

Manchester-By-The-Sea, MA 01944

10 CENTRAL STREET
MANCHESTER-BY-THE-SEA, MA 01944

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
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[illegible]

NO.	BY	APP	DATE	ISSUE/REVISION	DESCRIPTION
DATE:			1/22/2024	DESIGN BY:	RT
SCALE:			AS SHOWN	DRAWN BY:	TJS
APPRVD. BY:			MTC	CHECK BY:	MTC

PLOT DATE: Apr 11, 2024 3:52 pm
PATH: F:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG\

DWG: 25770utility	C1
LAYOUT: INDEX (C1)	
SHEET: 2 OF 18	
PROJECT NO.: 25770	

Manchester-By-The-Sea, MA 01944

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MANCHESTER-BY-THE-SEA, MA 01944

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/10/2024

PLAN AND PROFILE

(STA. 0+00 TO STA. 5+50)

PLOT DATE: Apr 12, 2024 2:32 pm
PATH: F:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG\

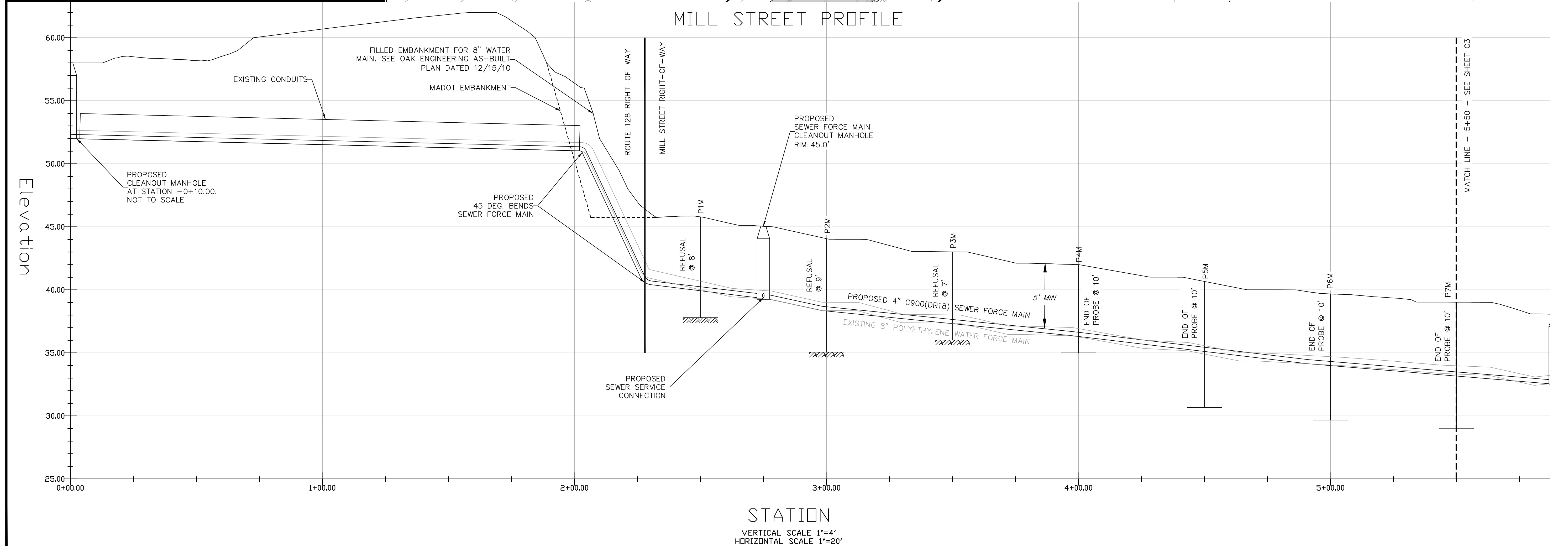
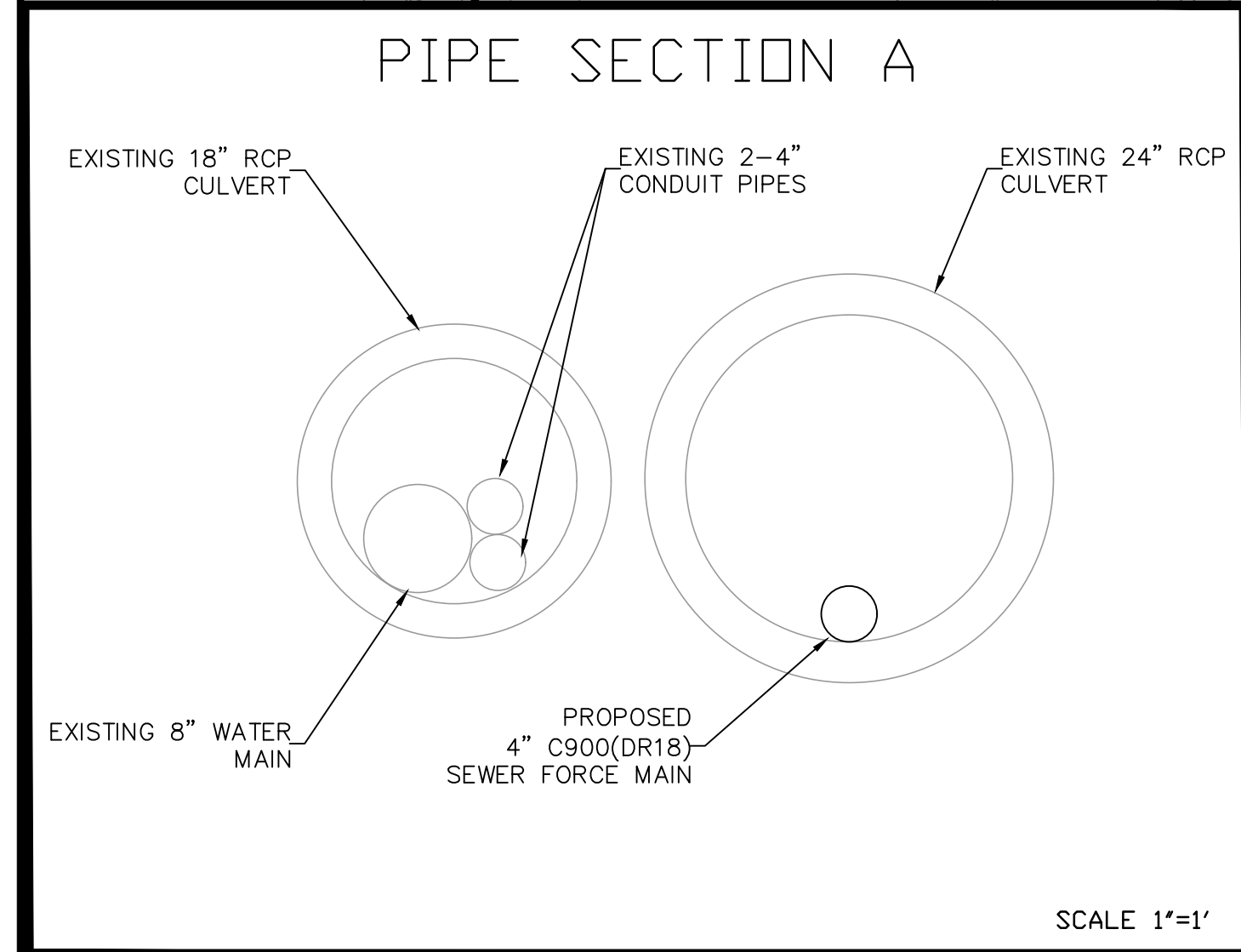
DWG: 25770utility	25
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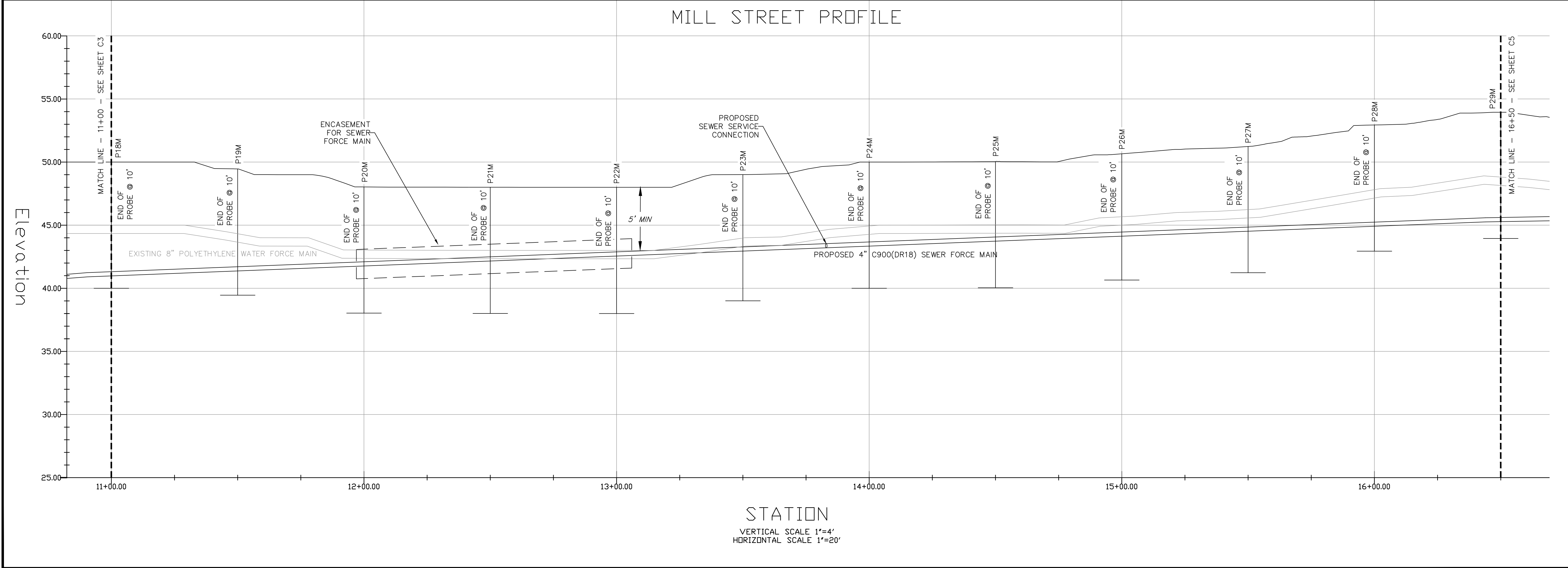
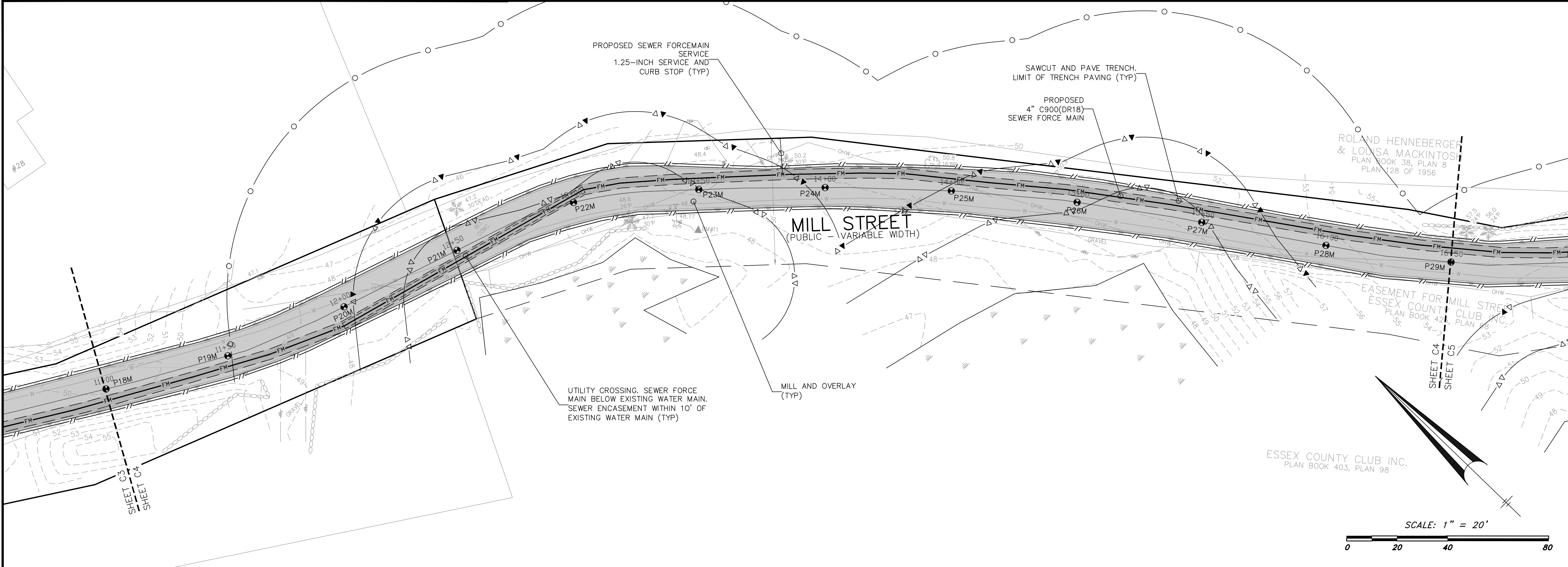
LAYOUT: UTIL(C2)

SHEET: 3 OF 18	
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C2

25770





**MILL STREET
FOREST STREET
&
SCHOOL STREET**

Manchester-By-The-Sea, MA 01944

PREPARED FOR:

**TOWN OF
MANCHESTER-
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10 CENTRAL STREET
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**PLAN
AND
PROFILE**
(STA. 11+00 TO STA. 16+50)

POST DATE: Apr 11, 2024, 3:54 pm
PLOT: P:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG\

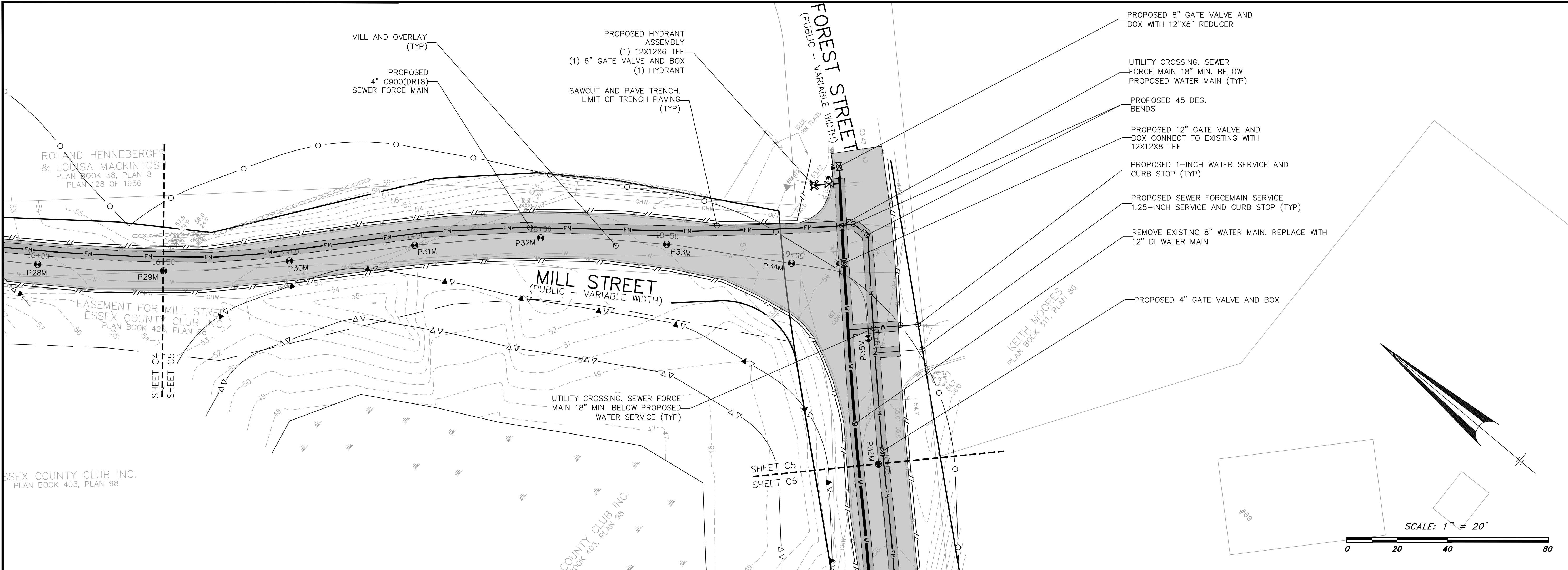
DWG: 25770Utility

LAYOUT: UTIL(C4)

SHEET: 5 OF 18

PROJECT NO.: 25770

C4



MILL STREET
FOREST STREET
&
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Manchester-By-The-Sea, MA 01944

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3				APPRVD. BY:	MTG
4				CHECK BY:	MTG

PLAN
AND
PROFILE
(STA. 16+50 TO STA. 20+00)

PLOT DATE: Apr 11, 2024, 3:55 pm
PLOT FILE: C:\Users\jhaney\OneDrive\Documents\Projects\25770 - Cell Signaling - Manchester\Eng\DWG\

