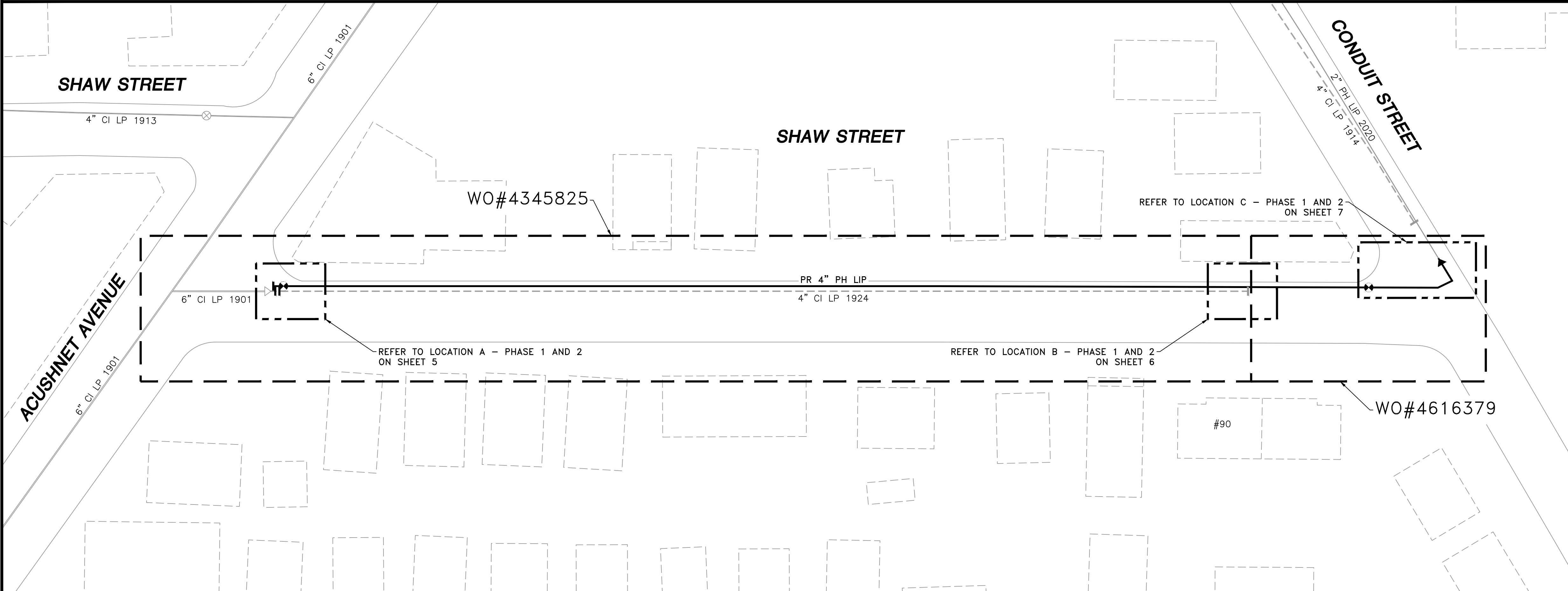
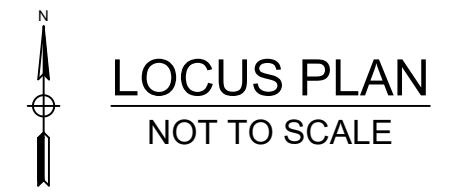
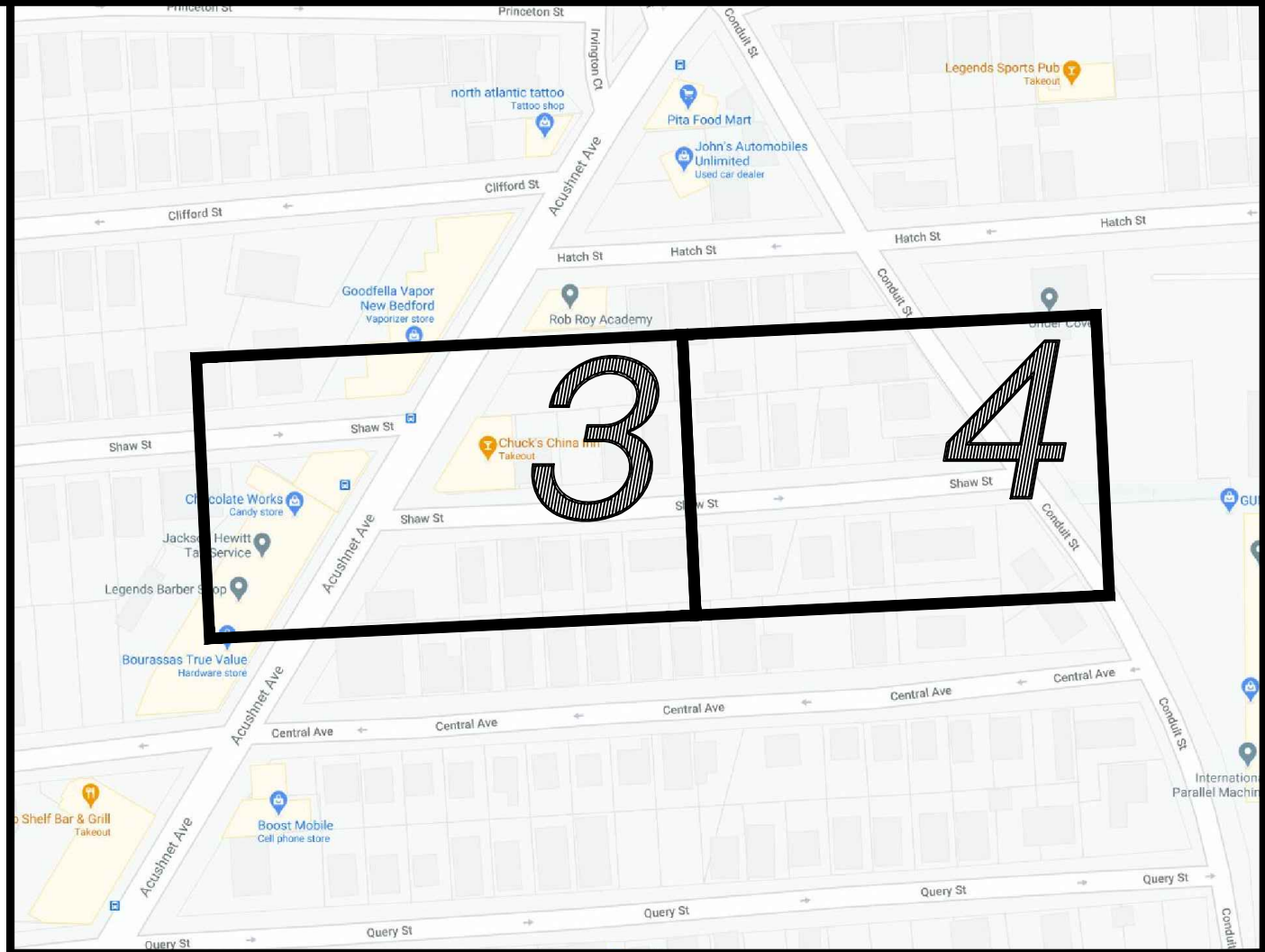


EVERSOURCE ENERGY

SHAW STREET MAIN RELAY
INSTALLATION OF 595' OF 4" PH LIP GAS MAIN
SHAW STREET
NEW BEDFORD, MASSACHUSETTS
ENE PROJECT #: 2005881.46
EVERSOURCE PROJECT #: 4345825
SHAW STREET GSEP (ACUSHNET AVE TO #90): 4345825
SHAW STREET SI (#90 TO CONDUIT ST): 4616379



SHEET INDEX	
SHEET NUMBER	DESCRIPTION
1	SITE PLAN, LOCUS PLAN AND SHEET INDEX
2	GENERAL NOTES
3	INSTALLATION PLAN
4	INSTALLATION PLAN
5	LOCATION A - PHASE 1, 2 AND SCHEDULE OF MATERIALS
6	LOCATION B - PHASE 1, 2 AND SCHEDULE OF MATERIALS
7	LOCATION C - PHASE 1, 2 AND SCHEDULE OF MATERIALS
8	STANDARD CORROSION DETAILS

SITE PLAN
NEW BEDFORD, MASSACHUSETTS
(SCALE: 1"=30')
(DO NOT SCALE FROM DRAWINGS)

0	ISSUED FOR CONSTRUCTION	01/21/2021	WS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

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01/21/2021

SEALED BY:

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SEALED ON:

01/22/2021

LICENSE EXPIRATION:

06/30/2022

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ENEngineering

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FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION

REVISION STATUS

EVERSOURCE
ENERGY

SHAW STREET MAIN RELAY
NEW BEDFORD, MASSACHUSETTS
SITE PLAN, LOCUS PLAN AND SHEET INDEX

SCALE: AS NOTED SHEET 1 OF 9

DRAWN BY / DATE LR 11/06/2020	CHECKED BY / DATE AB 01/12/2021	SHEET NUMBER MA-NEB-21-PIP-021-01	REV. NO. 0
APPROVED BY / DATE EK 01/21/2021	MANEB21PIP021R0		

GENERAL NOTES

1. IF ANY OF THE FOLLOWING OCCUR A DRAWING REVISION IS REQUIRED AND MUST BE APPROVED AND/OR STAMPED BY THE ENGINEER OF RECORD. CHANGES CAN BE APPROVED AND/OR STAMPED BY A PROJECT ENGINEER, BUT THE ENGINEER OF RECORD MUST BE INFORMED.

A. IF THE TIE IN POINT MOVES TO A DIFFERENT SEGMENT OF PIPE THAN SHOWN

B. IF A CHANGE IN THE LOCATION OF VALVES IS REQUIRED

C. IF THERE IS ANY CHANGE TO WHAT IS SHOWN ON THE DRAWING WITHIN 50 FT OF A PRESSURE REGULATING STATION, DISTRICT REGULATOR, OR GATE STATION

D. IF A CHANGE IN PIPE SIZE, MATERIAL, FITTINGS, OR WALL THICKNESS IS REQUIRED.
2. MINOR CHANGES SUCH AS OFFSETS MAY NOT REQUIRE DRAWING CHANGES.
3. EXCAVATOR SHALL CALL DIGSAFE/CALL BEFORE YOU DIG (DIAL 811) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. SATURDAYS, SUNDAYS, AND HOLIDAYS ARE EXCLUDED FROM THE 72-HOUR TIME SPAN, NOT CONSIDERED BUSINESS WORKDAYS.
4. CONSTRUCTION DRAWINGS ARE BASED ON EVERSOURCE HISTORICAL DOCUMENTATION AND HAVE NOT BEEN FIELD VERIFIED. WHEN THE PIPE IS EXPOSED AND VARIANCES TO THE CERTIFIED DRAWINGS ARE FOUND, CONTACT GAS ENGINEERING TO DETERMINE PATH FORWARD.
5. ALL WORK SHALL BE PERFORMED PER EVERSOURCE, LOCAL, STATE, OSHA, AND FEDERAL REGULATIONS AND STANDARDS.
6. MATERIAL AND CONSTRUCTION SHALL CONFORM TO EVERSOURCE GAS STANDARDS.
7. THE LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MUST BE FIELD VERIFIED. ADDITIONAL UNDERGROUND FACILITIES MAY EXIST THAT ARE NOT SHOWN ON THESE DRAWINGS WHICH MAY REQUIRE ADDITIONAL OFFSETS IN THE PIPELINE.
8. WORK LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. EXACT LOCATIONS OF TIE-INS SHALL BE DETERMINED AT THE TIME OF CONSTRUCTION TO SUIT FIELD CONDITIONS AT THE SPECIFIC TIE-IN POINT. VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY TIE-IN WORK.
9. ALL LIVE GAS WORK INCLUDING BUT NOT LIMITED TO TAPPING OF FITTINGS ON LIVE MAINS, STOPPING, MANIPULATING VALVE, ABANDONMENT, SHALL BE PERFORMED BY, OR AT THE DIRECTION AND UNDER THE DIRECT SUPERVISION OF EVERSOURCE GAS PERSONNEL AND IN ACCORDANCE WITH THE WRITTEN PROCEDURE. DRAWING CHANGES MAY ALSO REQUIRE A CHANGE TO THE PROCEDURE.
10. EXCAVATOR IS REQUIRED TO PROTECT EXISTING UTILITIES, STRUCTURES, LANDSCAPE FEATURES, SIGNAGE, CURBS, ETC. CARE SHOULD BE TAKEN NOT TO DISTURB OR DAMAGE SUCH ROADWAY, SIDEWALKS, AND GRASS. DISTURBED SHALL BE RESTORED TO THE SATISFACTION OF THE CITY OR TOWN. PLANT BEDS WILL BE RELOCATED TO THEIR EXISTING REGULAR LOCATION.
11. IF THE PROJECT IS WITHIN 50 FEET OF A DISTRICT REGULATOR OR GATE STATION, ENSURE THAT A QUALIFIED I&R TECHNICIAN IS ON SITE.
12. ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), INCLUDING ALL REVISIONS AND ADDENDA. ALL TRAFFIC CONTROL DEVICES WILL BE SUPPLIED BY EXCAVATOR.
13. PROPERTY LINES, STRUCTURES AND EXISTING CONDITIONS DEPICTED ON PLANS ARE BASED ON EVERSOURCE GIS INFORMATION AND HAVE NOT BEEN VERIFIED BY LAND SURVEY UNLESS NOTED.
14. EXISTING SERVICES SHOWN ON PLAN ARE FOR INFORMATION ONLY. PROPOSED SERVICES ARE NOT SHOWN ON PLANS AND ARE TO BE INSTALLED PER EVERSOURCE CONSTRUCTION STANDARDS.
15. PROPOSED WORK SHALL BE PERFORMED AND COMPLETED IN COMPLIANCE WITH ALL PERMITS AND APPROVALS.
16. MAINS AND SERVICES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH EVERSOURCE OM-205.
17. MAOP:

LP = 14" W.C.

