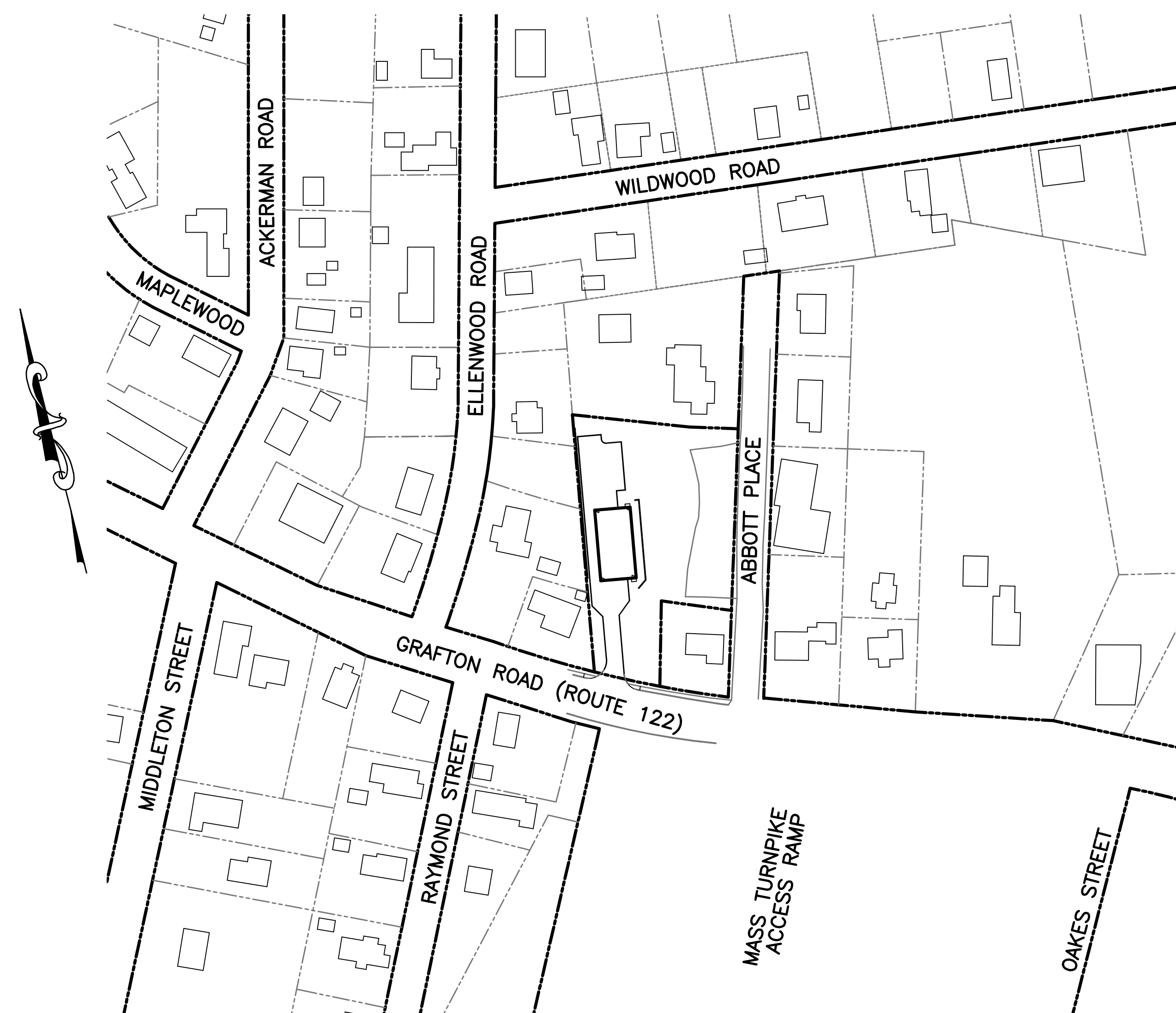


# SITE DEVELOPMENT PLAN

FOR

## 1497 GRAFTON ROAD

### MILLBURY, MASSACHUSETTS 01527



INDEX DESCRIPTION	SHEET NUMBER
COVER	1 OF 9
EXISTING CONDITIONS PLAN	2 OF 9
LAYOUT PLAN	3 OF 9
GRADING AND DRAINAGE PLAN	4 OF 9
UTILITY PLAN	5 OF 9
LANDSCAPE AND LIGHTING PLAN	6 OF 9
EROSION & SEDIMENTATION CONTROL PLAN	7 OF 9
DETAIL PLAN	8 OF 9
DETAIL PLAN	9 OF 9

**RECORD APPLICANT:**

PARKLUND PLACE, LLC  
 4 ABBOTT PLACE  
 MILLBURY, MA 01527  
 (508) 335-7191

**RECORD OWNER:**

PARKLUND PLACE, LLC  
 4 ABBOTT PLACE  
 MILLBURY, MA 01527  
 (508) 335-7191

**LAND PLANNERS—CIVIL ENGINEERS:**

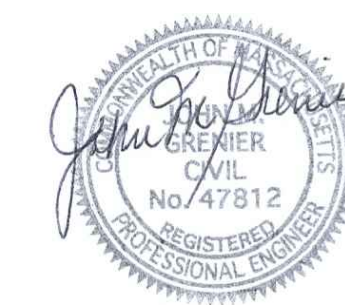
J.M. GRENIER ASSOCIATES INC.  
 325 DONALD LYNCH BOULEVARD SUITE 100  
 MARLBOROUGH, MA 01752  
 (508) 845-2500

**LAND SURVEYORS:**

REALMAPINFO, LLC  
 11 APEX DRIVE SUITE 300 S  
 MARLBOROUGH, MA 01752

ZONING DISTRICT: EAST MILLBURY BUSINESS

LOCUS:  
 SCALE: 1"=100'



2/9/22

SITE PLAN APPROVAL  
 MILLBURY PLANNING BOARD

_____
_____
_____
_____
_____
DATE: _____

REV. NO.	DATE	REVISION
2	2/9/22	TOWN COMMENTS / STANTEC COMMENTS
1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS

SCALE: AS SHOWN	DATE: NOVEMBER 2, 2021
COVER SHEET	
SHEET NO.: SHEET 1 OF 9	PROJECT NO.: G-613

**TEST HOLE DATA**

TH	ELEV	TEST
TH 1	414.0	SL
		SL
		SL
		SL

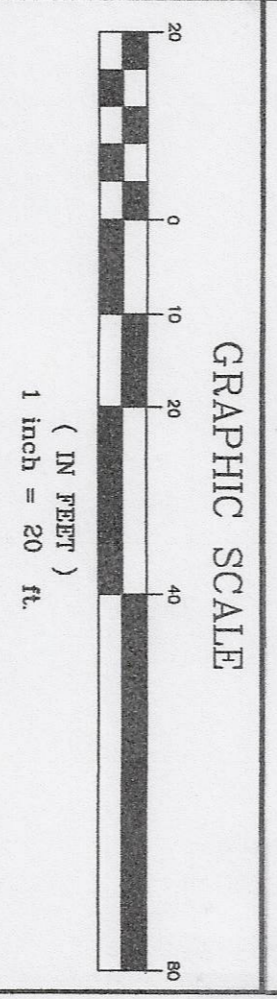
ESHOW 060° (ELEV. 408.0)