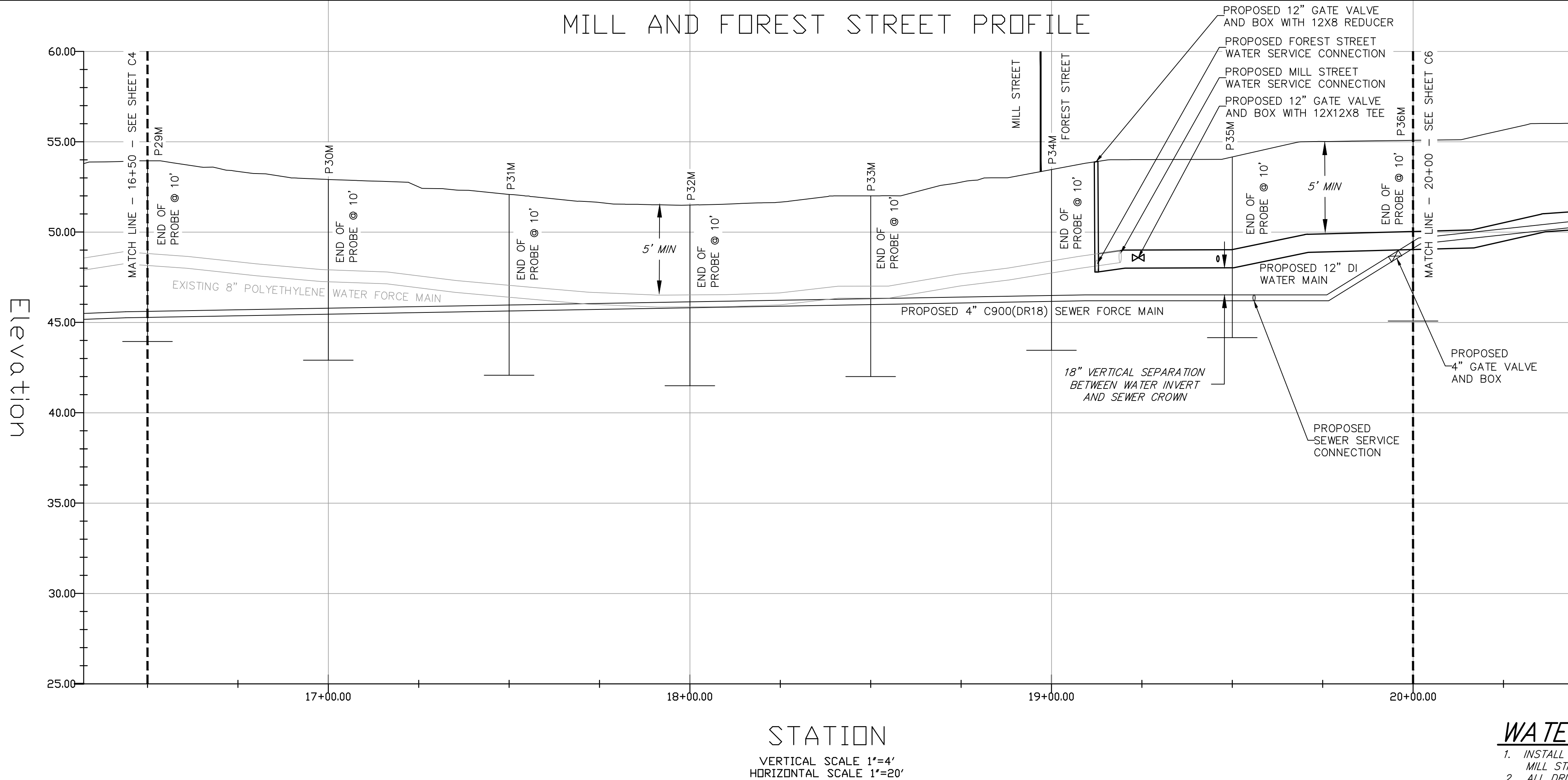
DWG: 25770Utility

LAYOUT: UTIL(C5)

SHEET: 6 OF 18

PROJECT NO.: 25770

C5



- WATER NOTES**
1. INSTALL BYPASS WATER SYSTEM OF EAST SIDE OF FOREST STREET FROM MILL STREET TO ANCIENT COUNTY WAY.
 2. ALL DRIVEWAY AND ROADWAY CROSSING ARE TO BE BELOW GRADE AND PAVED.

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PLAN AND PROFILE (STA. 20+00 TO STA. 25+50)

PLOT DATE: Apr 11, 2024 3:56 pm
PATH: F:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG

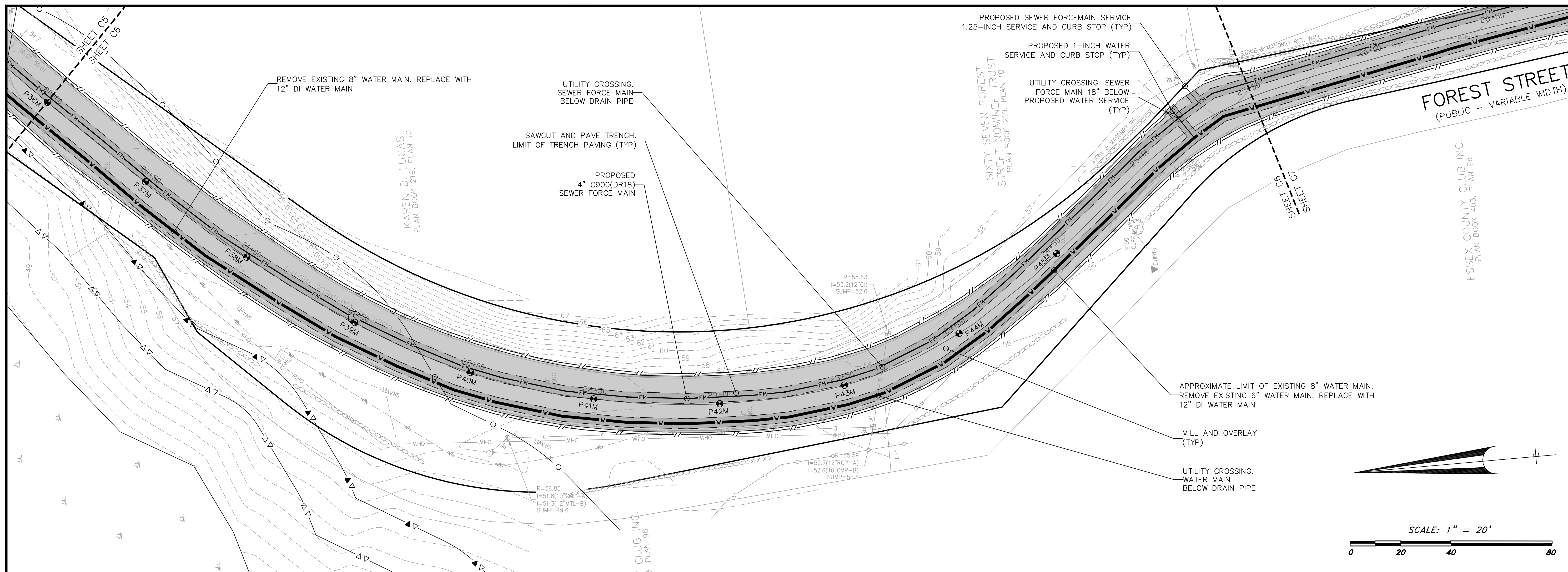
DWG: 25770utility

LAYOUT: UTIL(C6,

SHEET: 7 OF 1

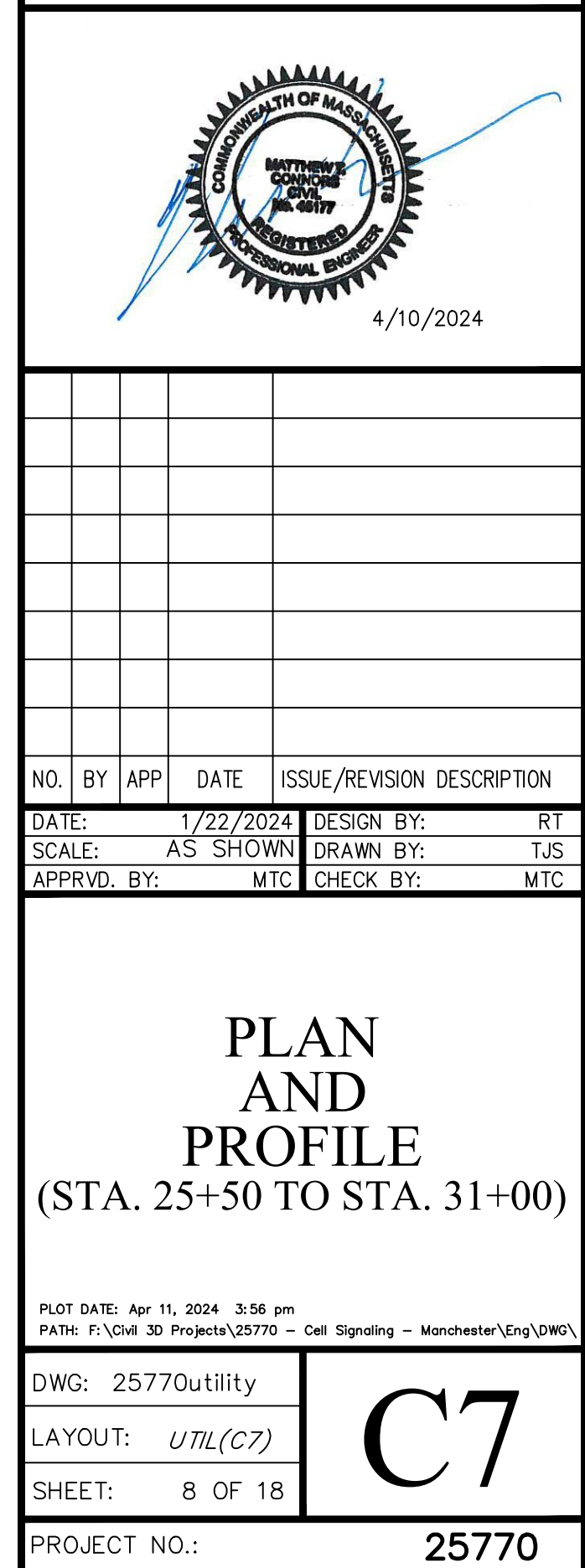
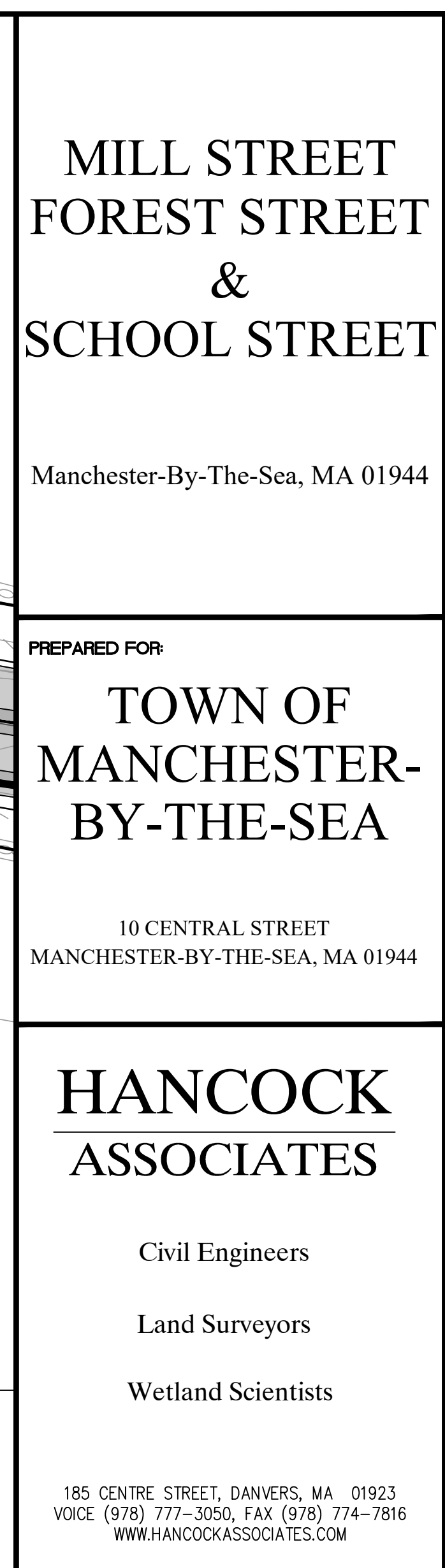
PROJECT NO.:

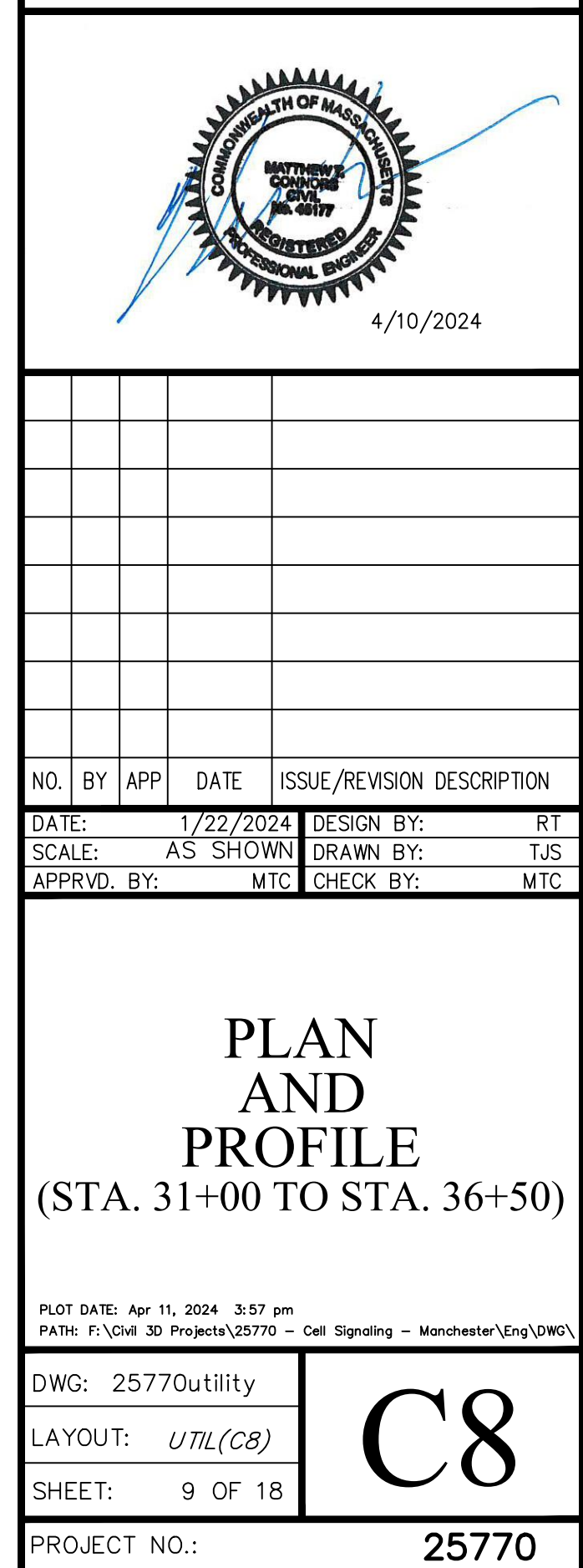
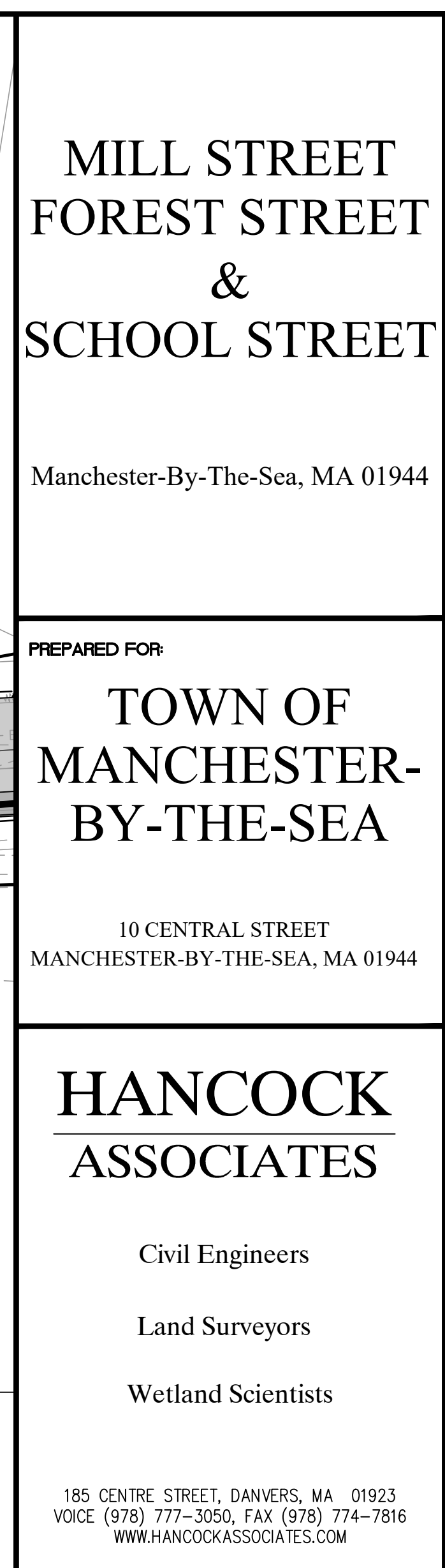
25770



WATER NOTES

1. INSTALL BYPASS WATER SYSTEM OF EAST SIDE OF FOREST STREET FROM MILL STREET TO ANCIENT COUNTY WAY.
2. ALL DRIVEWAY AND ROADWAY CROSSING ARE TO BE BELOW GRADE AND PAVED.