LIP = 35 PSIG

IP = 60 PSIG


HP = 90 PSIG
18. ALL WORK SHALL BE PERFORMED PER EVERSOURCE, LOCAL, STATE AND FEDERAL REGULATIONS AND STANDARDS.
19. ALL PIPE WILL BE INSTALLED WITH A MINIMUM DEPTH IN ACCORDANCE WITH EVERSOURCE STANDARDS
20. SQUEEZE OPERATIONS SHOULD BE COMPLETED IN ACCORDANCE WITH OM-233
21. ENSURE ALL SERVICES BEING TRANSFERRED TO A HIGHER PRESSURE SYSTEM HAVE UPGRADED PRESSURE REGULATORS INSTALLED PRIOR TO ACTIVATION.
22. ENSURE VALVES ON EXISTING MAIN, WHERE PROPOSED MAIN WILL BE INSERTED HAVE BEEN MADE INOPERABLE.
23. ADDITIONAL VALVES AND TEES THAT ARE INCLUDED IN THE SCHEDULE OF MATERIALS MAY BE INSTALLED TEMPORARILY WHEN NEEDED TO FACILITATE TIE-INS AND PURGES.
24. METFIT FITTINGS MAY BE SUBSTITUTED FOR ELECTROFUSION FITTINGS WHERE NEEDED.
25. DO NOT SCALE FROM DRAWINGS.

0	ISSUED FOR CONSTRUCTION	01/21/2021	WS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

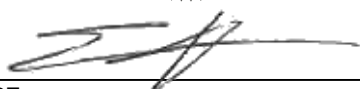
REVISION STATUS			
EVERSOURCE ENERGY			
SHAW STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
GENERAL NOTES			
SCALE: NOT TO SCALE			SHEET 2 OF 9
DRAWN BY / DATE	CHECKED BY / DATE	SHEET NUMBER	REV. NO.
LR 11/06/2020	AB 01/12/2021		
APPROVED BY / DATE	MANEB21PIP021R0	MA-NEB-21-PIP-021-02	0
EK 01/21/2021			

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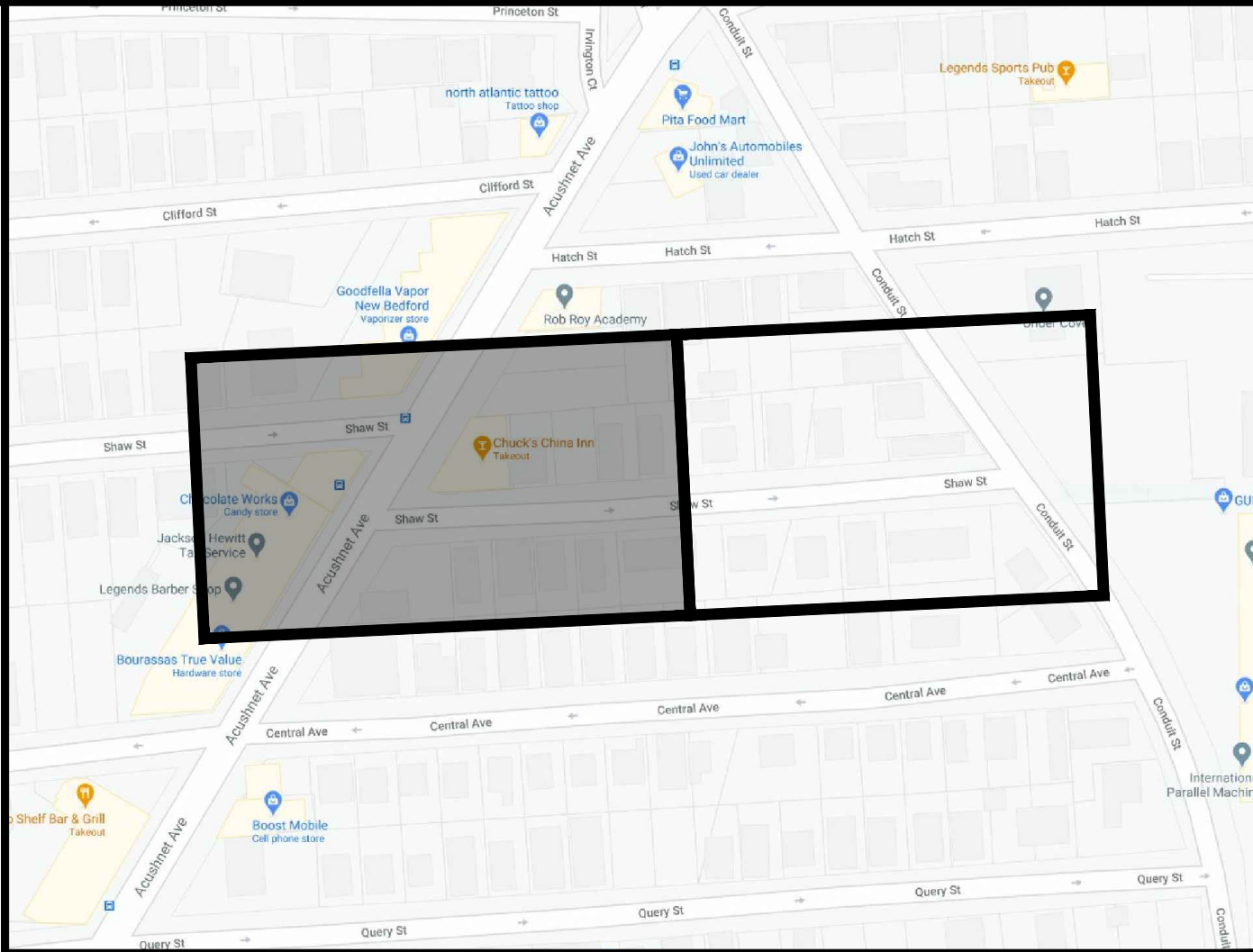
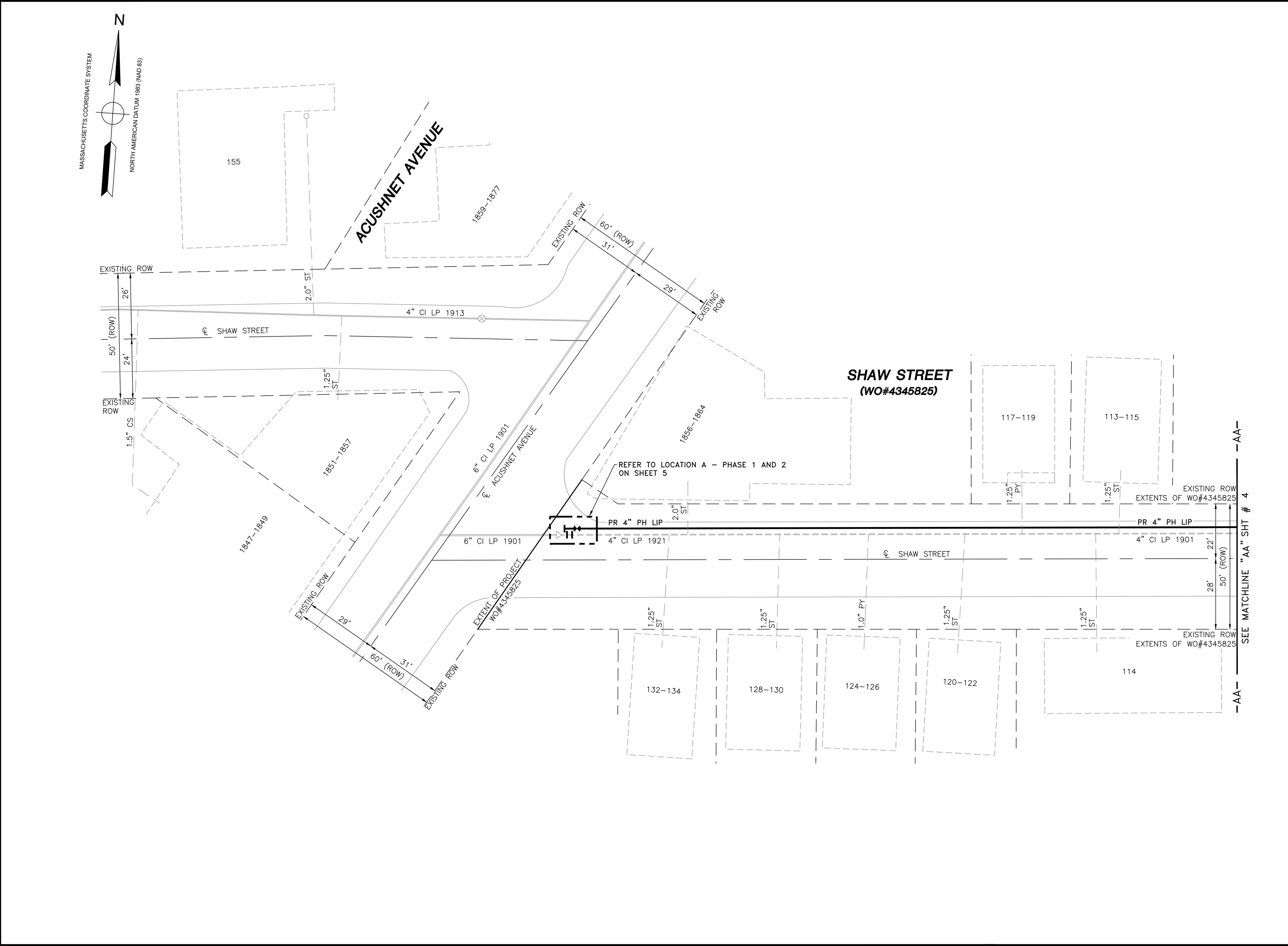
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LOCUS PLAN
NOT TO SCALE

DRAWING LEGEND

	UTILITY POLE		EXISTING GAS MAIN
	LIGHT POLE		RETIRED GAS MAIN
	CATCH BASIN		PROPOSED GAS MAIN
	FIRE HYDRANT		EXISTING SERVICE
	UTILITY MANHOLE		RIGHT OF WAY
	ELECTRIC MANHOLE		ELECTRIC
	TELEPHONE MANHOLE		TELEPHONE
	WATER MANHOLE		WATER
	SANITARY MANHOLE		SANITARY SEWER
	STORM MANHOLE		STORM SEWER
	EXISTING REDUCER		PROPOSED REDUCER
	EXISTING CAP		PROPOSED CAP
	EXISTING VALVE		PROPOSED VALVE
	EXISTING COUPLING		PROPOSED ANODE

- NOTES:
- CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
 - REFER TO GENERAL NOTES AND SCHEDULE OF MATERIALS ON SHEET #2.

