurtenance and will not be located on any private property of Railway.
- The design and construction of aerial Facilities shall comply with Railway's NSCE-4 Specification, latest edition, and underground Facilities shall comply with Railway's NSCE-8 Specification, latest edition.
- Insurance

(a) Insurance Requirements. Without limiting in any manner the liability and obligations assumed by Applicant under any other provision of this Agreement, and as additional protection to Railway, Applicant shall comply with the following provisions:

(i) Subject to subsection (ii) below, upon execution of this Agreement, Applicant shall pay Railway a risk financing fee of \$1,900 (the "Risk Financing Fee") to provide Railroad Protective Liability Insurance or such supplemental insurance (which may be self-insurance) as Railway, in its sole discretion, deems to be necessary or appropriate with respect to the initial construction and installation of the Facilities.

(ii) Prior to commencement of each Operations project that requires access to the Premises, unless Railway elects to make available and Applicant pays the then-current Risk Financing Fee for a given Operations project, Applicant shall furnish Railway with an original Railroad Protective Liability ("RPL") Insurance Policy naming Railway as the named insured and having a limit of (1) not less than a combined single limit of \$2,000,000 each occurrence and \$6,000,000 aggregate, or (2) if the value of a given operations project exceeds \$350,000, not less than a combined single limit of \$5,000,000 per occurrence and \$10,000,000 in the aggregate. Each RPL policy shall conform to CG 00 35 04 13 or equivalent and include coverage for Terrorism and the Physical Damage to Property Endorsement and shall name Norfolk Southern Corporation and its affiliates and subsidiaries as the insured. Applicant shall ensure that the project location, Applicant identification and work description appear on the declaration pages of a given RPL policy. Applicant shall provide an electronic copy of each RPL policy (and not merely the binder) to Railway at ns.permitting@railpros.com for review and approval prior to commencing any work on the associated Operations project. Applicant may submit inquiries about RPL issues at ns.permitting@railpros.com.

(iii) Applicant shall maintain a Commercial General Liability (“CGL”) policy containing products and completed operations and contractual liability coverage, with a combined single limit of not less than \$2,000,000 for each occurrence. Any portion of this requirement may be satisfied by a combination of General Liability and/or Excess/Umbrella Liability Coverage. The policy shall not deny any obligation of any insured under the Federal Employer’s Liability Act, as amended. The CGL policy shall provide additional insured coverage equivalent to ISO CG 20 10 11/85.

(iv) Applicant shall maintain Automobile Liability Insurance with a current ISO occurrence form policy (or equivalent) and apply on an “any auto” (Symbol 1) basis, including coverage for all vehicles used in connection with the Work or Services on the leased property, providing annual limits of at least \$1,000,000 per occurrence for bodily injury and property damage combined including uninsured and underinsured motorist coverage, medical payment protection, and loading and unloading.

(v) Applicant shall maintain Workers’ Compensation Insurance to meet fully the requirement of any compensation act, plan or legislative enactment applicable in connection with the death, disability or injury of Applicant’s officers, agents, servants or employees arising directly or indirectly out of the performance of this Agreement;

(vi) Applicant shall maintain Employers’ Liability Insurance with limits of not less than \$1,000,000 each accident \$1,000,000 policy limit for disease, and \$1,000,000 each employee for disease;

(b) General Insurance Requirements. Each insurance policy referred to in subsection (a) above shall also comply with the following requirements:

(i) Additional Insureds. Each insurance policy (excluding any RPL policy and Workers’ Compensation policy) shall name Railway and its parent, subsidiary and affiliated companies as additional insureds with an appropriate endorsement to each policy.

(ii) Applicant’s Coverage Primary and Without Right to Contribution. All policies secured by Applicant, whether primary, excess, umbrella or otherwise, and providing coverage to the Railway as an additional insured (i) are intended to take priority in responding and to pay before any insurance policies Railway may have secured for itself must respond or pay and (ii) may not seek contribution from any policies the Railway may have secured for itself.

(iii) Severability of Interests (Cross Liability). No cross-liability exclusions are permitted that would apply to the additional insureds, and there may not be any restrictions in any policy that limits coverage for a claim brought by an additional insured against a named insured.

(iv) Waiver of Subrogation. To the fullest extent permitted by law, all insurance furnished by Applicant pursuant to this Agreement shall include a waiver of subrogation in favor of Railway with an appropriate endorsement to each policy.

(v) Notice of Cancellation, Modification or Termination. Each insurance policy shall not be subject to cancellation, termination, modification, changed, or non-renewed except upon thirty (30) days prior written notice to the additional insureds.

(vi) No Limitation. Each insurance policy shall not limit any of Applicant’s indemnity obligations or other liabilities under this Agreement. The insurance available to Railway and its parent, subsidiary and affiliated companies as additional insureds shall not be limited by these requirements should Applicant maintain higher coverage limits.

(vii) Any deductibles or self-insured retentions of Applicant over \$50,000 must be declared and approved by Railway. Approval of such requests shall not be unreasonably withheld.

(viii) Applicant shall require all subcontractors who are not covered by the insurance carried by Applicant to maintain the insurance coverages set forth in subsection (a) above, except

for the RPL insurance, including but not limited to additional insured status for Railway and its parent, subsidiary and affiliated companies.

(ix) Applicant shall furnish their memorandum of insurance and the RPL Insurance Policy to Railway's Managing Agent prior to execution of this Agreement at ns.permitting@railpros.com. The insurance coverage required herein shall in no way limit Applicant's liability under this Agreement.

- Railway shall, at Railway's option, furnish, at the sole expense of Applicant, Support Services. The term "Support Services" means such materials and services as necessary, in Railway's sole judgment, to support Railway's tracks and to protect Railway's traffic, including without limitation flagging services and construction monitoring during the installation, maintenance, repair, renewal or removal of the Facilities. Support Services shall be provided unless Railway's Division Engineer or his or her authorized representative provides to Applicant a written waiver of Support Services, whether in whole or in any part, in a given instance. The term "Construction Monitoring" means services comprised of one or more Railway representatives being assigned and present to monitor construction activities of Applicant, which may include a preconstruction site assessment and a post-construction site assessment.
- Prior to commencement of any work to be performed on or about Premises, Applicant shall notify the appropriate Division Engineer or their authorized representative for the scheduling of "Support Services". Within seventy-two (72) hours after the Division Engineer's or their authorized representative's actual receipt of such notification, they shall review the necessity and availability of Support Services for the proposed work and advise Applicant of such matters and the estimated cost therefor. No work shall be permitted on or about the Premises without the presence of Railway's Support Services or the Division Engineer's waiver of the requirement for Support Services. Entry on or about the Premises or any other Railway right-of-way without the Division Engineer's prior approval shall be deemed trespassing. Applicant agrees to pay Railway, within thirty (30) days after delivery of an invoice therefor, for any protection and inspection costs incurred by Railway, in Railway's sole judgment, during any such entry.
- In the event it becomes necessary for Applicant to deviate from the approved plans and specifications, Applicant shall seek prior approval from Railway's Division Engineer or his or her authorized representative and, when applicable, an authorized representative of the Division Engineer in the field during Construction Monitoring or inspection.
- All cost or expense resulting from any and all loss of life or property, or injury or damage to the person or property of any person, firm or corporation (including the parties hereto and their respective officers, agents and employees) and any and all claims, demands or actions for such loss, injury or damage, caused by or growing out of the presence or use, or the construction, maintenance, renewal, change or relocation and subsequent removal of the Facilities and appurtenances herein referred to shall be borne by Applicant unless caused solely by the negligence or willful misconduct of Railway.
- Upon abandonment of the Facilities by Applicant, Applicant shall seek direction from Railway's Chief Engineer, or his representative, regarding the method of abandonment if the Facilities will be abandoned in place.
- In the event the Facilities consist of electrical power or communication wires and appurtenances, Applicant shall promptly remedy any inductive interference growing out of, or resulting from the presence of, the Facilities.
- In the event the Facilities consist of an underground occupation, Applicant will be responsible for any settlement caused to the roadbed, right of way and/or tracks, facilities and appurtenances of Railway arising from or as a result of the installation of the Facilities, and Applicant shall pay to Railway on demand the full cost and expense.
- All rights and obligations conferred hereby shall extend to the successors and assigns of the parties hereto, provided that the Applicant shall in no event transfer or assign its rights hereunder without the written consent of Railway, which will not be unreasonably withheld.

- If the public road is abandoned by the appropriate governmental authority and the Facilities remain within the limits of Railway's right of way after such abandonment, as a condition for the continuing presence of the Facilities within Railway's right of way, Railway and Applicant shall agree upon an appropriate occupancy fee or rental for the Facilities and execute an amendment to this Agreement within ninety (90) days after the date upon which such public road is abandoned.
- Any and all notices, demands or requests by or from Railway to Applicant, or Applicant to Railway, shall be in writing and shall be sent by (a) postage paid, certified mail, return receipt requested, or (b) a reputable national overnight courier service with receipt therefor, or (c) personal delivery, and addressed in each case as follows:

If to Railway: c/o Norfolk Southern Corporation
650 West Peachtree St. Box 22
Atlanta, Georgia 30308
Attention: Director Real Estate

If to Applicant: ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York, 14203-2494
Attention: Leonard Kowalski

Either party may, by notice in writing, direct that future notices or demands be sent to a different address. All notices hereunder shall be deemed given upon receipt (or, if rejected, upon rejection).

ACCEPTED BY:

NORFOLK SOUTHERN RAILWAY COMPANY

Real Estate Manager

DATE _____

ERIE COUNTY WATER AUTHORITY

Title _____

DATE _____

Activity Number: 1302654
Dan Pavlik: 09/06/2022



ADDITIONAL REMARKS SCHEDULE

AGENCY Lawley, LLC	License # 1009544	NAMED INSURED Erie County Water Authority 295 Main St Suite #350 Buffalo, NY 14203-2494
POLICY NUMBER SEE PAGE 1		
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:
When required by executed written contract, the

following endorsements apply:

General Liability:

CG 24 17 10 01 - Contractual Liability - Railroads

CG 20 37 04 13 - Additional Insured - Owners, Lessees or Contractors - Completed Operations

PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

Automobile Liability:

PI-CA-003 (04/13) - Blanket Additional Insured

CA 20 70 10 13 - Coverage for Certain Operations in Connection with Railroads

PI-CANXAICH-002 (05/11) Cancellation Notice to Scheduled Additional Insured

Excess Liability:

PI-WDI-101 (10/17) Commercial Excess Liability Coverage Form Water Districts Insurance Program

PI-CANXAICH-002 (05/11) - Cancellation Notice to Scheduled Additional Insured or Certificate Holder

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE



SCAN TO VALIDATE
AND SUBSCRIBE

^^^^^^ 166000337
LAWLEY LLC
361 DELAWARE AVE STE 200
BUFFALO NY 14202

POLICYHOLDER ERIE COUNTY WATER AUTHORITY 295 MAIN STREET, ROOM 350 BUFFALO NY 142032494		CERTIFICATE HOLDER NORFOLK SOUTHERN CORPORATION 650 WEST PEACHTREE ST BOX 22 ATLANTA GA 30308	
POLICY NUMBER B2009 327-4	CERTIFICATE NUMBER 745414	POLICY PERIOD 07/01/2022 TO 07/01/2023	DATE 1/25/2023

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2009 327-4, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW, AND, WITH RESPECT TO OPERATIONS OUTSIDE OF NEW YORK, TO THE POLICYHOLDER'S REGULAR NEW YORK STATE EMPLOYEES ONLY.

IF YOU WISH TO RECEIVE NOTIFICATIONS REGARDING SAID POLICY, INCLUDING ANY NOTIFICATION OF CANCELLATIONS, OR TO VALIDATE THIS CERTIFICATE, VISIT OUR WEBSITE AT [HTTPS://WWW.NYSIF.COM/CERT/CERTVAL.ASP](https://www.nysif.com/cert/certval.asp). THE NEW YORK STATE INSURANCE FUND IS NOT LIABLE IN THE EVENT OF FAILURE TO GIVE SUCH NOTIFICATIONS.