PROPOSED 1-INCH WATER
SERVICE AND CURB STOP
(TYP)

REMOVE AND REPLACE
STRUCTURE AND 12"-
DRAIN PIPE (TYP)

CONNECT TO
EXISTING WATERMAIN
WITH:
(1) 12"x12"x6" TEE
(1) 6" GATE VALVE
AND BOX
(1) 12" GATE VALVE
AND BOX

UTILITY C
SERVICE
S

UTILITY CROSSING. WATER
SERVICE 18" MIN. ABOVE
SEWER MAIN (TYP)

CROSSING. WATER
18" MIN. ABOVE-
WER MAIN (TYP)

LEDGEWOOD ROAD

(PUBLIC - 40' WIDE)
1985 COUNTY L.O.#3214

CONNECT TO EXISTING WATERMAIN WITH:

- (1) 12"x12"x6" TEE
- (1) 6" GATE VALVE AND BOX
- (1) 12" GATE VALVE AND BOX

PROPOSED HYDRANT
ASSEMBLY
(1) 12X12X6 TEE
(1) 6" GATE VALE AND BOX
(1) HYDRANT

PROPOSED 1-INCH
—WATER SERVICE AND
CURB STOP (TYP)

PROPOSED 1-INCH WATER
SERVICE AND CURB STOP

UTILITY CROSSING.
WATER SERVICE 18" MIN
ABOVE SEWER MAIN
(TYP)

ALEXANDER J. &
NATASHA LAMB
1964

MILL STREET
FOREST STREET
&
SCHOOL STREET

Manchester-By-The-Sea, MA 01944

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DATE:			1/22/2024	DESIGN BY:	F
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APPRVD. BY:			MTC	CHECK BY:	M

PLAN AND PROFILE (STA. 36+50 TO STA. 42+00)

PLOT DATE: Apr 11, 2024 3:57 pm
PATH: F:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG\

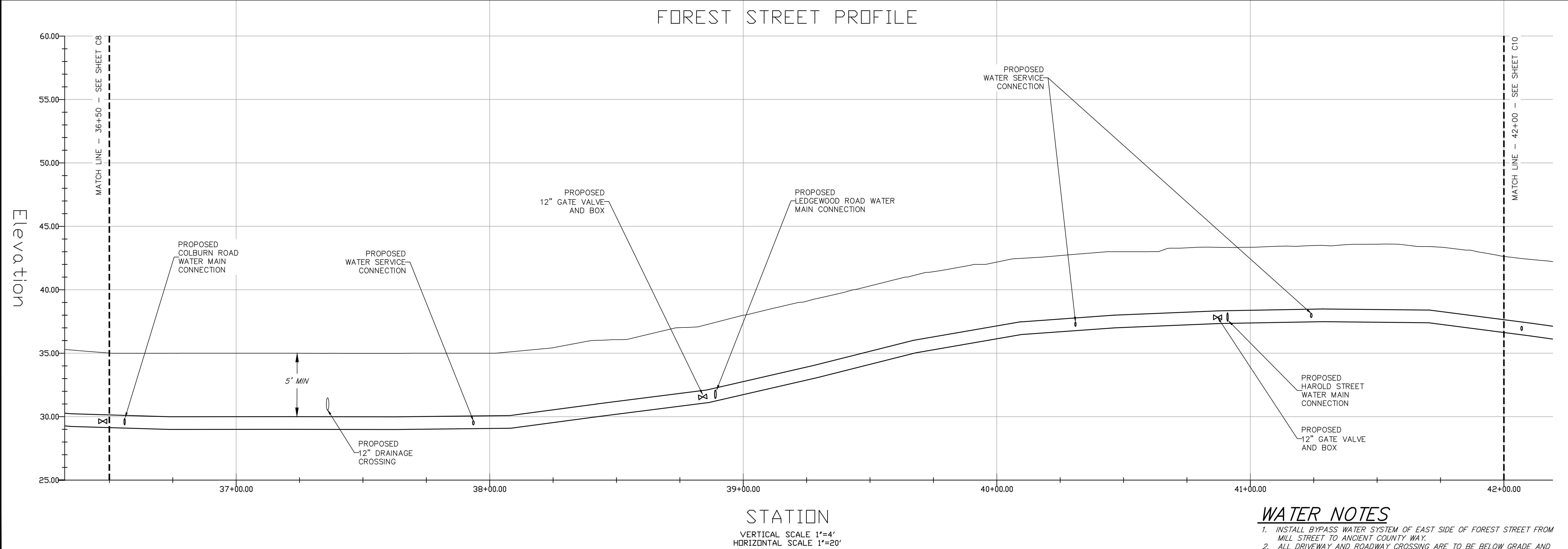
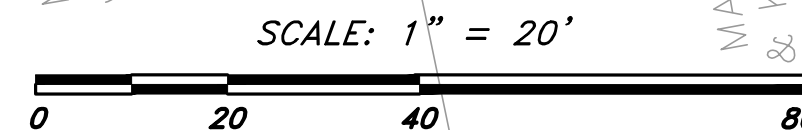
DWG: 25770utility

LAYOUT: UTIL(C9,

SHEET: 10 OF 1

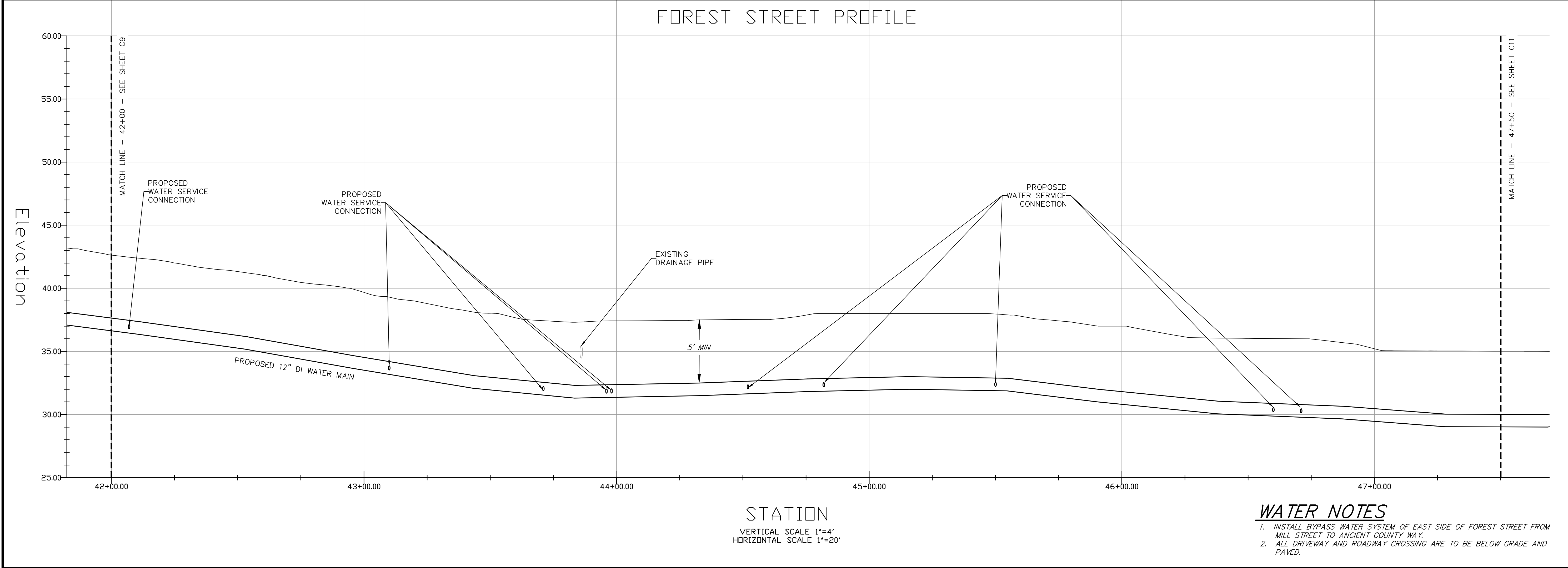
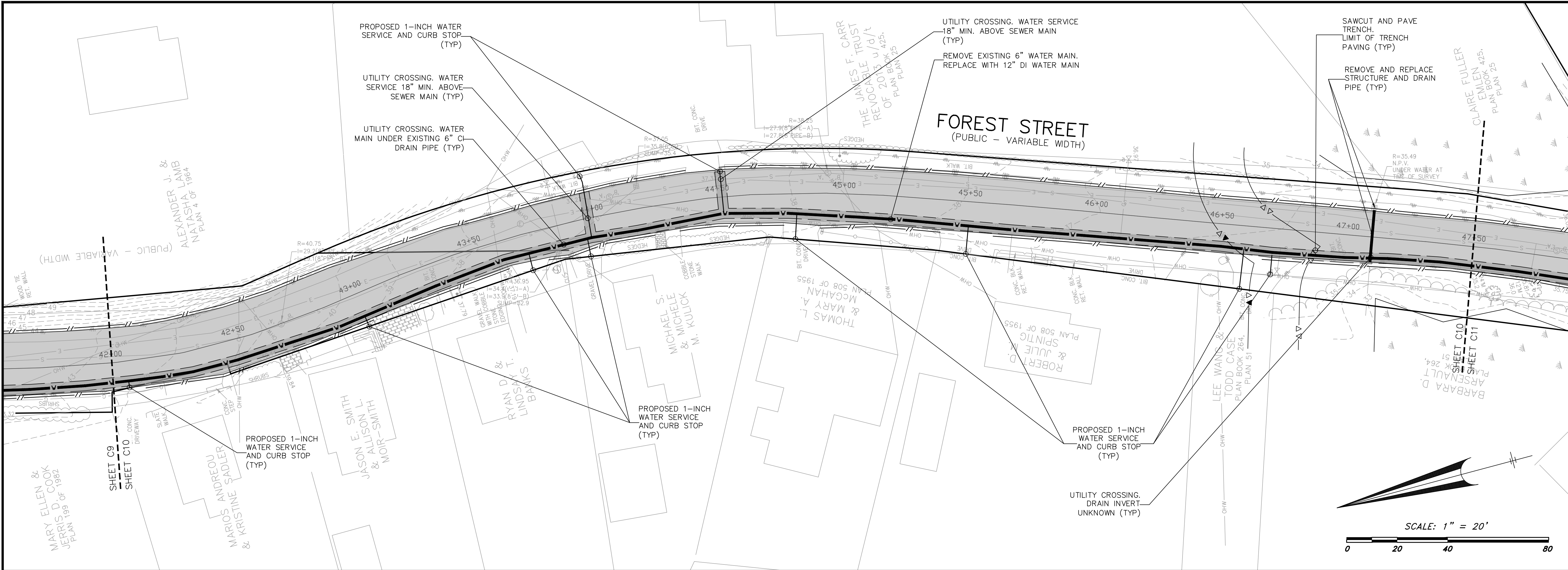
PROJECT NO.

25770



WATER NOTES

1. INSTALL BYPASS WATER SYSTEM OF EAST SIDE OF FOREST STREET FROM MILL STREET TO ANCIENT COUNTY WAY.
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FOREST STREET
&
SCHOOL STREET

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1	TJS	MTG	1/22/2024	DESIGN BY:	RT
2	TJS	MTG	AS SHOWN	DRAWN BY:	TJS
3	MTG	MTG	APPROV. BY:	CHECK BY:	MTG

PLAN
AND
PROFILE
(STA. 42+00 TO STA. 47+50)

POST DATE: Apr 11, 2024, 3:58 pm
PATH: P:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG\

DWG: 25770Utility

LAYOUT: UTIL(C10)

SHEET: 11 OF 18

PROJECT NO.: 25770

C10

Manchester-By-The-Sea, MA 01944

PREPARED FOR

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DATE:		1/22/2024		DESIGN BY:	RT
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APPRVD. BY:		MTC		CHECK BY:	MTC

PLAN AND PROFILE (STA. 47+50 TO STA. 48+66)

PLOT DATE: Apr 11, 2024 3:58 pm
PATH: F:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG

