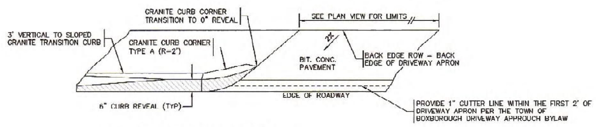
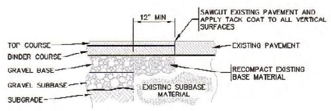
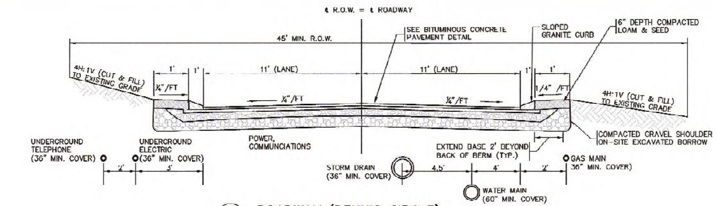


DRIVEWAY APRON
TYPICAL PLAN VIEW
NOT TO SCALE

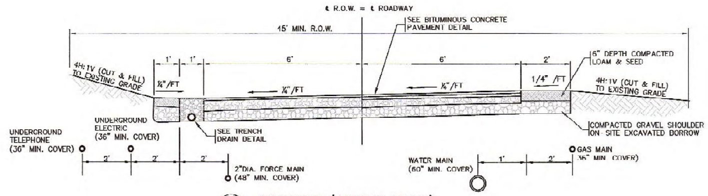


NOTES:
[1] FLEXIBLE PAVEMENT REMOVAL SHALL BE INITIATED BY MAKING A FULL-DEPTH VERTICAL SAWCUT AT THE LOCATIONS INDICATED ON THE PLANS. SAWCUTS SHALL BE ACCOMPLISHED USING A STANDARD DIAMOND TYPE BLADE SAW.
[2] IF SAWCUT IS WITHIN THREE (3) FEET OF AN EXISTING BUILDING, CURB LINE OR EXISTING FENCE, COMPLETELY REMOVE EXISTING PAVEMENT AND REPLACE ACCORDING TO THE REQUIREMENTS OF THE BITUMINOUS CONCRETE PAVEMENT SECTION.

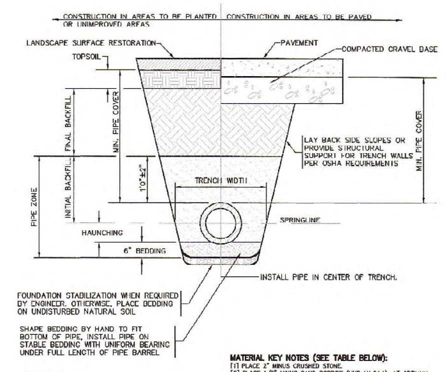
FLEXIBLE PAVEMENT SAWCUT DETAIL
TYPICAL CROSS SECTION
NOT TO SCALE



ROADWAY (DENNIS CIRCLE)
CROSS SECTION
NOT TO SCALE



ROADWAY (ALFRED TRAIL)
CROSS SECTION
NOT TO SCALE



TRENCH WIDTH:
[1] MINIMUM WIDTH OF TRENCH MEASURED AT SPRINGLINE OF PIPE, INCLUDING ANY NECESSARY SHEATHING:

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

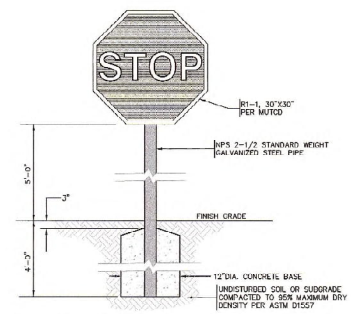
MINIMUM PIPE COVER:
[1] MINIMUM SOIL COVER OVER TOP OF PIPE.