LENGTH	SIZE	MATERIAL	DESCRIPTION
270'	4"	PH	INSTALL
275'	4"	CI	RETIRE
30'	6"	CI	RETIRE

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01/21/2021

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SIGNATURE

SEALED ON:

01/22/2021

LICENSE EXPIRATION:

06/30/2022

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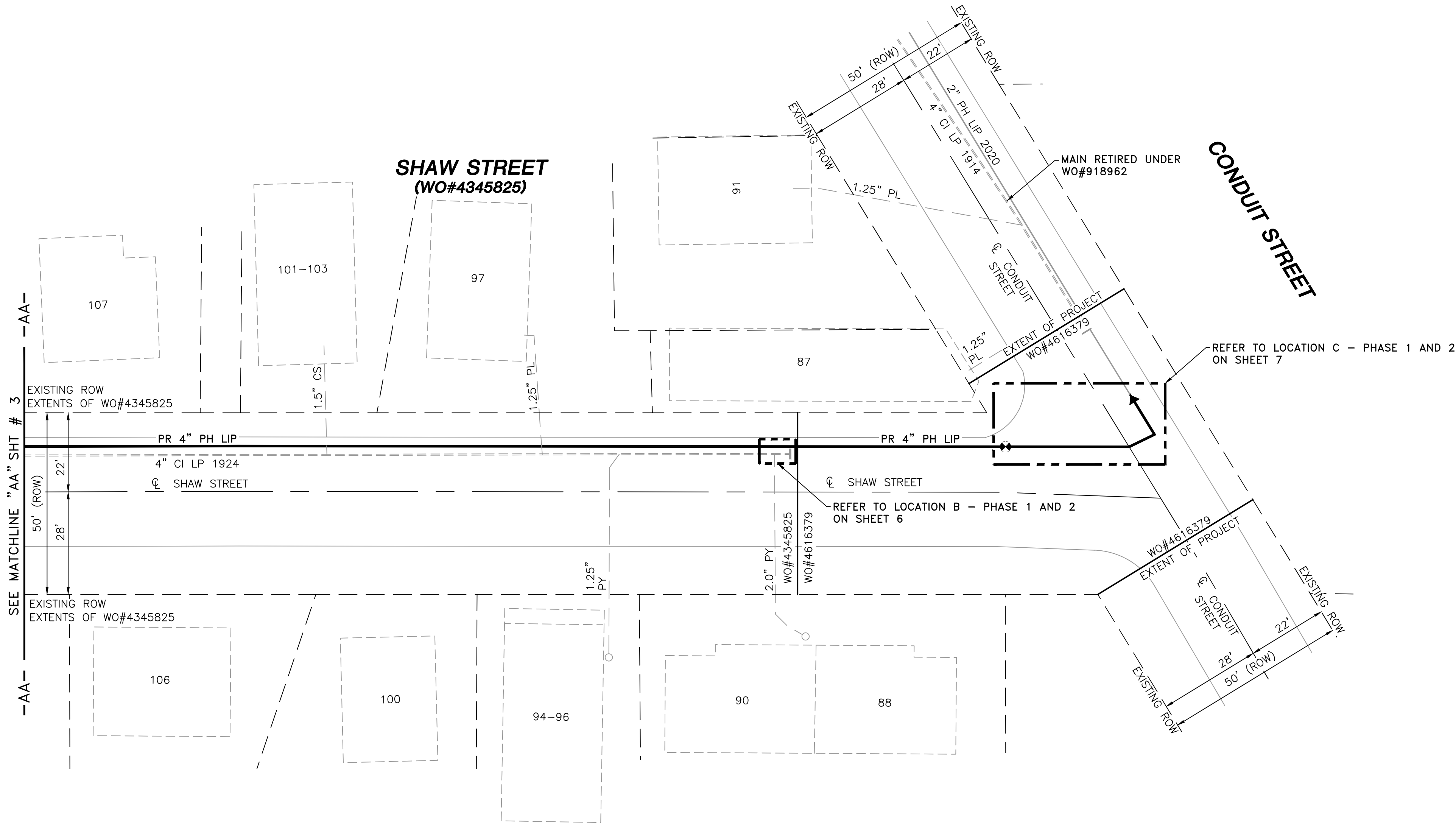
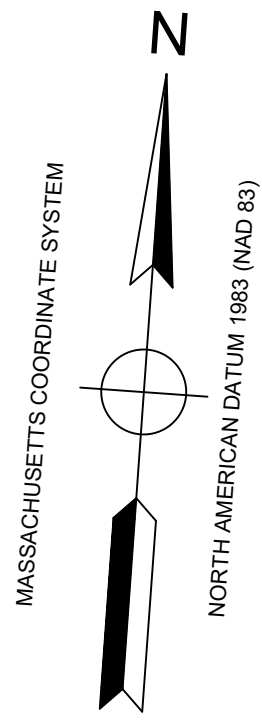
0	ISSUED FOR CONSTRUCTION	01/21/2021	WS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS

EVERSOURCE
ENERGY

SHAW STREET MAIN RELAY
NEW BEDFORD, MASSACHUSETTS
INSTALLATION PLAN

SCALE: 1"=20' (DO NOT SCALE FROM DRAWINGS)		SHEET 3 OF 9	
DRAWN BY / DATE LR 11/06/2020	CHECKED BY / DATE AB 01/12/2021	SHEET NUMBER MA-NEB-21-PIP-021-03	REV. NO. 0
APPROVED BY / DATE EK 01/21/2021	MANEB21PIP021R0		



LOCUS PLAN
NOT TO SCALE

DRAWING LEGEND

	UTILITY POLE		EXISTING GAS MAIN
	LIGHT POLE		RETIRED GAS MAIN
	CATCH BASIN		PROPOSED GAS MAIN
	FIRE HYDRANT		EXISTING SERVICE
	UTILITY MANHOLE		RIGHT OF WAY
	ELECTRIC MANHOLE		ELECTRIC
	TELEPHONE MANHOLE		TELEPHONE
	WATER MANHOLE		WATER
	SANITARY MANHOLE		SANITARY SEWER
	STORM MANHOLE		STORM SEWER
	EXISTING REDUCER		PROPOSED REDUCER
	EXISTING CAP		PROPOSED CAP
	EXISTING VALVE		PROPOSED VALVE
	EXISTING COUPLING		PROPOSED ANODE

- NOTES:
- CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
 - REFER TO GENERAL NOTES AND SCHEDULE OF MATERIALS ON SHEET #2.

LENGTH	SIZE	MATERIAL	DESCRIPTION
5'	2"	PH	INSTALL
325'	4"	PH	INSTALL
210'	4"	CI	RETIRE

ISSUED FOR
CONSTRUCTION
01/21/2021

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01/22/2021

LICENSE EXPIRATION:

06/30/2022

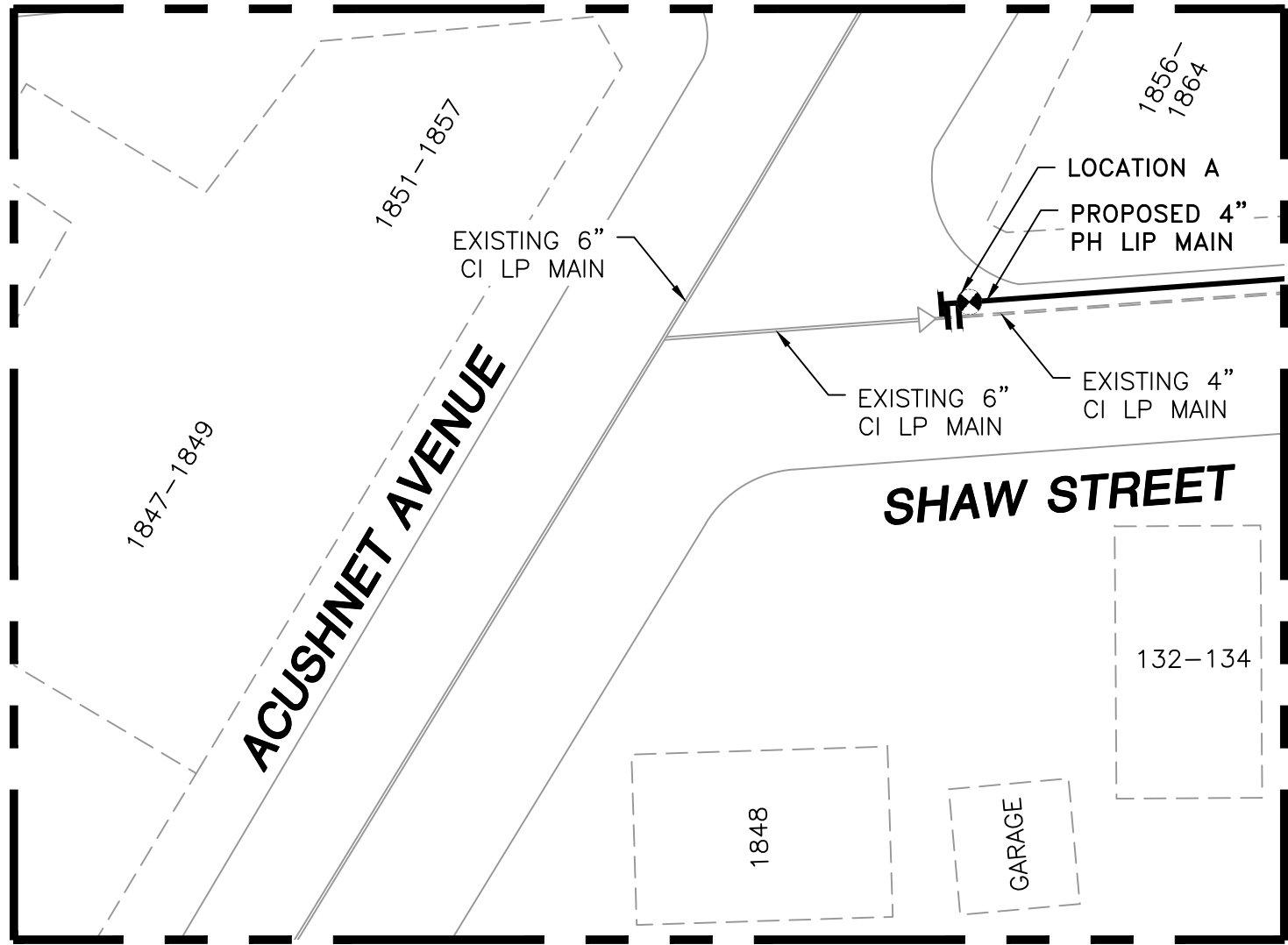
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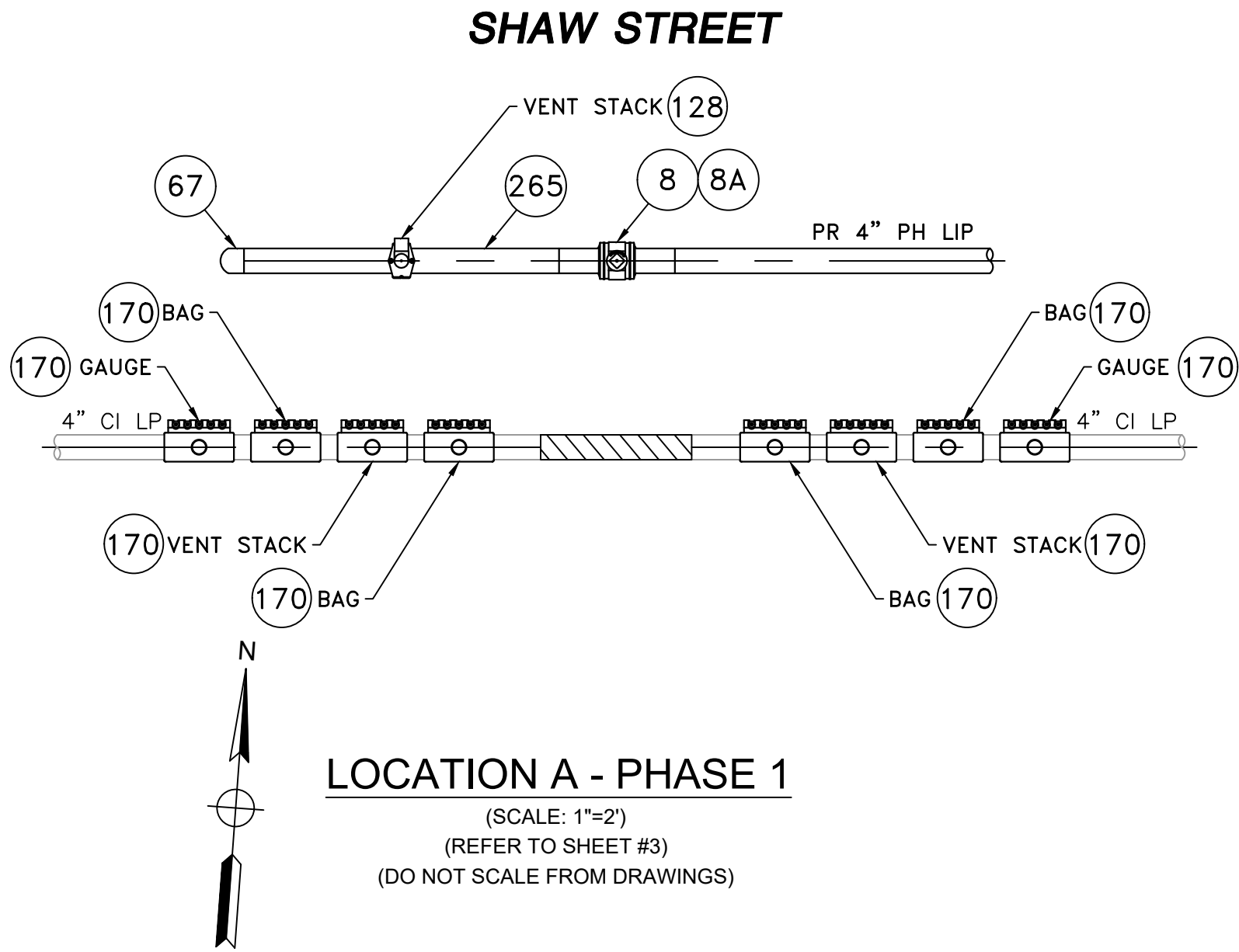
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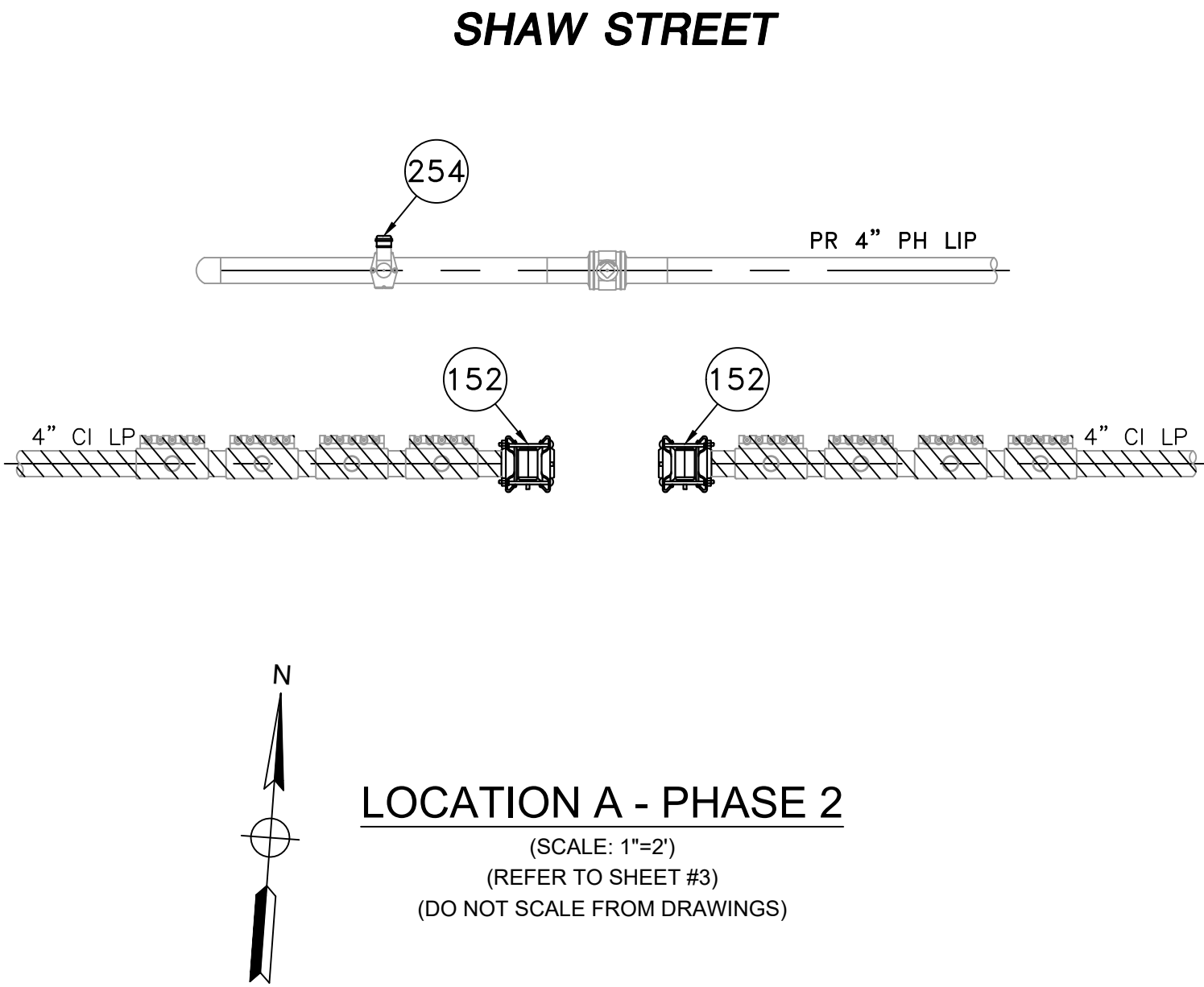
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NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
SHAW STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
INSTALLATION PLAN			
SCALE: 1"=20' (DO NOT SCALE FROM DRAWINGS)			SHEET 4 OF 9
DRAWN BY / DATE LR 11/06/2020	CHECKED BY / DATE AB 01/12/2021	SHEET NUMBER	REV. NO.
APPROVED BY / DATE EK 01/21/2021	MANEB21PIP021R0	MA-NEB-21-PIP-021-04	0