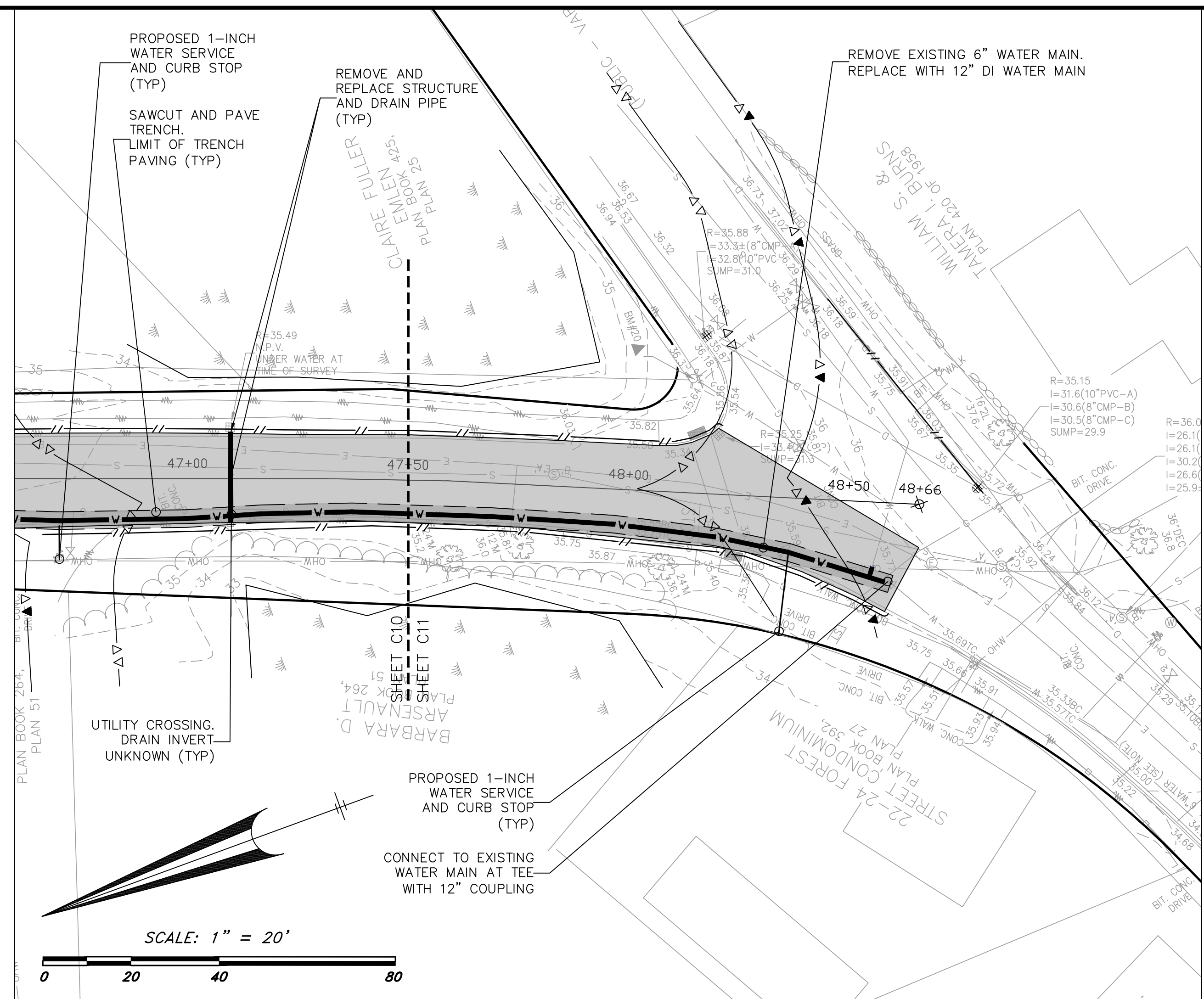
DWG: 25770utility

LAYOUT: *UTIL(C1)*

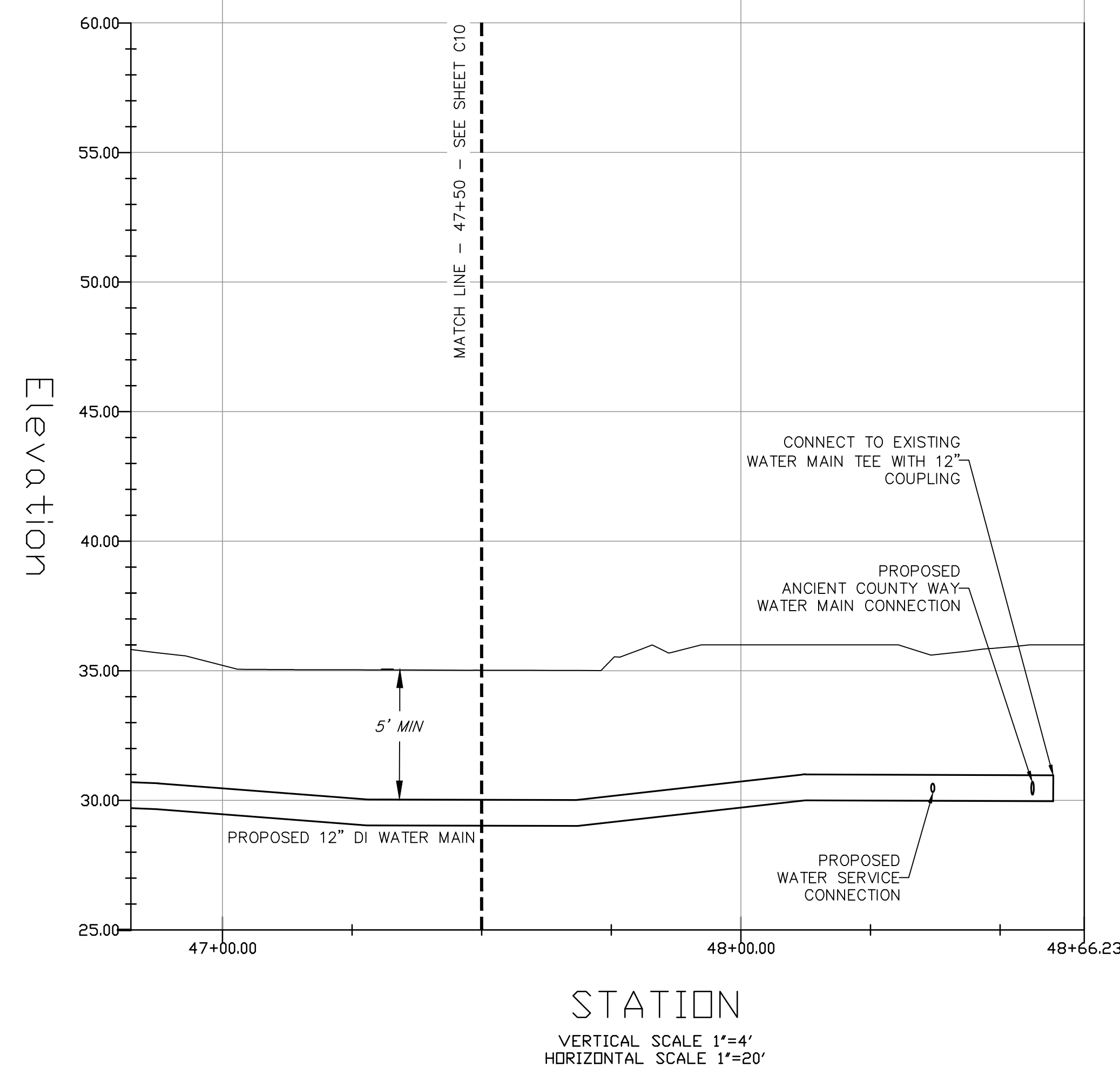
SHEET: 12 OF

PROJECT NO.

25770



FOREST STREET PROFILE

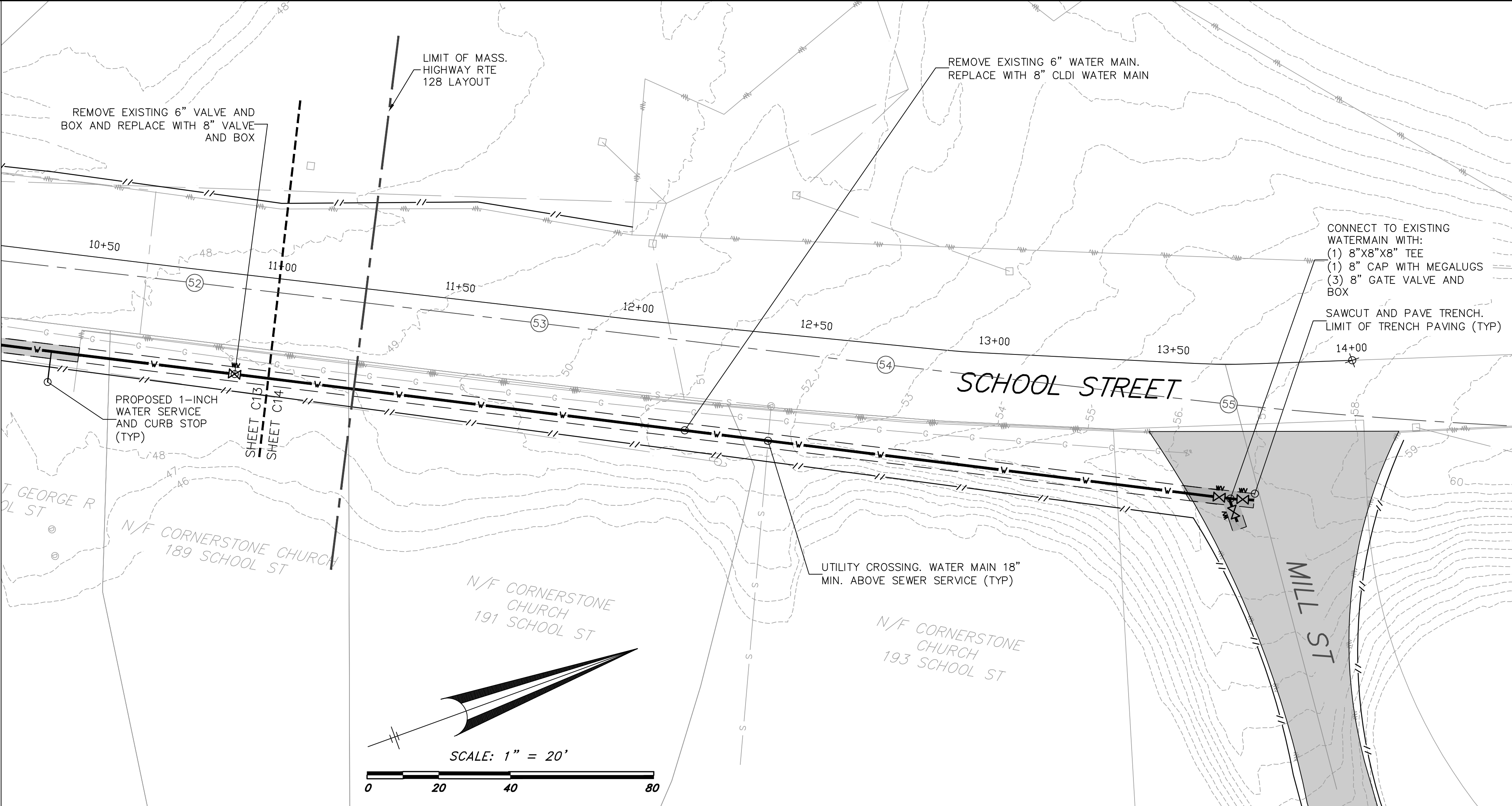


WATER NOTES

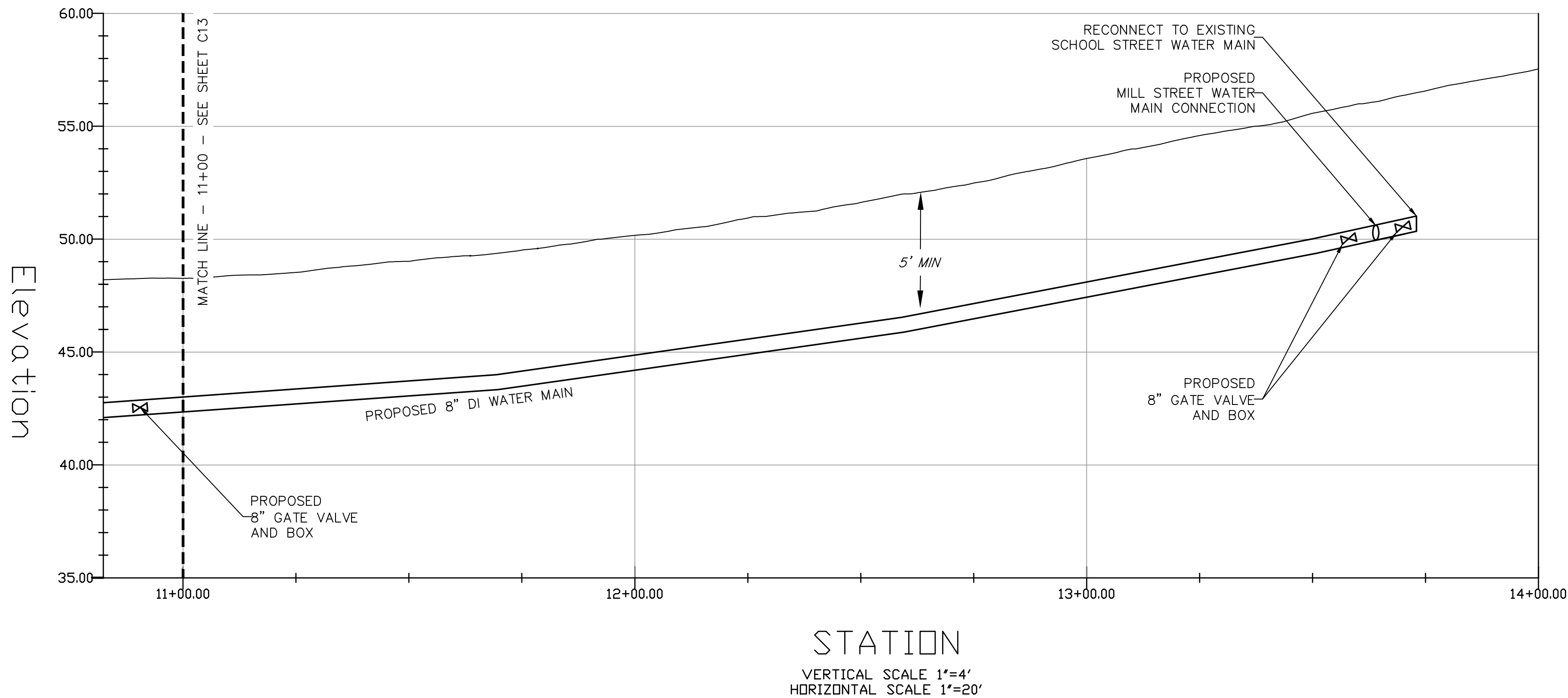
1. INSTALL BYPASS WATER SYSTEM OF EAST SIDE OF FOREST STREET FROM MILL STREET TO ANCIENT COUNTY WAY.
2. ALL DRIVEWAY AND ROADWAY CROSSING ARE TO BE BELOW GRADE AND PAVED.

PLAN AND PROFILE

(STA. 00+00 TO STA. 5+50)



SCHOOL STREET PROFILE



MILL STREET
FOREST STREET
&
SCHOOL STREET

Manchester-By-The-Sea, MA 01944

PREPARED FOR:
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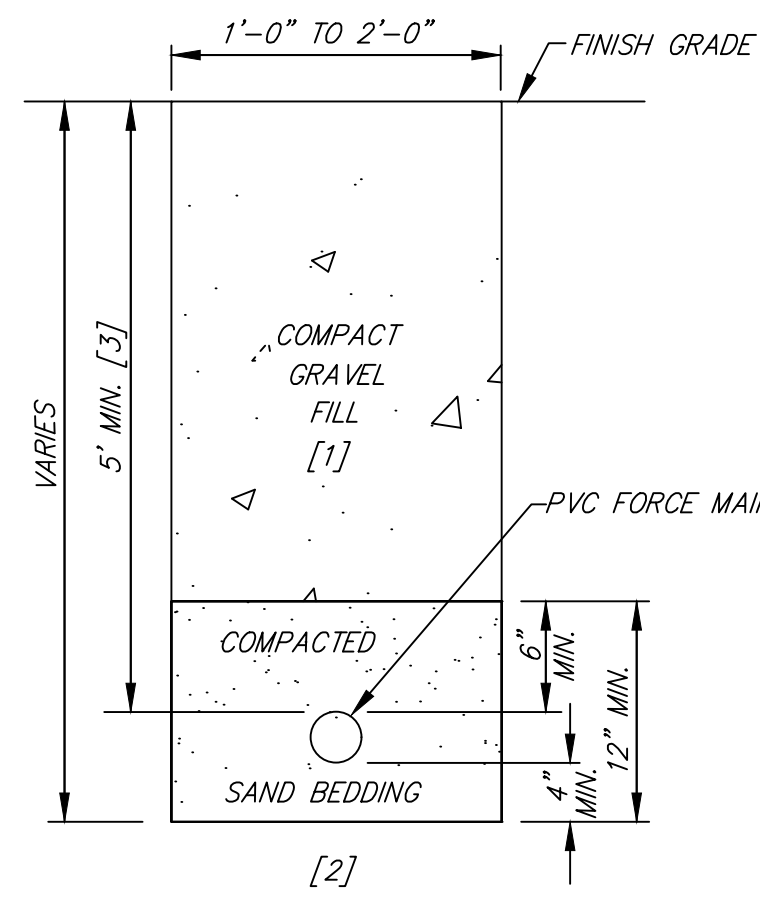


NO.	BY	APP	DATE	ISSUE/REVISION	DESCRIPTION
1			1/22/2024	DESIGN BY:	RT
2				SCALE:	AS SHOWN
3				DRAWN BY:	TJS
4				APPRVD. BY:	MTC
5				CHECK BY:	MTC

**PLAN
AND
PROFILE**
(STA. 11+00 TO STA. 14+00)

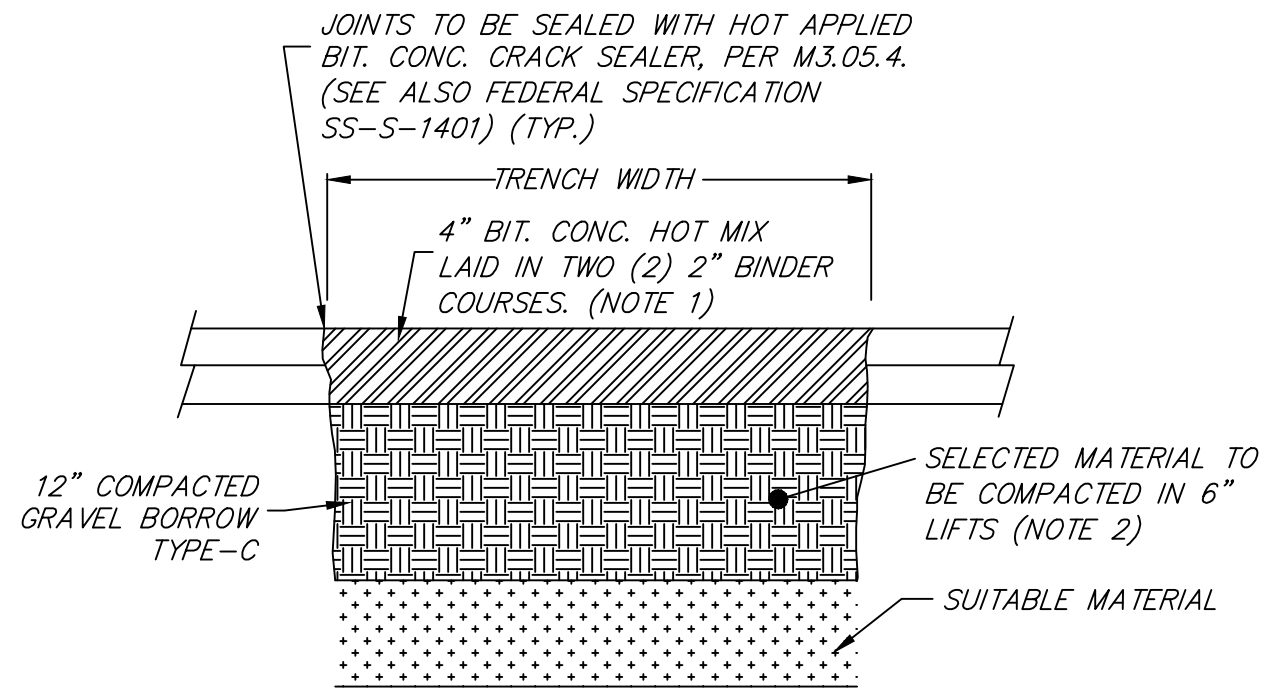
PLOT DATE: Apr 11, 2024 4:00 pm
PATH: P:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG\

