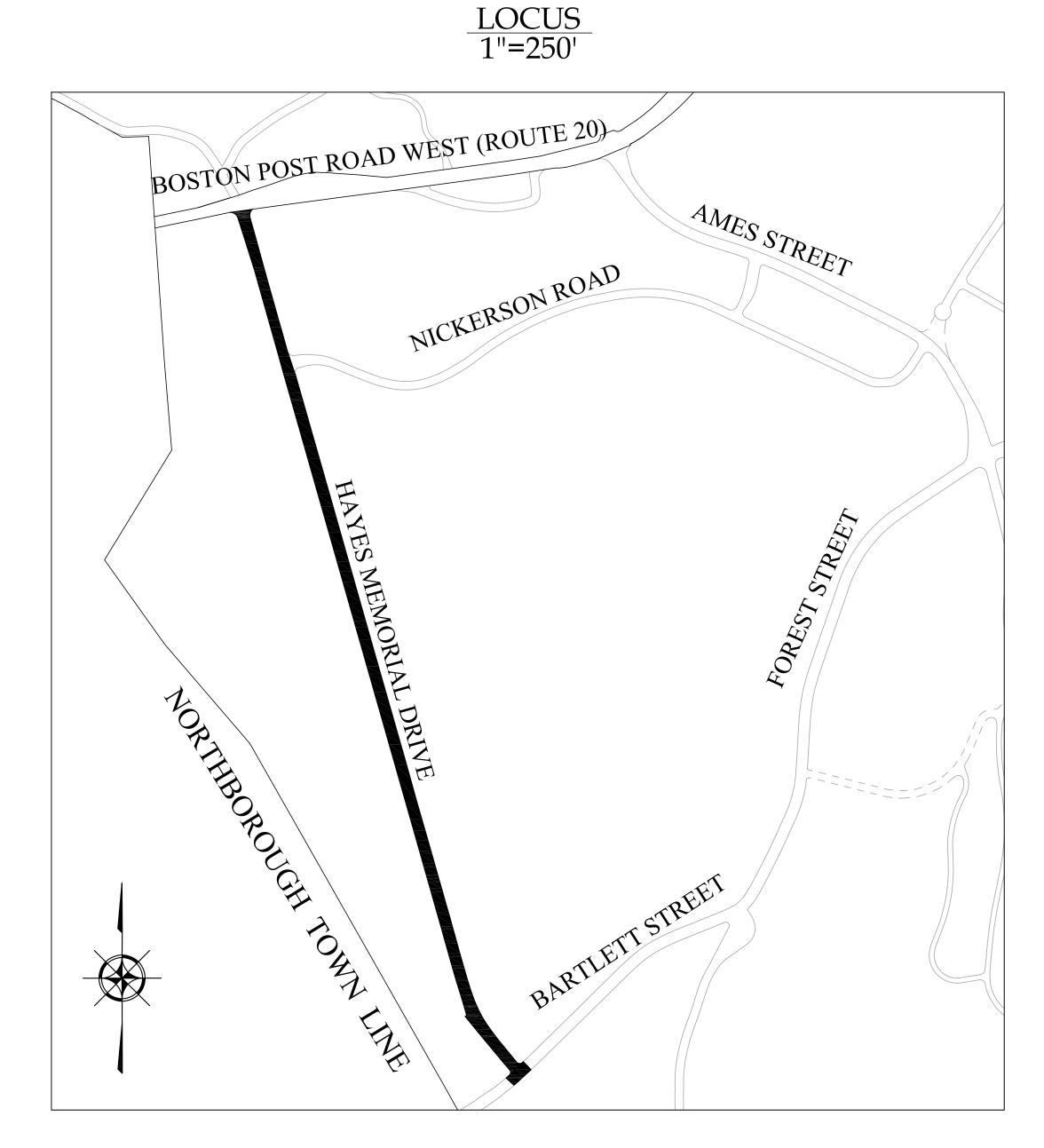
RECONSTRUCTION OF HAYES MEMORIAL DRIVE & APPURTENANT WORK

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PREPARED BY: City of Marlborough

Department of Public Works Engineering Division 135 Neil Street Marlborough, MA 01752 CONTRACT NO. ED 2023-09
MARCH 22, 2023

UNLESS OTHERWISE PROVIDED FOR IN THE PROJECT SPECIFICATIONS, THE FOLLOWING DOCUMENTS SHALL GOVERN THE CONSTRUCTION ON THIS PROJECT:

-THE 2023 MHD STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES....AS AMENDED

-THE 2006 PROJECT DEVELOPMENT & DESIGN GUIDE....AS
AMENDED

- THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS HIGHWAY DIVISION AND ANY AMENDMENTS THERETO

-THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1)

LEGEND RIGHT OF WAY EXISTING CONTOUR (MAJOR) — — — 100 — — — EXISTING CONTOUR (MINOR) PROPOSED CONTOUR (MAJOR) PROPOSED CONTOUR (MINOR) PROPERTY LINE EASEMENT LINE TREELINE CHAIN LINK FENCE _____ X _____ GAURDRAIL WATER LINE SEWER LINE SEWER FORCE MAIN DRAIN LINE UNDERGROUND ELECTRIC ———— UGE ———— TELECOMMUNICATIONS OVERHEAD WIRES WETLAND BUFFER HYDRANT \bowtie GAS VALVE WATER VALVE SANITARY SEWER MANHULE STORM SEWER MANHOLE TELECOMMUNICATIONS MANHOLE ELECTRIC MANHOLE CATCH BASIN SIGN UTILITY POLE WATER SHUTDFF WATER MAIN CAP WATER MAIN TEE TREE SHRUB HANDHOLD F.E.O. IRON PIN (FND) GUY POLE TRAFFIC LIGHT 0€ SPOT ELEVATION (EXISTING) 100.50 SPOT ELEVATION (PROPOSED) TOP/BOTTOM OF CURB TC/BC TOP/BOTTOM OF WALL TW/BW **-**₩**-**FLOW ARROW HATCHES: STRUCTURE RIPRAP CONCRETE WETLANDS *NOTE: EXISTING INFRASTRUCTURE AND HATCHES ARE SHOWN IN LIGHT GRAY ON CONSTRUCTION PLANS

CONSTRUCTION ABBREVIATIONS

ADJ= ADJUST

BIT= BITUMINOUS CONCRETE

CB= CATCH BASIN

CONC= CONCRETE

DMH= DRAIN MANHOLE

DWP= DETECTIBLE WARNING PANEL

DYCL= DOUBLE YELLOW CENTERLINE

GG= GAS GATE

EOP= EDGE OF PAVEMENT

EX= EXISTING

GGV= GAS GATE VALVE
GUY= GUY WIRE

HH= HAND HOLE

HMA= HOT MIX ASPHALT

HYD= HYDRANT

LCB= LAND COURT BOUND

OHW= OVERHEAD WIRE

PL= PROPERTY LINE

PROP= PROPOSED

R&R= REMOVE AND RESET

R&S= REMOVE AND STACK

ROW= RIGHT OF WAY

SMH= SEWER MANHOLE

SW= SIDEWALK

SWL= SINGLE WHITE LINE

TCB= TRAFFIC CONTROL BOX

TYP= TYPICAL

UP= UTILITY POLE

WCR= WHEELCHAIR RAMP

WGV= WATER GATE VALVE

CONSTRUCTION NOTES

1. BASE PLANS AND TOPOGRAPHIC INFORMATION WERE PREPARED FROM DATA COMPILED BY THE CITY OF MARLBOROUGH, DEPARTMENT OF PUBLIC WORKS, ENGINEERING DIVISION.