THE POLICY INCLUDES A WAIVER OF SUBROGATION ENDORSEMENT UNDER WHICH NYSIF AGREES TO WAIVE ITS RIGHT OF SUBROGATION TO BRING AN ACTION AGAINST THE CERTIFICATE HOLDER TO RECOVER AMOUNTS WE PAID IN WORKERS' COMPENSATION AND/OR MEDICAL BENEFITS TO OR ON BEHALF OF AN EMPLOYEE OF OUR INSURED IN THE EVENT THAT, PRIOR TO THE DATE OF THE ACCIDENT, THE CERTIFICATE HOLDER HAS ENTERED INTO A WRITTEN CONTRACT WITH OUR INSURED THAT REQUIRES THAT SUCH RIGHT OF SUBROGATION BE WAIVED.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE INSURANCE FUND



DIRECTOR, INSURANCE FUND UNDERWRITING

VALIDATION NUMBER: 710002741

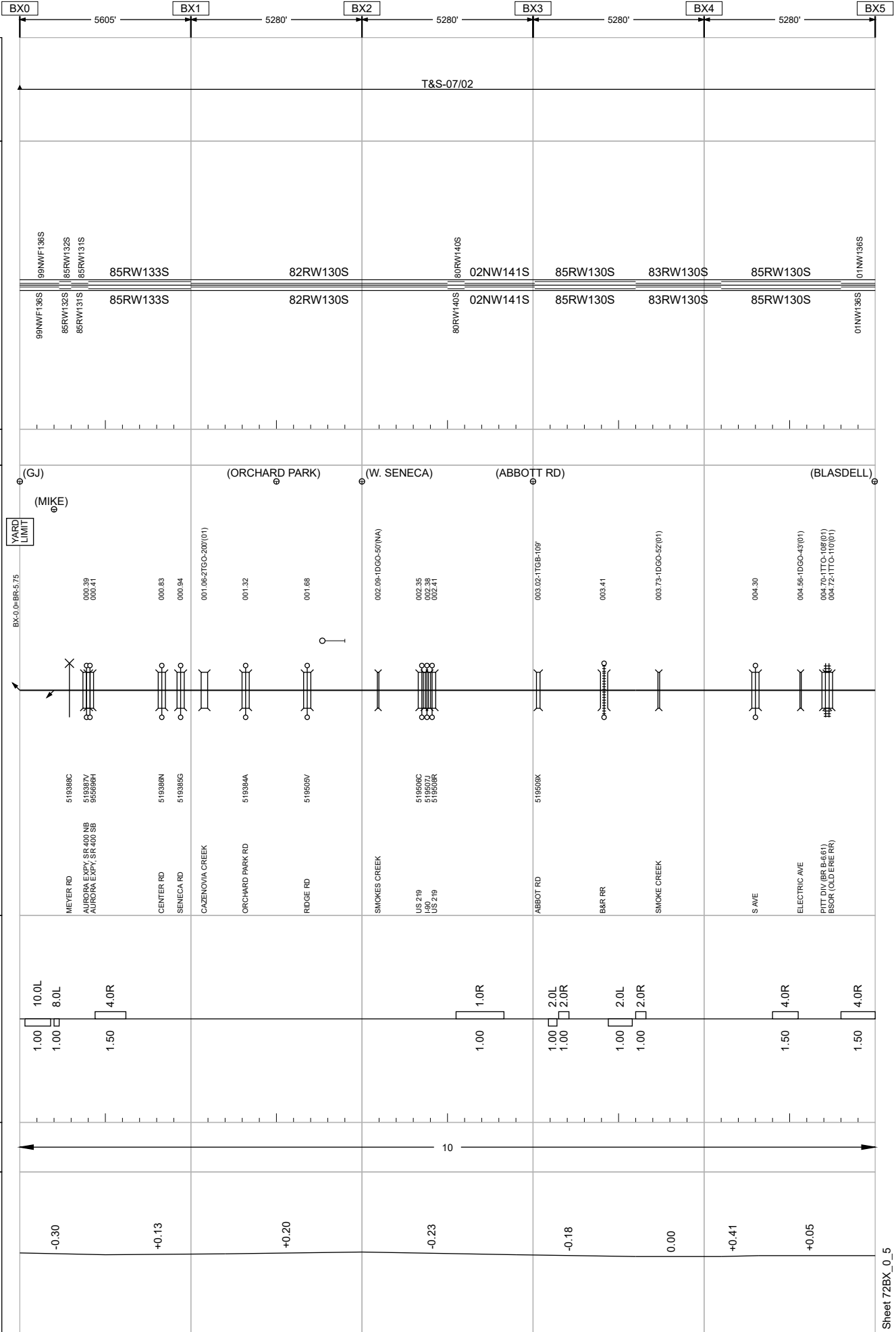
PIPE DATA SHEET

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	Potable Water	
MAX. ALLOWABLE OPERATING PRESSURE		
NOMINAL SIZE OF PIPE	24 inch	
OUTSIDE DIAMETER	25.8 inches	
INSIDE DIAMETER	24 inches	
WALL THICKNESS	0.44 inches	
WEIGHT PER FOOT	2335 lbs	
MATERIAL	Ductile Iron Pipe	
PROCESS OF MANUFACTURE	Centrifugally Cast	
SPECIFICATION	AWWA C151/A21.5	
GRADE OR CLASS (Specified Minimum Yield Strength)	Class 52 (42,000)	
TEST PRESSURE	170 PSI	
TYPE OF JOINT	Bell & Spigot (Restrained)	
TYPE OF COATING	Asphaltic w/ Polyethylene Encasement	
DETAILS OF CATHODIC PROTECTION		
DETAILS OF SEALS OR PROTECTION AT END OF CASING		
CHARACTER OF SUBSURFACE MATERIAL		
APPROXIMATE GROUND WATER LEVEL		
SOURCE OF INFORMATION ON SUBSURFACE CONDITIONS		

Proposed method of installation (refer to NSCE-8 Specification):

- Bore & Jack
 Jacking
 Tunneling (with Tunnel Liner Plate)
 Directional Bore/Horizontal Direction Drilling – Method A
 Directional Bore/Horizontal Direction Drilling – Method B
 Open Cut – *All installations directly under any track must be designed as a bored installation. Open cut installations will be considered on a case-by-case basis by Norfolk Southern's Division Superintendent at the time of installation.*
 Other – Please Specify: _____

304841

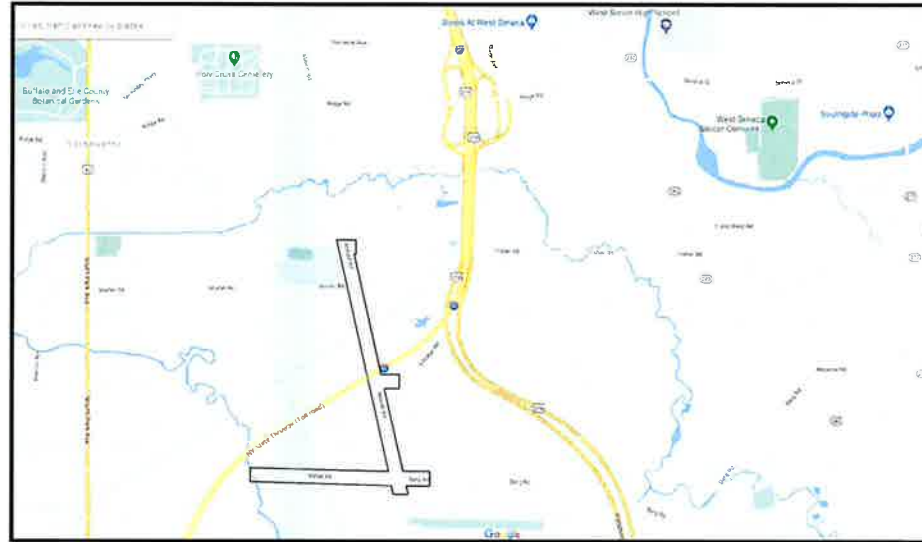


Sheet 72BX_0_5

*E.C.W.A. CONTRACT NO. GP-010
 WATER SYSTEM IMPROVEMENTS –
 TRANSMISSION & DISTRIBUTION MAINS
 WILLET RD., ABBOTT RD. and NORTH DR.
 CITY OF LACKAWANNA, TOWN OF HAMBURG
 and ORCHARD PARK, NY*

SECTIONS ALONG

1. WILLET ROAD – CR204
 (530 WILLET RD. TO
 INTERSECTION OF ABBOTT/BERG RD.)
2. ABBOTT ROAD – CR4
 (WILLET RD. TO FISHER RD.)
3. NORTH DRIVE – CITY STREET
 (ABBOTT RD. TO 40 NORTH DR.)



PROJECT LOCATION MAP

NOT-TO-SCALE

*E.C.W.A. PROJECT NO. 202100035
 JULY 2022*

ERIE COUNTY WATER AUTHORITY

350 ELLICOTT SQUARE BUILDING
 295 MAIN STREET
 BUFFALO, N.Y. 14203-2415

AUTHORITY MEMBERS

JEROME D. SCHAD, ESQ. – CHAIR
 PEGGY A. LaGREE – VICE CHAIR
 MICHELE M. IANNELLO – TREASURER

APPROVED BY:

Leonard F. Kowalski
 ERIE COUNTY WATER AUTHORITY
 LEONARD F. KOWALSKI, P.E.—EXECUTIVE ENGINEER



EXHIBIT A

1 of 12

Norfolk Southern Railway Company
 Accompanying Agreement With
 Erie County Water Authority

Activity No.: 1302654 E.S.: 287+41
 Division: Keystone Mile Post: BX-2.97
 Val Sec: 22 Map No.: 137
 City: Lackawanna County: Erie
 State: New York
 Lat: 42.813822 Long: -78.80009

All work to be performed in accordance
 with the latest approved Norfolk Southern
 NSCE-4 and NSCE-8 Specifications

BLASTING NOT PERMITTED 8/8/2022

Sheet List Table

Sheet Number	Sheet Title
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03	GENERAL NOTES & LEGEND
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05	WILLET RD PLAN & PROFILE – 2
06	WILLET RD PLAN & PROFILE – 3
07	WILLET RD PLAN & PROFILE – 4
08	WILLET RD PLAN & PROFILE – 5
09	WILLET RD PLAN & PROFILE – 6
10	WILLET RD PLAN & PROFILE – 7
11	ABBOTT RD PLAN & PROFILE – 1
12	ABBOTT RD PLAN & PROFILE – 2
13	ABBOTT RD PLAN & PROFILE – 3
14	ABBOTT RD PLAN & PROFILE – 4
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16	ABBOTT RD PLAN & PROFILE – 6
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20	ABBOTT RD PLAN & PROFILE – 10
21	ABBOTT RD PLAN & PROFILE – 11
22	NORTH DR PLAN & PROFILE – 1
23	INTERCONNECTION & ABANDONMENT DETAILS – 1
24	INTERCONNECTION & ABANDONMENT DETAILS – 2
25	INTERCONNECTION & ABANDONMENT DETAILS – 3
26	INTERCONNECTION & ABANDONMENT DETAILS – 4
27	INTERCONNECTION & ABANDONMENT DETAILS – 5
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38	WATERLINE DETAILS – 1
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44	WORK ZONE TRAFFIC CONTROL – 1
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49	WORK ZONE TRAFFIC CONTROL – 6
50	WORK ZONE TRAFFIC CONTROL – 7
51	WORK ZONE TRAFFIC CONTROL – 8
52	WORK ZONE TRAFFIC CONTROL – 9



PREPARED BY:



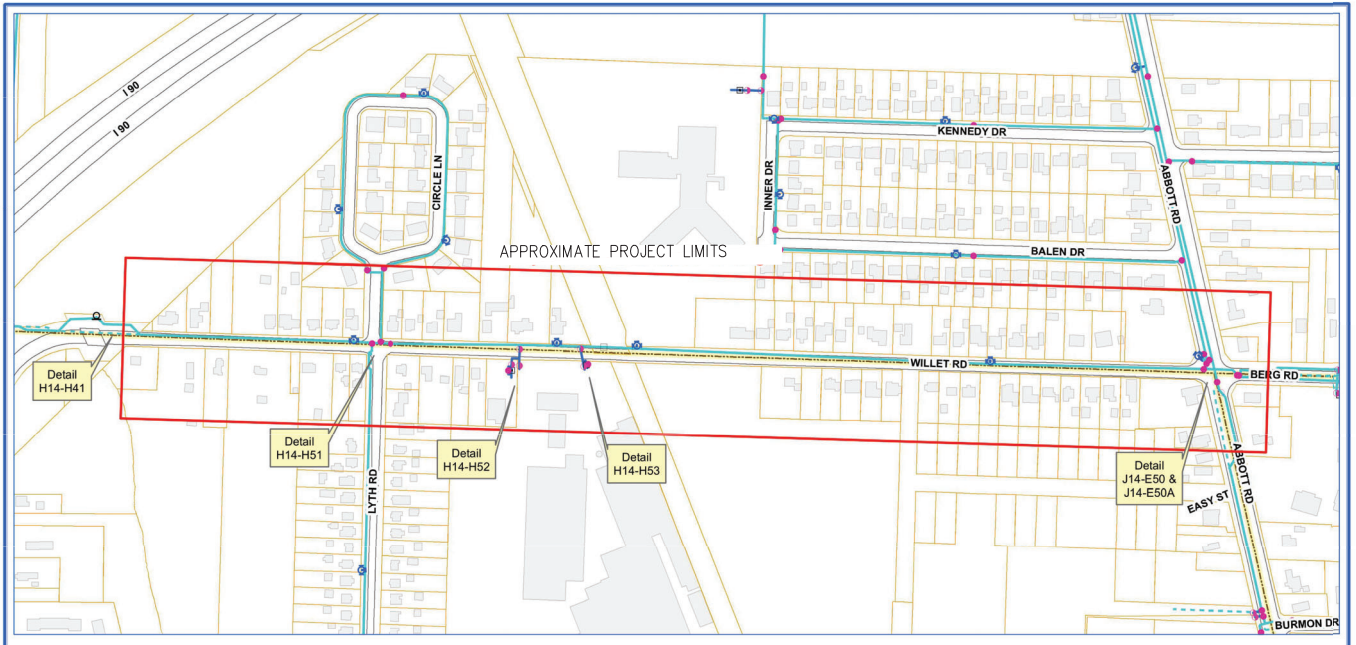
Thomas J. Wolanski
 THOMAS J. WOLANSKI, P.E.