DWG: 25770Utility	C14
LAYOUT: UTIL(C14)	
SHEET: 15 OF 18	
PROJECT NO.: 25770	



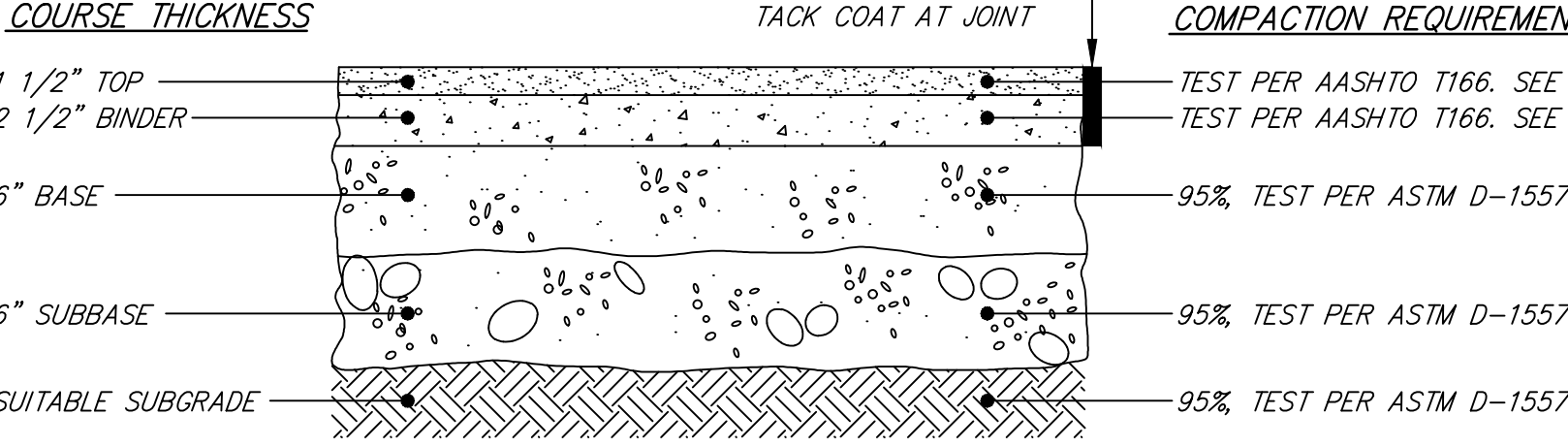
[1] WHERE UNDER OR ADJACENT AREA TO BE PAVED, COMPACT BACKFILL TO 95% PER ASTM D-1557.
[2] UNDISTURBED SOIL OR SUBGRADE COMPACTED TO 95% PER ASTM D-1557.
[3] UNLESS OTHERWISE AUTHORIZED BY TOWN ENGINEER

1 FORCE MAIN TRENCH
TYPICAL CROSS SECTION
NOT TO SCALE



NOTES:
1. PAVING COURSES SHALL MEET THE SPECIFICATIONS OF MASSDOT CLASS 1 BITUMINOUS CONCRETE PAVEMENT (M3.11.00) FOR 3/4" BINDER COURSE.
2. COMPACTION EQUIPMENT SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS TO OBTAIN THE COMPACTION STANDARDS DESCRIBED IN THE CONSTRUCTION NOTES, UNLESS OTHERWISE APPROVED BY THE TOWN ENGINEER. IN PROXIMITY TO STRUCTURES, A JUMPING JACK COMPACTOR SHALL BE REQUIRED.
3. TRENCHES SHALL BE PAVED USING THIS TEMPORARY PATCH DETAIL AT THE END OF THE EACH WORK WEEK (FRIDAY).

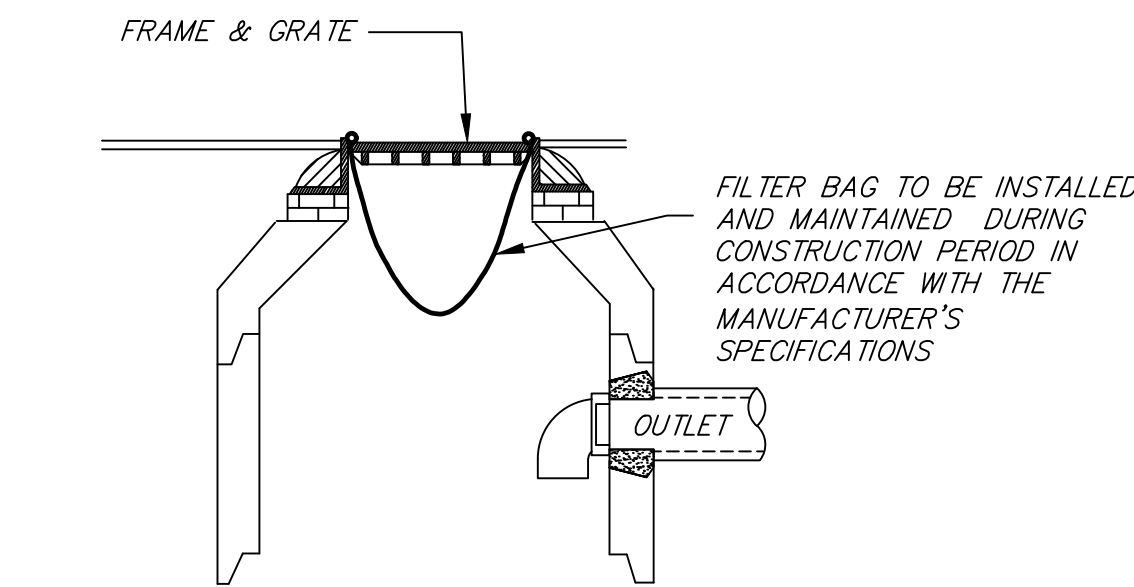
2 TEMPORARY TRENCH PAVING
TYPICAL SECTION
NOT TO SCALE



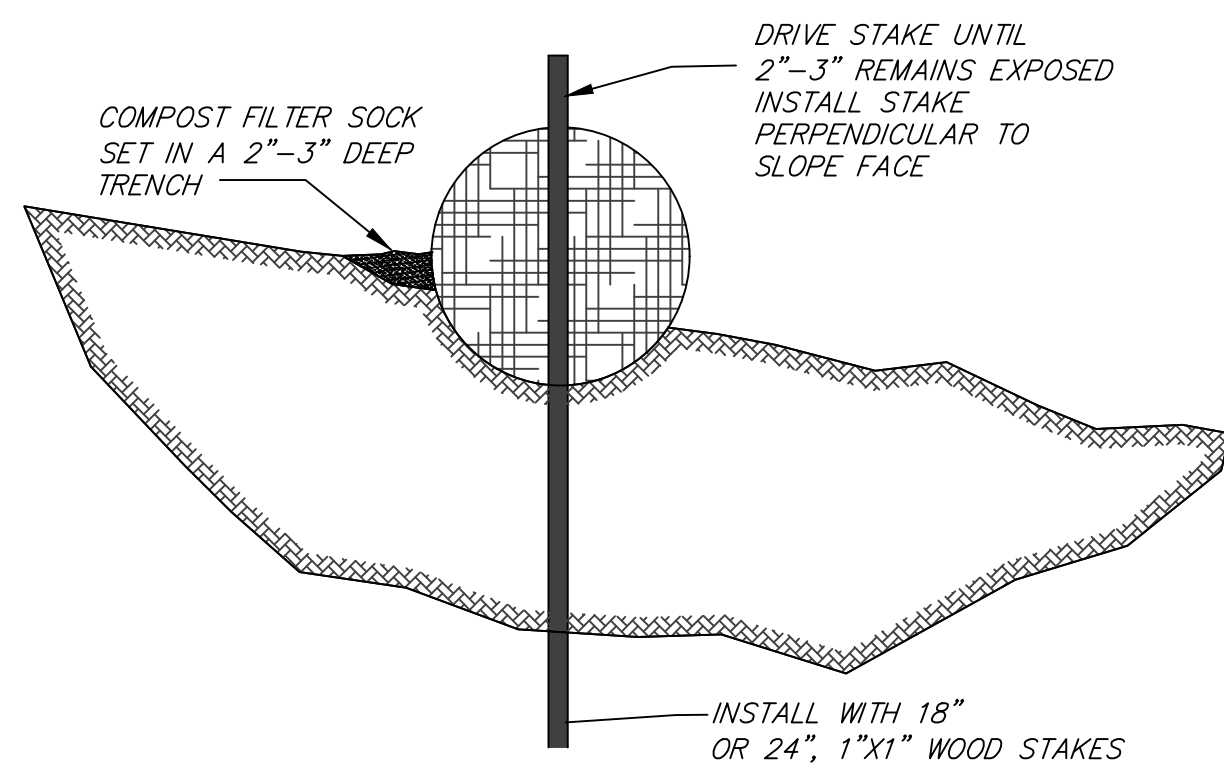
NOTES:
[1] COMPACT TO TEST AVERAGE OF 95% ±2.5%

MATERIAL	SPECIFICATION	MAXIMUM AGGREGATE OR PARTICLE SIZE (IN.)
TOP - BITUMINOUS CONCRETE	MHD M3.11.03 CLASS 1, TYPE I-1	1/2
BINDER - BITUMINOUS CONCRETE	MHD M3.11.03 CLASS 1, TYPE I-1	1
BASE - DENSE GRADED CRUSHED STONE	MHD M2.01.7	1 1/2
SUBBASE - GRAVEL BORROW	MHD M1.03.0 TYPE C	2

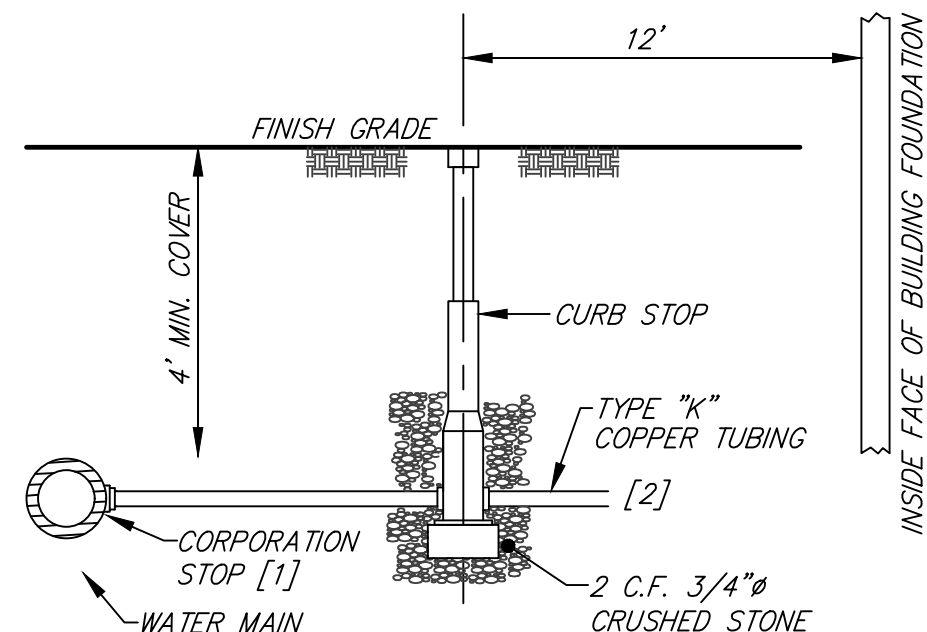
3 BITUMINOUS CONCRETE PAVEMENT
TYPICAL CROSS SECTION
NOT TO SCALE



4 CATCH BASIN FILTER BAG
TYPICAL CROSS SECTION - NOT TO SCALE

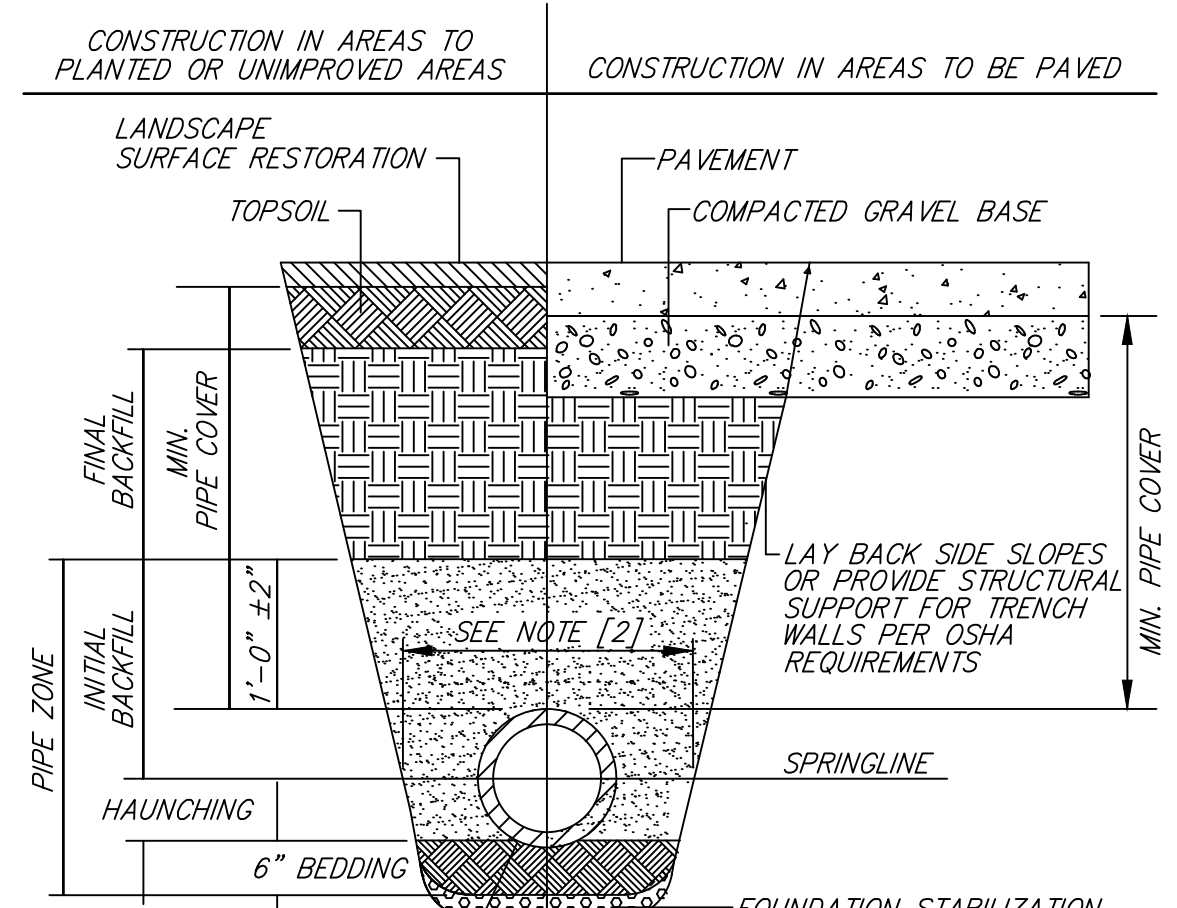


5 EROSION CONTROL INSTALLATION
NOT TO SCALE



NOTES:
[1] WATER SERVICES LARGER THAN ONE INCH ARE TO BE RESTRAINED TO MAIN WITH APPROVED SADDLE.
[2] CONNECTING TO EXISTING SERVICE.

6 WATER SERVICE
TYPICAL PROFILE
NOT TO SCALE



SHAPE BEDDING BY HAND TO FIT BOTTOM OF PIPE; INSTALL PIPE ON STABLE BEDDING WITH UNIFORM BEARING UNDER FULL LENGTH OF PIPE BARREL.