LOCATION A - PLAN VIEW
(SCALE: 1"=30')
(REFER TO SHEET #3)
(DO NOT SCALE FROM DRAWINGS)



LOCATION A - PHASE 1
(SCALE: 1"=2')
(REFER TO SHEET #3)
(DO NOT SCALE FROM DRAWINGS)



LOCATION A - PHASE 2
(SCALE: 1"=2')
(REFER TO SHEET #3)
(DO NOT SCALE FROM DRAWINGS)

SHAW STREET MAIN RELAY - LOCATION A - SCHEDULE OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
8	1	4"	501002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL	ASTM D2513
8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	PLASTIC
67	AS REQUIRED	4"	542538	CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
128	1	4" X 2"	584304	HV TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL	ASTM D2513
152	2	4"	578128	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
170	8	4" x 2"	543028	BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR APPROVED EQUAL. COMPLETE WITH PLUG.	
254	AS REQUIRED	2"	581633	END CAP MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMPRESSION RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL	ASTM D2513
265	10' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513

NOTE:
1. REFER TO GENERAL NOTES ON SHEET #2.

0	ISSUED FOR CONSTRUCTION	01/21/2021	WS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
SHAW STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
LOCATION A - PHASE 1, 2 AND SCHEDULE OF MATERIALS			
SCALE: AS NOTED		SHEET 6 OF 9	
DRAWN BY / DATE LR 11/06/2020	CHECKED BY / DATE AB 01/12/2021	SHEET NUMBER	REV. NO.
APPROVED BY / DATE EK 01/21/2021	MANEB21PIP021R0	MA-NEB-21-PIP-021-06	0

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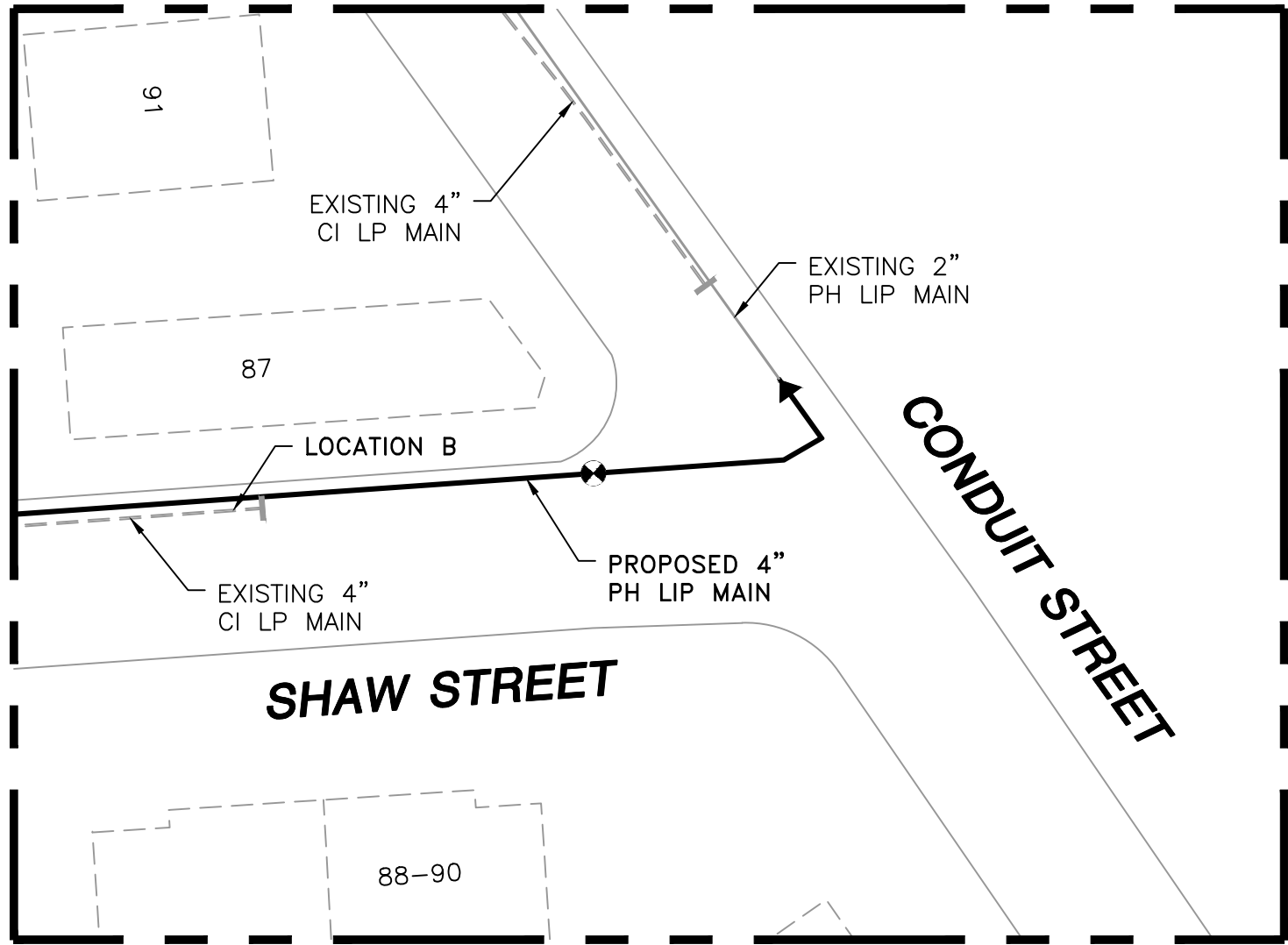
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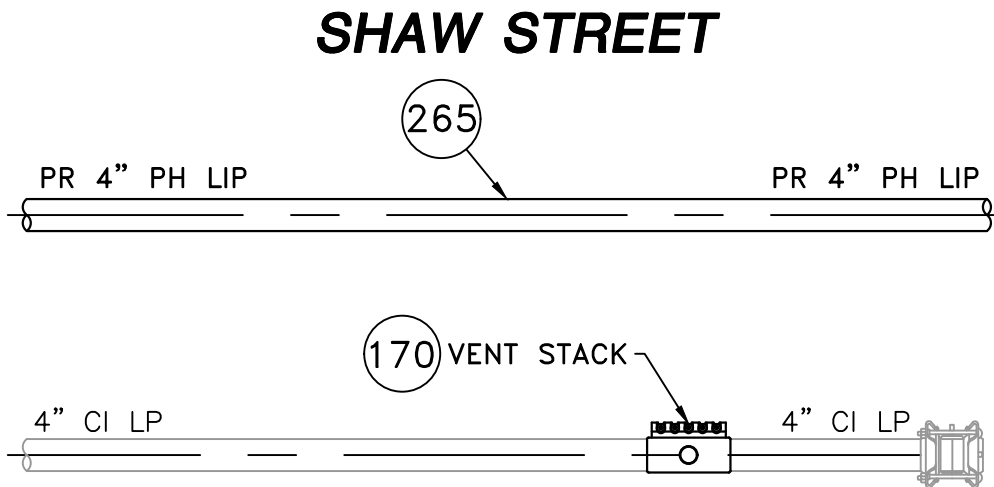
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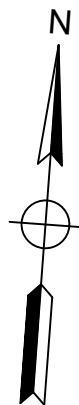
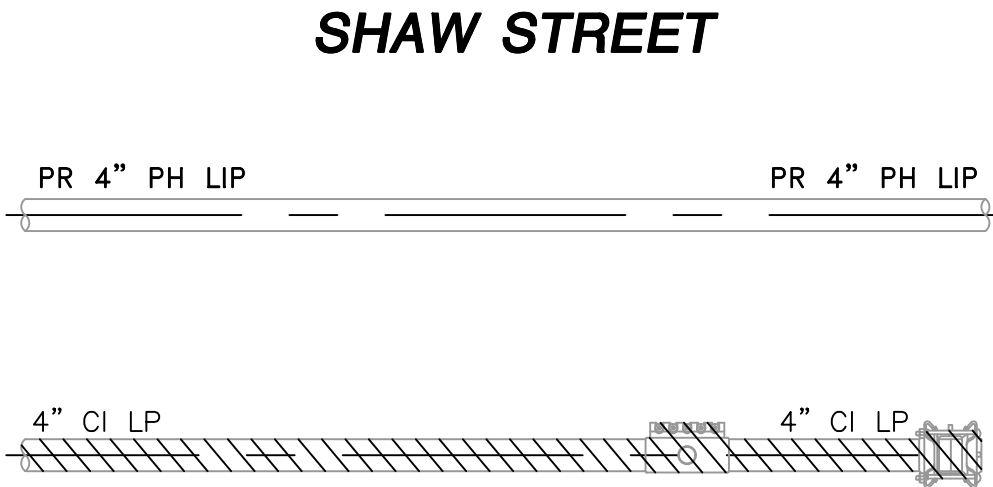


LOCATION B - PLAN VIEW
(SCALE: 1"=30')
(REFER TO SHEET #4)
(DO NOT SCALE FROM DRAWINGS)



LOCATION B - PHASE 1
(SCALE: 1"=2')
(REFER TO SHEET #4)
(DO NOT SCALE FROM DRAWINGS)

SHAW STREET MAIN RELAY - LOCATION B - SCHEDULE OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
170	1	4" x 2"	543028	BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR APPROVED EQUAL. COMPLETE WITH PLUG.	
265	10' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513



LOCATION B - PHASE 2
(SCALE: 1"=2')
(REFER TO SHEET #4)
(DO NOT SCALE FROM DRAWINGS)

NOTE:
1. REFER TO GENERAL NOTES ON SHEET #2.