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 4950 Genesee Street, Suite 100
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 ERIE COUNTY
 WATER AUTHORITY
 PN 202100035

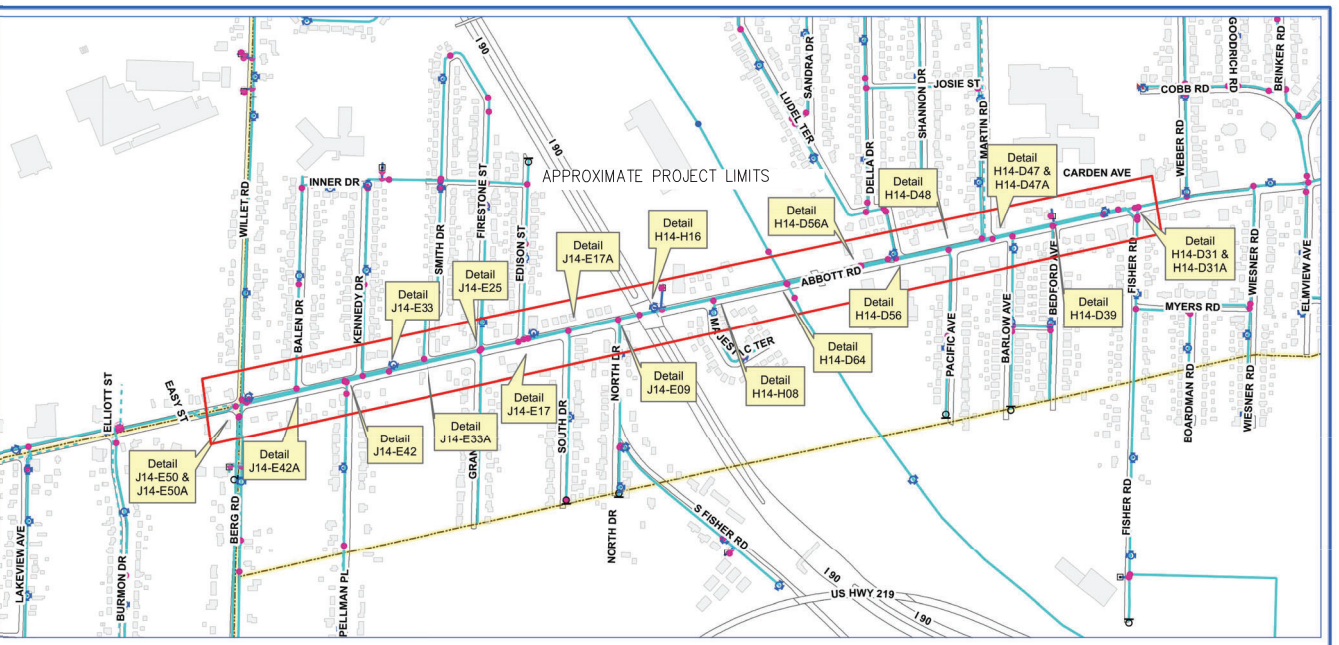
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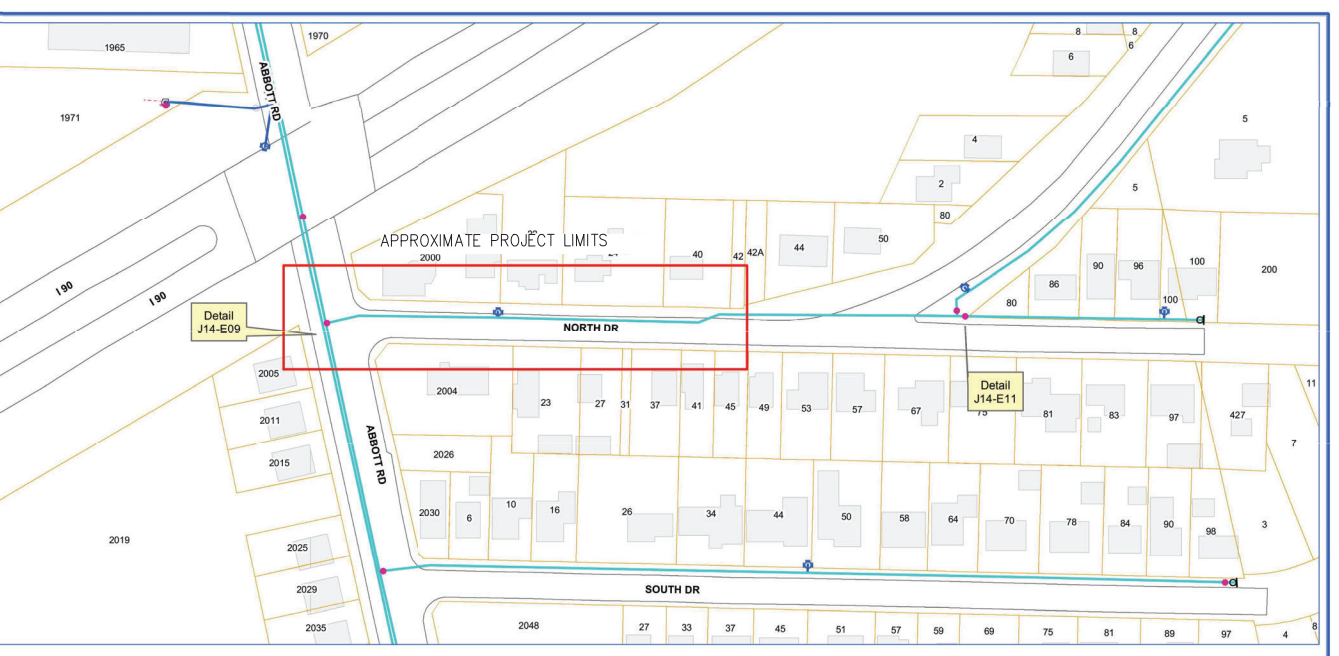
ERIE COUNTY WATER AUTHORITY
 BUFFALO, NY

WILLET ROAD (FROM 530 WILLET ROAD TO THE INTERCONNECTION WITH A 6-INCH LINE APPROXIMATELY 100 LF EAST OF THE ABBOTT ROAD AND BERG ROAD INTERSECTION)



ERIE COUNTY WATER AUTHORITY
 BUFFALO, NY

ABBOTT ROAD (FROM WILLET ROAD/BERG ROAD TO FISHER ROAD),



ERIE COUNTY WATER AUTHORITY
 BUFFALO, NY

NORTH DRIVE (FROM ABBOTT ROAD TO 40 NORTH DRIVE)

REVISIONS

NO.	REVISION	DATE

MAY 2022
 DRAWN/DESIGN BY: AB
 CHECKED BY: PC

LOCATION MAPS

SCALE: AS NOTED

WNY-2021024.00

02 OF 52

WNY-2021024.00.dwg - 010 - water transmission system improvements - C:\Users\jgordon\Desktop\Projects\2021\WNY-2021024.dwg - 010 - water transmission system improvements - C:\Users\jgordon\Desktop\Projects\2021\WNY-2021024.dwg

NOTES

1. All elevations refer to USGS NAVD83 datum.
2. The CONTRACTOR shall obtain necessary permits and furnish copies to the ENGINEER prior to commencing work.
3. The CONTRACTOR work area shall be confined to the limits of the right-of-ways and easements. The CONTRACTOR shall obtain any additional easements or work releases should the CONTRACTOR require additional area to accommodate his operations.
4. The CONTRACTOR shall provide maintenance and protection of traffic in accordance with the Erie County Highway Department standards and the NYSDOT Manual of Uniform Traffic Control Devices.
5. The locations and depths of existing underground utilities as shown on the plans and profiles are approximate. Other underground utilities not shown may be encountered. The CONTRACTOR shall perform test pits to verify the location and elevation of utilities at interconnections and crossings as shown, directed or required. The CONTRACTOR shall excavate in advance of the pipe laying operation and expose all existing underground utilities to prevent damage during construction and to determine required changes in grade necessary to install watermain to avoid conflicts.
6. The CONTRACTOR shall install those measures required to limit erosion of areas disturbed by the work. Clearing shall be performed on an as needed basis, phased to reduce erosion and visual impact.
7. Blasting will not be permitted.
8. No more than one connection may be made to any existing watermain prior to testing, disinfection, and approval of the Waterline Installation Completed Works Approval Report(s) by the Erie County Water Authority and the Erie County Health Department.
9. The Erie County Water Authority only shall operate existing valves and fire hydrants, including newly installed valves and fire hydrants that have been placed into service. The CONTRACTOR is advised that watertight conditions may not exist when existing valves are closed.
10. The CONTRACTOR shall have all equipment, manpower, and materials required on site and ready for use prior to commencing any shut-down or removing any existing facilities from service. The CONTRACTOR shall notify all affected customers of any shut-down at least 48 hours in advance. The CONTRACTOR shall notify the appropriate fire stations 48 hours in advance prior to taking any fire hydrants out of service. Any fire hydrants not in service shall be bagged in burlap or plastic. Any shut-down shall be limited to 4 consecutive hours. It may be necessary to schedule shut-downs at night, weekends, or other off hours so as to not affect schools, businesses or other customers, as determined by the ENGINEER. Shut-down requests shall be submitted to the Erie County Water Authority a minimum of 5 business days in advance of the requested shut-down date.

I:\PUBLIC\ENGINEERING\CURRENT EDWA DETAILS\SD30_GENERAL_NOTES

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL GENERAL NOTES	SD29	
		DATE 3/05	REVISED 8/16

11. All watermain piping shall be installed with a minimum of 5'-0" of cover.
12. All watermain piping shall be installed with a minimum of 1'-6" of vertical clearance and 10'-0" of horizontal clearance from sanitary and storm piping, measured from the outside of the pipes at the point of crossing, unless plans and profiles indicate otherwise.
13. If the material at the design grade is unsuitable as determined by the ENGINEER, the CONTRACTOR, when ordered in writing, shall excavate additional material to the depth necessary and shall backfill to the proposed grade with the select granular material.
14. The installation of the 90 degree bends in the watermain is not allowed, unless approved by the Erie County Water Authority.
15. Thrust restraint for watermain piping through 12-inch diameter shall consist of thrust blocks and pipe joint restraint.
16. The CONTRACTOR shall notify the owner of any utility pole in advance of any excavation work that will take place within 5'-0" of the utility pole. The CONTRACTOR shall include the cost of temporary pole support in the appropriate bid item. Where utility poles are required to be supported during construction, the CONTRACTOR shall make all necessary arrangements with the utility company.
17. If materials are encountered during the construction that are suspected of being contaminated, the CONTRACTOR shall immediately notify the NYSDEC for direction regarding testing, separation, containment and disposal procedures.
18. Existing fire hydrants removed during construction and not reinstalled as part of the work shall be returned to the Erie County Water Authority Service Center, 3030 Union Road, Cheektowaga.
19. The CONTRACTOR shall cold patch all trench excavations in traveled areas including roads, driveways, sidewalks, and parking areas if excavation occurs outside of the availability of hot mix asphalt. All permanent restoration will be in kind or as detailed in the contract plans.
20. The CONTRACTOR shall not restrict school bus access.
21. The use of existing fire hydrants for any reason is prohibited without prior approval of the Erie County Water Authority. This includes newly installed fire hydrants that have been placed into service.
22. The CONTRACTOR shall submit procedures for testing and disinfection of the watermain to the ENGINEER for approval. Refer to project manual, technical specification section 15140 testing and disinfection for requirements
23. The CONTRACTOR shall be present and assist in the Final Walk inspection. The CONTRACTOR shall provide sufficient personnel and equipment to demonstrate to the ENGINEER that all valves, fire hydrants and curb stops operate as required.

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ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL GENERAL NOTES	DWG. NO. SD30	
		DATE 3/05	REVISED 8/16

NOTE #12: REVISED BY GPI 03/18/2022
 NOTE #19: REVISED BY GPI 03/18/2022
 NOTE #22: REVISED BY GPI 03/18/2022

LEGEND

- | | |
|--|---|
| | PROPOSED WATER VALVE |
| | PROPOSED WATER SERVICE VALVE |
| | PROPOSED WATERMAIN |
| | PROPOSED TEE |
| | PROPOSED HYDRANT |
| | PROPOSED REDUCER |
| | PROPOSED WATERLINE SERVICE |
| | PROP. CAP & BLOCKING |
| | EXIST. WATER VALVE TO BE ABANDONED IN PLACE |
| | PROP. TEST PIT ITEM NO. 4A |
| | EXIST. DECIDUOUS TREE |
| | EXIST. CONIFEROUS TREE |
| | EXIST. UTILITY POLE |
| | EXIST. GAS VALVE |
| | EXIST. WATER VALVE |
| | EXIST. WATER SERVICE VALVE |
| | EXIST. SANITARY VENT |
| | EXIST. CATCH BASIN |
| | EXIST. HYDRANT |
| | EXIST. TELEPHONE LINE |
| | EXIST. ELECTRIC MANHOLE |
| | EXIST. SANITARY MANHOLE |
| | EXIST. STORM MANHOLE |
| | EXIST. ONE POST SIGN |
| | EXIST. MAILBOX |
| | EXIST. FENCE |
| | EXIST. WATERLINE |
| | EXIST. GAS LINE |
| | EXIST. SAN. LINE |
| | EXIST. STORM LINE |
| | EXIST. SIGNAL CONTROL |
| | EXIST. LIGHT POLE |
| | PAVEMENT AREA TO BE COLD MILLED |
| | TYPICAL WATER MAIN TRENCH RESTORATION
NO MILL & OVERLAY MILLING REQUIRED |
| | EXIST. OVERHEAD WIRES |
| | EXIST. SECONDARY OVERHEAD WIRES |
| | EXIST. WATERMAIN TO BE ABANDONED IN PLACE
AND FILLED WITH FLOWABLE FILL ITEM 13G |