**LEGEND:**

- EXISTING PROPERTY LINE
- - - - EXISTING CONTOUR - HIGH
- - - - EXISTING CONTOUR - LOW
- - - - EXISTING EDGE PAVEMENT
- - - - EXISTING CURB
- - - - EXISTING VEGETATED WETLAND
- - - - WETLAND BUFFER
- - - - EXISTING STONE WALL
- - - - EXISTING DRAIN LINE
- - - - EXISTING SEWER LINE
- - - - EXISTING WATER LINE
- - - - EXISTING OVERHEAD WIRES

**NOTES:**

1. REFERENCE TOWN OF MILLBURY ASSESSORS MAP 6 PARCEL 190
2. EXISTING CONDITIONS SURVEY PERFORMED BY REALMAP INC, LLC 11 APEX DRIVE SUITE 300 S. MARLBOROUGH, MA 01752.
3. WETLANDS WERE DELINEATED BY MATTHEW MARRO AND FIELD LOCATED BY REALMAP INC, LLC IN FEBRUARY 2020.
4. SITE IS NOT LOCATED IN A FLOOD ZONE AS SHOWN ON FIRM MAP PANEL 250Z/02020E FOR THE TOWN OF MILLBURY MASSACHUSETTS, WORCESTER COUNTY, DATED JULY 4, 2011.
5. DATUM IS MADD 88 AND MADD 83.