2. EXISTING UTILITIES, WHERE SHOW HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON—SITE ACTIVITY WITH DIG—SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG—SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1—888—344—7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.

3. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SEWER STRUCTURES AS NECESSARY FOR CHANGES IN GRADE AND RESET ALL WATER, SEWER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH GRADE. STRUCTURE ADJUSTMENTS SHALL REQUIRE THE USE OF RED CLAY BRICK CONFORMING TO M4.05.2 AND CEMENT CONCRETE CONFORMING TO M4.02.0 OF THE COMMONWEALTH OF MASSACHUSETTS CONSTRUCTION STANDARDS FOR HIGHWAY AND BRIDGES AS MOST RECENTLY AMENDED.

4. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ELECTRIC, TELEPHONE, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AT NO ADDITIONAL COST TO THE OWNER. IF THE CONTRACTOR ADJUSTS UTILITY COVERS IT SHALL BE DEEMED PART OF THE WORK AND THERE WILL BE NO ADDITIONAL COMPENSATION.

5. TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE CITY ENGINEER.

6. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

7. THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR WHERE APPLICABLE, AND APPROVED BY THE CITY ENGINEER, RE-USING EXISTING MATERIALS SUCH AS THOSE IDENTIFIED AS "REMOVE AND RESET" (R&R).

8. JOINTS BETWEEN NEW HOT MIX ASPHALT, ROADWAY PAVEMENT, AND THE LOCATIONS OF SAW CUT FOR EXISTING PAVEMENT SHALL BE SEALED WITH HOT APPLIED ASPHALTIC CRACK FILLER.

9.AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DAMAGED BY THE CONTRACTOR'S OPERATIONS, INCLUDING STAGING AREAS, SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

10. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NECESSITY OF MAKING HIS OWN INVESTIGATION IN ORDER TO ASSURE THAT NO DAMAGE TO EXISTING STRUCTURES, DRAINAGE LINES, TRAFFIC SIGNAL CONDUITS, ETCETERA, WILL OCCUR. THE CONTRACTOR SHALL NOTIFY MASSACHUSETTS DIG SAFE AND PROCURE A DIG SAFE NUMBER FOR EACH LOCATION PRIOR TO DISTURBING EXISTING GROUND IN ANY WAY. NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT AUTHORIZATION FROM THE ENGINEER.

11. GAS MAINS AND TELEPHONE LINES ARE ASSUMED TO HAVE 3 FEET OF COVER UNLESS NOTED OTHERWISE. WATER MAINS ARE ASSUMED TO HAVE 5 FEET OF COVER UNLESS NOTED OTHERWISE. IT IS NOT WARRANTED THAT ALL UTILITIES ARE SHOWN OR THAT THEY ARE PLACED AT THESE ASSUMED DEPTHS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY CONFLICTING UTILITIES WITH THE RESPECTIVE UTILITY COMPANY. RELOCATION OF UTILITIES AND/OR THEIR APPURTENANCES REQUIRED TO ACCOMMODATE THE NEW WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FOR THE COST INFORMATION CONCERNING RELOCATION OF UTILITIES.

12. ALL EXISTING STATE, COUNTY, CITY AND TOWN LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATION ARE NOT GUARANTEED.

13. ALL EXISTING CONCRETE, HMA WALKS OR PAVERS TO ABUTTING PROPERTIES SHALL BE REMOVED AND REPLACED IN KIND AS REQUIRED TO TRANSITION TO PROPOSED GRADES.

10. BACKFILL SHALL BE UNIFORMLY DISTRIBUTED IN SUCCESSIVE LAYERS, EACH LAYER BEING THOROUGHLY COMPACTED BEFORE THE SUCCEEDING LAYER IS PLACED. THE ENTIRE WIDTH OF THE TRENCH SHALL BE MECHANICALLY OR HAND TAMPED IN SIX (6) INCH LIFTS, A MINIMUM OF TWO (2) FEET ABOVE UTILITY INSTALLATION, AND MECHANICALLY TAMPED THE REMAINDER OR THE FILL IN LIFT DEPTHS NOT GREATER THAN SIX (6) INCHES. THE TOP LAYER OF BACKFILL SHALL BE FOURTEEN (14) INCHES (IN A TEMPORARY TRENCH), AND TWELVE (12) INCHES (IN A PERMANENT TRENCH) OF GRAVEL COMPACTED TO 97% OF MAXIMUM DENSITY.

11. ALL CASTINGS TO BE REPLACED WITH NEW UNLESS OTHERWISE NOTED.

12. ALL STRUCTURES TO BE REMODELED UNLESS OTHERWISE NOTED.

13. ALL SEEDING WORK SHALL BE CARRIED OUT BY AN APPROVED SPRAYING MACHINE SPECIFICALLY USED FOR THIS WORK AND NOT PLACED BY HAND.

14. ALL DRIVEWAYS SHALL BE SAW-CUT AT BLENDING LIMITS SHOWN, OR AS DIRECTED BY THE ENGINEER.

15. THE CONTRACTOR SHALL COORDINATE WITH EVERSOURCE GAS FOR THE ADJUSTMENT OF GAS GATES & SERVICE BOXES.

16. WHERE SHOWN, EROSION CONTROLS SHALL BE ERECTED AND APPROVED BY THE ENGINEER PRIOR TO START OF WORK. CONTRACTOR SHALL ENSURE THAT NO SILT—LADEN RUNOFF LEAVES THE WORK SITE.

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT

SURFACE: 7.5" HOT MIX ASPHALT

1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5)
2.5" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC-19.0)
3.25" SUPERPAVE BASE COURSE - 37.5 (SBC 37.5)

ASPHALT EMULSION FOR TACK COAT AT 0.05 GAL/SY OVER BASE COURSE AND INTERMEDIATE COURSE

SUB-BASE: 12" SUB-BASE FOR RECLAIM

PROPOSED HOT MIX ASPHALT DRIVEWAY

SURFACE: 4" HOT MIX ASPHALT

1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)

2.5" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5)