SPECIAL NOTE FOR 24-INCH TRANSMISSION MAIN INSTALLATION

GIVEN LIMITATIONS OF THE EXISTING SOURCE WATER SUPPLY SYSTEM, IT MAY NOT BE PRACTICAL TO ACHIEVE A MINIMUM 3-FPS SCOUR VELOCITY DURING FLUSHING OF THE 24-INCH WATER MAIN. AS SUCH CONTRACTOR SHALL COMPLY WITH PROJECT SPECIFICATION SECTION 15207 - PRE-CLEANING NEW TRANSMISSION WATER MAIN AND EMPLOY THE FOLLOWING MEASURES TO KEEP THE 24-INCH PIPING CLEAN BEFORE, DURING AND AFTER INSTALLATION:

1. BEFORE PIPE INSTALLATION, THE CONTRACTOR SHALL BROOM SWEEP THE PROPOSED 24-INCH WATER MAIN TO THE SATISFACTION OF THE OWNER AND ENGINEER, CAREFULLY REMOVING ALL SWEEPINGS.
2. DURING INSTALLATION, CONTRACTOR SHALL MAINTAIN A PROPER SUMP IN THE EXCAVATION AT ALL TIMES, PREVENTING MUD/DEBRIS FROM ENTERING THE INSTALLED PIPE. CONTRACTOR SHALL ALSO BE RESPONSIBLE TO CAP THE INSTALLED MAIN AT THE END OF EACH WORK DAY WITH A WATERTIGHT CAP/PLUG.
3. CONTRACTOR SHALL PERFORM FLUSHING OF THE INSTALLED PIPING TO ACHIEVE THE MAXIMUM SCOURING VELOCITY THROUGH THE 24-INCH PIPE AS ALLOWED BY THE EXISTING SOURCE WATER SUPPLY SYSTEM AND UTILIZING STANDARD PRACTICES. PRIOR TO CONDUCTING FLUSHING OPERATIONS, CONTRACTOR SHALL SUBMIT FLUSHING, TESTING AND DISINFECTION PLANS TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL. FLUSHING OF THE INSTALLED PIPING SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER, OWNER, AND ERIE COUNTY DEPARTMENT OF HEALTH.
4. IF THE INSTALLED WATER MAIN PIPING IS NOT MAINTAINED IN A CLEAN CONDITION TO THE SATISFACTION OF THE OWNER OR ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE TO EMPLOY ADDITIONAL MEASURES NECESSARY TO ACHIEVE A 3-FPS MINIMUM SCOUR VELOCITY PER AWWA C651 AT THEIR OWN EXPENSE UNTIL DEEMED ACCEPTABLE TO THE ENGINEER, OWNER, AND ERIE COUNTY DEPARTMENT OF HEALTH.


CONSTRUCTION NOTES

1. IF THE EXCAVATION SLOPE IS STEEPER THAN 1 ON 1 AS MEASURED FROM THE EDGE OF PAVEMENT ELEVATION TO THE BOTTOM ELEVATION OF THE EXCAVATION, AN ENGINEERING SHORING SUPPORT SYSTEM SHALL BE PROVIDED TO ENSURE THE STABILITY OF THE ADJACENT PAVEMENT WILL NOT BE COMPROMISED BY THE EXCAVATION.
2. IF AN EXCAVATION WILL BE 5 FEET OR MORE IN DEPTH, A PROTECTION SYSTEM SUCH AS A TRENCH SHIELD SHALL BE USED.
3. IN EXCAVATIONS 4 FEET OR MORE IN DEPTH, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN FOR THE POTENTIAL ACCUMULATION OF HAZARDOUS GASES.
4. SELECT FILL IS REQUIRED FOR THE FULL LENGTH OF WATERLINE TRENCH UNDER OR WITHIN 5' OF PAVEMENT AND SIDEWALK AREAS.
5. UPON COMPLETION OF FINAL PAVEMENT RESTORATION IN PUBLIC RIGHT-OF-WAYS, CONTRACTOR SHALL RE-APPLY PERMANENT PAVEMENT MARKINGS REMOVED DURING WATERLINE CONSTRUCTION. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DETAILS, AND STANDARD SHEET 685-01. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK, AS IT IS TO BE INCLUDED IN ITEM 11B3 - ASPHALT PAVEMENT TOP COURSE.
6. ALL DRIVEWAY AND CURB RAMP RECONSTRUCTION WITHIN THE PUBLIC RIGHTS OF WAY SHALL BE IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SHEETS:
 - 608-1 PEDESTRIAN FACILITIES
 - 608-3 RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS

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PREPARED FOR
**ERIE COUNTY
 WATER AUTHORITY**
 PN 202100035

ECWA CONTRACT NO. GP-010
 WATER SYSTEM IMPROVEMENTS
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 C. OF LACKAWANNA,
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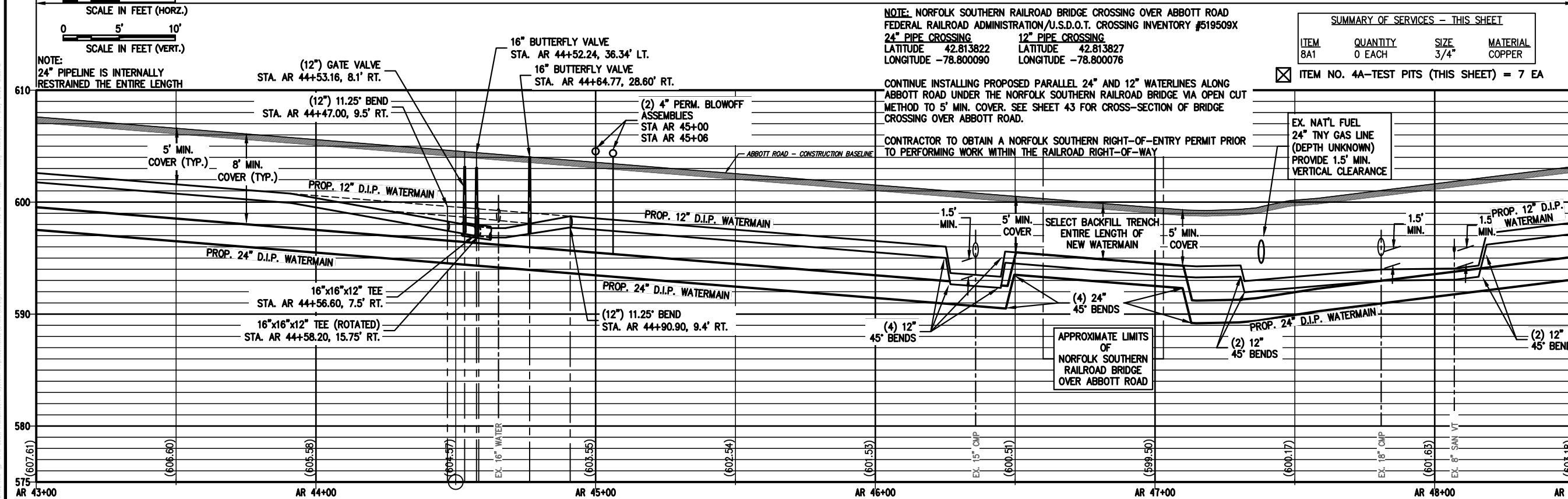
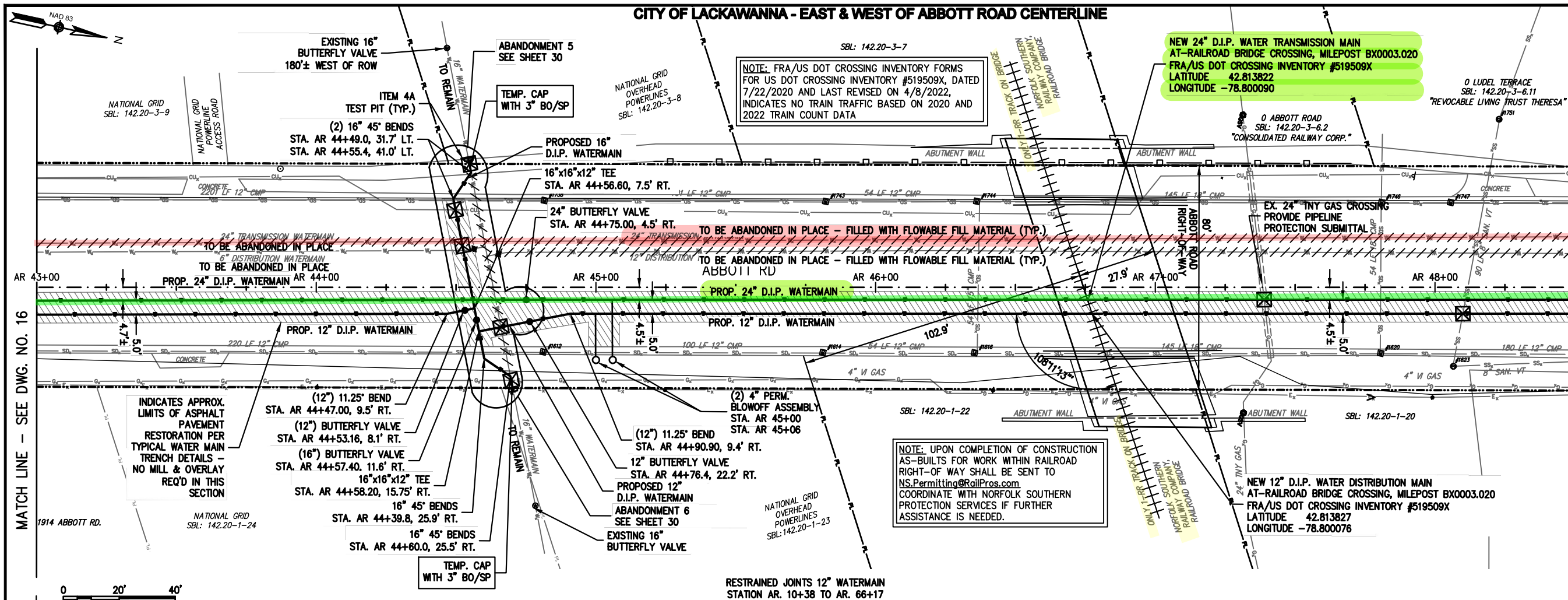
REVISIONS		
NO.	REVISION	DATE

MAY 2022
 DRAWN/DESIGN BY: AB CHECKED BY: PC

**GENERAL NOTES
 & LEGEND**

SCALE: N.T.S.
 WNY-2021024.00
 03 OF 52

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PROPOSED WATERMAIN:
 FIELD CONDITIONS MAY REQUIRE MINOR ALIGNMENT AND BEND LOCATION ADJUSTMENTS WHICH WILL BE PERMITTED AS LONG AS ALL MINIMUM OFFSETS FROM OTHER UTILITIES AND MAXIMUM ALLOWABLE JOINT DEFLECTIONS ARE MAINTAINED AND PROPER RESTRAINING IS INSTALLED.

EXISTING SANITARY SEWER SERVICE LATERALS:
 THE LOCATION OF EXISTING SANITARY SEWER SERVICE LATERALS ARE UNKNOWN.

2021024.00_FR_ALG_ABBOTT RD
 HORIZ 1" = 20'
 VERT 1" = 5'

PROPERTY LINES:
 PROPERTY LINES SHOWN ARE APPROXIMATE SOURCE NY STATE GIS PROGRAM OFFICE STATEWIDE PARCEL MAP PROGRAM.

DISPOSAL OF EXCAVATED MATERIAL:
 CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF EXCESS EXCAVATED MATERIAL. NOTIFY ENGINEER & MUNICIPALITY OF DISPOSAL SITE.