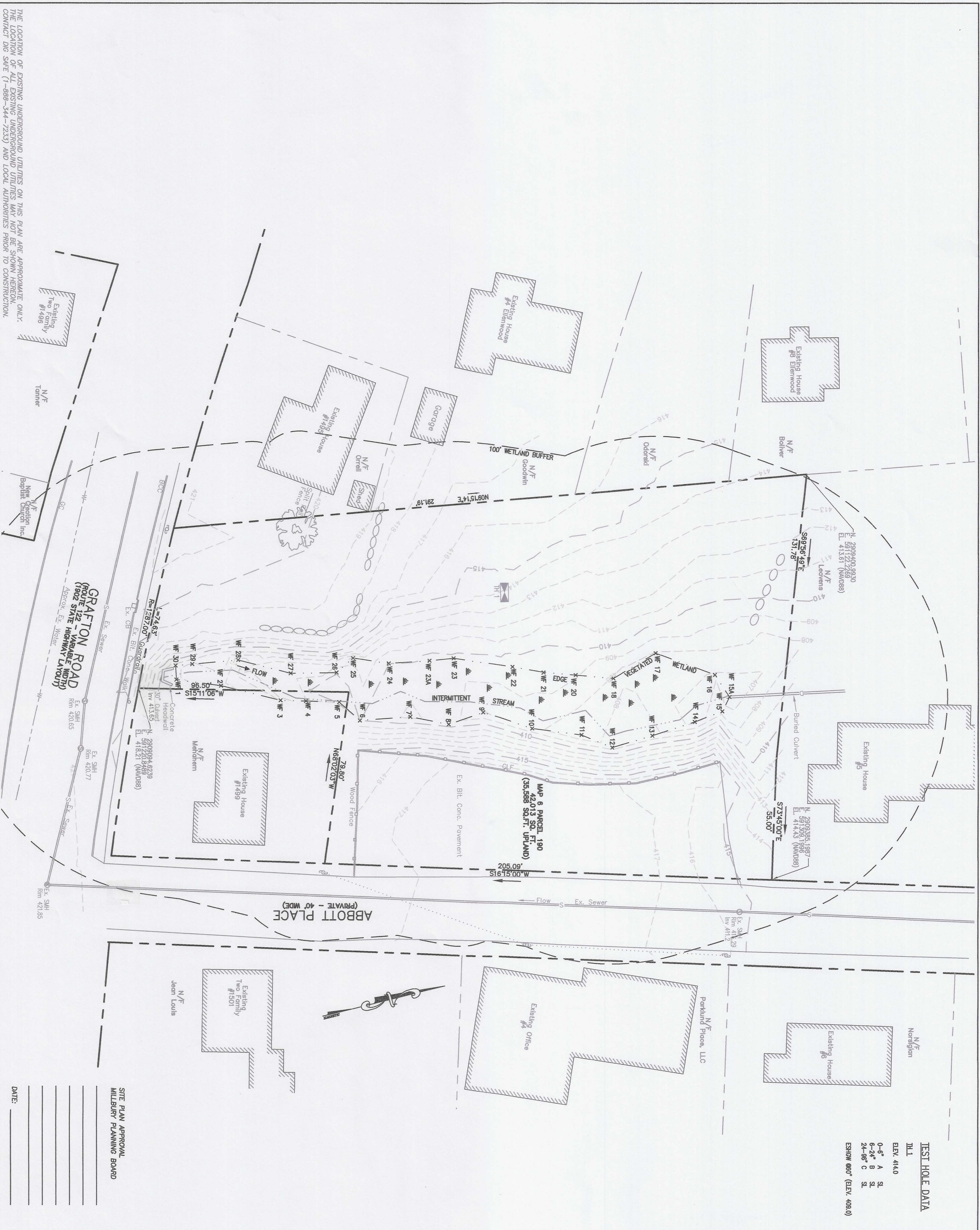
REV. NO.	DATE	TOWN COMMENTS / STATUTE COMMENTS	REVISION
1	2/3/22		

**TITLE:**  
**SITE DEVELOPMENT PLAN**  
 FOR  
**1497 GRAFTON ROAD**  
**MILLBURY, MASSACHUSETTS 01527**

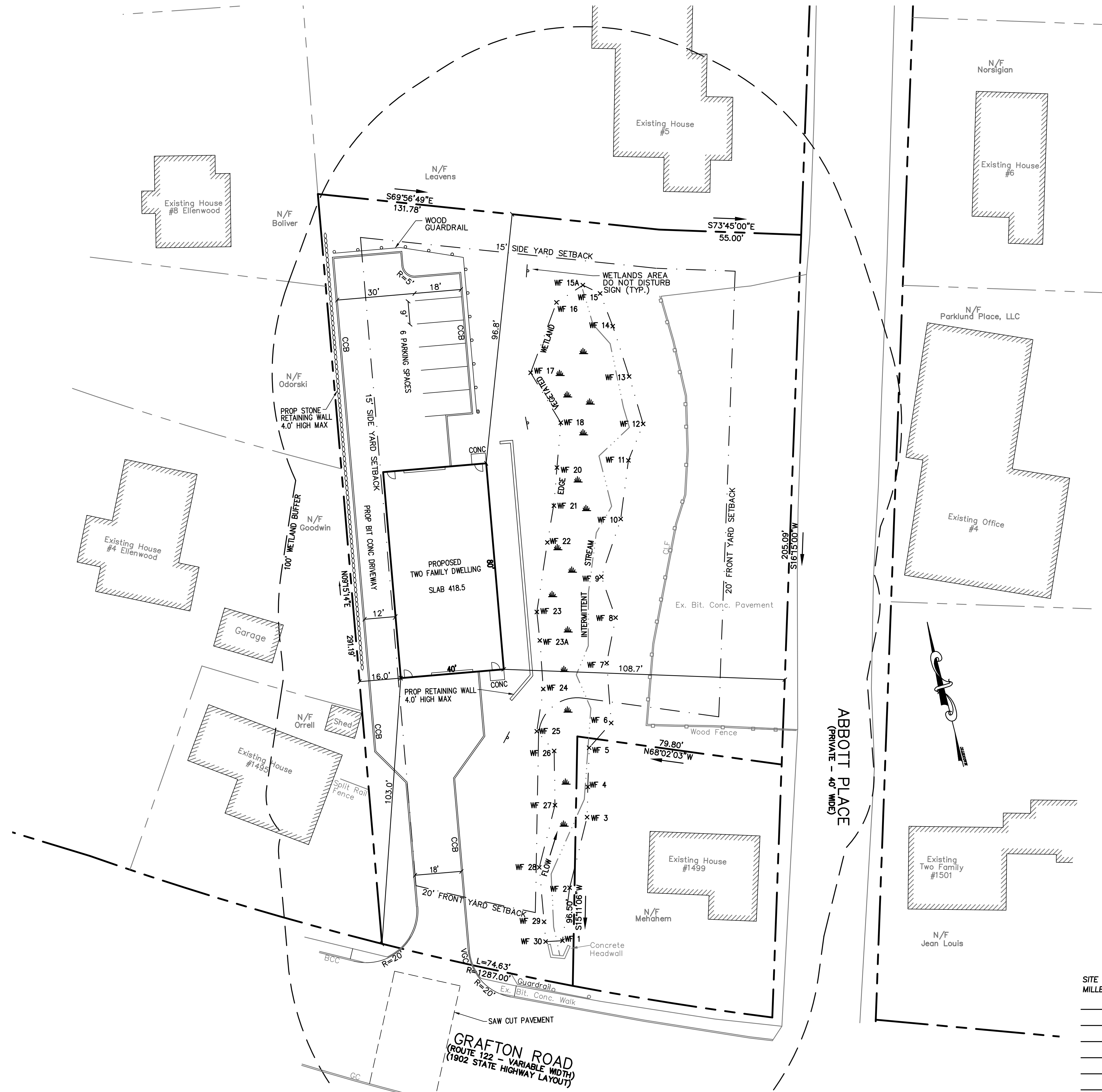
**PREPARED FOR:**  
**PARKLUND PLACE, LLC**  
**4 ABBOTT PLACE**  
**MILLBURY, MASSACHUSETTS 01527**

**PREPARED BY:**  
**J.M. GRENIER ASSOCIATES INC.**  
**325 DONALD LYNCH BOULEVARD SUITE 100**  
**MARLBOROUGH, MASSACHUSETTS 01752**  
 Title No.: (508) 845-2500  
 Scale: 1" = 20'  
 Date: NOVEMBER 2, 2021

**SHEET NO.:** SHEET 2 OF 9  
**PROJECT NO.:** G-613



THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ON THIS PLAN ARE APPROXIMATE ONLY. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES MAY NOT BE SHOWN HEREON. CONTACT DIG SAFE (1-888-344-7333) AND LOCAL AUTHORITIES PRIOR TO CONSTRUCTION.



**LEGEND:**

- EXISTING PROPERTY LINE
- 410- EXISTING CONTOUR - HIGH
- 408- EXISTING CONTOUR - LOW
- 410- PROPOSED CONTOUR - HIGH
- 408- PROPOSED CONTOUR - LOW
- EXISTING EDGE PAVEMENT
- EXISTING CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED VERTICAL GRANITE CURB
- PROPOSED CAPE COD BERM
- EDGE VEGETATED WETLAND
- WETLAND BUFFER
- PROPOSED TREE LINE
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- PROPOSED DRAIN LINE
- EXISTING SEWER LINE
- PROPOSED SEWER LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING OVERHEAD WIRES
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED EROSION CONTROL

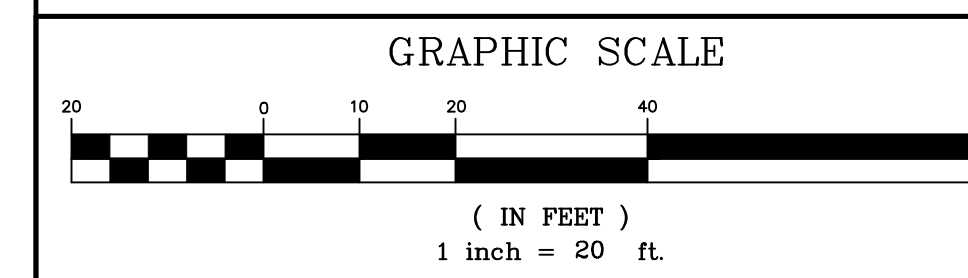
**ZONING SUMMARY:**

CURRENT ZONE: EAST MILLBURY BUSINESS

	REQUIRED	PROVIDED
MIN. LOT AREA	15,000 SQ.FT.	42,013 SQ.FT.
MIN. FRONTAGE	100'	205.09'
MIN FRONT YARD SETBACK	20'	130.0'
MIN SIDE YARD SETBACK	15'	16.0'
MIN. REAR YARD SETBACK	25'	—
MAX. BUILDING HEIGHT	37'/3 STORIES	<37'/2 STORIES
MIN. OPEN SPACE	10%	55.7%

**PARKING SPACE REQUIREMENTS:**

USE	REQUIRED
DWELLING UNIT: 3/2 BEDROOM D.U. X 2 D.U. =	6 SPACES REQUIRED
	6 SPACES PROVIDED



REV. NO.	DATE	REVISION
1	2/9/22	TOWN COMMENTS / STANTEC COMMENTS
1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS

**TITLE:**

**SITE DEVELOPMENT PLAN**  
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**1497 GRAFTON ROAD**  
MILLBURY, MASSACHUSETTS 01527

**PREPARED FOR:**

**PARKLUND PLACE, LLC**  
4 ABBOTT PLACE  
MILLBURY, MASSACHUSETTS 01527

**PREPARED BY:**

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325 DONALD LYNCH BOULEVARD SUITE 100  
MARLBOROUGH, MASSACHUSETTS 01752