0	ISSUED FOR CONSTRUCTION	01/21/2021	WS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
SHAW STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
LOCATION B - PHASE 1, 2 AND SCHEDULE OF MATERIALS			
SCALE: AS NOTED		SHEET 7 OF 9	
DRAWN BY / DATE LR 11/06/2020	CHECKED BY / DATE AB 01/12/2021	SHEET NUMBER MA-NEB-21-PIP-021-07	REV. NO. 0
APPROVED BY / DATE EK 01/21/2021	MANEB21PIP021R0		

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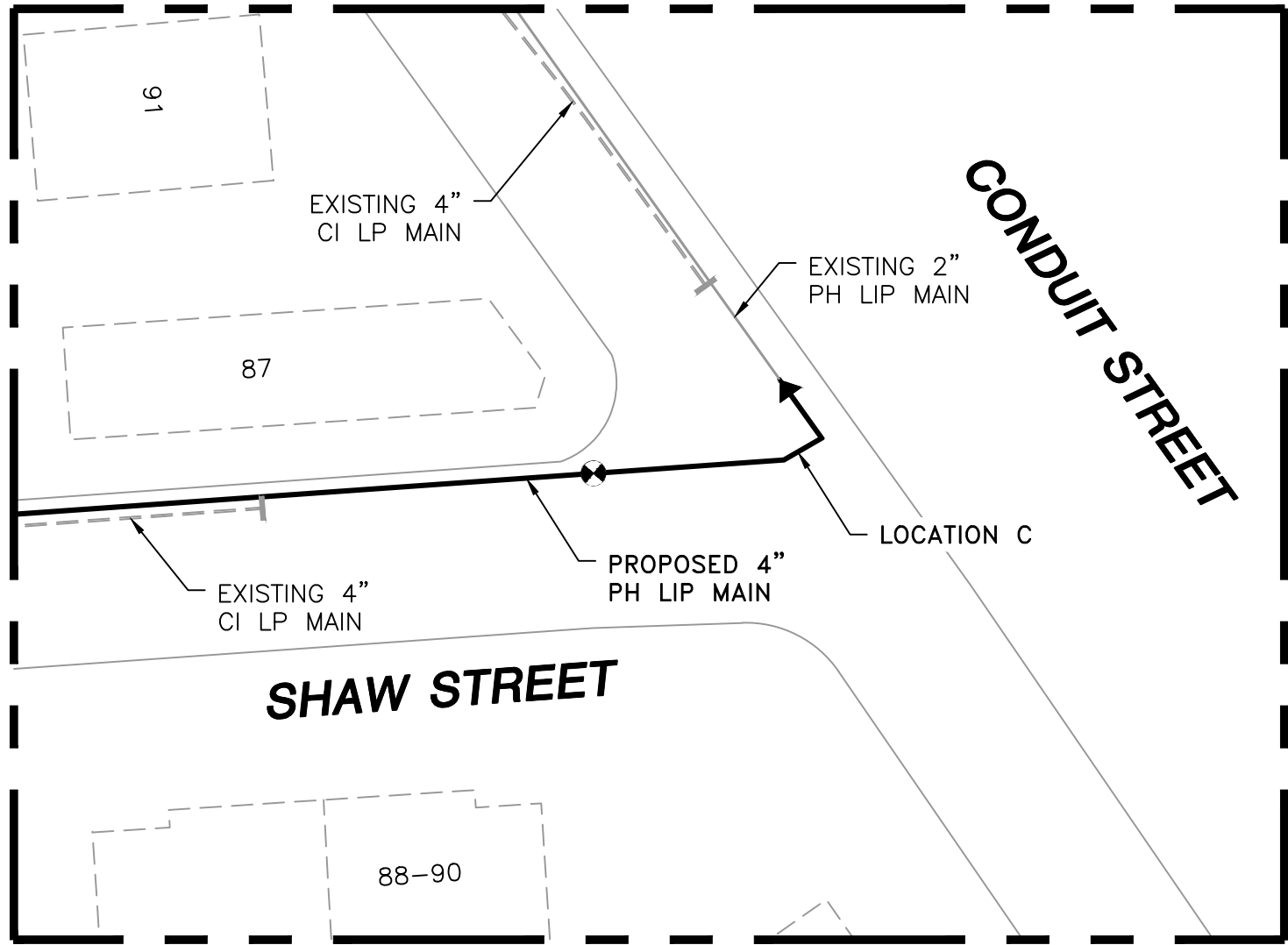
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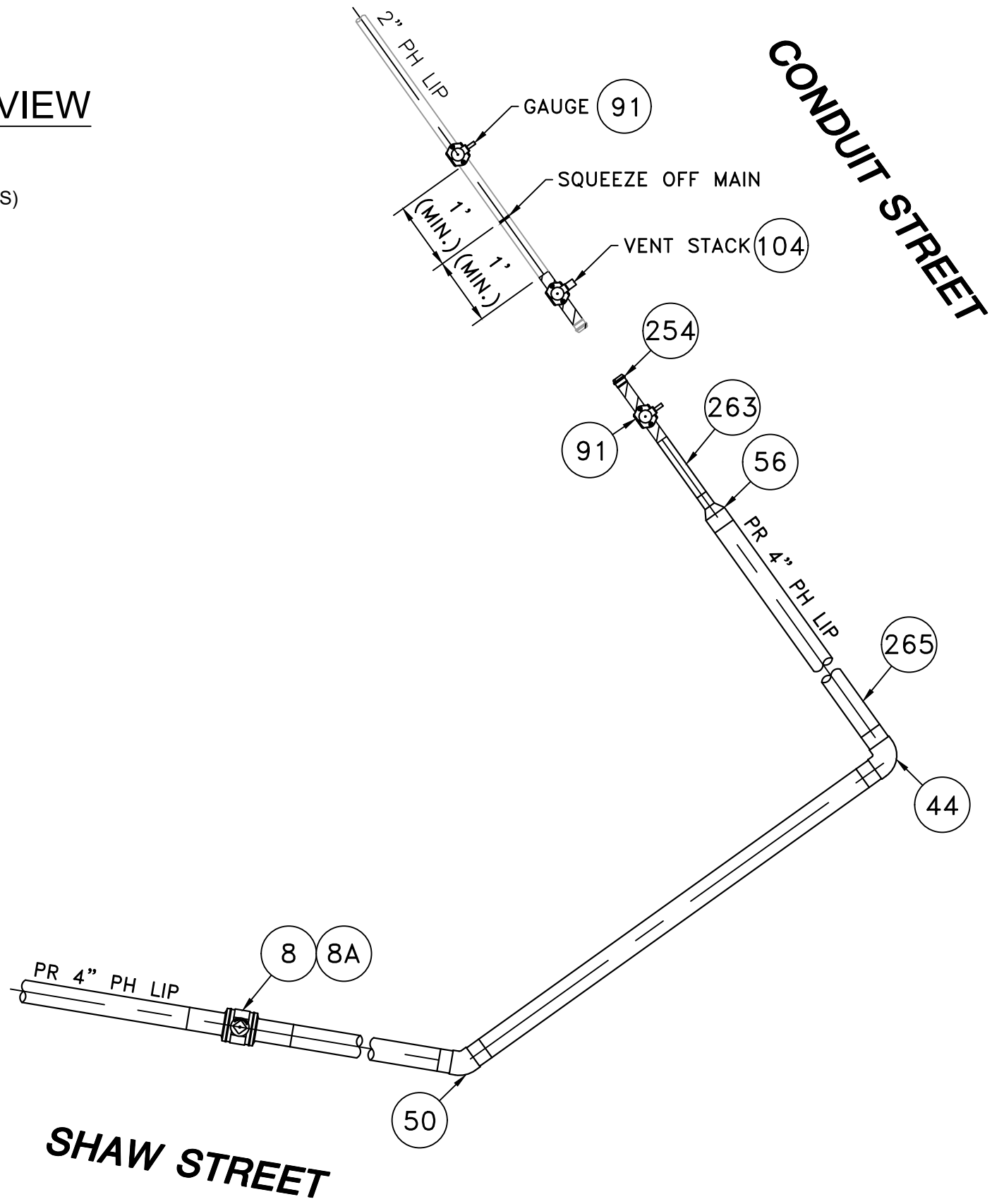
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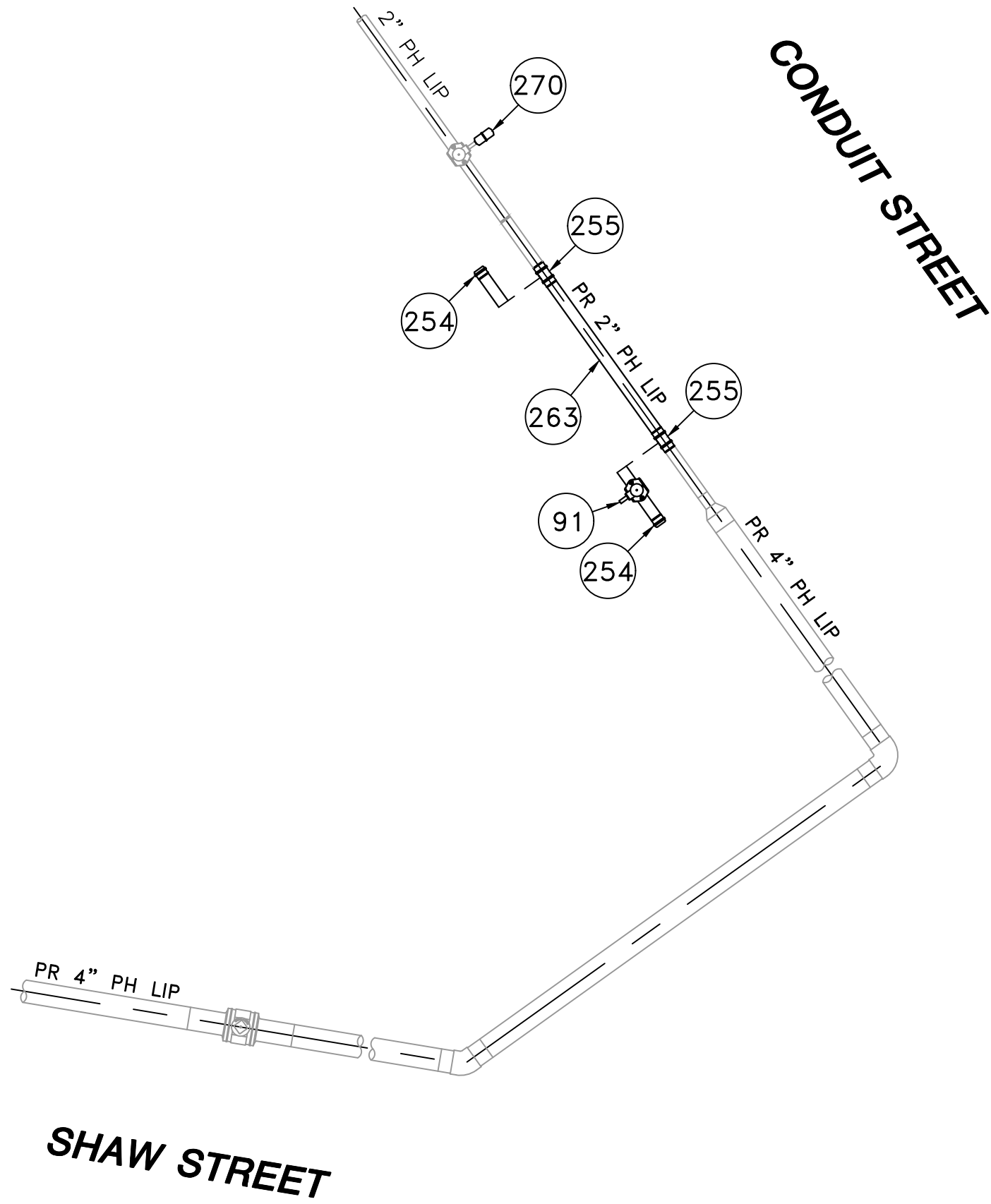
FIELD VERIFY DIMENSIONS
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LOCATION C - PLAN VIEW
(SCALE: 1"=30')
(REFER TO SHEET #4)
(DO NOT SCALE FROM DRAWINGS)



LOCATION C - PHASE 1
(SCALE: 1"=2')
(REFER TO SHEET #4)
(DO NOT SCALE FROM DRAWINGS)



LOCATION C - PHASE 2
(SCALE: 1"=2')
(REFER TO SHEET #4)
(DO NOT SCALE FROM DRAWINGS)

SHAW STREET MAIN RELAY - LOCATION C - SCHEDULE OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
8	1	4"	501002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513
8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	PLASTIC
44	AS REQUIRED	4"	545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
50	AS REQUIRED	4"	545338	ELBOW, 45 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
56	1	4" X 2"	555593	REDUCER, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
91	3	2" X 1/2"	500866	TAPPING TEE, ELECTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261 ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
104	1	2" X 1"	560779	TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
254	AS REQUIRED	2"	581633	END CAP MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMPRESSION RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513
255	AS REQUIRED	2"	579840	COUPLING, MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMPRESSION RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513
263	5' +/-	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
265	65' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
270	AS REQUIRED	1/2"	542609	END CAP, MECHANICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL COLLET AND SPACER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER, PERFECTION WITH END CAP OR APPROVED EQUAL.	ASTM D2513

NOTE:
1. REFER TO GENERAL NOTES ON SHEET #2.