PIPE MATERIAL	HDPE, PVC	RC, DI
WATER	5' – 0"	5' – 0"
SEWER	4' – 0"	4' – 0"
DRAIN	2' – 0"	1' –0"

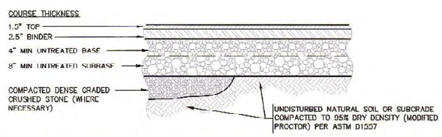
MATERIAL KEY NOTES (SEE TABLE BELOW):
[1] PLACE 2" MINUS CRUSHED STONE.
[2] PLACE 1/2" MINUS SAND BORROW (MHD M1.04.1), AT OPTIMUM MOISTURE IN HORIZONTAL 8" DEEP LOOSE LAYERS, COMPACT TO 95% PER ASTM D-1557 MODIFIED PROCTOR METHOD.
[3] IN PLANTED OR UNIMPROVED AREAS, USE 2-INCH MINUS ON-SITE EXCAVATED MATERIAL. COMPACT TO 80% PER ASTM D-1557. IN PAVED AREAS, OBTAIN ENGINEER APPROVAL OF 2-INCH MINUS ON-SITE EXCAVATED MATERIALS.

FOUNDATION, BEDDING AND BACKFILL MATERIALS		
PIPE MATERIAL	HDP, PVC	RC, DI
FOUNDATION STABILIZATION	[NOTE 1]	[NOTE 1]
BEDDING	[NOTE 2]	[NOTE 2]
HAUNCHING	[NOTE 2]	[NOTE 2]
INITIAL BACKFILL	[NOTE 2]	[NOTE 2]
FINAL BACKFILL	[NOTE 3]	[NOTE 3]

PIPE TRENCH
TYPICAL CROSS SECTION
NOT TO SCALE



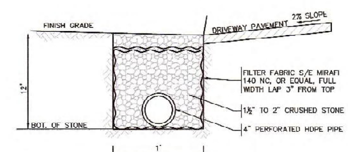
STOP SIGN
NOT TO SCALE



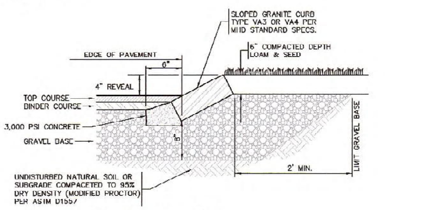
COURSE	MATERIAL	SPECIFICATION PER MASS HIGHWAY DEPARTMENT (MHD)	MAX AGG SIZE (INCH)	COMPACTION REQUIREMENTS COMPACTION	TEST DESIGNATION
TOP	HOT MIX ASPHALT	SURFACE COURSE TYPE B	1/2	[NOTE 1]	AASHTO-T166
BINDER	HOT MIX ASPHALT	BINDER COURSE TYPE A	3/4	[NOTE 1]	AASHTO-T166
BASE	CRUSHED STONE	DENSE GRADED TYPE B	2	95% [NOTE 3]	ASTM D1557/AASHTO-T99
SUBBASE	GRAVEL BORROW	M1.03.0 TYPE B	3	95% [NOTE 3]	ASTM D1557/AASHTO-T99
SUBGRADE	ORDINARY BORROW	M1.01.0 [SEE NOTE 2]	8	95% [NOTE 3]	ASTM D1557/AASHTO-T99

NOTES:
[1] COMPACT TO TEST AVERAGE OF 95%; TEST SHALL NOT BE LOWER THAN 93%.
[2] UNSUITABLE MATERIAL IN THE SUBGRADE SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE SUBSTITUTE MATERIAL: 3/4" MINUS DENSE GRADED CRUSHED STONE.
[3] MATERIAL SHALL BE SPREAD AND COMPACTED IN LAYERS NOT EXCEEDING 8-INCHES IN DEPTH, COMPACTED MEASUREMENT; LAST LAYER OF MATERIAL SHALL NOT EXCEED 4-INCHES IN DEPTH, COMPACTED MEASUREMENT.