SUB-BASE: GRAVEL BORROW TYPE C

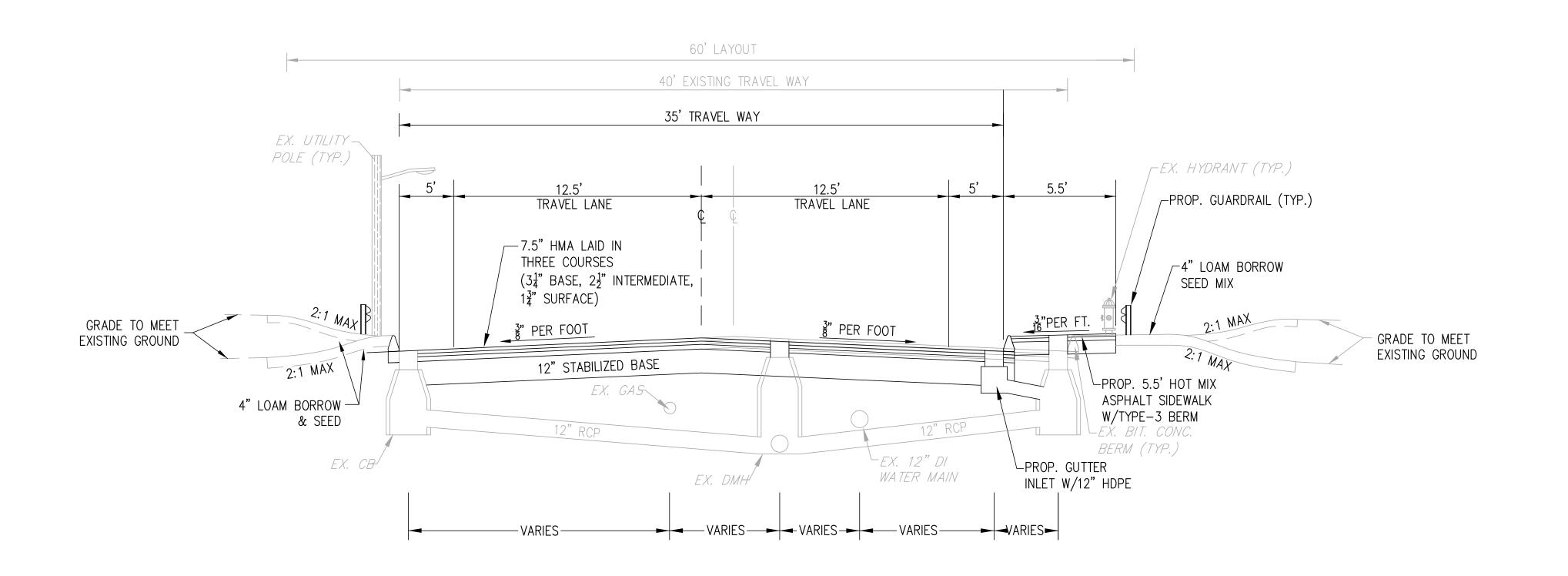
PROPOSED HOT MIX ASPHALT SIDEWALK

SURFACE: 3" HOT MIX ASPHALT

1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)

1.5" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5)

HAYES MEMORIAL DRIVE N.T.S





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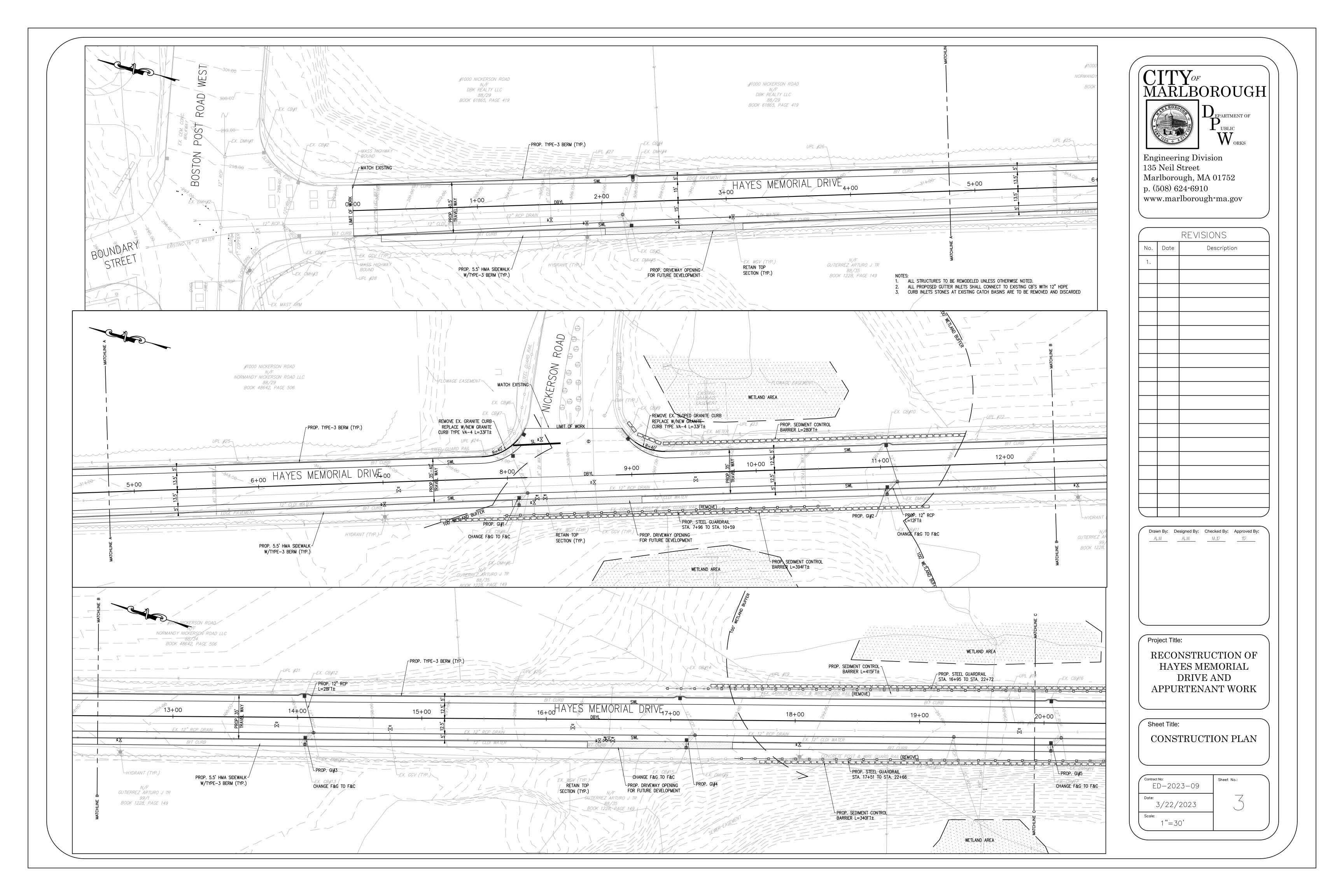
RECONSTRUCTION OF HAYES MEMORIAL DRIVE AND APPURTENANT WORK