FOUNDATION, BEDDING, & BACKFILL MATERIALS	HDP, PVC	RC, DI
PIPE MATERIAL	[6]	[6]
FOUNDATION STABILIZATION	[6]	[6]
BEDDING	[1]	[1]
HAUNCHING	[1]	[1]
INITIAL BACKFILL	[1]	[1]
FINAL BACKFILL	[4]	[4]
MIN. PIPE COVER	[5]	[5]

NOTES:
[1] PLACE 3/4"± GRADED GRANULAR BACKFILL AT OPTIMUM MOISTURE IN HORIZONTAL, 8"-DEEP, LOOSE LAYERS; COMPACT TO 95% PER ASTM D-1557.
[2] MINIMUM WIDTH OF TRENCH MEASURED AT THE SPRINGLINE OF THE PIPE, INCLUDING ANY NECESSARY SHEATHING:

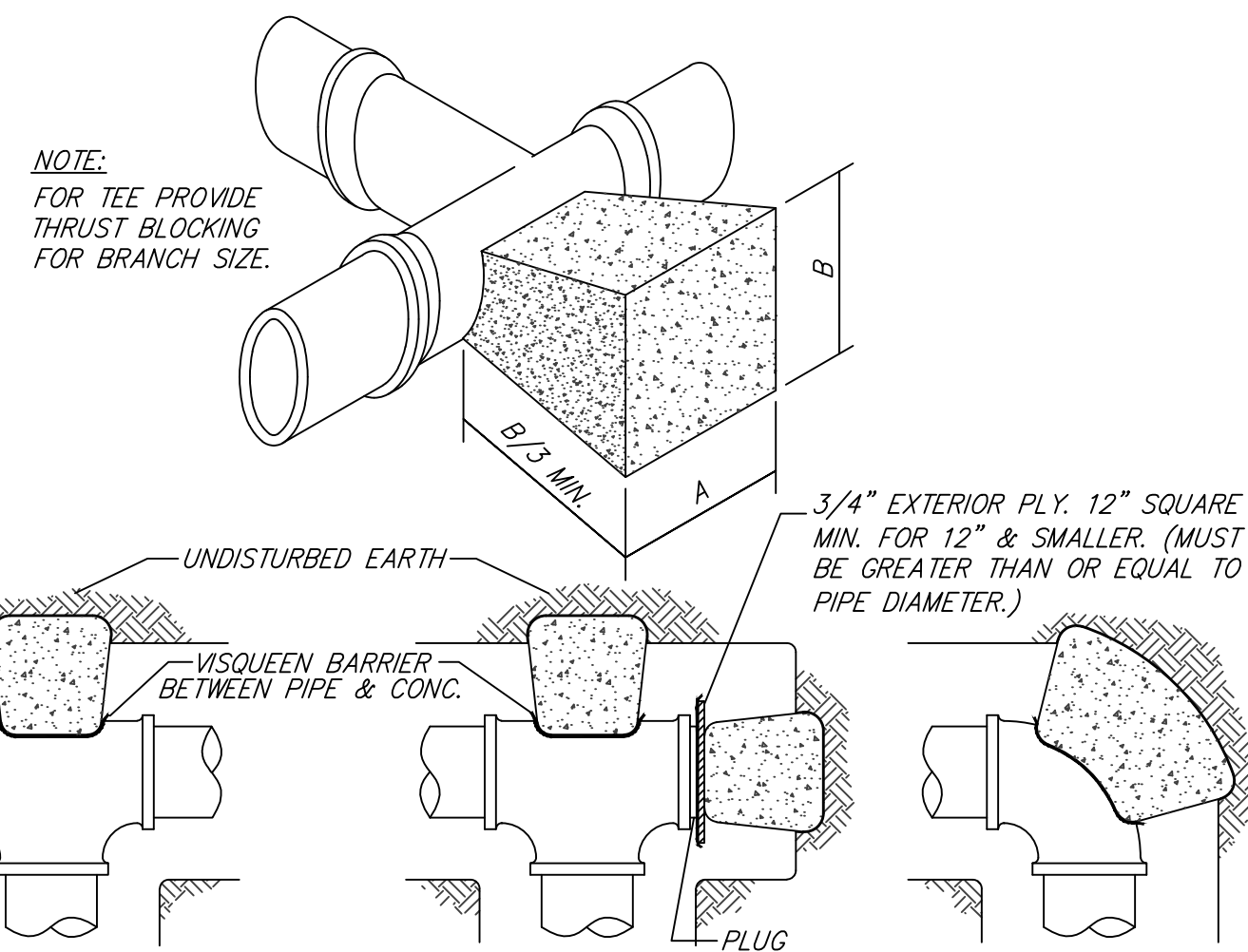
PIPE I.D.	WIDTH
LESS THAN 21"	O.D. + 12"
21" TO 42"	O.D. + 24"
GREATER THAN 42"	O.D. + 30"

[3] INSTALL PIPE IN CENTER OF TRENCH.
[4] IN PLANTED OR UNIMPROVED AREAS, USE ON-SITE EXCAVATED MATERIAL FOR FINAL BACKFILL. COMPACT TO 95% PER ASTM D-1557. IN PAVED AREAS, OBTAIN ENGINEER APPROVAL OF ON-SITE EXCAVATED MATERIALS FOR USE AS FINAL BACKFILL.
[5] MINIMUM COVER OVER TOP OF PIPE:

PIPE MATERIAL	HDP, PVC	RC, DI
WATER	5'-0"	5'-0"
SEWER	4'-0"	4'-0"
DRAIN	1'-6"	1'-0"

[6] FOR FOUNDATION STABILIZATION, USE 2"± CRUSHED STONE.

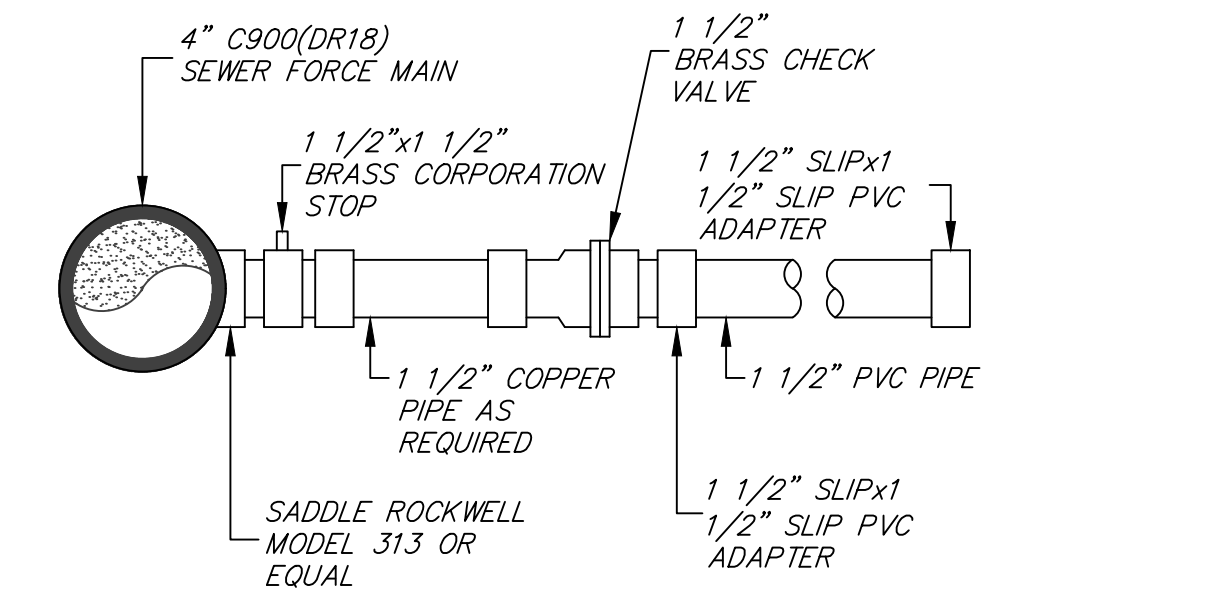
7 PIPE TRENCH
TYPICAL CROSS SECTION
NOT TO SCALE



DIMENSION FOR THRUST BLOCKING									
FITTING SIZES	TEES & PLUGS		90° BENDS		45° BENDS & WYES		22 1/2° & 11 1/4° BENDS		
	A	B	A	B	A	B	A	B	
4"	1'-6"	1'-6"	1'-6"	1'-9"	1'-3"	0'-6"	1'-0"	0'-6"	
6"	2'-0"	1'-0"	2'-0"	2'-0"	1'-3"	1'-6"	1'-0"	1'-5"	
8"	2'-0"	1'-6"	2'-3"	2'-3"	1'-8"	1'-8"	1'-0"	1'-3"	
10"	2'-6"	2'-3"	2'-9"	2'-10"	2'-3"	1'-10"	1'-3"	2'-0"	
12"	3'-0"	2'-9"	3'-6"	3'-3"	2'-6"	2'-4"	2'-0"	1'-6"	

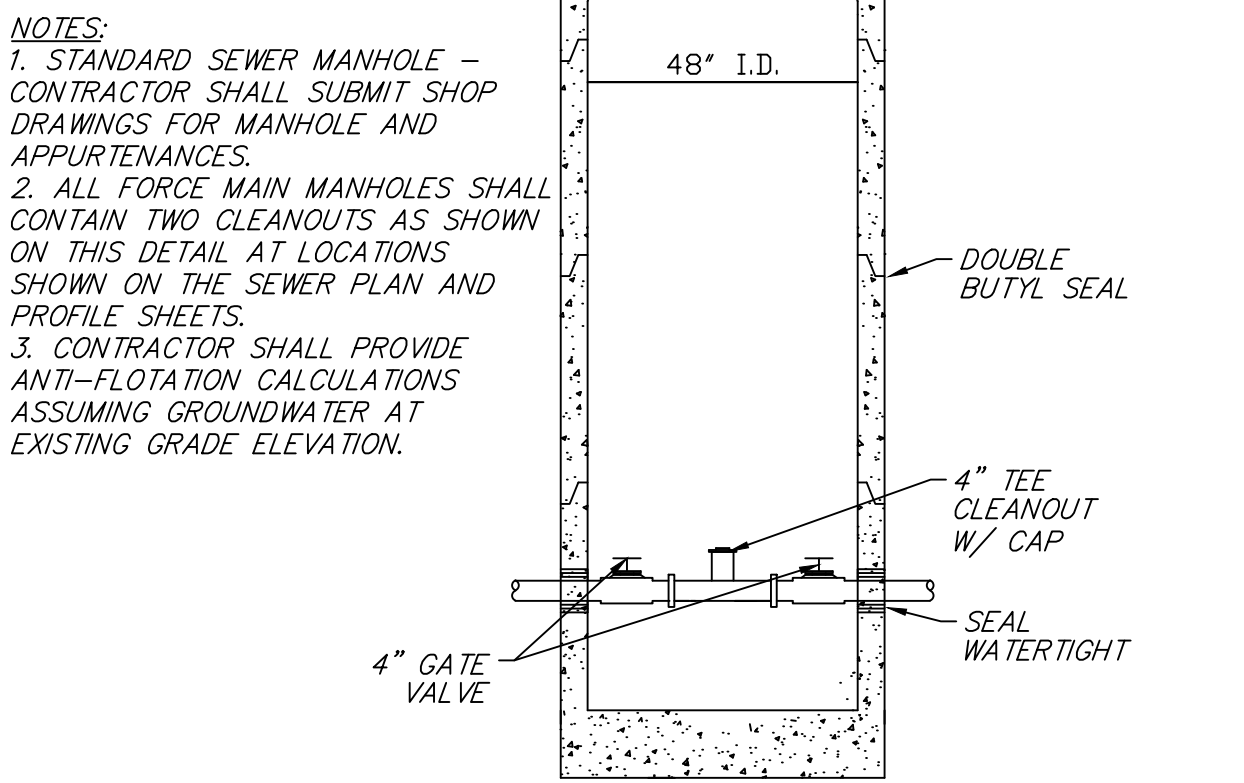
1. THIS TABLE IS BASED ON 200 P.S.I. MAIN PRESSURE AND 2000 P.S.F. SOIL-BEARING PRESSURE. ADJUST BEARING AREAS IN ACCORDANCE WITH SOIL CONDITIONS AND PRESSURES ENCOUNTERED.
2. USE VISQUEEN BARRIER BETWEEN PIPE AND CONCRETE AS SHOWN IN DETAIL ABOVE.
3. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
4. BLOCKING SIZE/FREQUENCY SHALL BE INCREASED IF REQUIRED BY ENGINEER.
5. THRUST BLOCKS ARE REQUIRED AT ALL SEWER FORCE MAIN AND WATER MAIN BENDS.

9 THRUST BLOCK SCHEDULE
NOT TO SCALE

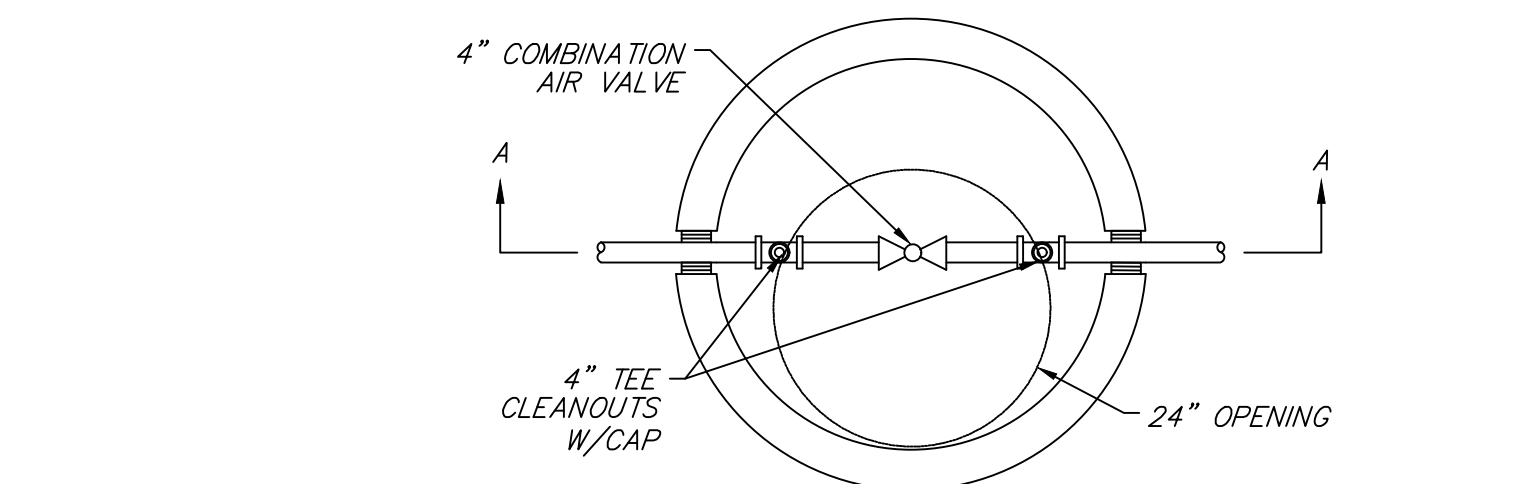


NOTE: FOR LATERAL CONNECTION TO PROPOSED FORCE MAIN, A PROPERLY SIZED PVC TEE CORPORATION VALVE AND CHECK VALVE SHALL BE USED.

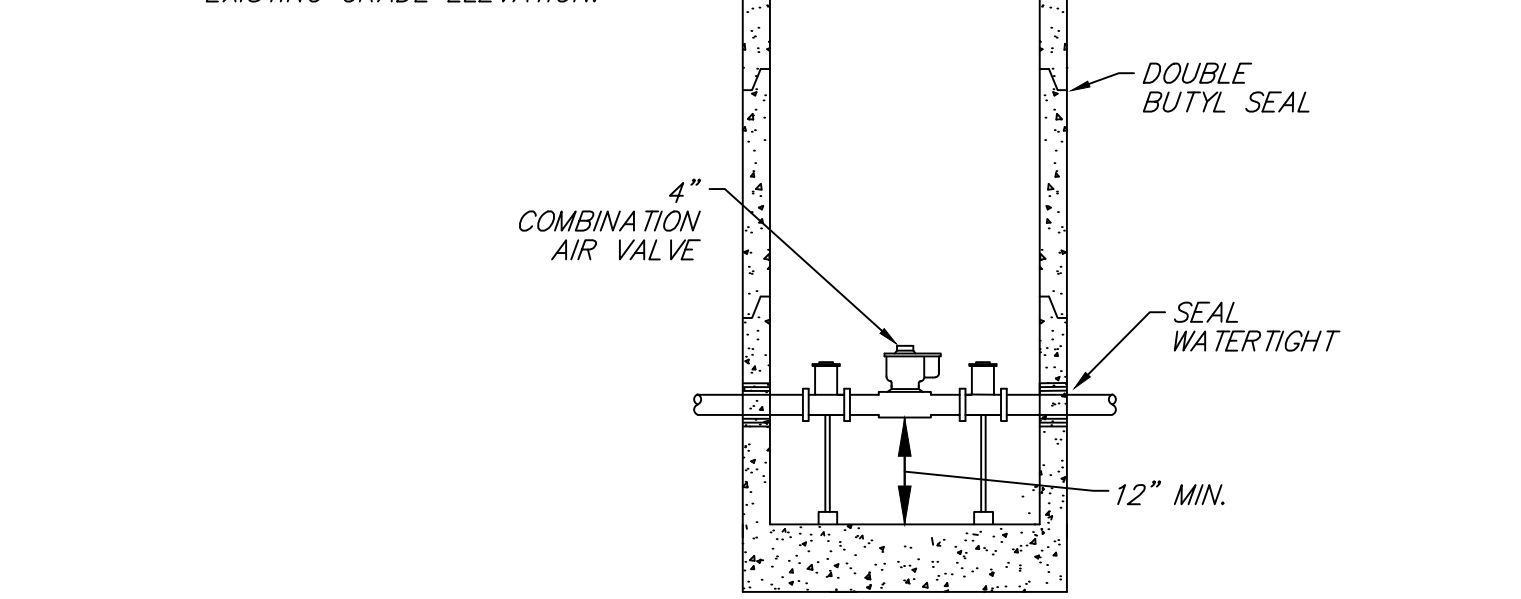
10 CONNECTION TO FORCE MAIN
TYPICAL CROSS SECTION
NOT TO SCALE



11 SEWER FORCE MAIN CLEANOUT MANHOLE
NOT TO SCALE



NOTES:
1. STANDARD SEWER MANHOLE - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR MANHOLE AND APPURTENANCES.
2. ALL FORCE MAIN MANHOLES SHALL CONTAIN TWO CLEANOUTS AS SHOWN ON THIS DETAIL AT LOCATIONS SHOWN ON THE SEWER PLAN AND PROFILE SHEETS.
3. CONTRACTOR SHALL PROVIDE ANTI-FLOTATION CALCULATIONS ASSUMING GROUNDWATER AT EXISTING GRADE ELEVATION.