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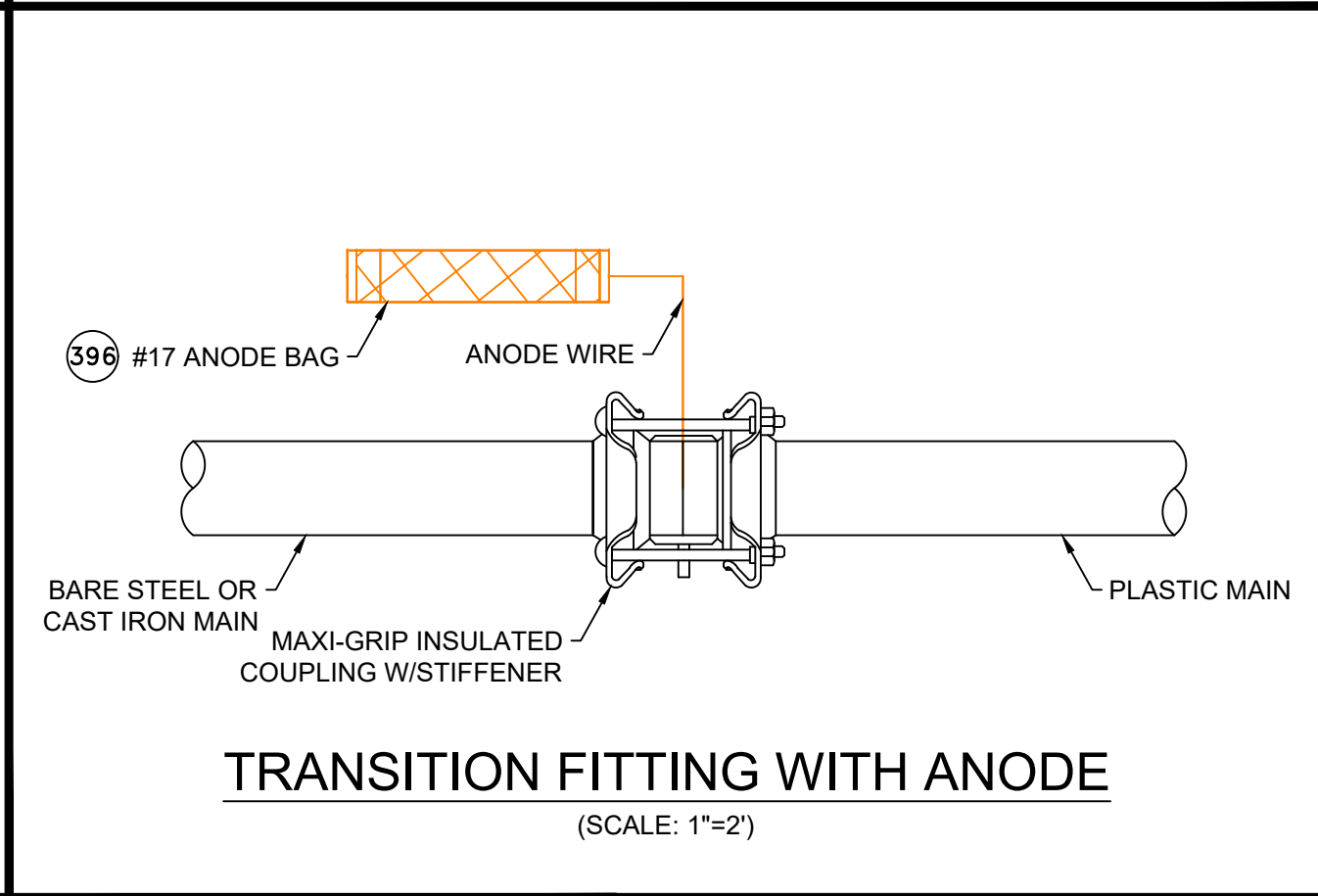
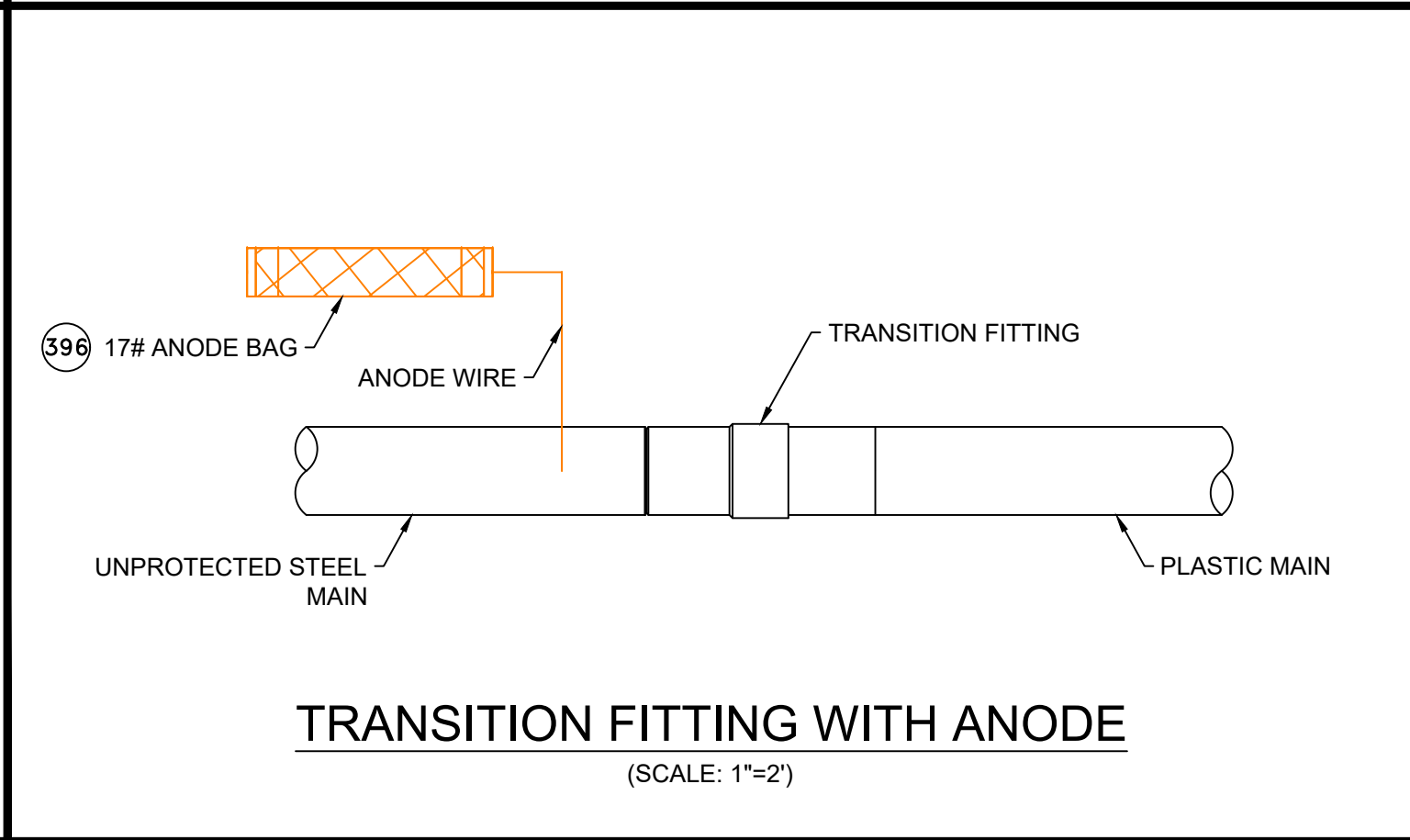
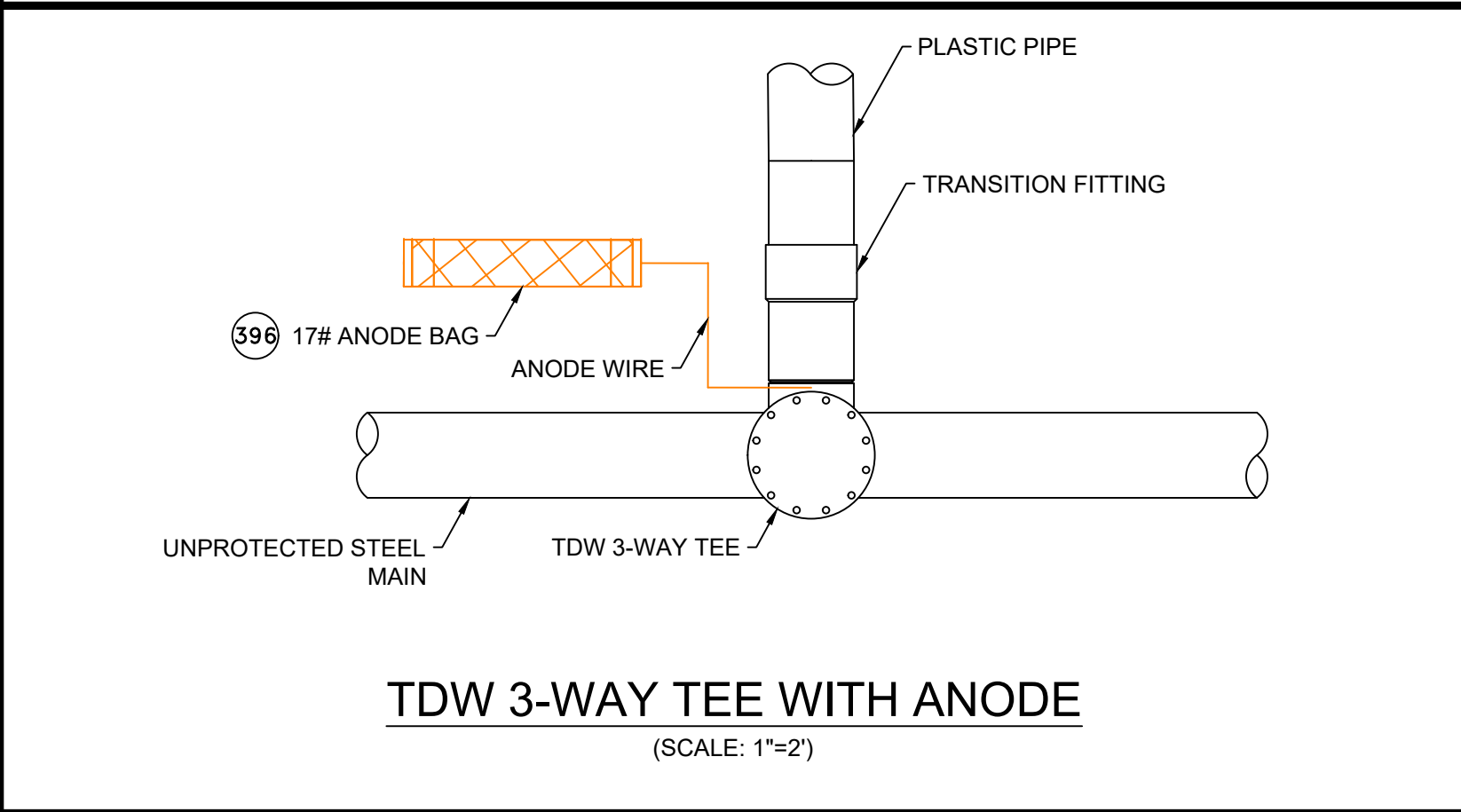
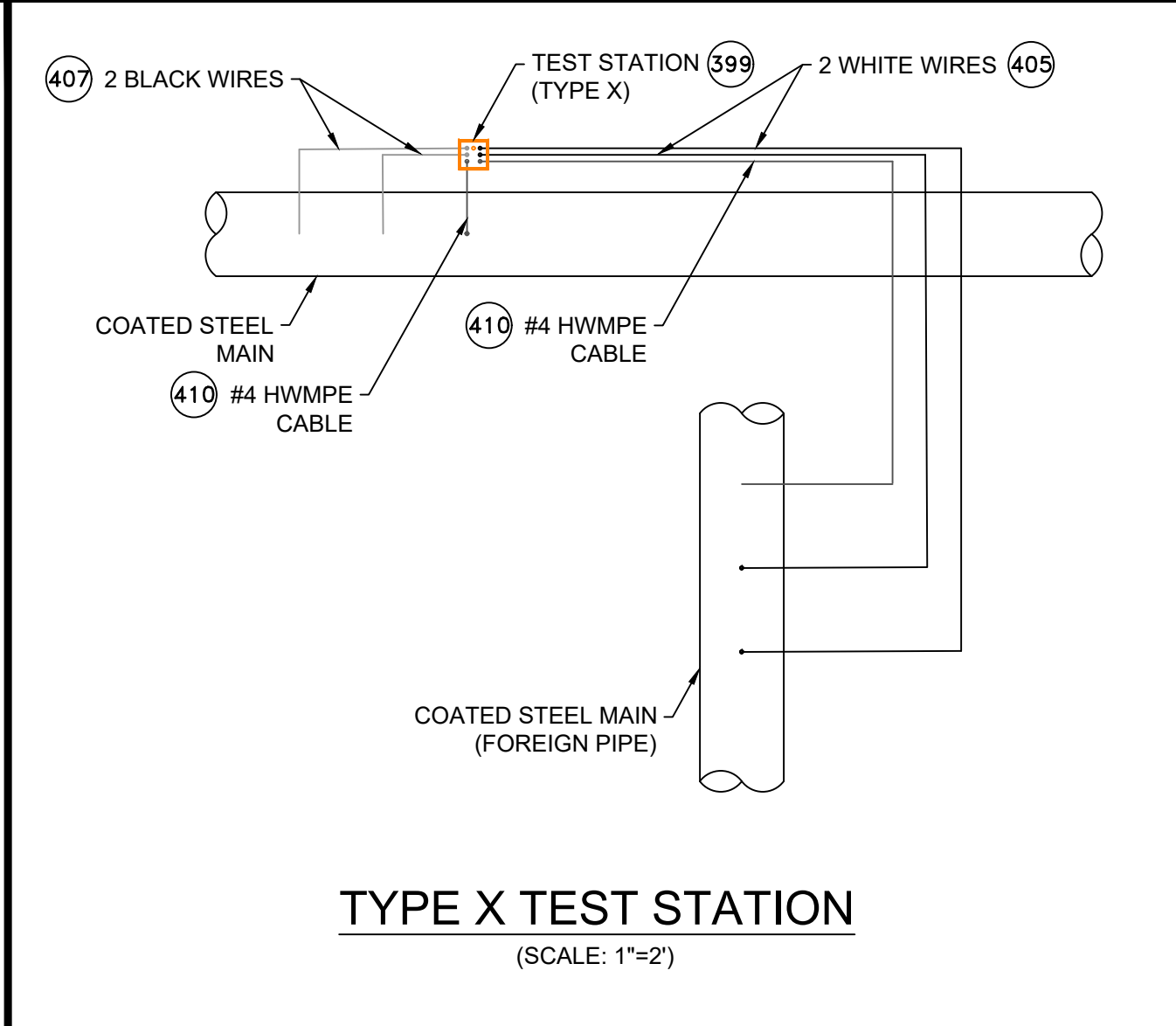