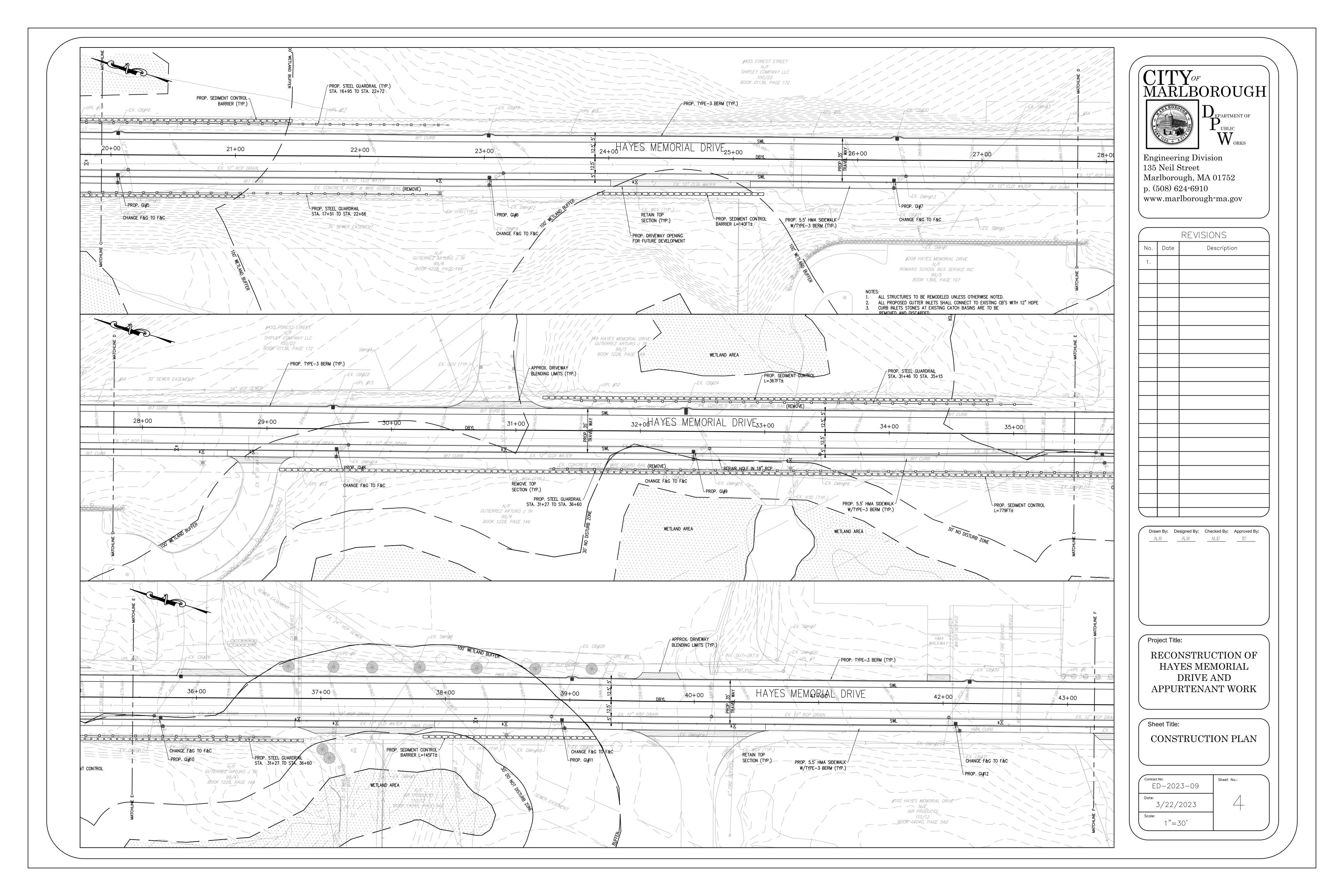
Sheet Title:
CONSTRUCTION NOTES,
LEGENDS AND
TYPICAL SECTION

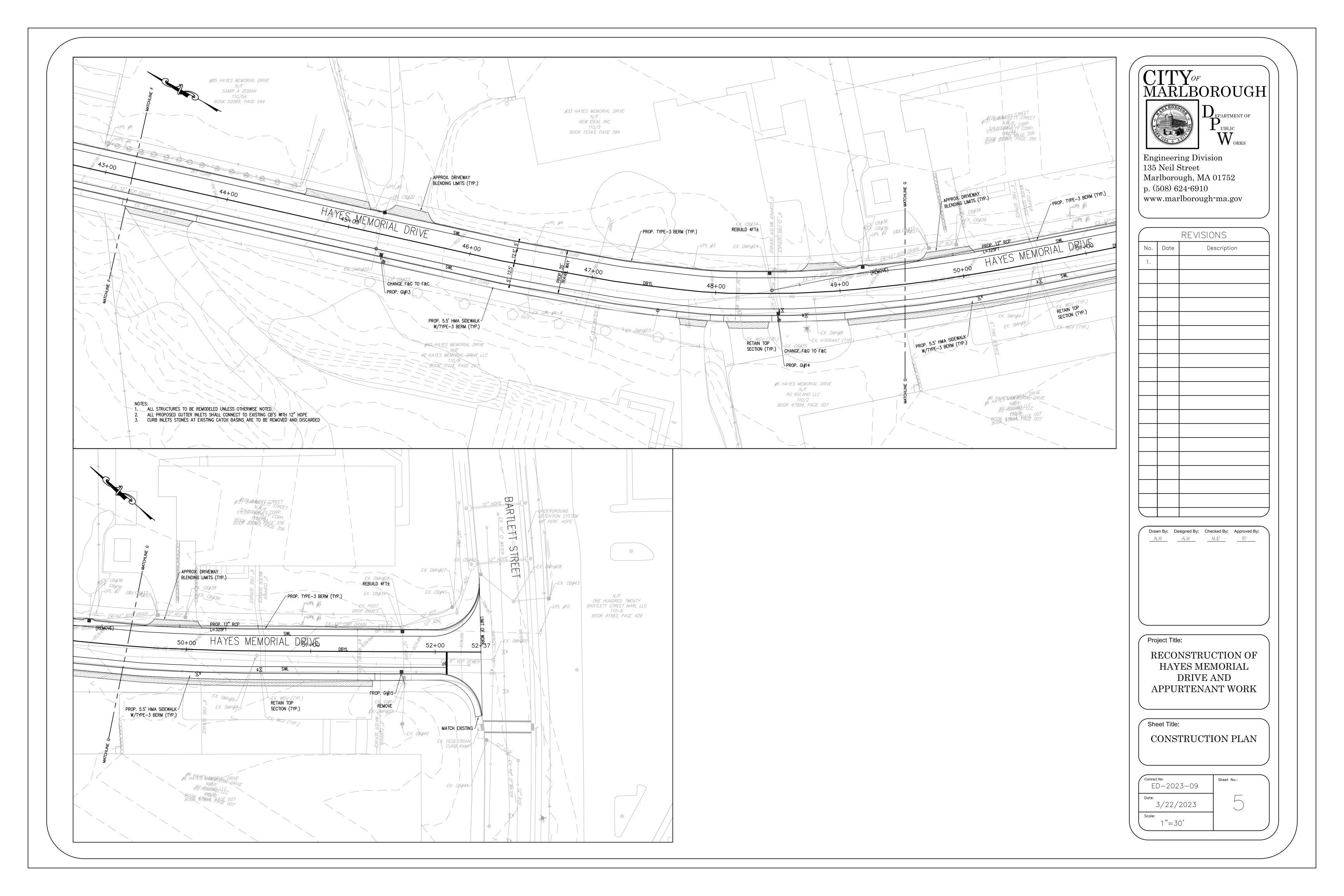
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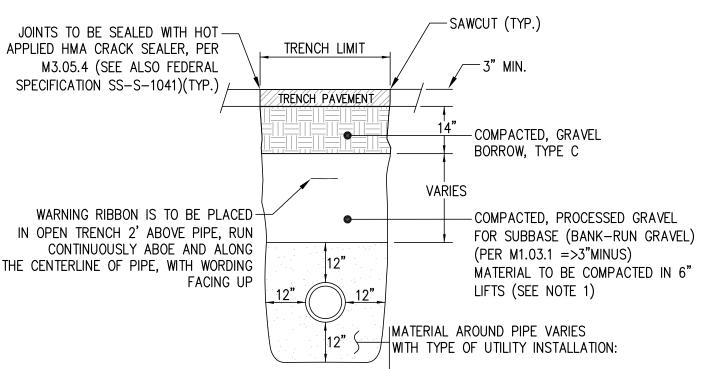
Contract No: ED-2023-09	
Date: 3/22/2023	
Scale:	

N.T.S.