12 SEWER FORCE MAIN AIR RELEASE VALVE MANHOLE
NOT TO SCALE

MILL STREET FOREST STREET & SCHOOL STREET

Manchester-By-The-Sea, MA 01944

TOWN OF MANCHESTER- BY-THE-SEA

10 CENTRAL STREET
MANCHESTER-BY-THE-SEA, MA 01944

HANCOCK ASSOCIATES

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NO.	BY	APP	DATE	ISSUE/REVISION	DESCRIPTION
1			1/22/2024	DESIGN BY:	RT
2				SCALE:	AS SHOWN
3				DRAWN BY:	TJS
4				APPROV. BY:	MTJ
5				CHECK BY:	MTJ

SITE DETAILS

PLOT DATE: Apr 12, 2024, 2:33 pm
PLOT: P:\Civil 3D Projects\25770 - Cell Signaling - Manchester\Eng\DWG
DWG: 25770utility
LAYOUT: DET(C15)
SHEET: 16 OF 18
PROJECT NO.: 25770

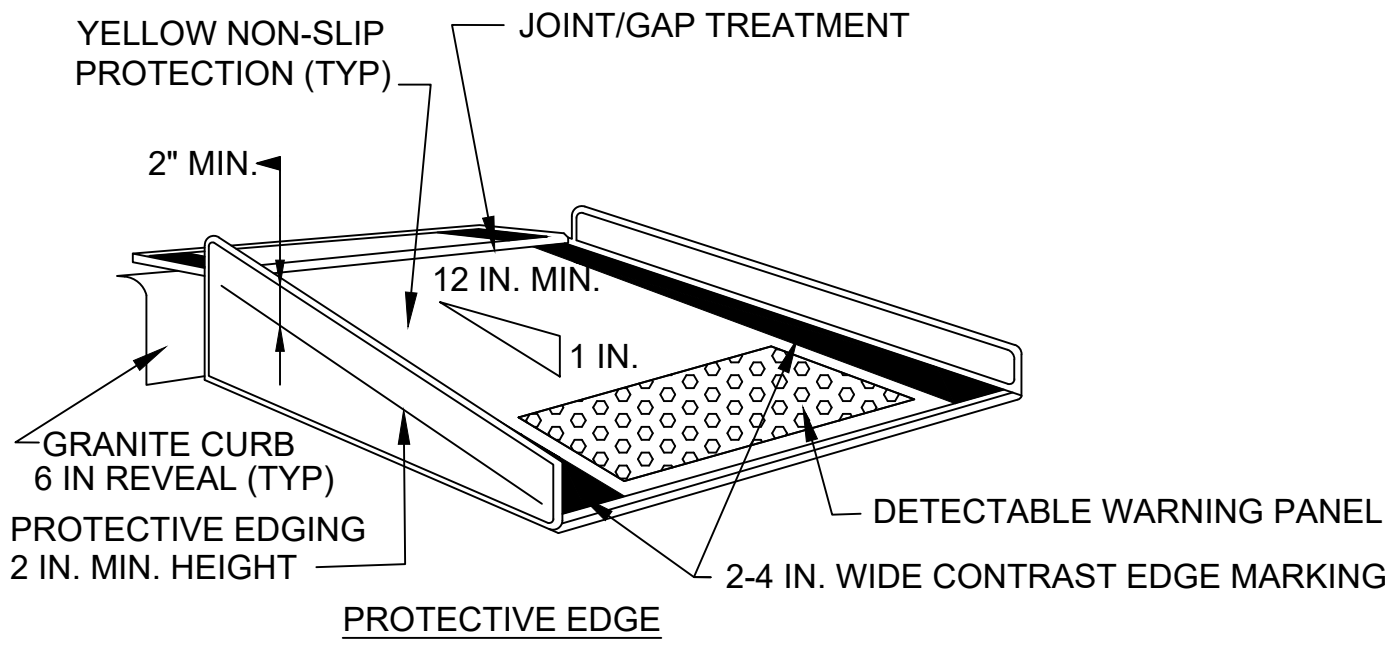
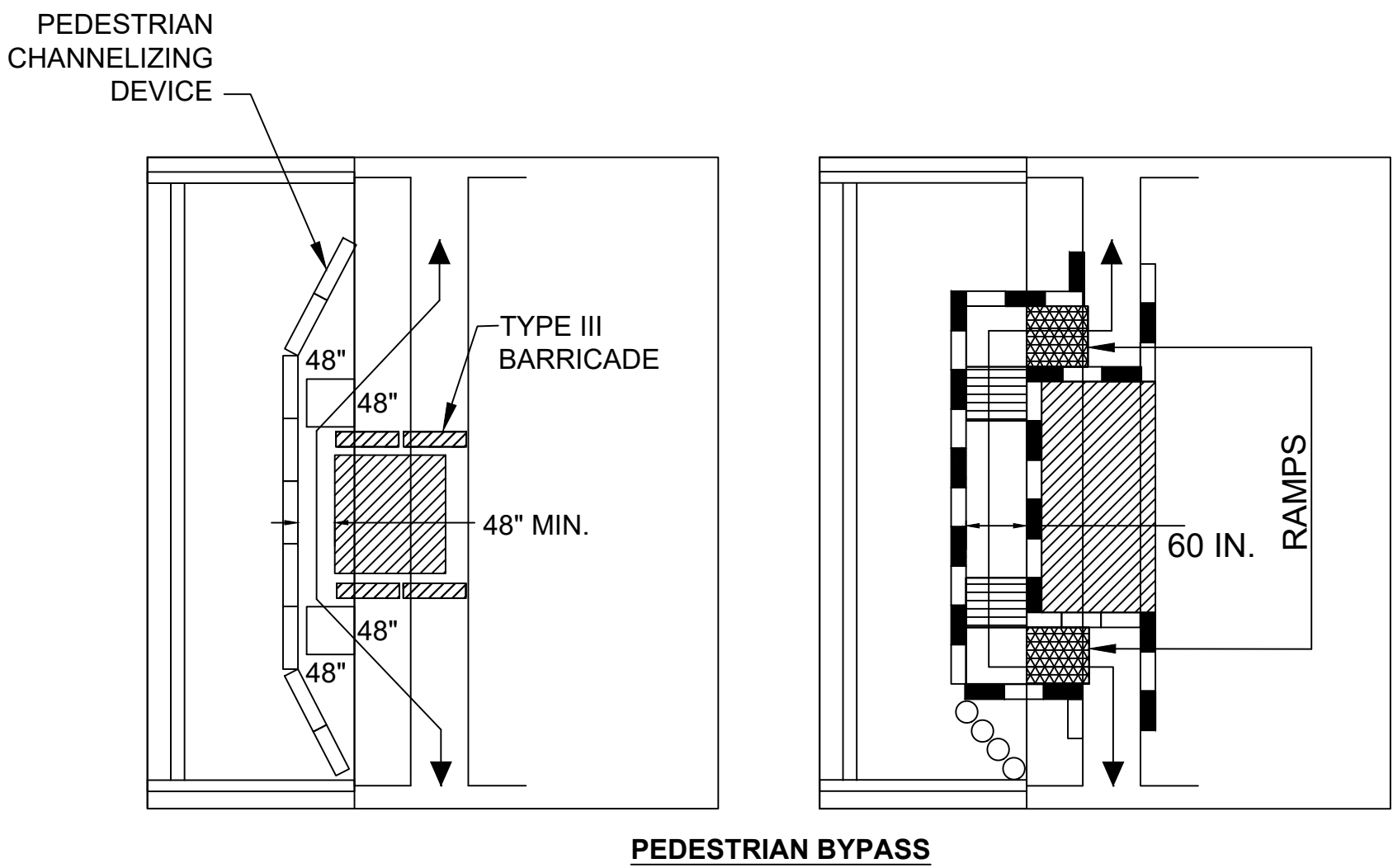
C15

TEMPORARY PEDESTRIAN CONTROL NOTES:

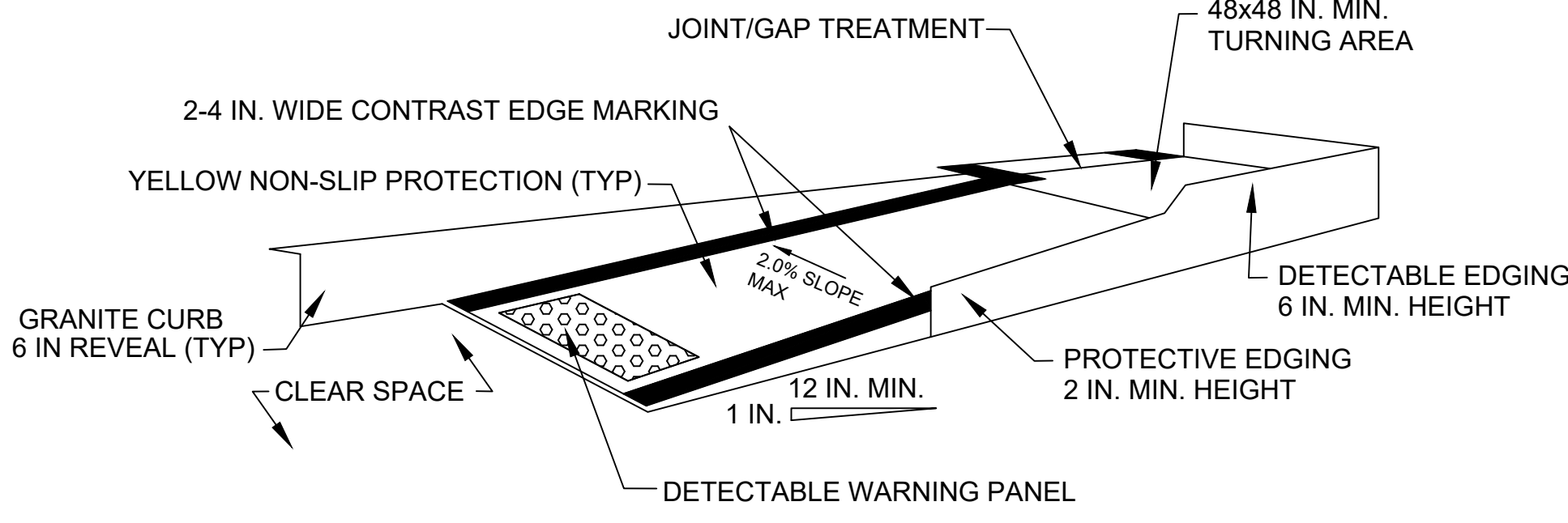
1. PEDESTRIAN DETOUR ROUTES MUST BE ADA/AAB COMPLIANT.
2. WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
3. A PEDESTRIAN CHANNELIZING DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ACROSS THE FULL WIDTH OF THE CLOSED SIDEWALK.
4. WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT (SEE PEDESTRIAN TYPICAL DETAILS).
5. THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
6. THE PROTECTIVE REQUIREMENTS OF A TTC SITUATION HAVE PRIORITY IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN THIS SITUATION SHOULD BE BASED ON ENGINEERING JUDGEMENT.
7. FOR LONG TERM SIDEWALK CLOSURES (AT A MINIMUM OVERNIGHT) A FORM OF SPEECH MESSAGING FOR PEDESTRIANS WITH VISUAL DISABILITIES SHALL BE PROVIDED. AUDIBLE INFORMATION DEVICES SUCH AS DETECTABLE BARRIERS OR BARRICADES AND OTHER PASSIVE PEDESTRIAN ACTIVATION (MOTION ACTIVATED) DEVICES SHOULD BE CONSIDERED FOR THESE CASES. THESE AUDIBLE DEVICES CAN BE MOUNTABLE OR STAND ALONE.

TYPICAL PEDESTRIAN DEVICE NOTES:

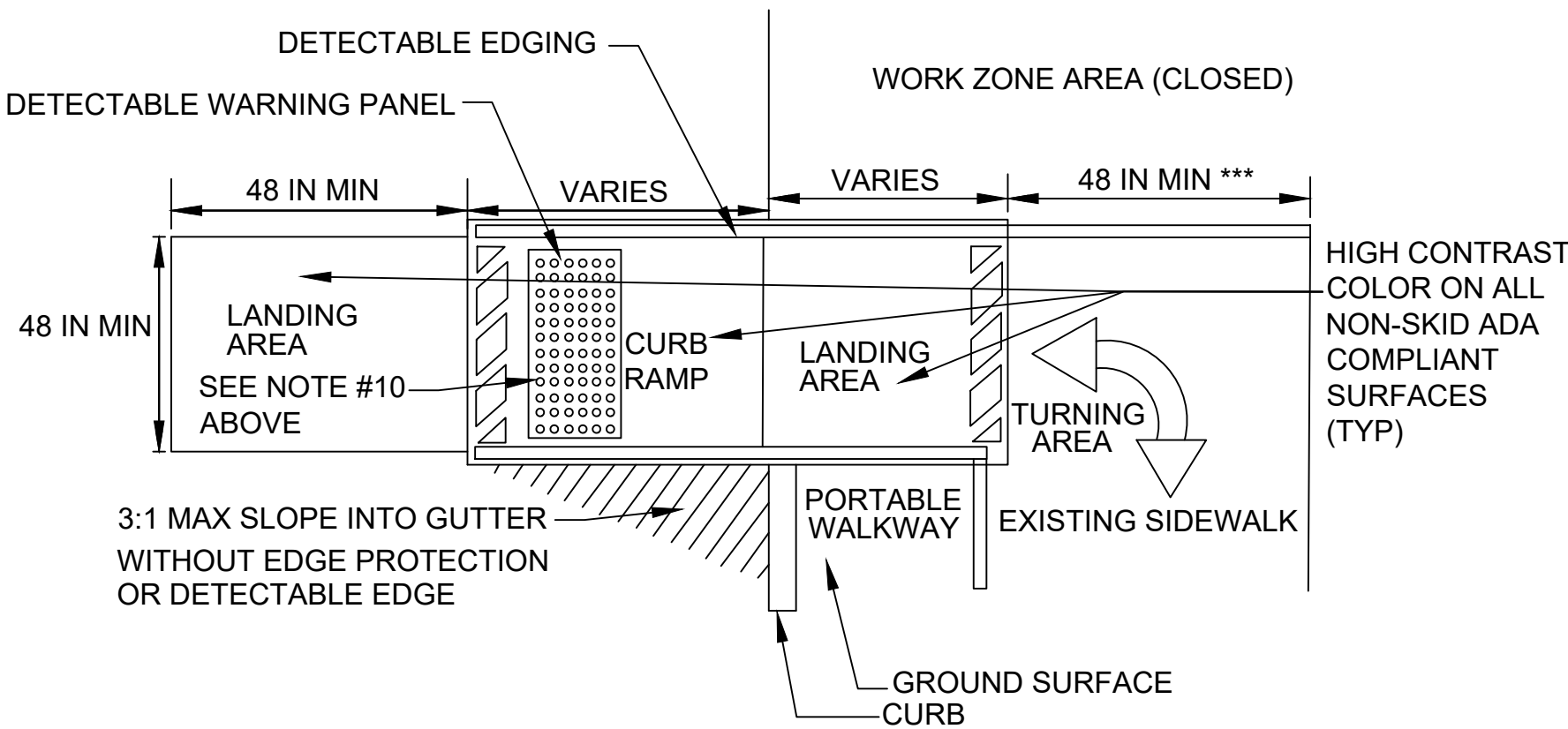
1. PEDESTRIAN CURB RAMPS SHALL BE 48 INCH MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 INCH MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 INCHES OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 INCHES OR MORE.
3. PROTECTABLE EDGING WITH 6 INCH MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 INCH MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 INCHES WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 INCHES LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 INCHES AND 0.5 INCHES HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB



TEMPORARY CURB RAMP PARALLEL TO CURB



- * -LANDING AREA USED TO OVERLAP NON-ADA COMPLIANT SURFACES.
** -DETECTABLE EDGE REMOVED IF A CONTINUOUS SIDEWALK.
*** -60 INCH IF AN OBSTRUCTION IS AT BACK OF SIDEWALK

TEMPORARY CURB RAMP-TYPE 2

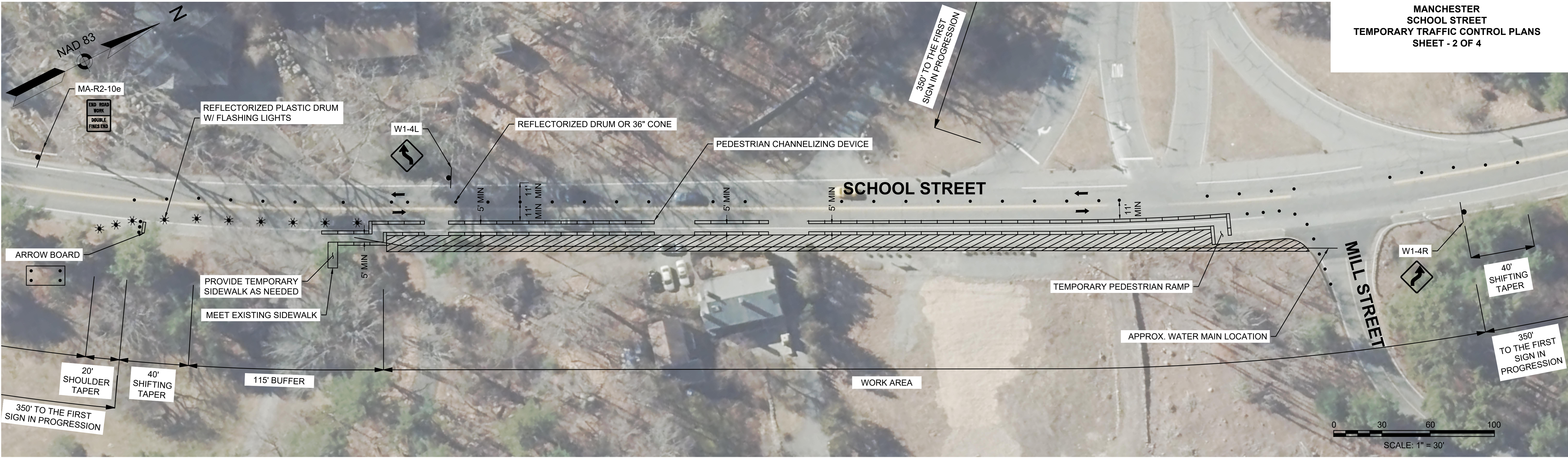
MANCHESTER
SCHOOL STREET SEWER
TEMPORARY TRAFFIC CONTROL PLANS
SHEET - 1 OF 4

GENERAL NOTES:

1. ALL WORKZONES ARE ESTABLISHED FOR 24-HOURS A DAY. TEMPORARY CONSTRUCTION SIGNAGE, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
2. ABUTTERS SHALL BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS TO THEIR BUSINESS, RESIDENCE, AND/OR PROPERTY.
3. TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES, AND OTHER DEVICES SHALL CONFORM WITH THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) AND THE MASSACHUSETTS AMENDMENTS TO THE MUTCD.
5. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D. TEMPORARY CONSTRUCTION SIGNING.
6. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS AT THE DISCRETION OF THE ENGINEER. ALL SIGNS SHALL BE PLACED WITHIN THE EXISTING RIGHT OF WAY.
7. SIGN DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
8. SIGNS AND SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)".
9. ALL DRUMS AND/OR CONES SHALL BE SET @ 20' O.C. MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
10. MINIMUM LANE WIDTH TO BE 11 FEET. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUM AND/OR CONE..
11. THE FIRST TEN (10) PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE-A SEQUENTIAL FLASHING LIGHTS WHEN USED FOR THE NIGHT WORK BETWEEN DUSK AND DAWN.