TELE. NO.: (508) 845-2500 jmgrenier@townisp.com

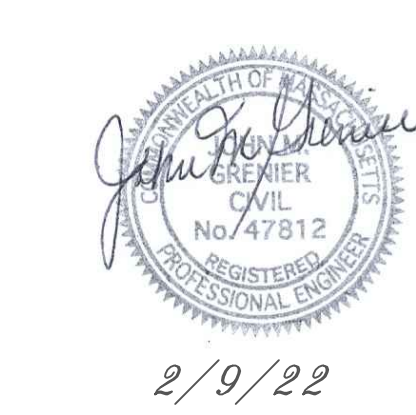
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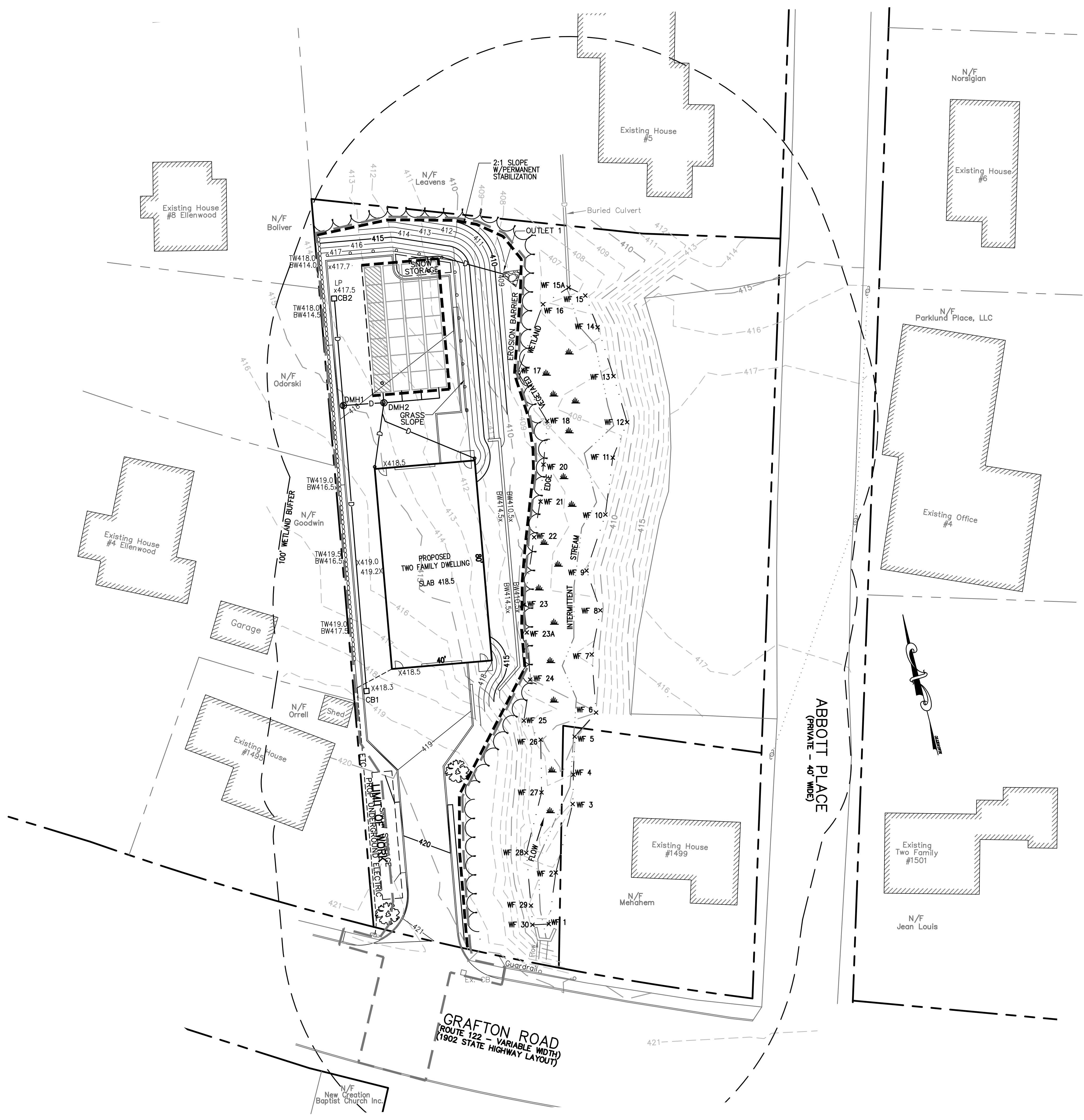
**LAYOUT PLAN**

**SHEET NO.:** SHEET 3 OF 9 **PROJECT NO.:** G-613

SITE PLAN APPROVAL  
MILLBURY PLANNING BOARD

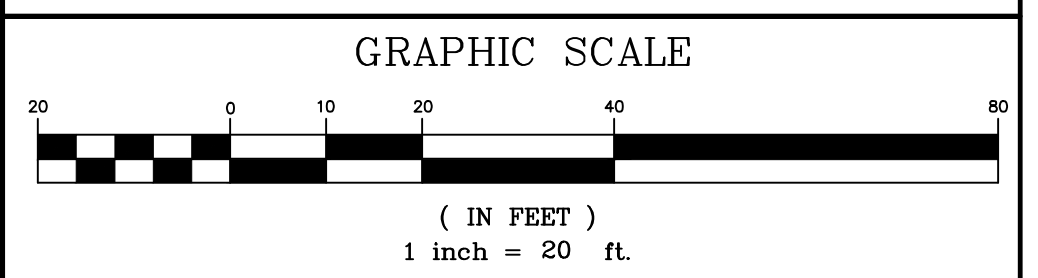
DATE: \_\_\_\_\_





**LEGEND:**

- 410 — EXISTING PROPERTY LINE
- 410 — EXISTING CONTOUR - HIGH
- 408 — EXISTING CONTOUR - LOW
- 410 — PROPOSED CONTOUR - HIGH
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- — PROPOSED UNDERGROUND ELECTRIC
- — PROPOSED EROSION CONTROL



REV. NO.	DATE	REVISION
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1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS

**TITLE:**

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1497 GRAFTON ROAD  
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**PREPARED FOR:**

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4 ABBOTT PLACE  
MILLBURY, MASSACHUSETTS 01527**

**PREPARED BY:**

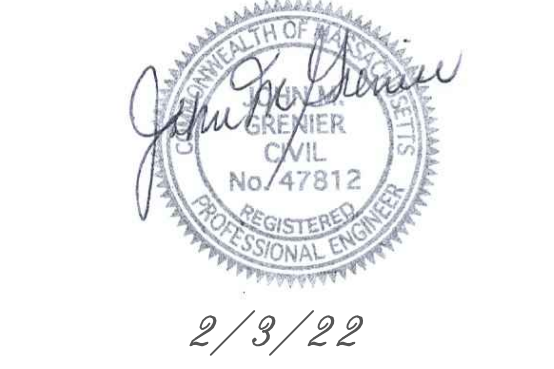
**J.M. GRENIER ASSOCIATES INC.  
325 DONALD LYNCH BOULEVARD SUITE 100  
MARLBOROUGH, MASSACHUSETTS 01752**