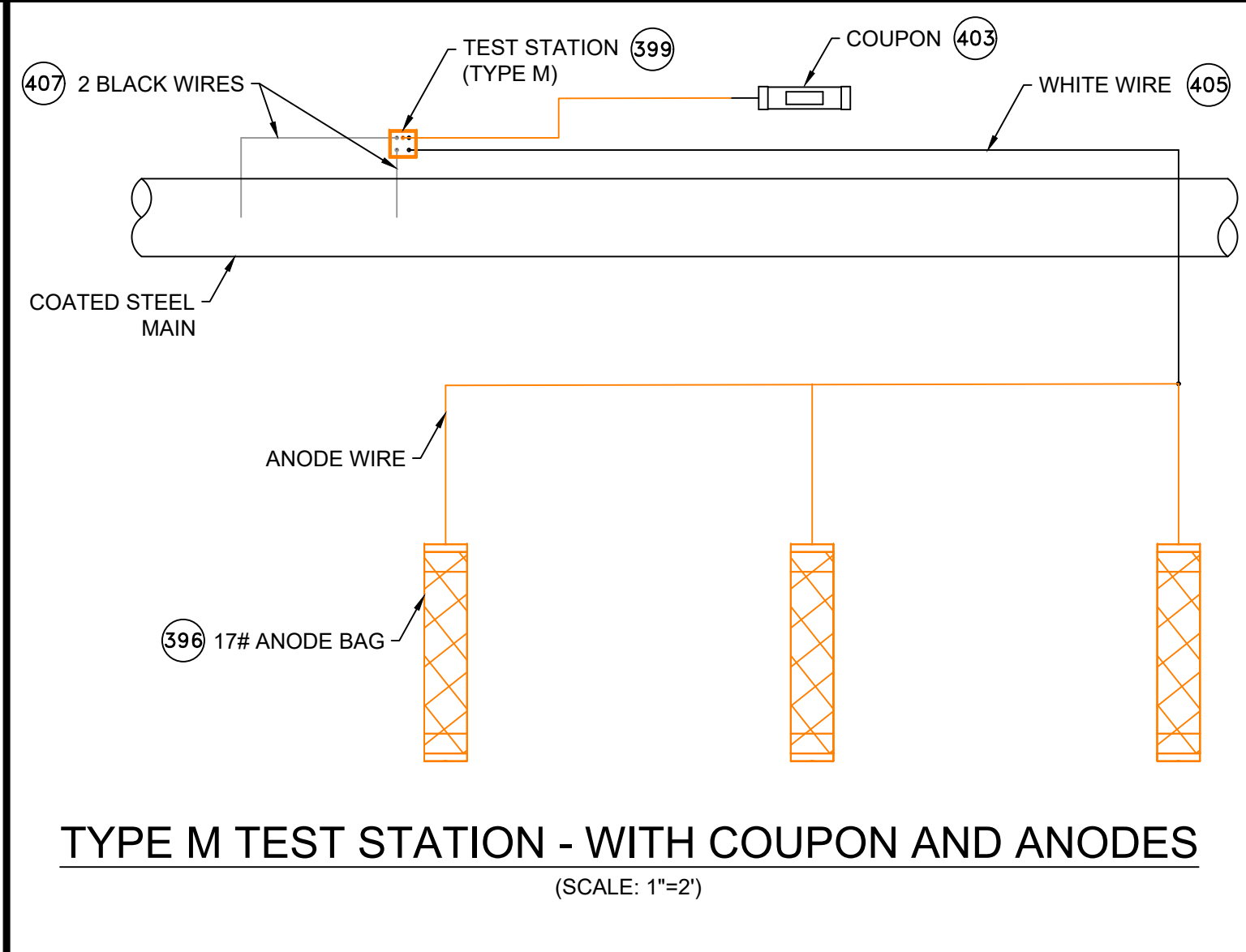
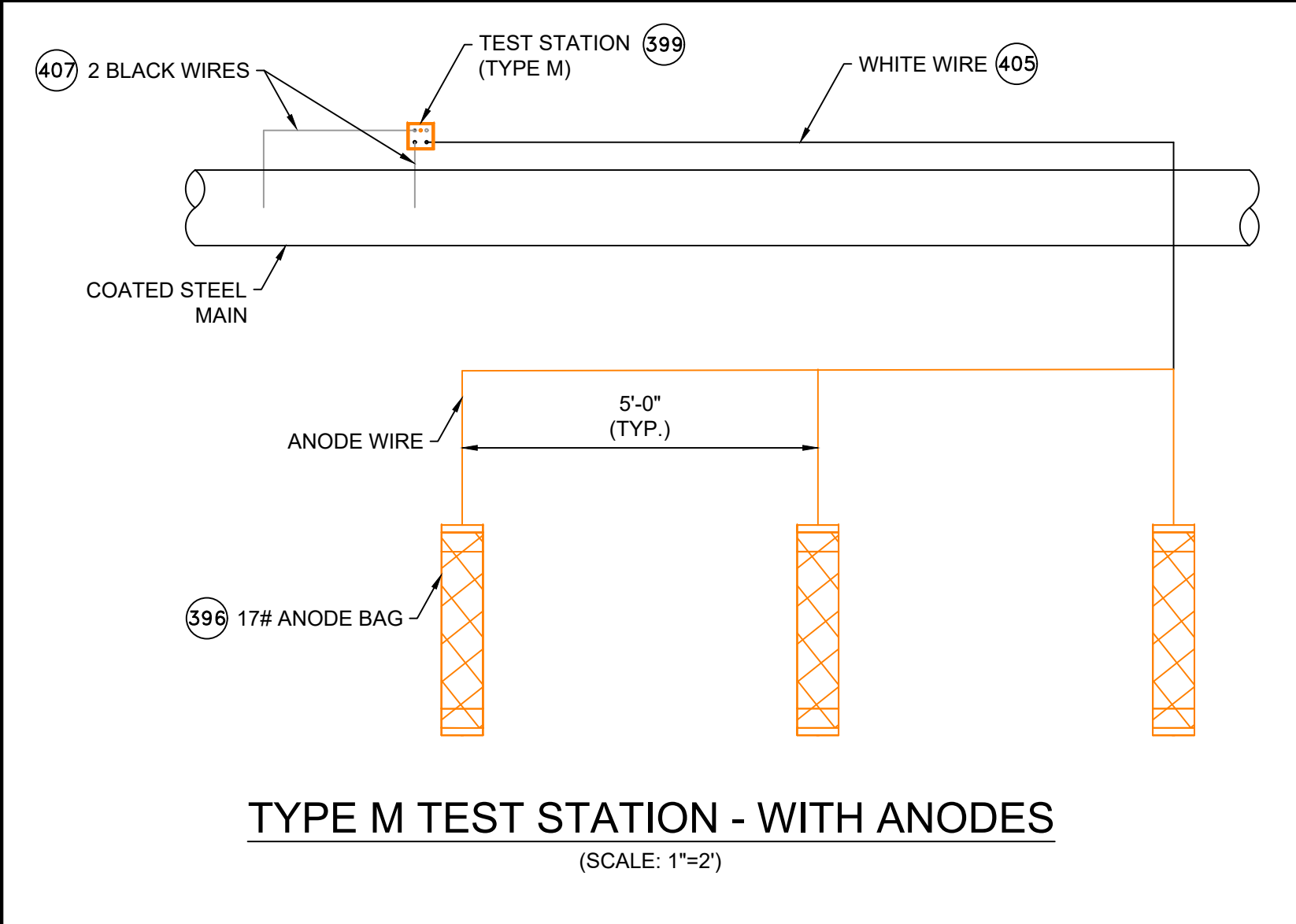
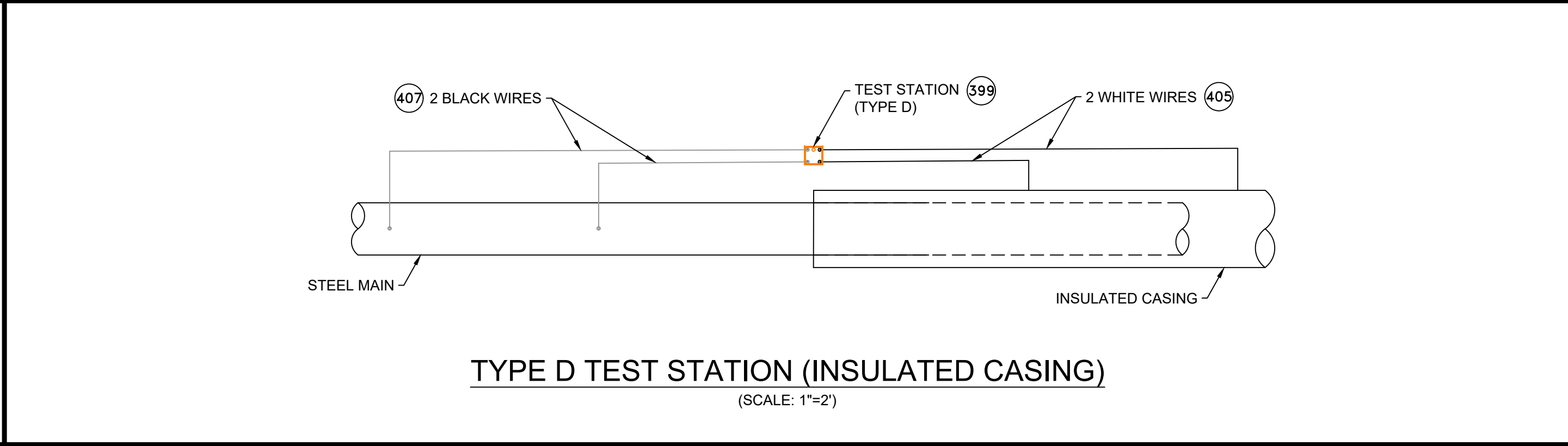
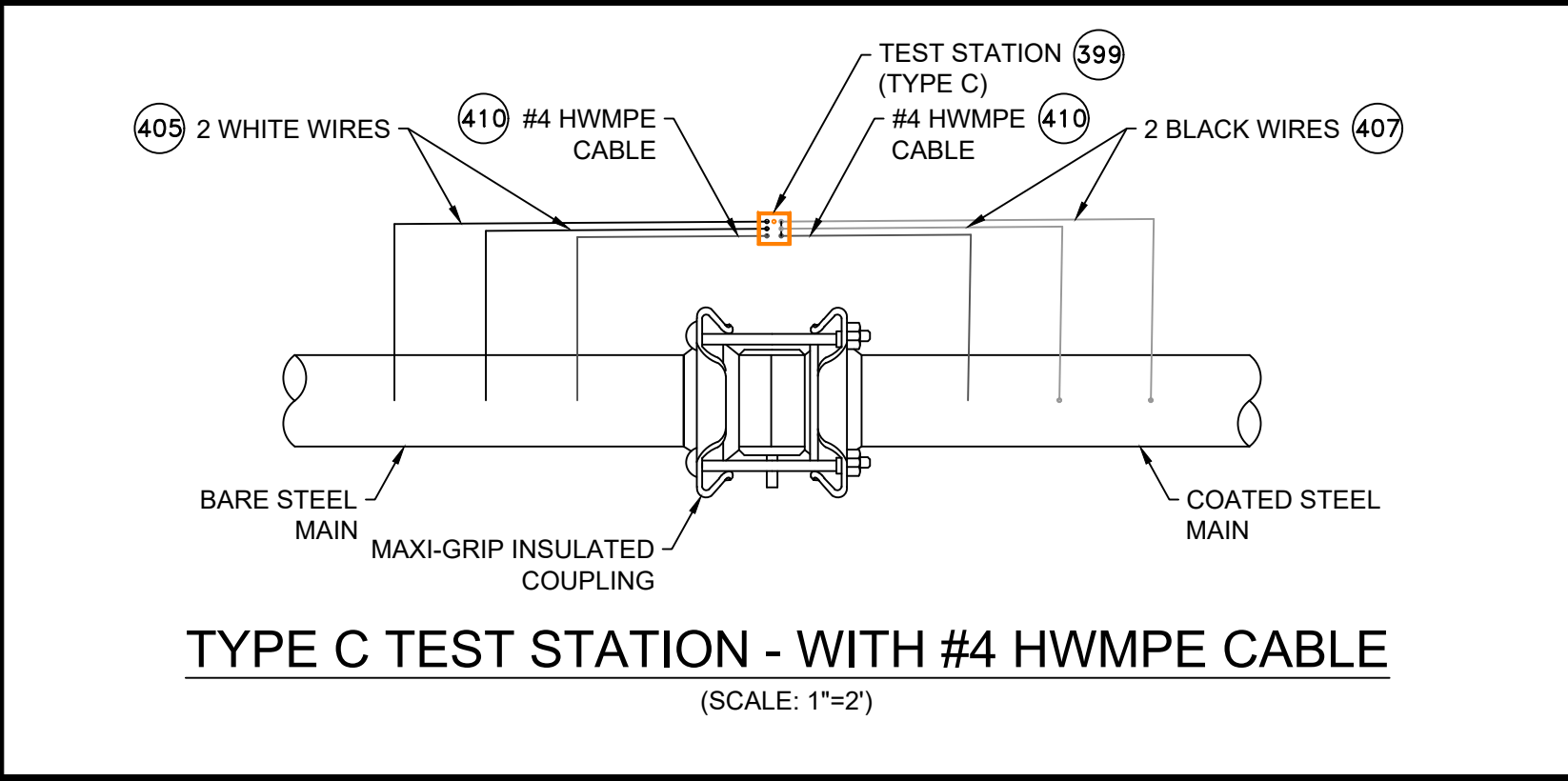
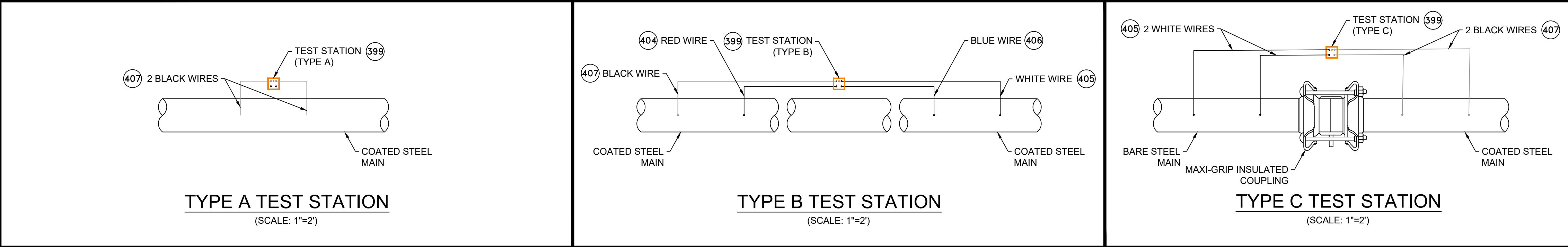
SIGNATURE