SEWER-3/4" CRUSHED STONE (PER M2.01.0)

DETAIL SHOWN AS TYPICAL

WATER-SAND BORROW, TYPE B (PER M1.04.0 =>3/8"MINUS)

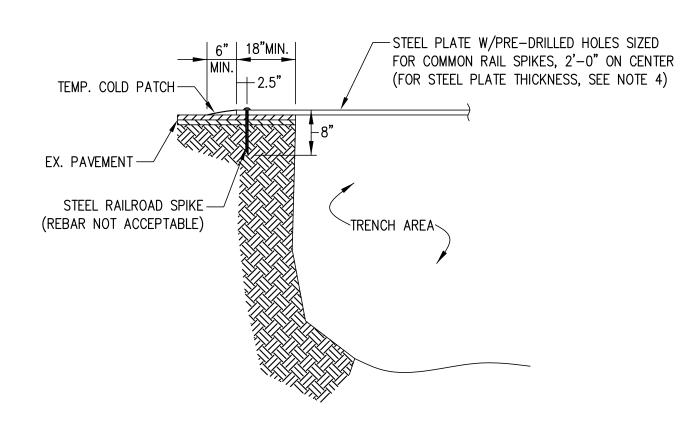
DRAIN RCP-GRAVEL BORROW, TYPE C (PER M1.03.0 =>2"MINUS)

DRAIN CHDPE-GRAVEL BORROW, TYPE D (PER M1.03.0 =>1-1/2"MINUS

1. COMPACTION EQUIPMENT AND LIFT THICKNESS SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS TO OBTAIN THE COMPACTION STANDARDS DESCRIBED IN THE CONSTRUCTION NOTES, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. IN PROXIMITY TO STRUCTURES, A JUMPING JACK COMPACTOR SHALL BE REQUIRED.

2. WATER MAIN PIPE IS TO HAVE MINIMUM COVER DEPTH OF 5 FEET FROM FINISHED SURFACE.

> TYPICAL EXCAVATION TRENCH N.T.S.



1. THE CITY RESERVES THE RIGHT NOT TO ALLOW THE USE OF STEEL PLATES TO SECURE

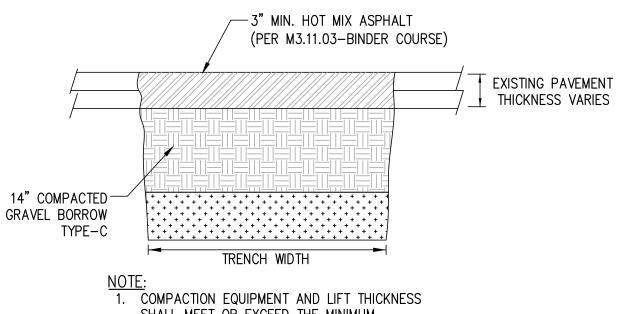
TRENCHES AT ANY TIME THROUGHOUT CONSTRUCTION. 2. PLACE 48"X48" ORANGE AND BLACK CONSTRUCTION SIGN, STATING "STEEL PLATES 100 FT." TO PROVIDE DRIVERS WITH ADVANCED NOTICE. SEE TRAFFIC MANAGEMENT PLAN FOR PLACEMENT OF SIGNAGE.

3. NOT MORE THAN ONE (1) STEEL PLATE SHALL BE USED AT ANY TIME AND CAN NOT BE USED ON EXCAVATIONS GREATER THAN 7-FEET WIDE.

4. STEEL PLATE DIMENSIONS AND THICKNESS SHALL BE DESIGNED BY THE CONTRACTOR. STEEL

PLATE THICKNESS SHALL BE DESIGNED TO ALLOW DEFLECTION OF NOT MORE THAN 0.25". 5. PROVIDE WOOD WEDGES UNDER PLATE EDGES AT UNEVEN SURFACES TO MINIMIZE MOVEMENT.

> STEEL PLATE DETAIL N.T.S.



SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS TO OBTAIN THE COMPACTION STANDARDS DESCRIBED IN THE CONSTRUCTION NOTES, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. IN PROXIMITY TO STRUCTURES, A JUMPING JACK COMPACTOR SHALL BE REQUIRED.

TEMPORARY TRENCH PAVING

CONSTRUCTION NOTES

THE FOLLOWING DESCRIBES MATERIALS AND METHODS AS THEY PERTAIN TO ROAD OPENING WORK. ALL WORK SHALL CONFORM TO THE 1988 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, AND ALL SUBSEQUENT SUPPLEMENTAL SPECIFICATIONS THERETO.

BACKFILL MATERIALS

EXCAVATIONS IN THE STREET PAVEMENT AREAS SHALL BE CAREFULLY BACKFILLED WITH LAYERS OF SUITABLE GRAVEL. THE TWELVE (12) INCHES OF BEDDING MATERIAL AROUND PIPES SHALL BE SAND (M1.04.0) FOR WATER, $\frac{3}{4}$ CRUSHED STONE (M2.01.0) FOR SEWER, GRAVEL BORROW - TYPE C (M1.03.0) FOR RCP DRAIN & TYPE D (M1.03.0) FOR CHDPE DRAIN OR AS SPECIFIED BY THE OWNER OF THE UTILITY AND APPROVED BY THE

SUITABLE BANK-RUN GRAVEL MATERIAL FOR BACKFILLING SHALL BE GRANULAR FILL CONSISTING OF MINERAL SOIL SUBSTANTIALLY FREE FROM CLAY, ORGANIC MATERIALS, LOAM, WOOD, TRASH OR OTHER OBJECTIONABLE MATERIAL WHICH MAY NOT BE COMPRESSIBLE OR WHICH CANNOT BE PROPERTY COMPACTED. IT SHALL NOT CONTAIN STONES, BROKEN CONCRETE, MASONRY RUBBLE OR OTHER SIMILAR MATERIALS. IT SHALL HAVE PHYSICAL PROPERTIES SUCH THAT IT CAN BE READILY SPREAD AND COMPACTED. IT SHALL NOT CONTAIN ANY SNOW, ICE OR FROZEN SOIL.

BACKFILL MATERIAL SHALL CONSIST OF CONTROLLED DENSITY FILL (CDF) - TYPE 1E OR 2E (M4.08.0) FOR ALL MAJOR ROADWAYS OF THE CITY OR AS DIRECTED BY THE COMMISSIONER OF PUBLIC WORKS. WHERE REQUIRED, CDF SHALL BE PLACED TO WITHIN A MINIMUM OF 5" FROM THE TOP OF THE EXISTING PAVEMENT OR AS DIRECTED BY THE CITY'S INSPECTOR. CDF SHALL BY TYPE 1E VERY FLOWABLE (EXCAVATABLE) OR TYPE 2E FLOWABLE (EXCAVATABLE) WITH A MAXIMUM STRENGTH OF 200 PSI AND 25-30% AIR. CDF (TYPE 1E AND 2E) SHALL BE EXCAVATABLE USING SIMPLE HAND TOOLS WHERE REQUIRED.