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PREPARED FOR
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REVISIONS

A. N.S. RR COMMENTS 7/14/22

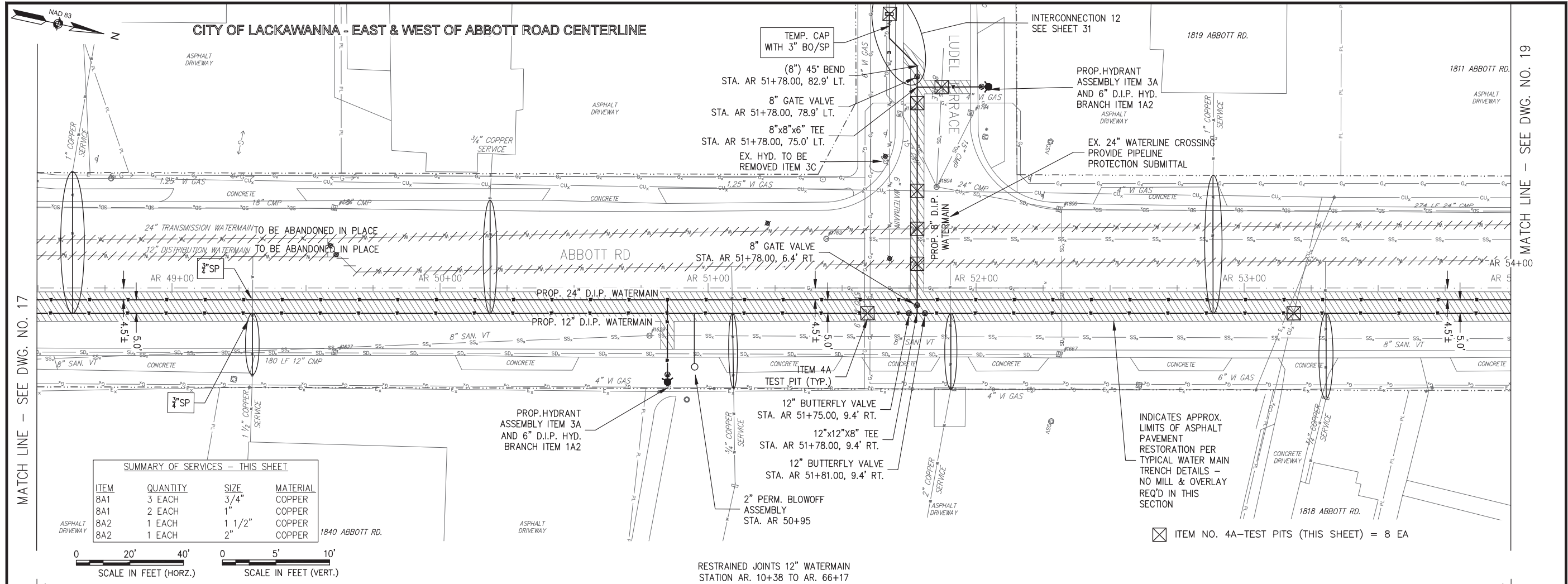
NO.	REVISION	DATE

MAY 2022
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ABBOTT RD PLAN & PROFILE - 7

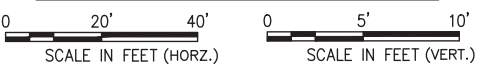
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17 OF 52



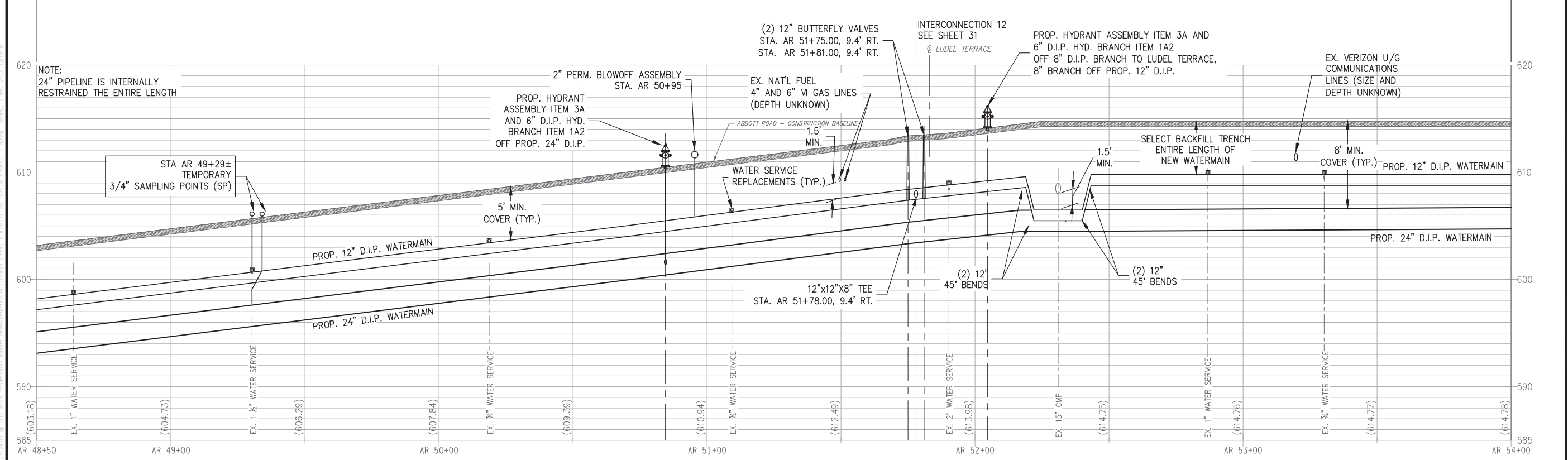
SUMMARY OF SERVICES - THIS SHEET

ITEM	QUANTITY	SIZE	MATERIAL
8A1	3 EACH	3/4"	COPPER
8A1	2 EACH	1"	COPPER
8A2	1 EACH	1 1/2"	COPPER
8A2	1 EACH	2"	COPPER



RESTRAINED JOINTS 12" WATERMAIN
STATION AR. 10+38 TO AR. 66+17

⊠ ITEM NO. 4A-TEST PITS (THIS SHEET) = 8 EA



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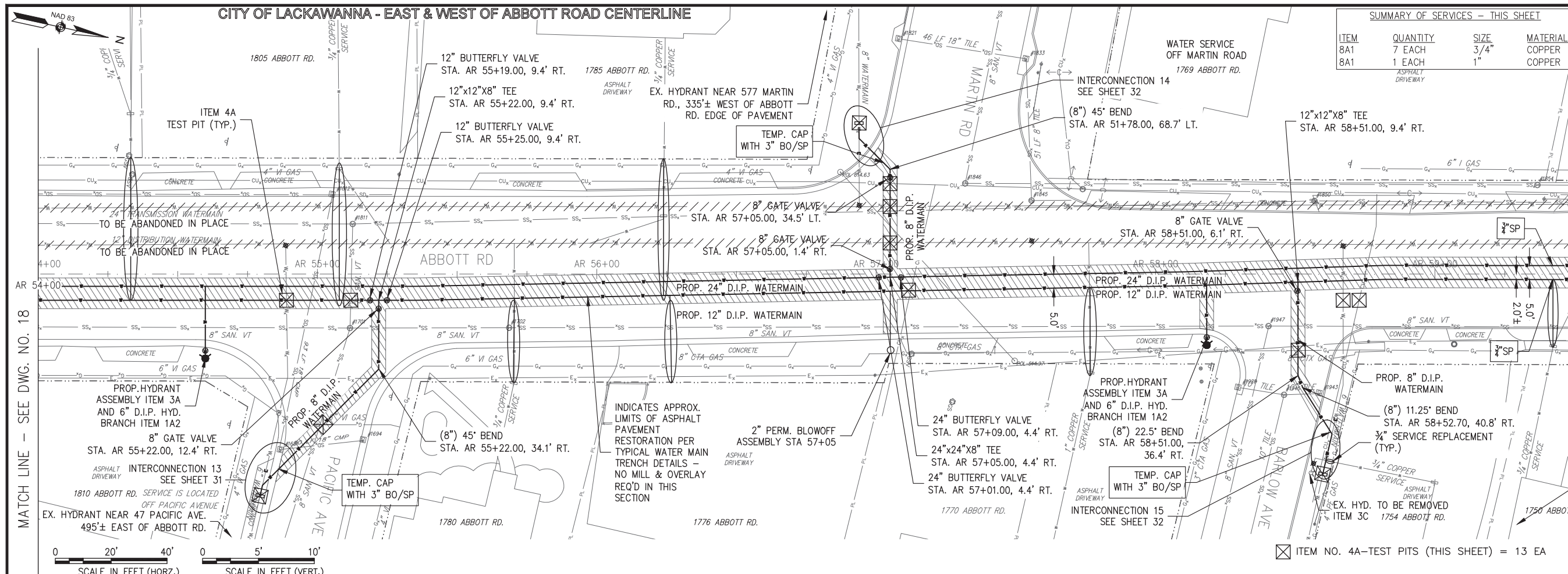
REVISIONS

NO.	REVISION	DATE

MAY 2022
DRAWN/DESIGN BY: AB
CHECKED BY: PC

ABBOTT RD PLAN & PROFILE - 8

SCALE: 1"=20'
WNY-2021024.00
18 OF 52



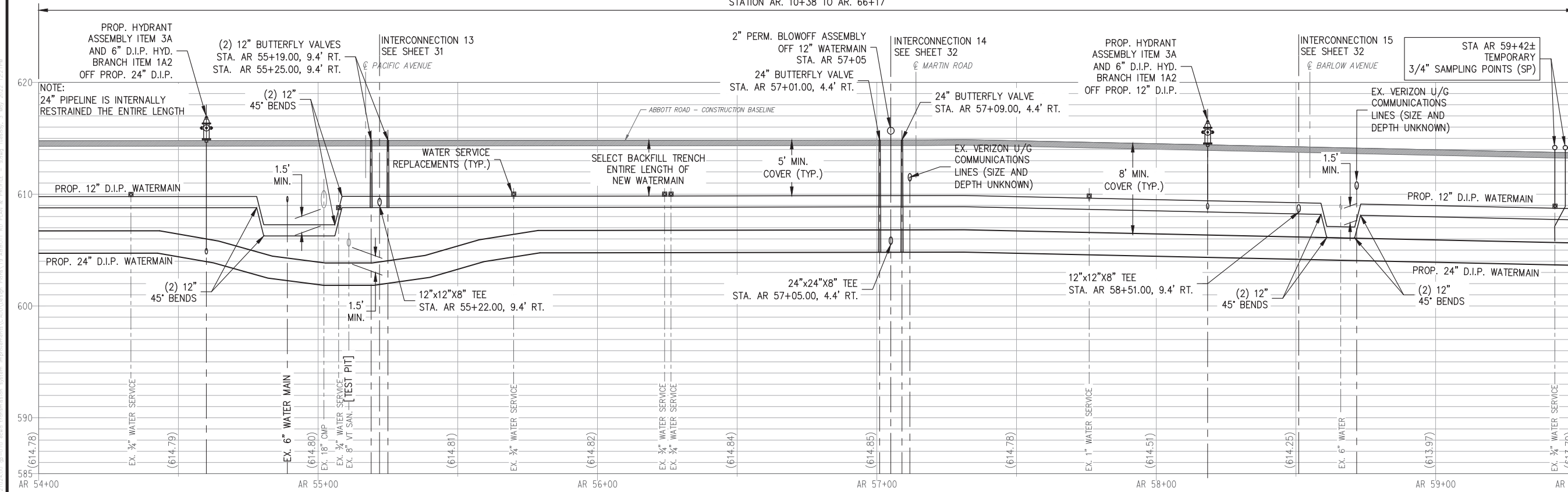
SUMMARY OF SERVICES - THIS SHEET

ITEM	QUANTITY	SIZE	MATERIAL
8A1	7 EACH	3/4"	COPPER
8A1	1 EACH	1"	COPPER

MATCH LINE - SEE DWG. NO. 20

MATCH LINE - SEE DWG. NO. 18

RESTRAINED JOINTS 12" WATERMAIN
STATION AR. 10+38 TO AR. 66+17



PROPOSED WATERMAIN:
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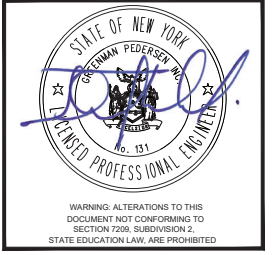
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C. OF LACKAWANNA,
T. OF HAMBURG, NY



REVISIONS

NO.	REVISION	DATE

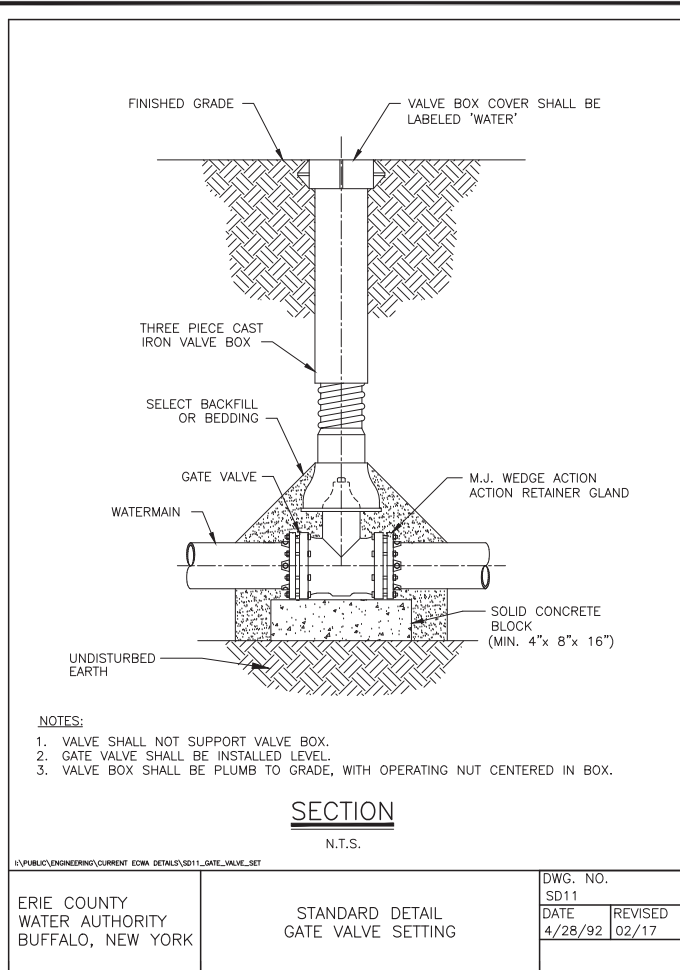
MAY 2022
DRAWN/DESIGN BY: AB
CHECKED BY: PC

ABBOTT RD PLAN & PROFILE - 9

SCALE: 1"=20'