TELE NO.: (508) 845-2500      jmrenier@townisp.com

**SCALE:** 1" = 20'      **DATE:** NOVEMBER 2, 2021

**GRADING AND DRAINAGE PLAN**

**SHEET NO.:** SHEET 4 OF 9      **PROJECT NO.:** G-613



SITE PLAN APPROVAL  
MILLBURY PLANNING BOARD

DATE: \_\_\_\_\_



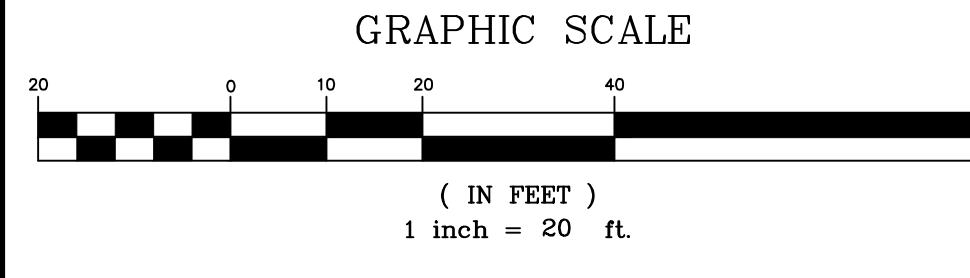
**DRAINAGE SCHEDULE**

CB 1 (FLAT TOP)	RIM 418.30	INV 415.10
12" HDPE L=114' S=0.011		
CB 2	RIM 417.50	INV 414.30
12" HDPE L=43' S=0.011		
DMH 1	RIM 417.80	INV IN 413.82 (CB 1)
		INV IN 413.82 (CB 2)
		INV OUT 413.72
12" HDPE L=16' S=0.007		
ROOF DRAIN	RIM 415.50	
6" PVC L=46' S=0.030		
DMH 2	RIM 418.00	INV IN 414.10 (BLDG)
		INV IN 413.60 (DMH 1)
		INV OUT 413.50 (CHAMBER ROW)
		INV OUT 412.50 (ISOLATOR ROW)
STORMTECH MC-3500 CHAMBERS		INV OUT 414.75
6" PVC L=31' S=0.202		
OUTLET 1	RIM 408.5	

**LEGEND:**

---	EXISTING PROPERTY LINE
- - - -	EXISTING CONTOUR - HIGH
- - - -	EXISTING CONTOUR - LOW
- - - -	PROPOSED CONTOUR - HIGH
- - - -	PROPOSED CONTOUR - LOW
---	EXISTING CURB PAVEMENT
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---	PROPOSED WATER LINE
---	EXISTING OVERHEAD WIRES
---	PROPOSED UNDERGROUND ELECTRIC
---	PROPOSED EROSION CONTROL

- NOTES:**
- SEE ARCHITECTURAL PLANS FOR LOCATION OF DOWNSPOUTS FOR ROOF RUNOFF DRAIN LEADERS.
  - SEE ARCHITECTURAL PLANS FOR LOCATION OF UTILITY ROOM AND WHERE UTILITIES ENTER THE BUILDING.
  - ALL TRENCHES WITHIN GRAFTON ROAD SHALL BE BACKFILLED AS REQUIRED BY MASS DOT.
  - WATER LINES SHALL HAVE A MINIMUM COVER OF 5 FEET.
  - ALL SEWER PIPE SHALL BE SDR 35 PVC.
  - SEWER SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM ALL WATER SUPPLY LINES. WHEN A 10 FOOT SEPARATION CANNOT BE MAINTAINED THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE TRENCH ABOVE THE SEWER WITH AN 18 INCH VERTICAL SEPARATION BETWEEN THE CROWN OF THE SEWER AND THE INVERT OF THE WATER MAIN. ADEQUATE VERTICAL SEPARATION OF WATER/SEWER CROSSING SHALL BE CONFIRMED.
  - A MINIMUM 18 INCH VERTICAL SEPARATION SHALL BE MAINTAINED AT ALL SEWER/DRAINAGE CROSSINGS WITH THE DRAIN ABOVE THE SEWER.
  - LOCATIONS AND INVERTS OF EXISTING UTILITIES SHALL BE VERIFIED IN FIELD.
  - SIZE OF PROPOSED WATER AND SEWER UTILITIES TO BE DETERMINED.
  - CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-344-7233 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION.
  - CONTRACTOR SHALL FIELD VERIFY DIMENSIONS AND CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
  - GAS, ELECTRIC, CABLE AND TELEPHONE LAYOUTS ARE TO BE REVIEWED AND CONFIRMED BY RESPECTIVE UTILITY COMPANIES.
  - WHENEVER UTILITIES INTERSECT AND THERE IS LESS THAN 30" OF COVER UTILITIES SHALL BE ENCASED IN CONCRETE.