IF CONTROL DENSITY FILL IS USED TO BACKFILL THE TRENCH, PERMANENT TRENCH PAVING CAN BE PERFORMED ONCE THE CONTROL DENSITY FILL HAS SET, ELIMINATING THE TEMPORARY TRENCH PAVING REQUIREMENT. PROOF OF CONTROL DENSITY FILL SHALL BE REQUIRED IN ORDER TO BE GRANTED RELIEF FROM PERMANENT TRENCH PAVING. PLEASE NOTE, SHOULD THE TRENCH SHOW ANY SIGNS OF FAILURE, THE CONTRACTOR SHALL EXCAVATE THE HOT MIX ASPHALT IN QUESTION AND PERFORM TRENCH PAVING MEETING THE CITY OF MARLBOROUGH'S SPECIFICATIONS.

COMPACTION OF BACKFILL

BACKFILL SHALL BE UNIFORMLY DISTRIBUTED IN SUCCESSIVE LAYERS, EACH LAYER BEING THOROUGHLY COMPACTED BEFORE THE SUCCEEDING LAYER IS PLACED. THE ENTIRE WIDTH OF THE TRENCH SHALL BACKFILLED AND MECHANICALLY TAMPED IN LIFT DEPTHS NOT GREATER THAN (6) INCHES. COMPACTION EQUIPMENT AND LIFT THICKNESS SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS TO OBTAIN THE COMPACTION STANDARDS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. THE TOP LAYER OF BACKFILL SHALL BE FOURTEEN (14) INCHES OF GRAVEL COMPACTED TO 97% OF MAXIMUM DENSITY.

GRADING ROLLING AND FINISHING

PAVEMENT PLACED SHALL BE PLACED AND RAKED TO A UNIFORM SURFACE, ROLLED TO THE REQUIRED THICKNESS AND TO A GRADE THAT WILL MATCH THE EXISTING BITUMINOUS ROAD SURFACE. THE PERMITTEE SHALL MAINTAIN THE SURFACING AND SHALL PROMPTLY FILL WITH SIMILAR MATERIAL ANY DEPRESSION AND HOLES THAT MAY OCCUR SO AS TO KEEP THE SURFACING IN A SAFE AND SATISFACTORY CONDITION FOR

TEMPORARY PAVEMENT

A TEMPORARY PAVEMENT SHALL BE PLACED ON THE SURFACE OF THE FILL AND THOROUGHLY COMPACTED. A TEMPORARY PAVEMENT SHALL BE HOT MIX ASPHALT NO LESS THAN THE EXISTING BASE COURSE OR A MINIMUM THREE (3) INCHES THICK (SEE EXCAVATION TRENCH DETAIL). IF PLATES ARE USED PRIOR TO TEMPORARY PAVING, THEY SHALL BE RAMPED TO MATCH THE EXISTING PAVEMENT. TEMPORARY PAVING OR STEEL PLATING SHALL IMMEDIATELY FOLLOW THE BACKFILLING OPERATION OR AS DIRECTED BY ENGINEER.

PERMANENT PAVING

THE FINAL HOT MIX ASPHALT SURFACE SHALL NOT BE PLACED ANY EARLIER THAN 65 DAYS OR NO LATER THAN 90 DAYS FROM THE DATE OF COMPLETION OF THE TEMPORARY SURFACE WITHOUT APPROVAL FROM THE COMMISSIONER OF PUBLIC WORKS. THE TEMPORARY PAVEMENT SHALL BE MILLED TO A DEPTH OF ONE AND ONE-HALF (1 $\frac{1}{2}$) INCHES, TWELVE (12) INCHES OUTSIDE OF THE TEMPORARY PAVING LIMITS. PAVEMENT LIMITS JOINTS ARE TO BE SEALED WITH HOT APPLIED HAA CRACK SEALER, PER M3.05.4. IN SOME INSTANCES, FOR PROJECTS BEYOND A SIMPLE TRENCH EXCAVATION ADDITIONAL PAVEMENT DETAILS AND RESURFACING REQUIREMENTS MAY BE INCLUDED AS A SPECIAL CONDITION IN THE PERMIT.

PROTECTIVE SYSTEMS

ALL EXCAVATIONS MUST BE PROPERLY SLOPED, SHORED, OR SHIELDED UNLESS THEY ARE MADE ENTIRELY IN STABLE ROCK, OR LESS THAN (5) FEET DEEP AND DECLARED SAFE AFTER AN INSPECTION BY A COMPETENT PERSON.





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	REVISIONS				
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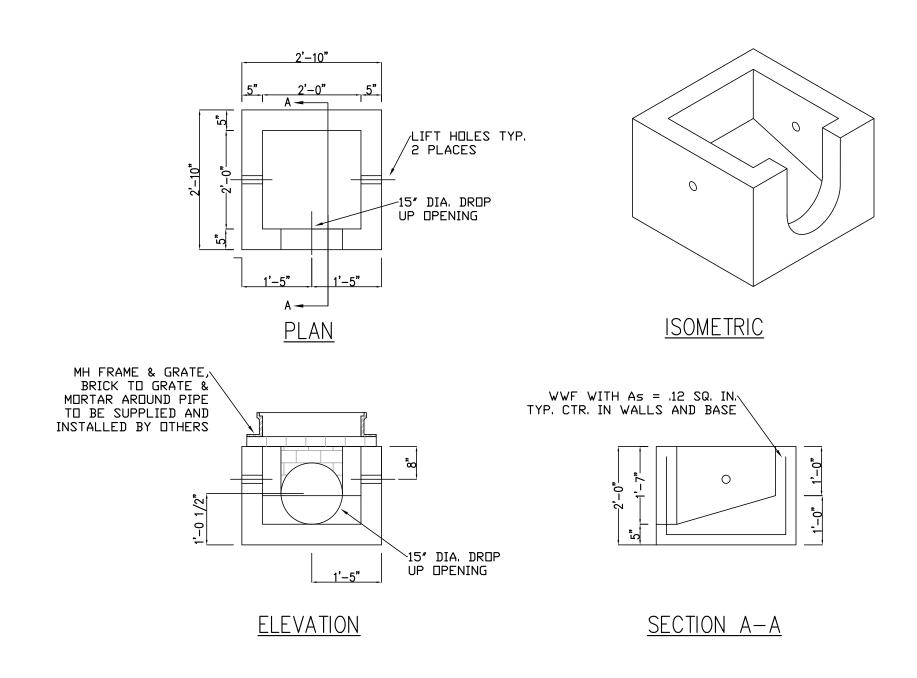
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Project Title:

RECONSTRUCTION OF HAYES MEMORIAL DRIVE AND APPURTENANT WORK

Sheet Title: TRENCH DETAILS

Contract No: ED — 2023 — 09	Sheet No.:
3/22/2023	
Scale:	



GENERAL NOTES:

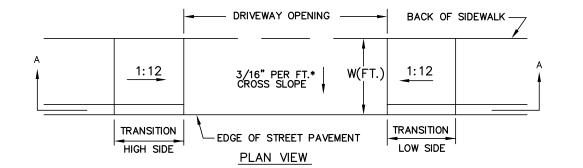
1. DESIGNED FOR AASHTO HS25-44 LOADING
2. CONCRETE STRENGTH F'C=4000 PSI

2. CONCRETE STRENGTH F C=4000 PSI

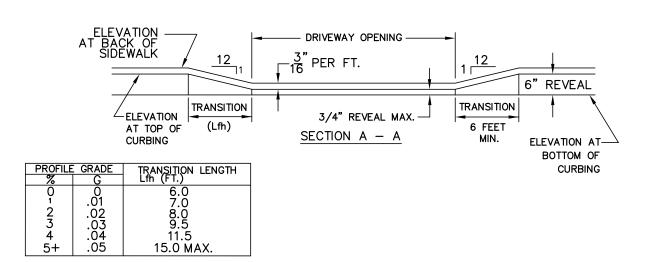
3. REINFORCING STEEL: ASTM(WWF) FY=60,000PSI

4. WEIGHT = 0.76 TONS

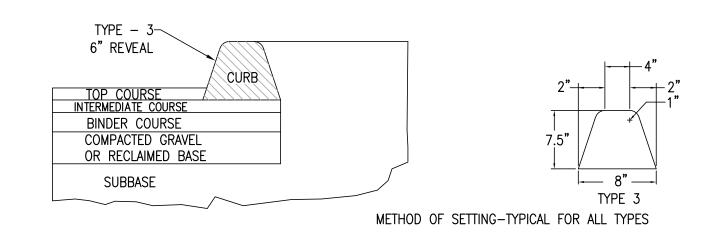
TYPICAL DROP INLET BOX



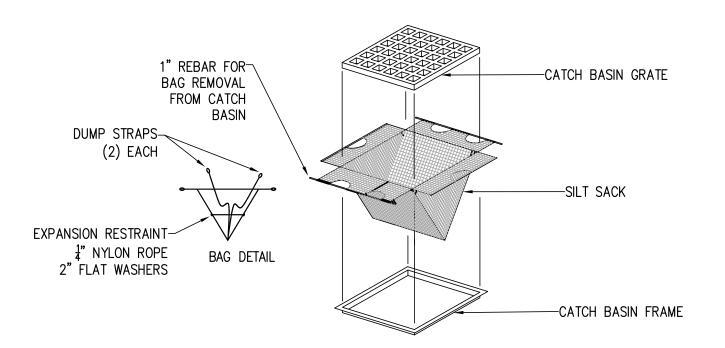
3/16" PER FOOT EQUALS A SLOPE OF 1.5625% MAXIMUM SLOPE PER A.D.A. REGULATION IS 2.0% (A.D.A. – AMERICANS WITH DISABILITIES ACT)



DRIVEWAY REQ. HMA S.W N.T.S.



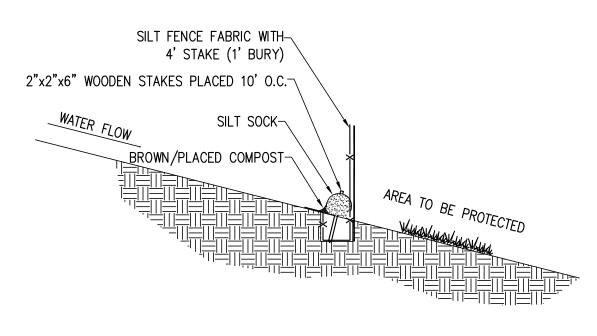
HMA CURB (TYPE-3)



NOTE:

1) ALL DETAILS ARE SUBJECT TO CHANGE WITHOUT NOTICE.
CHECK WITH THE CITY OF MARLBOROUGH'S DEPARTMENT OF
PUBLIC WORKS PRIOR TO USING THESE DETAILS FOR THE MOST
UP TO DATE REVISIONS.

SILT SACK N.T.S.



COMPOST SILT SOCK WITH SILT FENCE N.T.S.

CITY_{OF} MARLBOROUGH



Public Works

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RECONSTRUCTION OF
HAYES MEMORIAL DRIVE
AND
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Sheet Title:

CONSTRUCTION

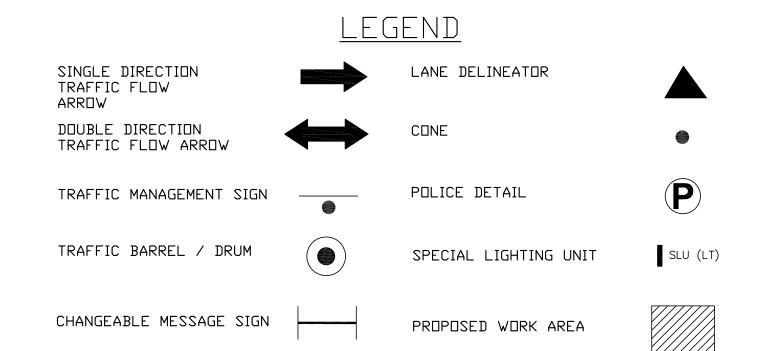
DETAILS

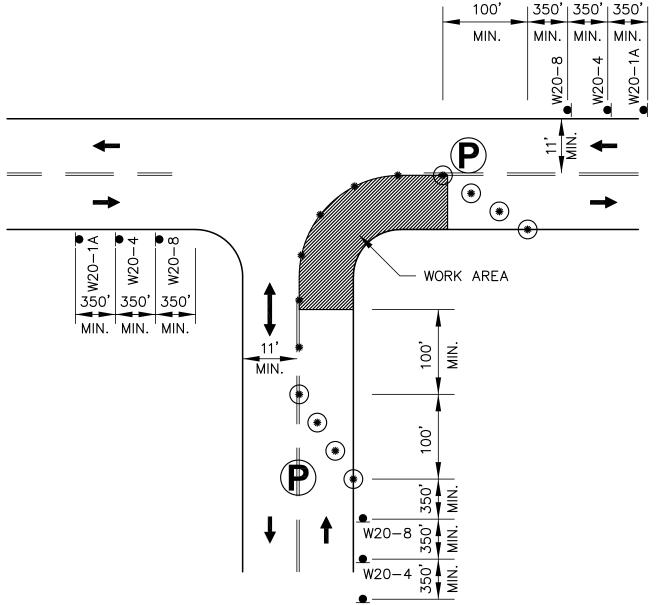
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CONSTRUCTION SIGN LEGEND

IDENTIFICATION	SIZE OF SIGN		TEVT	TEXT DIMENSIONS	COLOR	UNIT AREA IN
NUMBER	WIDTH	HEIGHT	TEXT	LETTER VERTICAL ARROW HEIGHT SPACING	BACK- GROUND LEGEND BORDER	0011405
W20-1D	48″	48″	STEEL PLATES 100 FT	MUTCD STANDARD DETAIL	MUTCD STANDARD DETAIL	16.0
W20-1A	48″	48″	ROAD WORK AHEAD			16.0
W20-1B	48″	48″	ROAD WORK 1000 FT			16.0
W20-1C	48″	48″	ROAD WORK 500 FT			16.0
W20-4	48″	48″	ONE LANE ROAD AHEAD			16.0
W20-7b	48″	48″	BE PREPARED TO STOP			16.0
W20-8	48″	48″	POLICE OFFICER AHEAD			16.0
G20-2	36 <i>"</i>	18″	END ROAD WORK			4.5
R11-2	48″	30″	ROAD CLOSED			10.0
W5−1	48″	48″	ROAD NARROWS			16.0
W1-4L	30″	30″				6.25
W1-4R	30″	30″				6.25
M4-8A	24"	18″	END DETOUR			3.0
M4-9L	30″	24"	DETOUR			5.0
M4-9R	30″	24"	DETOUR			5.0
M4-9∨	30″	24"	DETOUR 👚			5.0
W20-2	48″	48″	DETOUR AHEAD			16.0





NOTE:

1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.