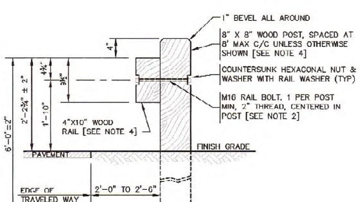
BITUMINOUS CONCRETE PAVEMENT
TYPICAL CROSS SECTION
NOT TO SCALE



TRENCH DRAIN
TYPICAL CROSS SECTION
NOT TO SCALE

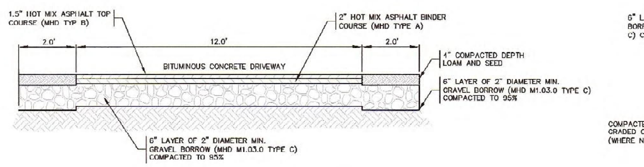


SLOPED GRANITE CURB
TYPICAL CROSS SECTION
NOT TO SCALE

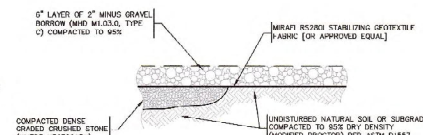


NOTES:
[1] ALL NUTS, BOLTS & WASHERS ARE TO BE HIGH STRENGTH GALVANIZED STEEL.
[2] ALL SPLICES ARE TO BE MADE AT POST: FOUR (4) BOLTS EACH SPLICE.
[3] BACK-UP PLATE IS TO BE PLACED BEHIND RAIL ELEMENTS AT NON SPLICE LOCATIONS (INTERMEDIATE POSTS).
[4] WOOD AND WOOD TREATMENT SHALL COMPLY WITH MASSACHUSETTS HIGHWAY DEPARTMENT SPECIFICATIONS AND STANDARDS.
[5] TERMINAL SECTIONS SHALL BE IN ACCORDANCE WITH MASSACHUSETTS HIGHWAY DEPARTMENT SPECIFICATIONS AND STANDARDS.

WOOD GUARDRAIL
TYPICAL CROSS SECTION
NOT TO SCALE



TYPICAL SECTION SHARED DRIVEWAY
NOT TO SCALE



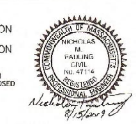
NOTES:
[1] UNSUITABLE MATERIAL IN THE SUBGRADE SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE SUBSTITUTE MATERIAL: 3/4" MINUS DENSE GRADED CRUSHED STONE.
[2] FINAL GRAVEL DRIVEWAY STABILIZATION DESIGN TO BE CONFIRMED BY THE GEOTECHNICAL ENGINEER.

GRAVEL PARKING SPACE
TYPICAL CROSS SECTION
NOT TO SCALE

DRAWING ISSUED FOR:

☐ CONCEPT ☐ CONSTRUCTION
■ PERMIT ☐ CONSTRUCTION RECORD

THIS DRAWING MAY NOT SHOW CONSTRUCTION DETAILS AND SPECIFICATIONS FOR ALL PROPOSED IMPROVEMENTS, AND MAY NOT IDENTIFY ALL CONSTRUCTION WORK ITEMS/AREAS OF CONTRACTOR JURISDICTION.



PER 250 CMR 5.03(13), THE FOLLOWING ARE EXCLUDED FROM THE PROFESSIONAL ENGINEER'S RESPONSIBILITY: ALL BOUNDARY INFORMATION, LOCATION OF EXISTING STRUCTURES, TREES, UTILITIES, TOPOGRAPHY OR SIMILAR FEATURES; DESIGN OF RETAINING WALLS, PROPRIETARY EQUIPMENT. SEE EXISTING CONDITION NOTES.

NO.	DATE	BY	APP.	REVISION DESCRIPTION

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GOLDSMITH, PREST & RINGWALL, INC.
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www.gpr-inc.com

DEFINITIVE RESIDENTIAL SUBDIVISION OPEN SPACE DEVELOPMENT

CONSTRUCTION DETAILS

HEALY CORNER
195 TAHATTAWAN ROAD
LITTLETON, MA

PREPARED FOR:
CLAVEY FAMILY TRUST
P.O. BOX 381
LITTLETON, MA 01460

DES. BY: MCL / CHK. BY: NMP	DATE: AUGUST 2019	JOB 171088	C9.1

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