REV. NO.	DATE	REVISION
1	2/9/22	TOWN COMMENTS / STANTEC COMMENTS
1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS

**TITLE:**

**SITE DEVELOPMENT PLAN**  
FOR  
**1497 GRAFTON ROAD**  
**MILLBURY, MASSACHUSETTS 01527**

**PREPARED FOR:**

**PARKLUND PLACE, LLC**  
4 ABBOTT PLACE  
MILLBURY, MASSACHUSETTS 01527

**PREPARED BY:**

**J.M. GRENIER ASSOCIATES INC.**  
325 DONALD LYNCH BOULEVARD SUITE 100  
MARLBOROUGH, MASSACHUSETTS 01752

TELE NO.: (508) 845-2500 jmgrenier@townisp.com

**SCALE:** 1" = 20'

**DATE:** NOVEMBER 2, 2021

**UTILITY PLAN**

**SHEET NO.:** SHEET 5 OF 9

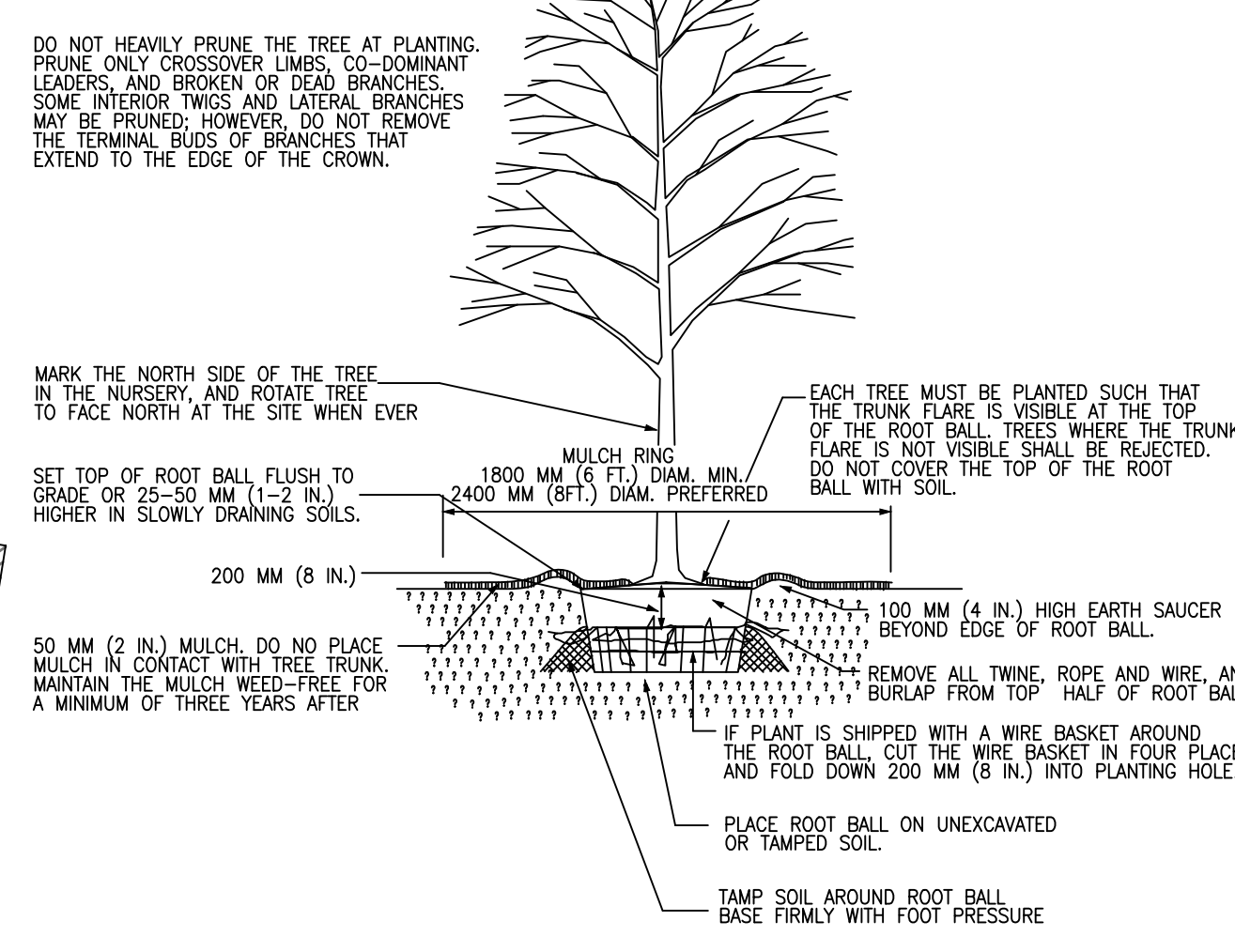
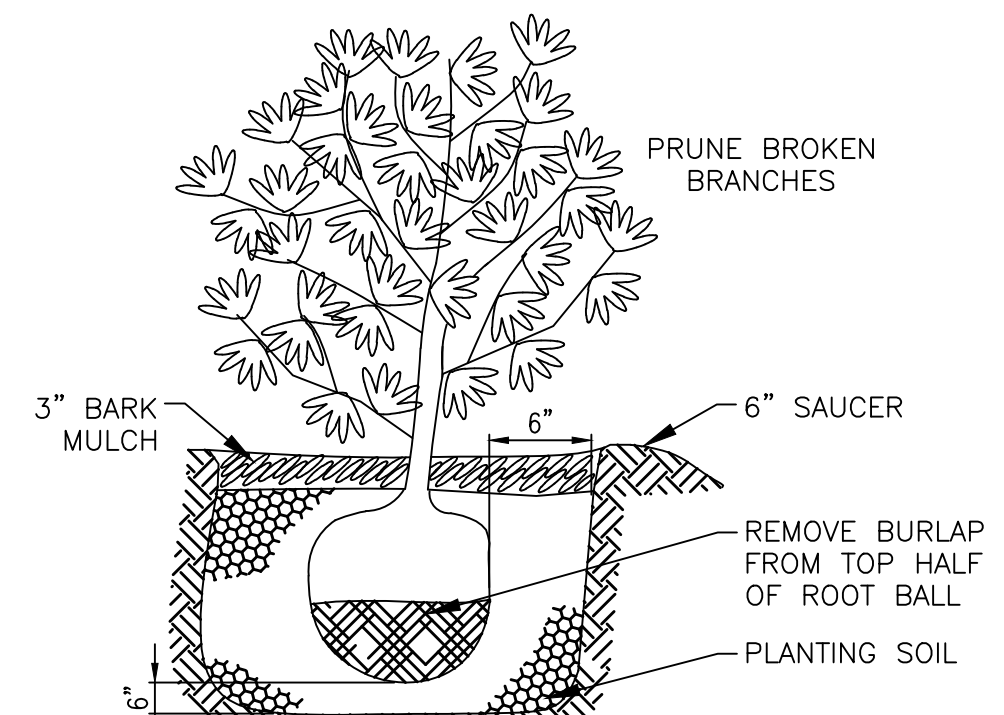
**PROJECT NO.:** G-613



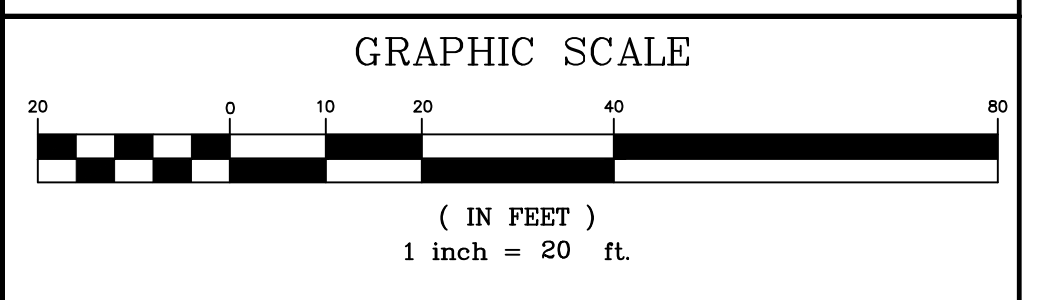
SITE PLAN APPROVAL  
MILLBURY PLANNING BOARD

DATE: \_\_\_\_\_

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ON THIS PLAN ARE APPROXIMATE ONLY. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES MAY NOT BE SHOWN HEREON. CONTACT DIG SAFE (1-888-344-7233) AND LOCAL AUTHORITIES PRIOR TO CONSTRUCTION.



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1	2/9/22	TOWN COMMENTS / STANTEC COMMENTS
1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS

**TITLE:**  
**SITE DEVELOPMENT PLAN**  
**FOR**  
**1497 GRAFTON ROAD**  
**MILLBURY, MASSACHUSETTS 01527**

**PREPARED FOR:**  
**PARKLUND PLACE, LLC**  
**4 ABBOTT PLACE**  
**MILLBURY, MASSACHUSETTS 01527**

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**MARLBOROUGH, MASSACHUSETTS 01752**  
 TELE NO.: (508) 845-2500      jmrenier@townisp.com