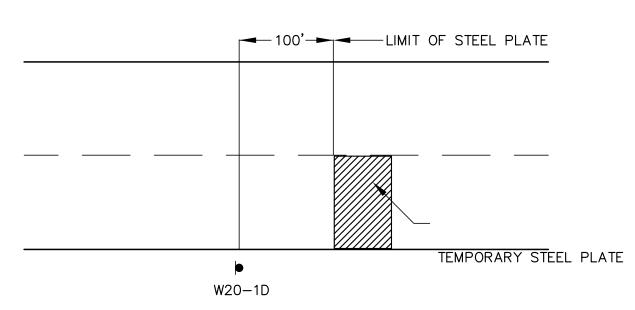
2. ALL DRUMS AND CONES TO BE SPACED

@ 20' O.C.

W20-1A

ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS

N.T.S.



TRENCH PLATE SIGNING

N.T.S.

GENERAL NOTES

1. ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED.

2. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.

3. THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.

4. DURING WORK IN INTERSECTIONS A MINIMUM OF ONE LANE OF ALTERNATING TRAFFIC SHALL BE ALLOWED TO PASS AT ALL TIMES. (POLICE DETAILS SHALL BE PRESENT DURING THIS WORK.)

5. GRADE SEPARATIONS IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.

6. EXCAVATION EDGES IN EXCESS OF 4" DEEP SHALL BE PROTECTED DURING NON-WORKING HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL TO COMPACTED 4:1 SLOPE.

7. 11' MINIMUM TRAVEL LANE WIDTHS SHALL BE MAINTAINED AT ALL TIMES.

8. NON-ESSENTIALS TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.

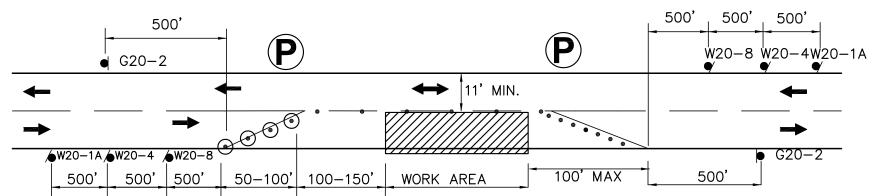
9. TRAFFIC MANAGEMENT SHALL INCLUDE CONSIDERATIONS FOR PEDESTRIANS ACCESS AT ALL TIMES.

10, NO SIGNAGE SHALL BE INSTALLED ON UTILITY POLES OR OTHER PRIVATE PROPERTY UNLESS CONTRACTOR RECEIVES WRITTEN PERMISSION FROM OWNER AND PROVIDES A COPY OF SAID AGREEMENT TO THE ENGINEER.

11. SPECIFIC SIGNAGE SHALL BE USED WHEN TEMPORARY TRENCH PLATES ARE INSTALLED. (SEE DETAIL ON THIS SHEET).

12. TRAFFIC MANAGEMENT PLAN REPRESENTS MINIMUM REQUIREMENTS. CONTRACTOR TO BE SOLELY RESPONSIBLE FOR TRAFFIC MANAGEMENT AND SAFETY IN WORK ZONE AREAS. DETOUR SHALL ONLY BE ESTABLISHED AND/OR ALTERED BY WITH THE APPROVAL OF THE ENGINEER.

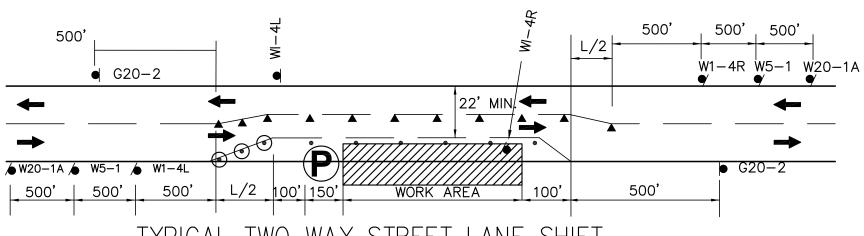
13. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE RESPECTIVE PUBLIC SERVICE CORPORATIONS OR OFFICIALS OF THEIR INTENTIONS AT LEAST ONE WEEK IN ADVANCE OF THE COMMENCEMENT OF OPERATIONS. THE CONTRACTOR MAY HAVE TO COORDINATE ON A DAILY BASIS IF THE DETOUR OR WORK ZONES HAVE CHANGED. FOR A LIST OF SAID CORPORATIONS PLEASE SEE THE CONTRACT DOCUMENTS "GENERAL CONDITIONS".



TYPICAL TWO WAY ALTERNATING TRAFFIC

N.T.S.

NOTE: THIS DETAIL SHOWS A RIGHT LANE CLOSURE DETAIL. THIS DETAIL CAN ALSO BE USED FOR LEFT LANE CLOSURES, WITH THE SIGN PLACEMENT REVERSED AS APPROPRIATE.



TYPICAL TWO WAY STREET LANE SHIFT

N.T.S.

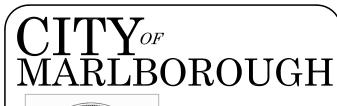
NOTE: THIS DETAIL SHOWS A RIGHT LANE CLOSURE DETAIL.
THIS DETAIL CAN ALSO BE USED FOR LEFT LANE CLOSURES, WITH THE SIGN PLACEMENT REVERSED AS APPROPRIATE.

L=WS²/60 (FEET) FOR 40 MPH OR LESS W=WIDTH OF OFFSET (FT) L=WS FOR 45 MPH OR MORE S= POSTED SPEED LIMIT (MPH)

OPERATIONAL SIGNING

N.T.S.

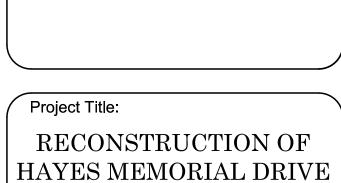
ALL DRUMS AND SIGNS ARE SHOWN AS THEY SHOULD APPEAR DURING THE WORKING DAY, OR WHILE OPERATING IN THE WORK ZONE.





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		REVISIONS
No.	Date	Description
1.		
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AND

APPURTENANT WORK

Drawn By: Designed By: Checked By: Approved By:

Sheet Title:
TRAFFIC
MANAGEMENT PLAN

Contract No: ED-2023-09	Sheet No.:
Date: 3/22/2023	8
Scale: N.T.S.	