WNY-2021024.00

19 OF 52



ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

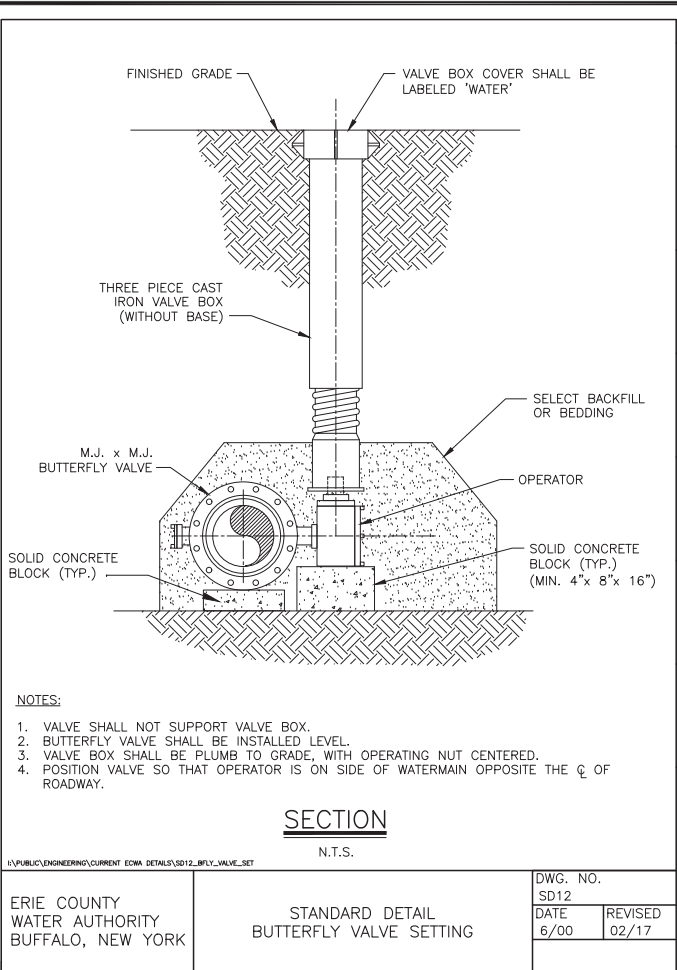
STANDARD DETAIL GATE VALVE SETTING

DWG. NO. SD11 DATE 4/28/92 REVISED 02/17

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL FIRE HYDRANT INSTALLATION

DWG. NO. SD13 DATE 6/00 REVISED 1/22



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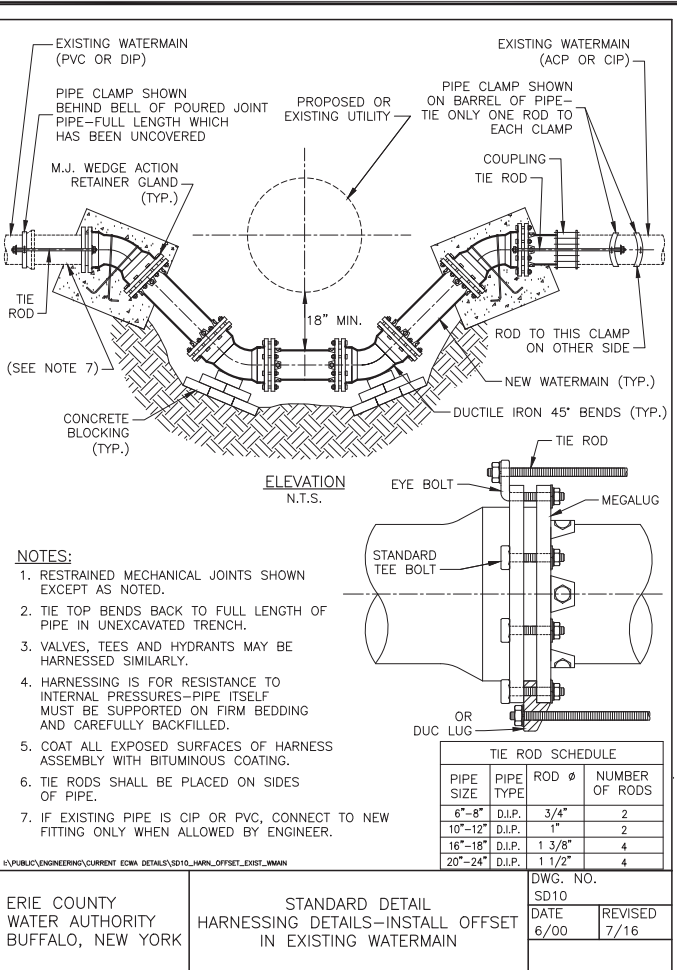
STANDARD DETAIL BUTTERFLY VALVE SETTING

DWG. NO. SD12 DATE 6/00 REVISED 02/17

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL FIRE HYDRANT ABANDONMENT

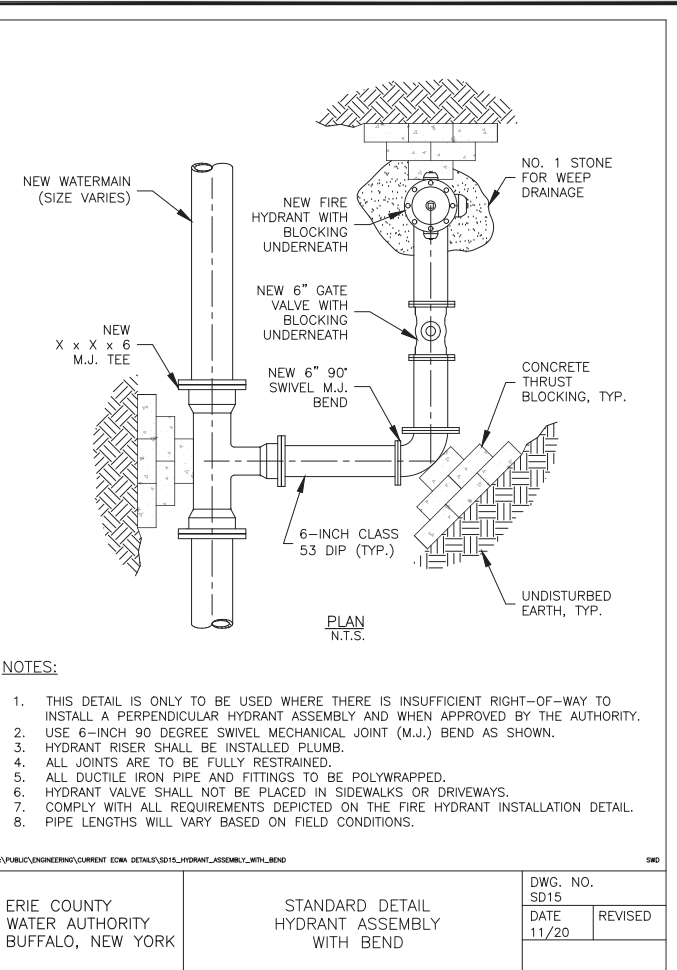
DWG. NO. SD37 DATE 1/17 REVISED



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STANDARD DETAIL SERVICE REPLACEMENT/INSTALLATION

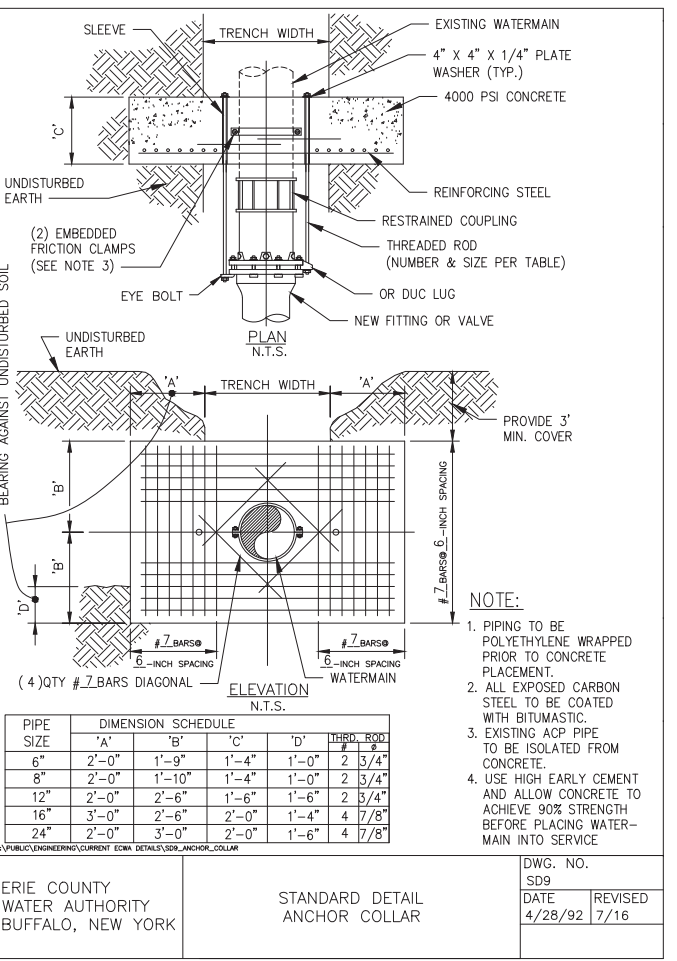
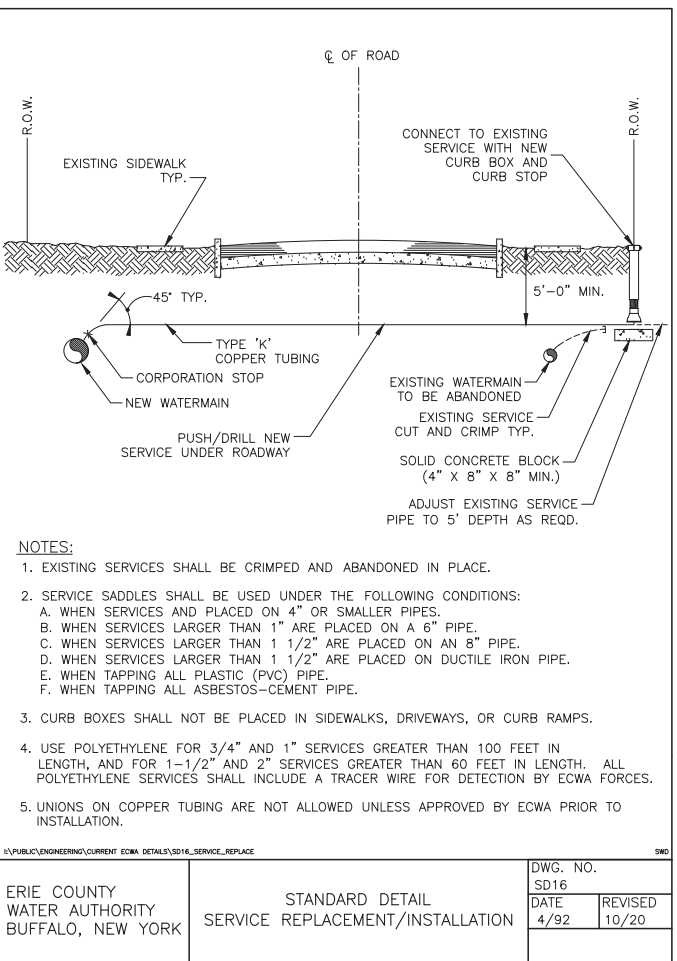
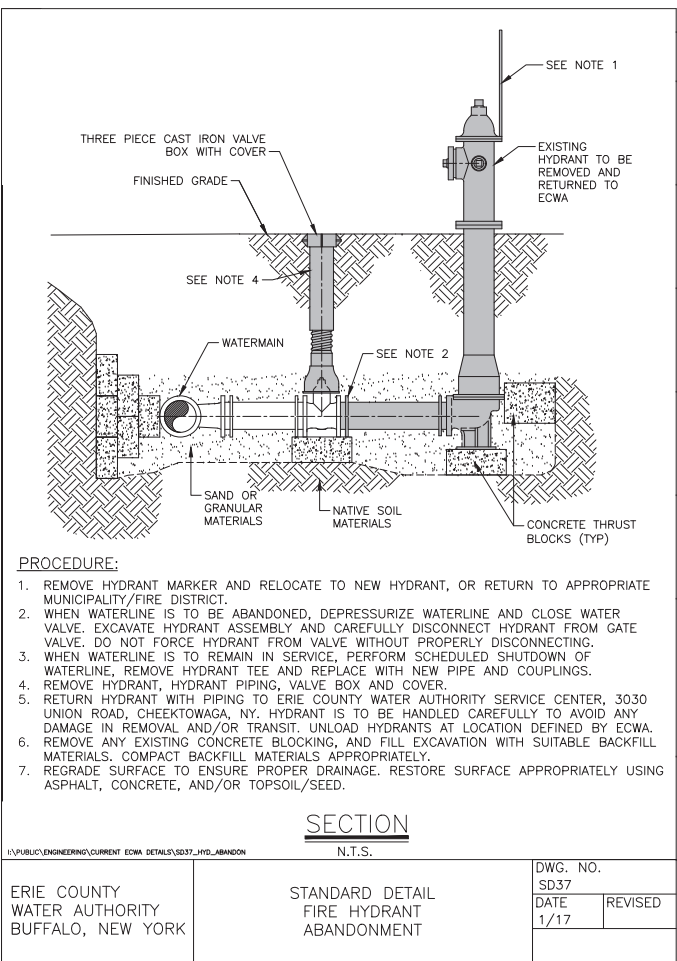
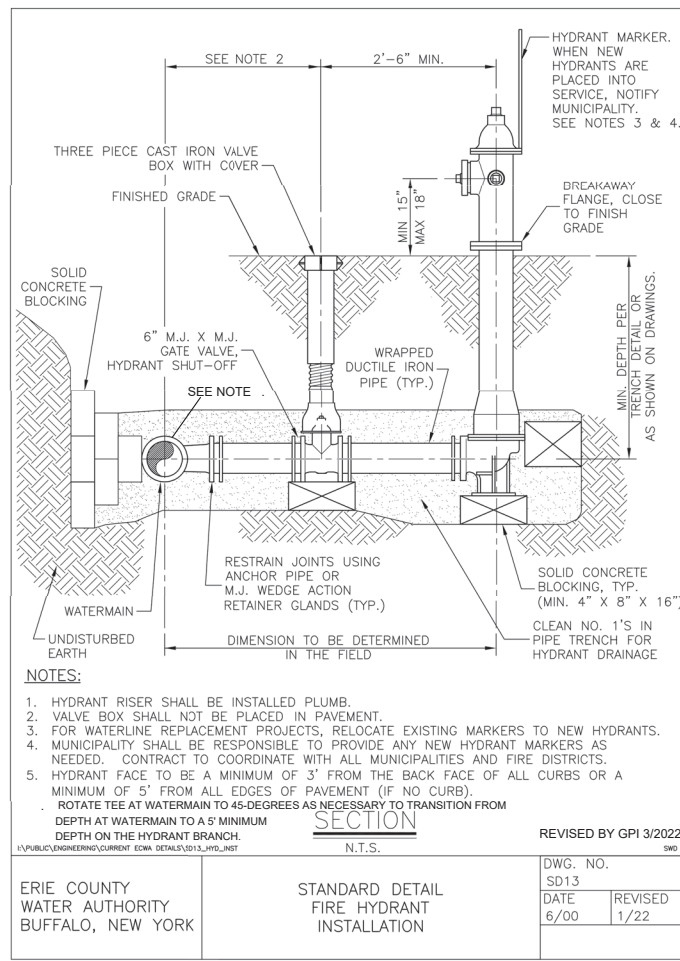
DWG. NO. SD16 DATE 4/92 REVISED 10/20



ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL ANCHOR COLLAR

DWG. NO. SD9 DATE 4/28/92 REVISED 7/16



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PREPARED FOR
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 PN 202100035

ECWA CONTRACT No. GP-010
 WATER SYSTEM IMPROVEMENTS
 TRANSMISSION & DISTRIBUTION MAINS
 C. OF LACKAWANNA,
 T. OF HAMBURG,
 & ORCHARD PARK, NY

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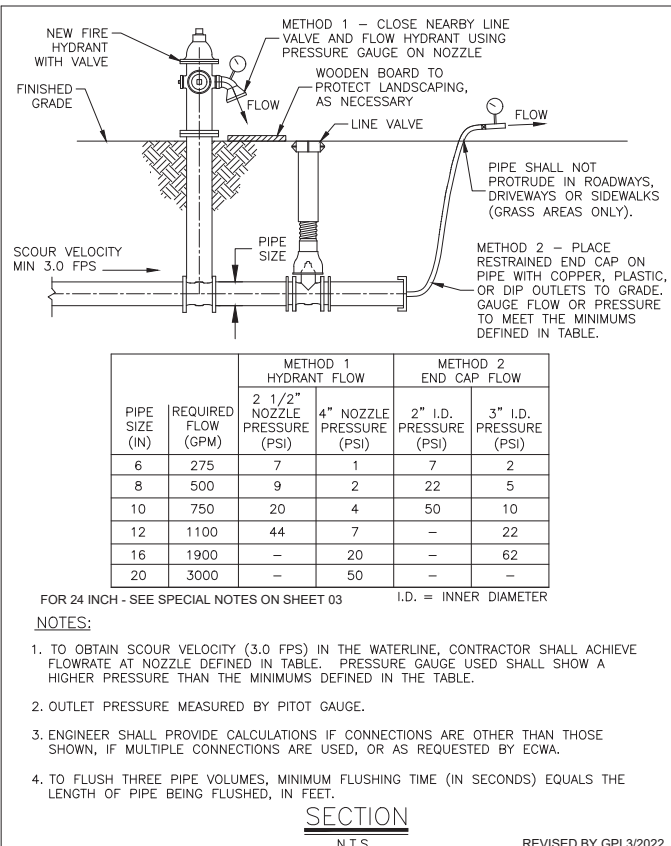
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MAY 2022
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WNY-2021024.00

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PIPE SIZE (IN)	REQUIRED FLOW (GPM)	METHOD 1 HYDRANT FLOW		METHOD 2 END CAP FLOW	
		2 1/2" NOZZLE PRESSURE (PSI)	4" NOZZLE PRESSURE (PSI)	2" I.D. PRESSURE (PSI)	3" I.D. PRESSURE (PSI)
6	275	7	1	7	2
8	500	9	2	22	5
10	750	20	4	50	10
12	1100	44	7	-	22
16	1900	-	20	-	62
20	3000	-	50	-	-

FOR 24 INCH - SEE SPECIAL NOTES ON SHEET 03 I.D. = INNER DIAMETER

NOTES:

- TO OBTAIN SCOUR VELOCITY (3.0 FPS) IN THE WATERLINE, CONTRACTOR SHALL ACHIEVE FLOWRATE AT NOZZLE DEFINED IN TABLE. PRESSURE GAUGE USED SHALL SHOW A HIGHER PRESSURE THAN THE MINIMUMS DEFINED IN THE TABLE.
- OUTLET PRESSURE MEASURED BY PITOT GAUGE.
- ENGINEER SHALL PROVIDE CALCULATIONS IF CONNECTIONS ARE OTHER THAN THOSE SHOWN, IF MULTIPLE CONNECTIONS ARE USED, OR AS REQUESTED BY ECWA.
- TO FLUSH THREE PIPE VOLUMES, MINIMUM FLUSHING TIME (IN SECONDS) EQUALS THE LENGTH OF PIPE BEING FLUSHED, IN FEET.

SECTION

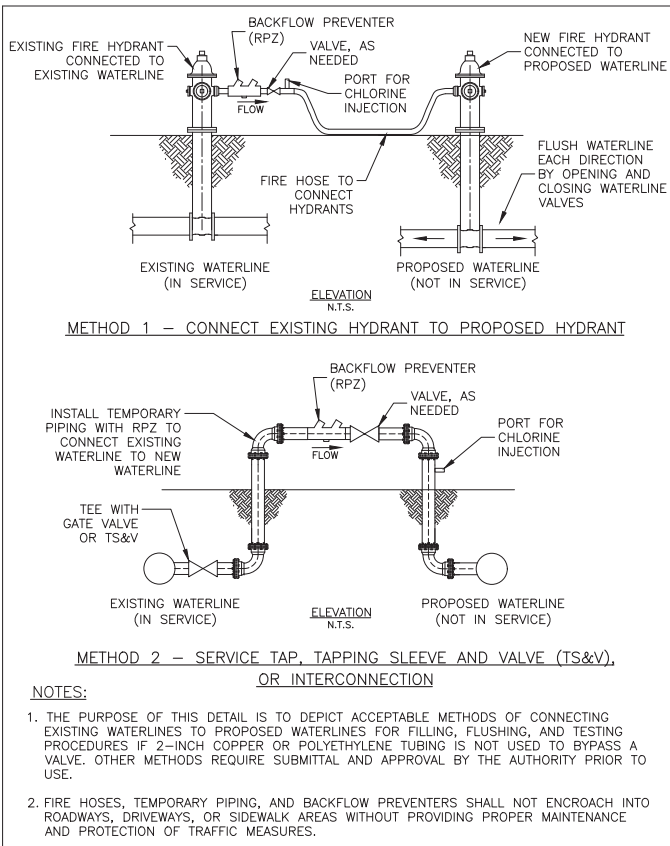
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REVISED BY GPI 3/2022

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL WATERLINE FLUSHING

DWG. NO. SD36
DATE 6/16 REVIS 8/18



METHOD 1 - CONNECT EXISTING HYDRANT TO PROPOSED HYDRANT

METHOD 2 - SERVICE TAP, TAPPING SLEEVE AND VALVE (TS&V), OR INTERCONNECTION

NOTES:

- THE PURPOSE OF THIS DETAIL IS TO DEPICT ACCEPTABLE METHODS OF CONNECTING EXISTING WATERLINES TO PROPOSED WATERLINES FOR FILLING, FLUSHING, AND TESTING PROCEDURES IF 2-INCH COPPER OR POLYETHYLENE TUBING IS NOT USED TO BYPASS A VALVE. OTHER METHODS REQUIRE SUBMITTAL AND APPROVAL BY THE AUTHORITY PRIOR TO USE.
- FIRE HOSES, TEMPORARY PIPING, AND BACKFLOW PREVENTERS SHALL NOT ENCRoACH INTO ROADWAYS, DRIVEWAYS, OR SIDEWALK AREAS WITHOUT PROVIDING PROPER MAINTENANCE AND PROTECTION OF TRAFFIC MEASURES.

SECTION

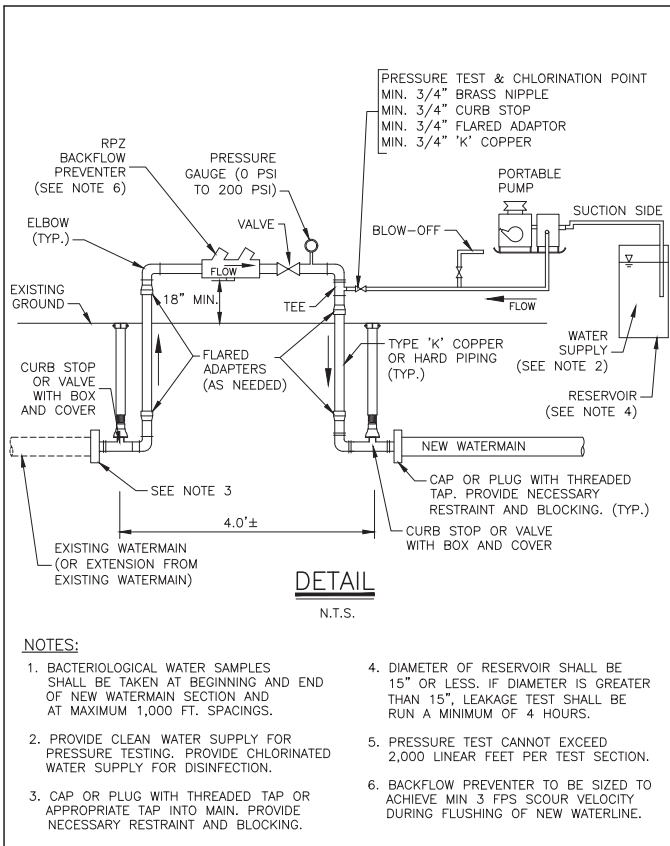
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ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL SOURCE WATER CONNECTIONS

DWG. NO. SD44
DATE 10/20 REVIS



DETAIL

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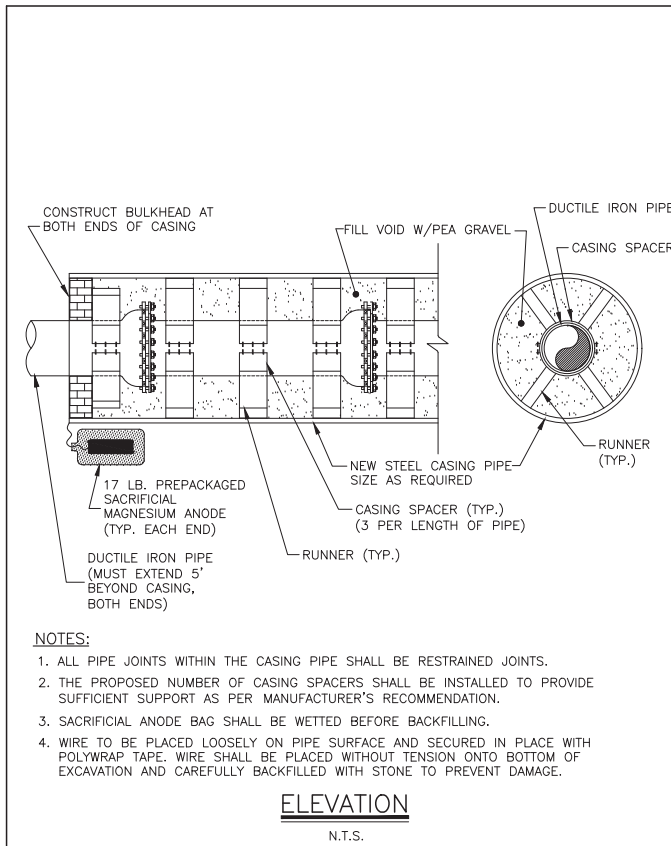
NOTES:

- BACTERIOLOGICAL WATER SAMPLES SHALL BE TAKEN AT BEGINNING AND END OF NEW WATERMAIN SECTION AND AT MAXIMUM 1,000 FT. SPACINGS.
- PROVIDE CLEAN WATER SUPPLY FOR PRESSURE TESTING. PROVIDE CHLORINATED WATER SUPPLY FOR DISINFECTION.
- CAP OR PLUG WITH THREADED TAP OR APPROPRIATE TAP INTO MAIN. PROVIDE NECESSARY RESTRAINT AND BLOCKING.
- DIAMETER OF RESERVOIR SHALL BE 15" OR LESS. IF DIAMETER IS GREATER THAN 15", LEAKAGE TEST SHALL BE RUN A MINIMUM OF 4 HOURS.
- PRESSURE TEST CANNOT EXCEED 2,000 LINEAR FEET PER TEST SECTION.
- BACKFLOW PREVENTER TO BE SIZED TO ACHIEVE MIN 3 FPS SCOUR VELOCITY DURING FLUSHING OF NEW WATERLINE.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL PRESSURE TESTING AND DISINFECTION APPARATUS SCHEMATIC

DWG. NO. SD23
DATE 6/00 REVIS 11/20



ELEVATION

N.T.S.