**SCALE:** 1" = 20'      **DATE:** NOVEMBER 22, 2021

**LANDSCAPE & LIGHTING PLAN**

**SHEET NO.:** SHEET 6 OF 9      **PROJECT NO.:** G-613

**PLANT SCHEDULE**

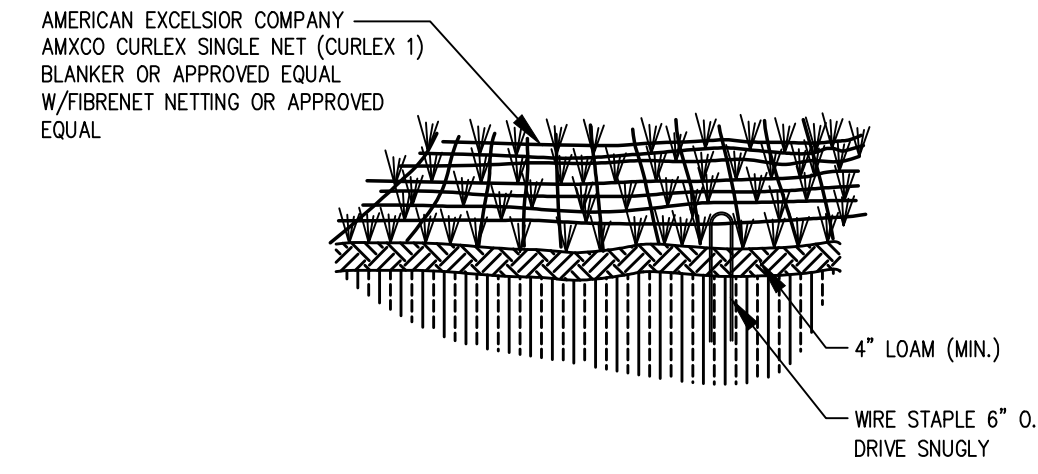
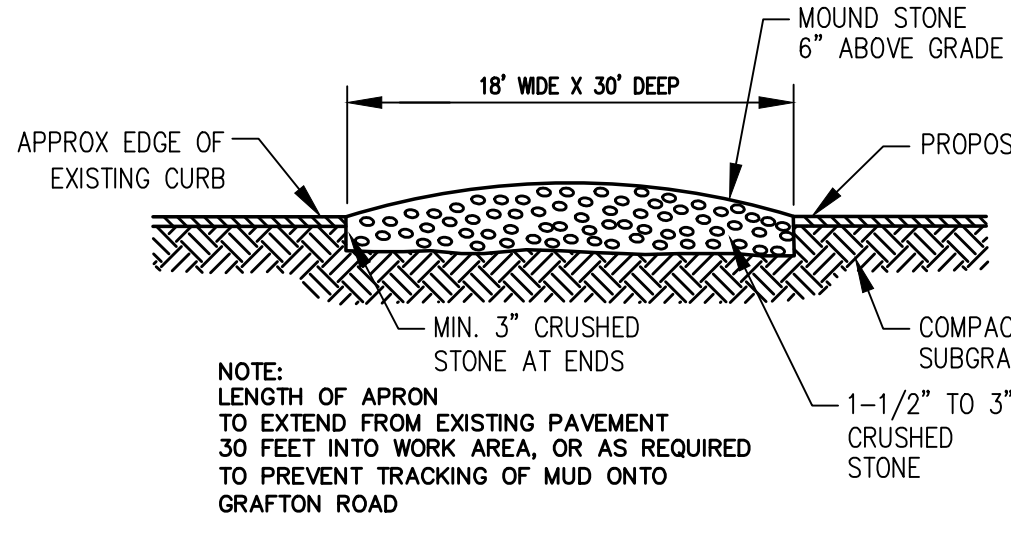
TYPE	KEY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	QTY
SHRUBS	☼	<i>Taxus x media 'Hicksii'</i>	Hicks Yew	2 1/2"-3" cal.	CONTAINER	4
	☼	<i>Rhododendron</i>	mixed Rhododendrons	2'-2 1/2' #5	CONTAINER	5
TREES	🌳	<i>Pyrus calleryana 'Cleveland Select'</i>	Cleveland Pear	1 1/2" cal.	B&B	2

SITE PLAN APPROVAL  
 MILLBURY PLANNING BOARD

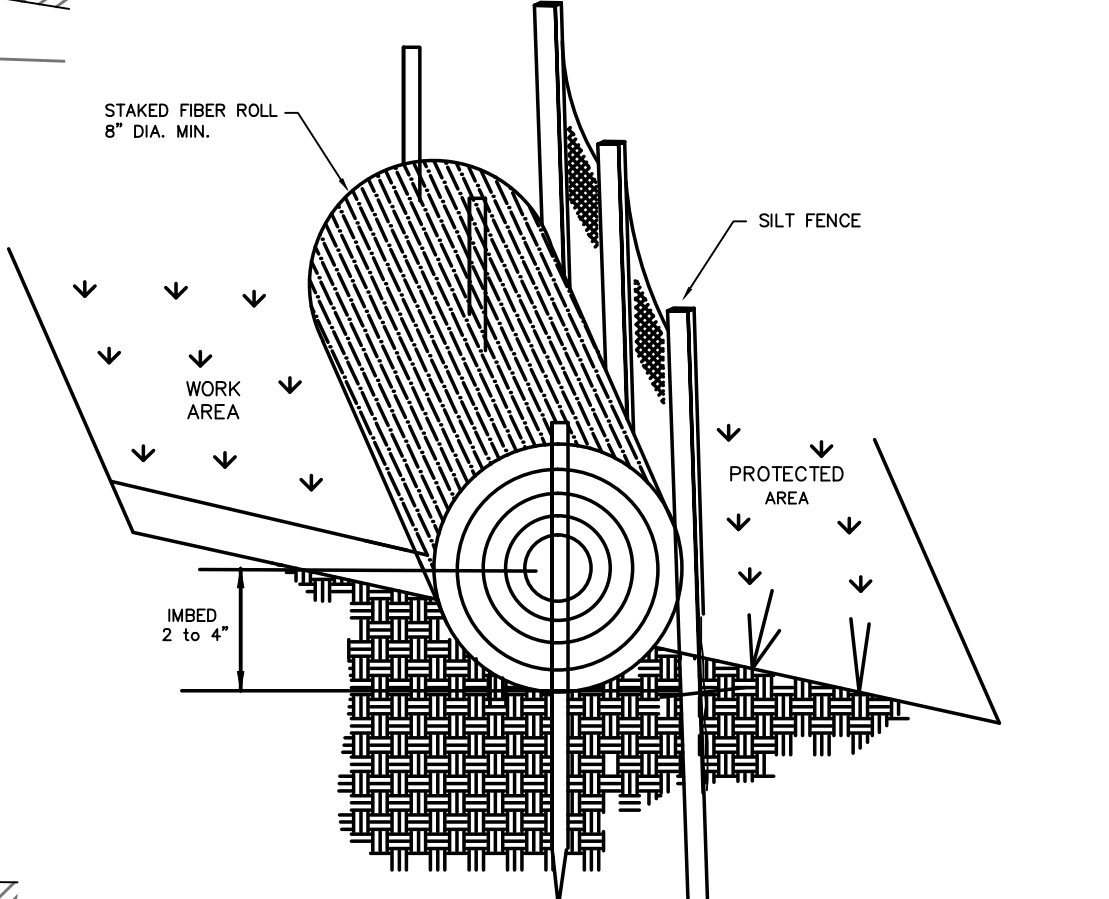
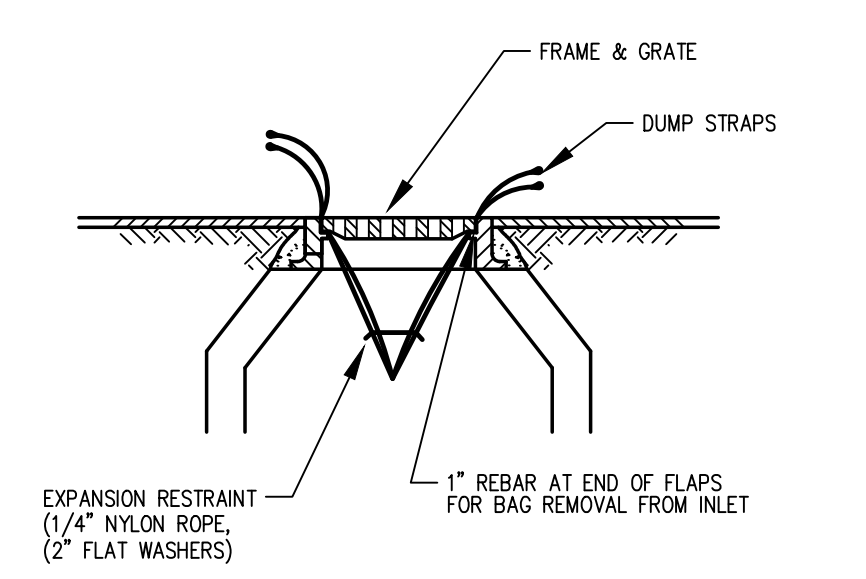
DATE: \_\_\_\_\_