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LICENSE
EXPIRATION:
06/30/2022

DESIGNED IN ACCORDANCE WITH TITLE
49, PART 192 OF MINIMUM FEDERAL SAFETY
STANDARDS AND GPTC GUIDE FOR GAS
TRANSMISSION AND DISTRIBUTION PIPING
SYSTEMS, LATEST EDITION.
ENEngineering
29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL (630) 353-4000
FAX (630) 353-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
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0	ISSUED FOR CONSTRUCTION	01/21/2021	WS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
SHAW STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
LOCATION C - PHASE 1, 2 AND SCHEDULE OF MATERIALS			
SCALE: AS NOTED		SHEET 8 OF 9	
DRAWN BY / DATE LR 11/06/2020	CHECKED BY / DATE AB 01/12/2021	SHEET NUMBER	REV. NO.
APPROVED BY / DATE EK 01/21/2021	MANEB21PIP021R0	MA-NEB-21-PIP-021-08	0



CATHODIC PROTECTION BILL OF MATERIALS				
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION
396	X	EA	577776	ANODE,BAG, 17 LB NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN CARDBOARD BOX 42 LB TOTAL WEIGHT
397	X	EA	517626	CONNECTOR, SPLIT BOLT, 12 SOLID - 10 STRANDED, CU TO CU, HOUSING (COVER) MATE IN 590389,
398	X	EA	590389	HOUSING, 50 V MAX, 10 AWG MAX, FOR PROTECTING TRACER WIRE SPLICES, USED WITH CONNECTOR IN 517626. 10/BAG
399	X	EA	590871	BOX VALVE, TEST STATION, CP TEST #178, 10-1/4 IN DIA, LID, 8-3/8 IN I.D. 16 IN H., ASTM A48 CL 25 CAST IRON, FOR OFF-ROAD USE ONLY
400	X	BOX	508567	POWDER, CARTRIDGE, TYPE IS F-33, ALLOY , CAP COLOR CLEAR, 15 GM CHARGE, 20/PAC, FOR STEEL PIPE
401	X	EA	559168	SLEEVE,ELECTRICAL, #14 TO 10 AWG, W/ THERMITE WELDER, FOR CATHODIC PROTECTION
402	X	ES	584045	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW010, 10 FT OF CABLE
403	X	ES	603126	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW025, 25 FT OF CABLE
404	X	ROLL	603140	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, RED, INSULATED, CU, 500 FT SPOOL, WIRE
405	X	ROLL	578415	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, WHITE, INSULATED, CU, 500 FT SPOOL, WIRE
406	X	ROLL	603141	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLUE INSULATED, CU, 500 FT SPOOL, WIRE
407	X	ROLL	603139	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLACK, INSULATED, CU, 500 FT SPOOL,WIRE
408	X	EA	500804	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE,HORIZONTAL STEEL PIPE 4 IN AND LARGER DIAMETER
409	X	EA	500805	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE, HORIZONTAL STEEL PIPE 3/4 - 3-1/2 IN DIAMETER
410	X	FT	513850	CABLE, INSULATED, CATHODIC PROTECTION, 1/C, #4 AWG, 7 STR, 600 V, BLACK, HMWPE, CU, 1000 FT ROLLS

- NOTES:**
- ALL TEST STATION BOXES SHOULD BE INSTALLED IN A SAFE LOCATION WHERE ONE INDIVIDUAL CAN SAFELY OPEN AND ACCESS THE TEST WIRES. ALL TEST WIRES INSIDE THE BOX SHOULD HAVE ENOUGH SLACK ON THE WIRES SO THEY CAN EXTEND A MINIMUM OF 12" ABOVE GRADE.
 - FOR TYPE A TEST STATIONS, THE TWO WIRES SHOULD BE THERMITE WELDED TO THE COATED STEEL MAIN AND BE THE SAME COLOR. (COUPONS COULD BE ADDED TO THE TEST STATION TYPE).
 - FOR TYPE B TEST STATIONS, EACH OF THE FOUR WIRES SHOULD BE A DIFFERENT COLOR AND DOCUMENTED
 - FOR TYPE C TEST STATIONS, THE WIRES SHOULD BE THE SAME COLOR ON EACH SIDE OF THE INSULATED COUPLING. (ANODES AND/OR COUPONS COULD BE ADDED TO THIS TEST STATION TYPE).
 - FOR TYPE D TEST STATIONS WHICH ARE AT A CASING, WHITE WIRES ARE NORMALLY INSTALLED ON THE STEEL CASING AND BLACK WIRES ON INSTALLED ON THE CARRIER PIPE. (ANODES AND/OR COUPONS COULD BE ADDED TO THIS TEST STATION TYPE).
 - FOR TYPE M TEST STATIONS, THE TWO WIRES THERMITE WELDED TO THE CARRIER PIPE SHOULD BE THE SAME COLOR WIRE. THERE IS ALSO MAGNESIUM ANODE(S) WIRE(S) LOCATED INSIDE THE TEST STATION BOX.THE WIRE COLOR (TYPICALLY ORANGE) FOR THE ANODES. IF THE ANODE WIRES ARE SPLICED TO A COMMON ANODE HEADER CABLE, THE ANODE HEADER CABLE SHOULD BE A (WHITE OR RED) DIFFERENT COLOR WIRE THAN THE WIRE THAT WAS THERMITE WELDED TO THE CARRIER PIPE. AT A TYPE M TEST STATION, NO MAGNESIUM ANODES SHOULD BE DIRECTLY THERMITE WELDED TO THE CARRIER PIPE OR IN CONTACT WITH THE CARRIER PIPE. THE ANODE HEADER WIRE OR INDIVIDUAL ANODE WIRES SHOULD TERMINATE INSIDE THE TEST STATION BOX. ANODES SHOULD BE SPACED A MINIMUM OF 5' ON CENTER FROM EACH OTHER AND A MINIMUM OF 12" AWAY AND BELOW THE BOTTOM OF THE STEEL MAIN.
 - IF COUPONS ARE TO BE INSTALLED , FIRST REMOVE THE PROTECTIVE LABEL COVERING THE STEEL COUPON AND THE RED STICKERS COVERING EACH SENSING PORT. CLEAN THE ENTIRE STEEL COUPON SURFACE WITH ALCOHOL TO REMOVE THE CORROSION INHIBITOR .PLACE THE COUPON ASSEMBLY APPROXIMATELY 12" FROM THE GAS MAIN BEING MONITORED WITH THE SENSING PORTS FACING THE GAS MAIN. THE COUPON ASSEMBLY SHOULD BE LOCATED ADJACENT TO THE BOTTOM PORTION OF THE GAS MAIN, ANYWHERE BETWEEN 3 O'CLOCK AND 9 O'CLOCK. THE SOIL BETWEEN THE COUPON AND THE MAIN SHOULD BE WELL COMPACTED AND CONTAIN NO ROCKS LARGER THAN A CENTIMETER IN DIAMETER OR FOREIGN MATERIAL.

*THESE DETAILS WERE PROVIDED BY EVERSOURCE FOR TYPICAL INSTALLATIONS AND ARE FOR REFERENCE USE ONLY.

ISSUED FOR
CONSTRUCTION
01/21/2021

SEALED BY:
ERIC VINAI KUMAR
No. 54771
REGISTERED PROFESSIONAL ENGINEER
SIGNATURE

SEALED ON:
01/22/2021
LICENSE EXPIRATION:
06/30/2022

DESIGNED IN ACCORDANCE WITH TITLE 49,PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.
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NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
SHAW STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
STANDARD CORROSION DETAILS			
SCALE:1"=2' (DO NOT SCALE FROM DRAWINGS)			SHEET 9 OF 9
DRAWN BY / DATE LR 11/06/2020	CHECKED BY / DATE AB 01/12/2021	SHEET NUMBER	REV. NO.
APPROVED BY / DATE EK 01/21/2021	MANEB21PIP021R0	MA-NEB-21-PIP-021-09	0