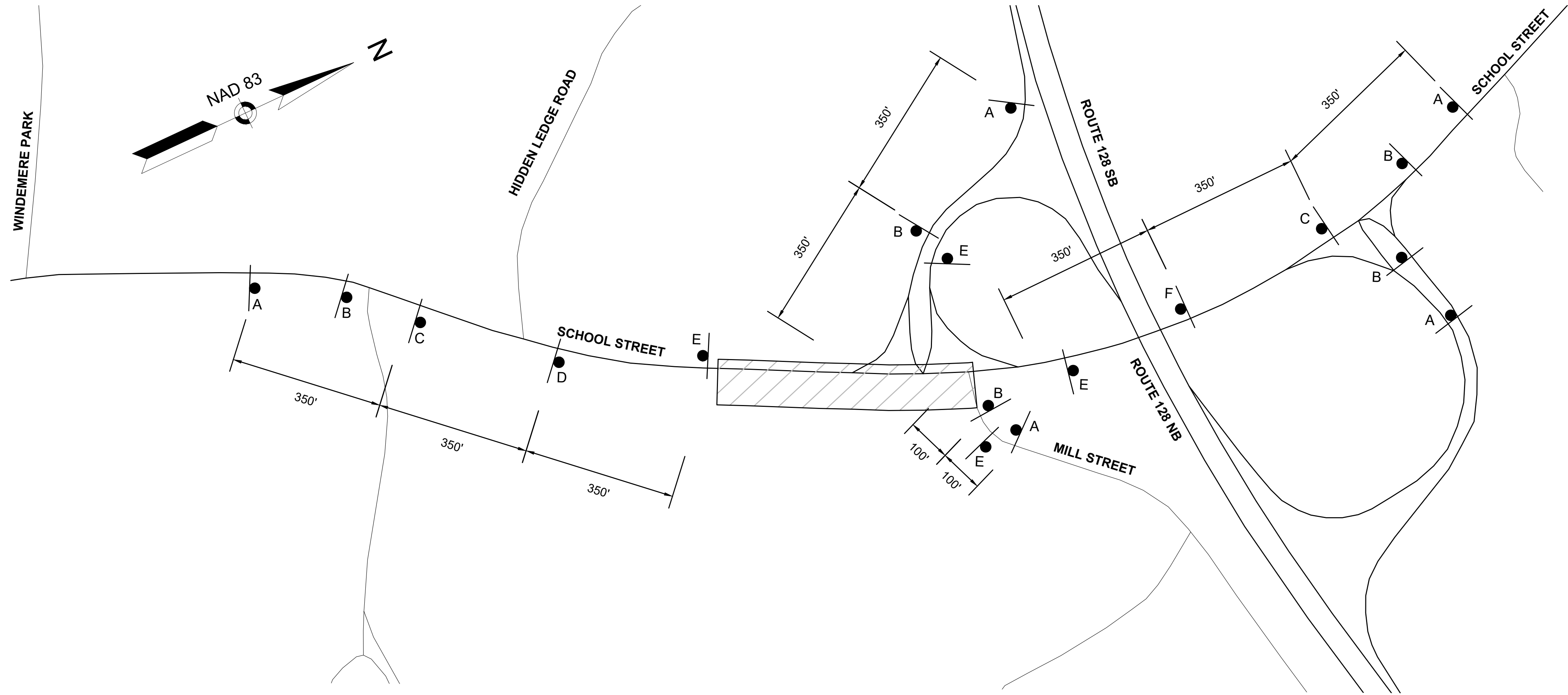
02-07-2024	PERMIT SUBMITTAL	-
DATE	DESCRIPTION	REV #
<div><div><div><div><div><div></div><div>TEC</div></div></div><div><div>The Engineering Corp</div></div></div></div><div>TEC, Inc. 282 Merrimack Street, 2nd Floor Lawrence, MA 01843</div></div>		
DESIGNED BY GMR	CHECKED BY SWG	DATE 02/07/2024
DRAWN BY GMR	APPROVED BY SWG	PROJECT NO. T1199

MANCHESTER
SCHOOL STREET
TEMPORARY TRAFFIC CONTROL PLANS
SHEET - 2 OF 4



PHASE 1 - SCHOOL STREET EASTSIDE SHOULDER CLOSURE WITH WORK SPACE ENCROACHING INTO TRAVEL LANE

SCALE: 1" = 30'

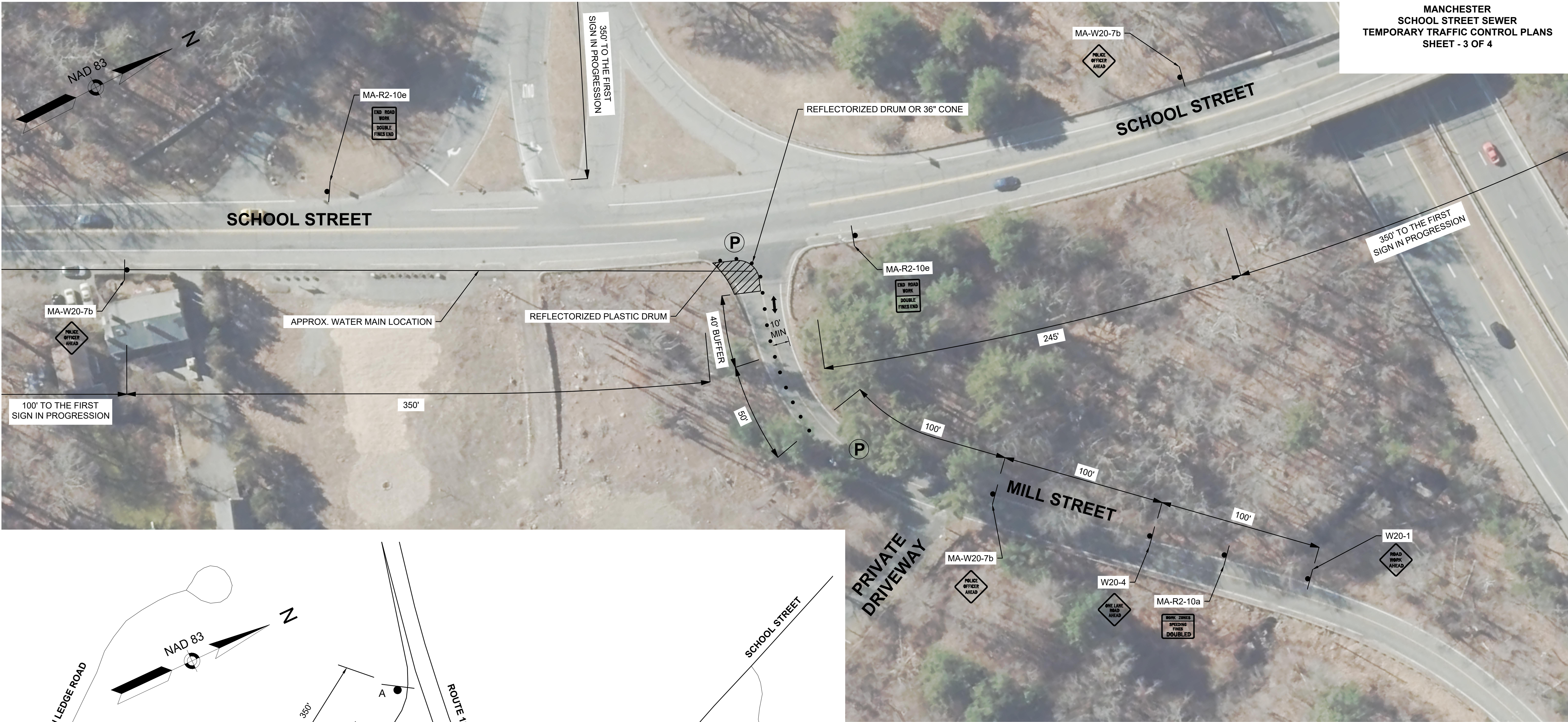


ADVANCED SIGN SCHEMATIC FOR PHASE 1

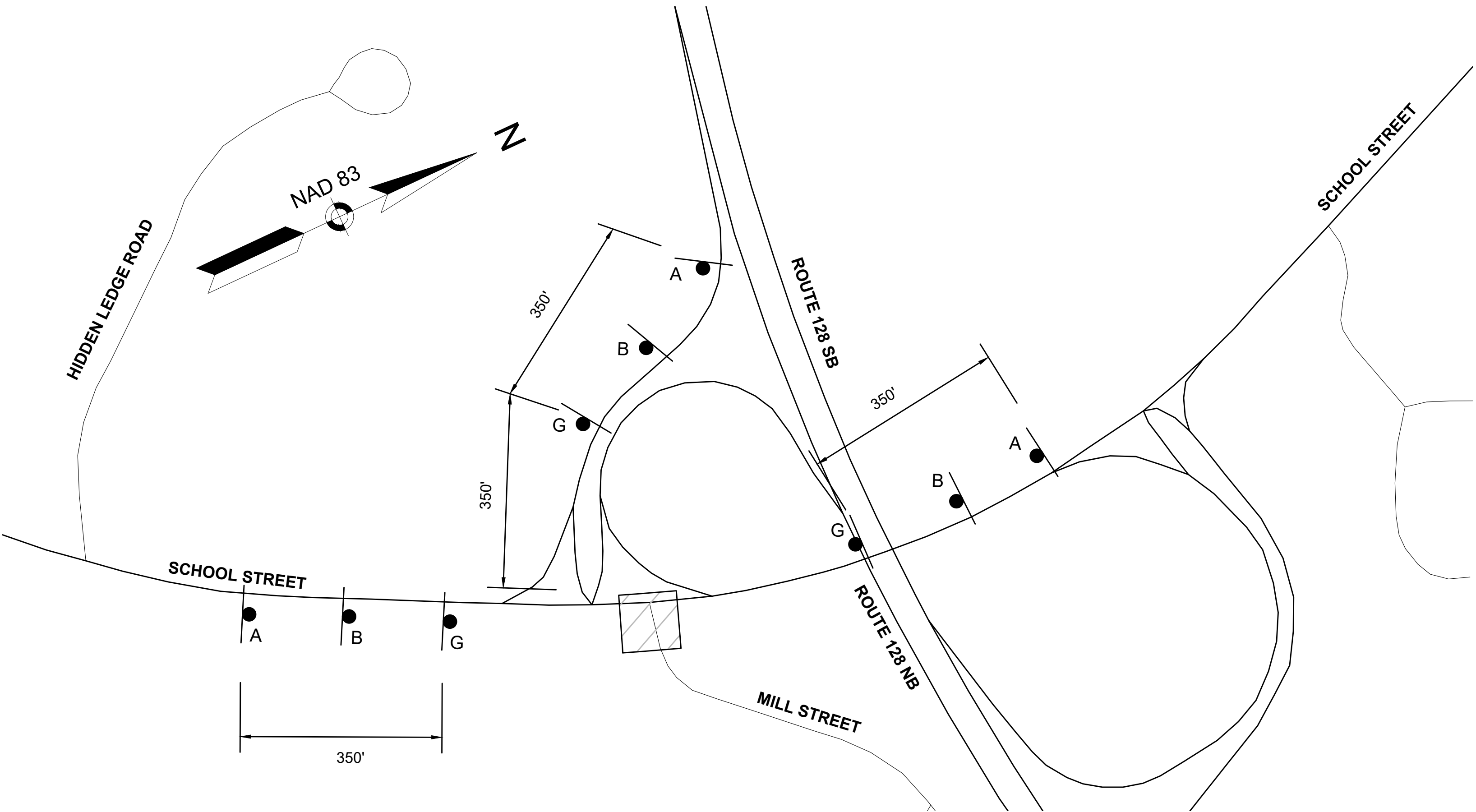
SCALE: 1" = 150'

- TEMPORARY TRAFFIC CONTROL LEGEND**
- WORK ZONE
 - SIGN
 - ARROW BOARD
 - RETROFLECTORIZED PLASTIC DRUM OR 36" CONE
 - RETROFLECTORIZED PLASTIC DRUM W/ SEQUENTIAL FLASHING LIGHTS
 - PEDESTRIAN CHANNELIZING DEVICE

- LEGEND:**
- | | | |
|-------------------------------|---|----------------------------|
| A
ROAD WORK AHEAD
W20-1 | B
WORK ZONES SPEEDING FINES DOUBLED
MA-R2-10a | C
ROAD NARROWS
W5-1 |
| D
ROAD WORK AHEAD
W1-4L | E
END ROAD WORK DOUBLE FINES END
MA-R2-10a | F
ROAD NARROWS
W1-4R |



PHASE 2 - MILL STREET SOUTH LANE CLOSURE
SCALE: 1" = 30'



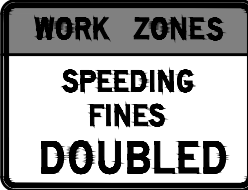
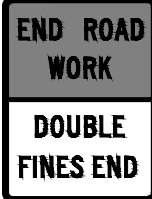


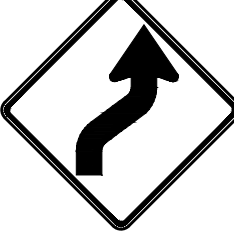



ADVANCED SIGN SCHEMATIC FOR PHASE 2
SCALE: 1" = 300'

LEGEND:

- A
ROAD
WORK
AHEAD
W20-1
- B
WORK ZONES
SPEEDING
FINES
DOUBLED
MA-R2-10a
- G
POLICE
OFFICER
AHEAD
MA-W20-7b

TEMPORARY TRAFFIC CONTROL LEGEND

- WORK ZONE
- SIGN
- RETROFLECTORIZED PLASTIC DRUM OR 36" CONE
- POLICE DETAIL

TRAFFIC SIGN SUMMARY													
IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		LEGEND	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			NUMBER OF SUPPORTS REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACKGR OUND	LEGEND	BORDER			
MA-R2-10a	48	36			①		5	FLOUR. ORANGE/ WHITE	BLACK	BLACK	5	12.00	60.00
MA-R2-10e	36	48					4	FLOUR. ORANGE/ WHITE	BLACK	BLACK	4	12.00	48.00
MA-W20-7b	36	36					3	FLOUR. ORANGE	BLACK	BLACK	3	9.00	27.00
W1-4L	36	36			②		2	FLOUR. ORANGE	BLACK	BLACK	2	9.00	18.00
W1-4R	36	36					2	FLOUR. ORANGE	BLACK	BLACK	2	9.00	18.00
W5-1	36	36					2	FLOUR. ORANGE	BLACK	BLACK	2	9.00	18.00
W20-1	36	36					5	FLOUR. ORANGE	BLACK	BLACK	5	9.00	45.00
W20-4	36	36					1	FLOUR. ORANGE	BLACK	BLACK	1	9.00	9.00

NOTES:

- ①. MASSDOT STANDARD SIGN
- ②. CONTRACTOR TO FURNISH SIGNS CONSISTENT WITH 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. SEE MANUAL FOR TEXT AND LEGEND DIMENSIONS.