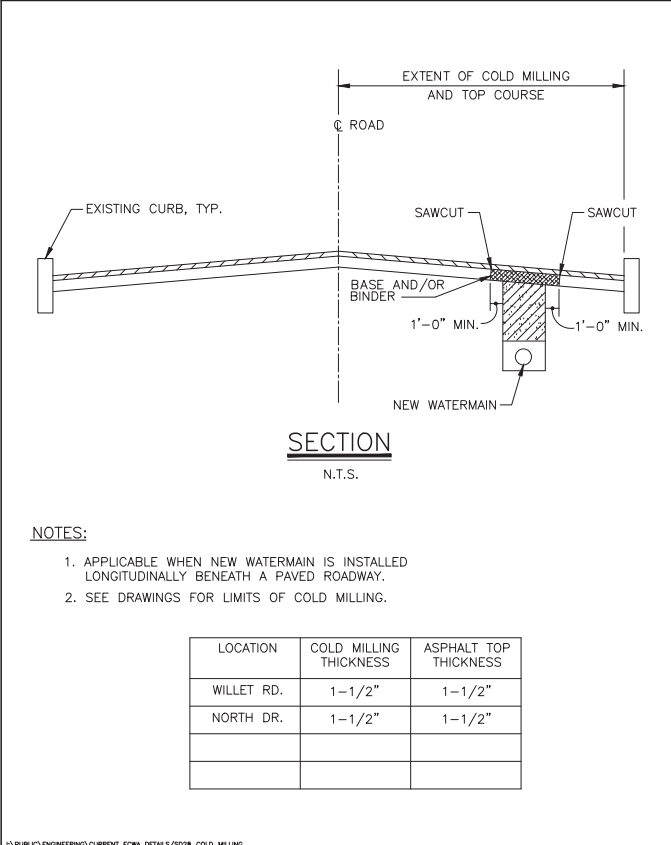
NOTES:

- ALL PIPE JOINTS WITHIN THE CASING PIPE SHALL BE RESTRAINED JOINTS.
- THE PROPOSED NUMBER OF CASING SPACERS SHALL BE INSTALLED TO PROVIDE SUFFICIENT SUPPORT AS PER MANUFACTURER'S RECOMMENDATION.
- SACRIFICIAL ANODE BAG SHALL BE WETTED BEFORE BACKFILLING.
- WIRE TO BE PLACED LOOSELY ON PIPE SURFACE AND SECURED IN PLACE WITH POLYWRAP TAPE. WIRE SHALL BE PLACED WITHOUT TENSION ONTO BOTTOM OF EXCAVATION AND CAREFULLY BACKFILLED WITH STONE TO PREVENT DAMAGE.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL CASING PIPE WITH CASING SPACERS

DWG. NO. SD25
DATE 6/00 REVIS 8/16



SECTION

N.T.S.

NOTES:

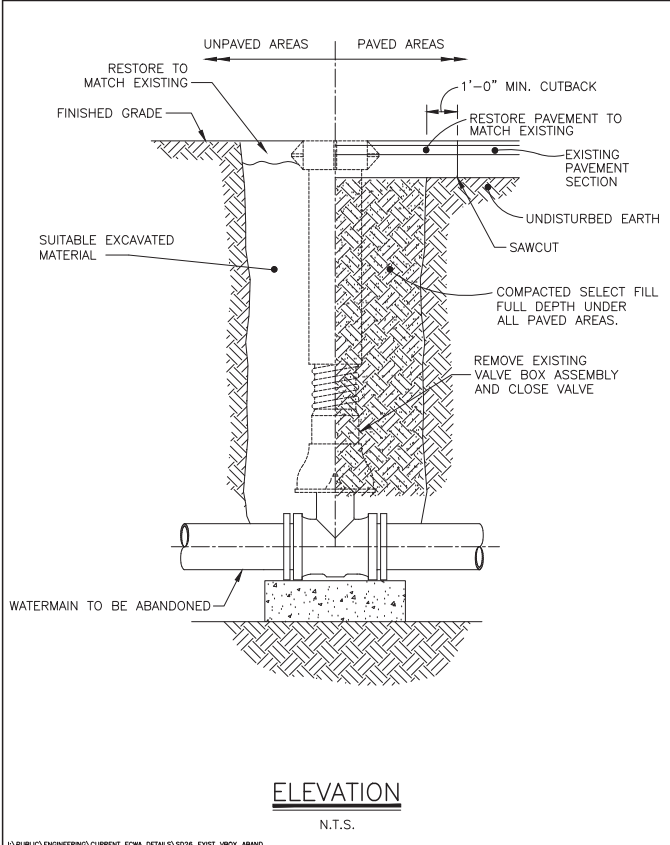
- APPLICABLE WHEN NEW WATERMAIN IS INSTALLED LONGITUDINALLY BENEATH A PAVED ROADWAY.
- SEE DRAWINGS FOR LIMITS OF COLD MILLING.

LOCATION	COLD MILLING THICKNESS	ASPHALT TOP THICKNESS
WILLET RD.	1-1/2"	1-1/2"
NORTH DR.	1-1/2"	1-1/2"

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL EXISTING VALVE BOX ABANDONMENT

DWG. NO. SD28
DATE 6/00 REVIS 8/16



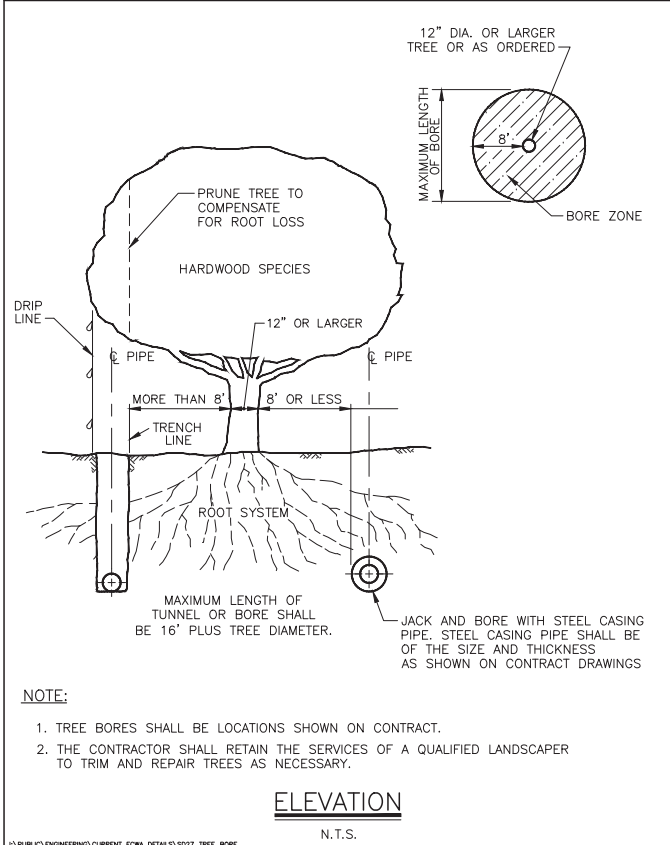
ELEVATION

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ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL EXISTING VALVE BOX ABANDONMENT

DWG. NO. SD26
DATE 6/00 REVIS 8/16



ELEVATION

N.T.S.

NOTE:

- TREE BORES SHALL BE LOCATIONS SHOWN ON CONTRACT.
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED LANDSCAPER TO TRIM AND REPAIR TREES AS NECESSARY.

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

STANDARD DETAIL TREE BORE

DWG. NO. SD27
DATE 6/00 REVIS 8/16

PIPE DIAMETER (in)	PIPE MATERIAL		WORKING PRESSURE (psi)	TEST PRESSURE (psi)
	Type (DIP, PVC, etc.)	Rating (Class/DR)		
6	D.I.P.	CLASS 52	150	170
8	D.I.P.	CLASS 52	150	170
12	D.I.P.	CLASS 52	150	170
16	D.I.P.	CLASS 52	150	170
24	D.I.P.	CLASS 52	150	170

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK

PRESSURE TESTING SCHEDULE

DWG. NO. SD31
DATE 10/05 REVIS 11/20

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PN 202100035

ECWA CONTRACT No. GP-010
WATER SYSTEM IMPROVEMENTS
TRANSMISSION & DISTRIBUTION MAINS
C. OF LACKAWANNA,
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& ORCHARD PARK, NY

STATE OF NEW YORK
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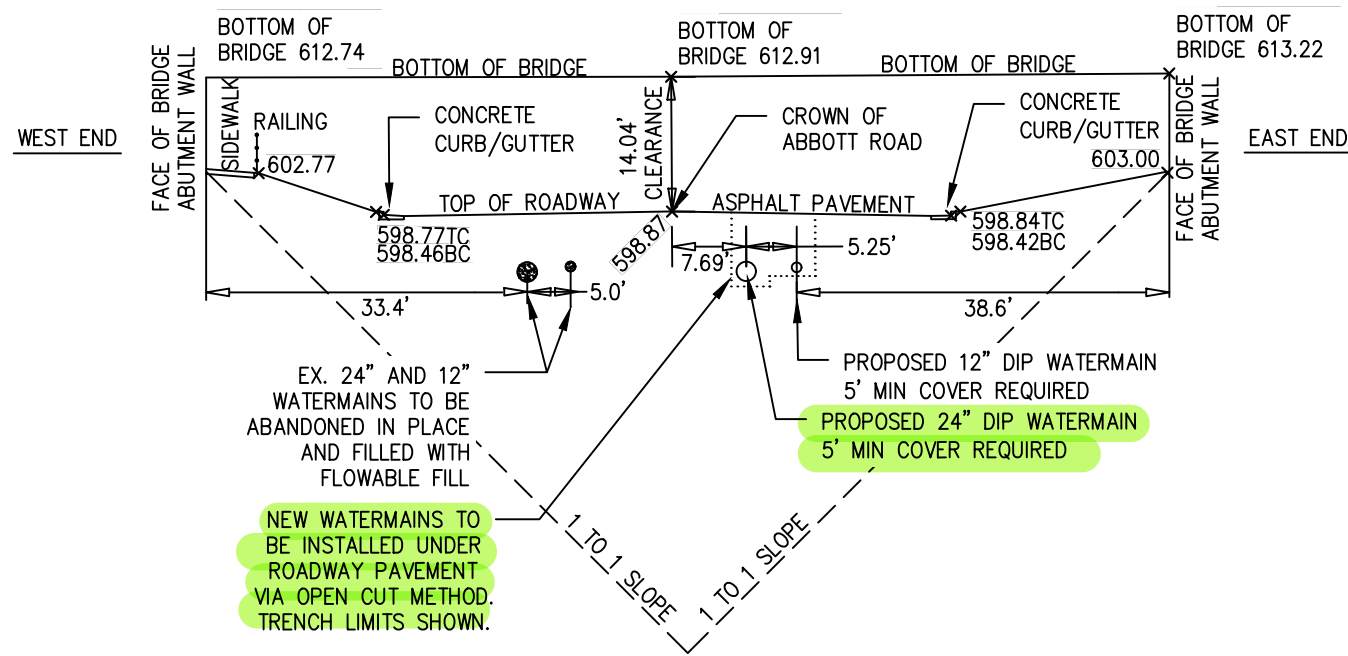
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PHOTO OF NORFOLK SOUTHERN RAILROAD BRIDGE CROSSING OVER ABBOTT ROAD LOOKING NORTHERLY AT SOUTH FACE OF BRIDGE

NOT-TO-SCALE



DIMENSIONS MEASURED ALONG ALIGNMENT WITH SOUTH FACE OF BRIDGE

NOTE: SEE SHEET 17 FOR ADDITIONAL INFORMATION

CROSS-SECTION OF NORFOLK SOUTHERN RAILROAD BRIDGE CROSSING (U.S. D.O.T. CROSSING INVENTORY #519509X) OVER ABBOTT ROAD WITH WATERMAIN LOCATIONS NOTED

SCALE: 1" = 10'

STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK



Definition & Scope

A temporary sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

- Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.
- Diameters designed for use shall be 12" - 32" except

that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.

- The flat dimension of the sock shall be at least 1.5 times the nominal diameter.
- The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

Dia. (in.)	Slope %						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	—	—
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

* Length in feet



- The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**
- The compost filter sock fabric material shall meet the

- Compost filter socks shall be anchored in earth with 2" x 2" wooden stakes driven 12" into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.
- Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.
- Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer's recommendations.
- Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

Maintenance

- Traffic shall not be permitted to cross filter socks.
- Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.

Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

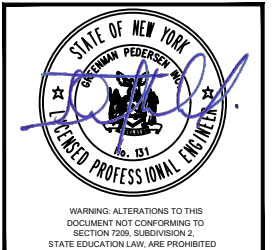
Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 - 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1" screen and 10 - 50% passing a 3/8" screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

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