- Seeding and repairs shall be performed as required. Sediment and debris shall be removed at least once a year, typically in early spring prior to the commencement of the growing season.
- The Stormceptor unit shall be inspected and cleaned as recommended by the manufacturer.
- The subsurface infiltration system shall be inspected after every storm for the first 3 months to ensure proper function. It shall be inspected once per year after that. Water levels should be inspected and recorded for several days after a major storm event to check infiltration capacity.
- The existing buried culvert shall be inspected once twice annually to ensure proper function. Any sediment and debris shall be removed as required.
- The contractor will be responsible for the maintenance of all drainage structures and until such time as the site work is complete. The maintenance will then be the responsibility of the property owners.

**STORMWATER COLLECTION & TREATMENT SYSTEM  
INSPECTION & MAINTENANCE GUIDELINES**



- NOTES**
- BEFORE INSTALLATION, THE SEEDBED SHALL BE INSPECTED TO ENSURE IT HAS BEEN PROPERLY COMPACTED AND FINELY GRADED TO REMOVE ANY EXISTING RILLS. IT SHALL BE FREE OF OBSTRUCTIONS, SUCH AS TREE ROOTS, PROJECTIONS SUCH AS STONES, AND OTHER FOREIGN OBJECTS.
  - GRASS SEED SHALL MATCH SOIL CONDITIONS TO ALLOW FOR MAXIMUM GERMINATION, DENSE VEGETATION, AND A STRUCTURAL ROOT SYSTEM.
  - CONTRACTOR SHALL PROCEED WHEN SATISFACTORY CONDITIONS ARE PRESENT.
  - AFTER THE AREA HAS BEEN PROPERLY SHAPED, SEEDED, FERTILIZED, AND COMPACTED, LOCATE THE START OF THE ROLL, MAKING SURE THE ROLL IS FACING TOWARD THE AREA TO BE COVERED, AND THEN ROLL OUT THE BLANKET. BLANKETS SHALL BE ROLLED OUT FLAT, EVEN, AND SMOOTH WITHOUT STRETCHING THE MATERIAL, THEN ANCHORED TO THE SUBGRADE.
  - IT IS RECOMMENDED THAT THE BLANKETS BE INSTALLED IN THE SAME DIRECTION AS THE WATER FLOW, HOWEVER ON SHORT SLOPES IT MAY BE MORE PRACTICAL TO INSTALL HORIZONTALLY ACROSS THE WIDTH OF THE APPLICATION.
  - IF MORE THAN ONE WIDTH IS REQUIRED, ABUT THE EDGES TOGETHER AND SECURE THE BLANKETS WITH A COMMON ROW OF BIODEGRADABLE STAPLES, STEEL STAPLES, OR STAKES.
  - OVERLAPPING OF CURLEX EXCELSIOR BLANKETS IS NOT REQUIRED OR RECOMMENDED, AN EXCEPTION IS WATERWAY SLOPES.

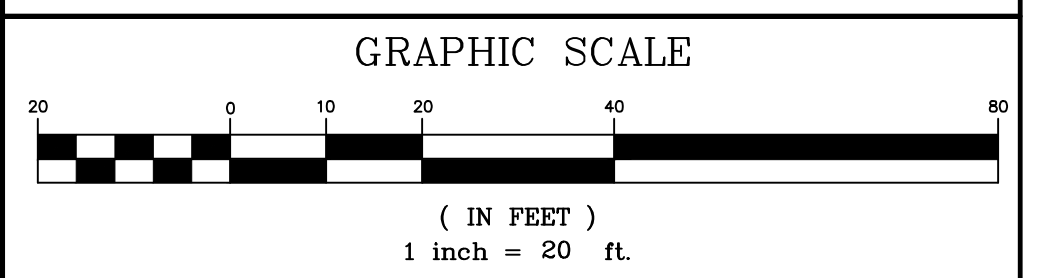


**SITE PLAN APPROVAL**  
MILLBURY PLANNING BOARD

DATE: \_\_\_\_\_

- GENERAL:**
- THIS PLAN IS INTENDED TO PROVIDE GUIDANCE AND INSTRUCTION TO THE TOWN OF MILLBURY AND THE CONTRACTOR(S) IN THE PREVENTION OF EROSION AND SEDIMENTATION OFF SITE. THIS PLAN IS INTENDED TO ALLOW ANY CONDITIONS OF APPROVAL TO BE MORE SPECIFIC IN ADDRESSING ITEMS OF CONCERN. IF CONDITIONS BY THE TOWN OF MILLBURY ARE IN CONFLICT WITH REQUIREMENTS AS SPECIFIED ON THE PLANS CONDITIONS AS SPECIFIED BY THE TOWN OF MILLBURY SHALL SUPERSEDE THE REQUIREMENTS SPECIFIED ON THESE PLANS.
- PRE-CONSTRUCTION:**
- AN EROSION CONTROL BARRIER (SEE BELOW) SHALL BE INSTALLED AS DEPICTED ON THE PLANS, BETWEEN THE AREAS TO BE DISTURBED AND RECEIVING DRAINAGE WAY AND STRUCTURES. THIS BARRIER SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY SURFACES HAVE BEEN FULLY STABILIZED. THE EROSION CONTROL BARRIERS AS SHOWN ON THE PLANS ARE THE MINIMUM PROTECTIVE MEASURES REQUIRED TO PROTECT THE ON AND OFF SITE DRAINAGE SYSTEMS.
  - THE CONTRACTOR SHALL ESTABLISH A STAGING AREA AS SHOWN ON THE PLAN FOR THE OVERNIGHT STORAGE OF EQUIPMENT AND STOCKPILING OF MATERIALS.
  - IN THE STAGING AREA, THE CONTRACTOR SHALL HAVE A STOCKPILE OF MATERIALS REQUIRED TO CONTROL EROSION ON-SITE TO BE USED TO SUPPLEMENT OR REPAIR EROSION CONTROL DEVICES. THESE MATERIALS SHALL INCLUDE, BUT ARE NOT LIMITED TO: HAY BALES, SILT FENCE AND CRUSHED STONE.
  - A TEMPORARY STONE CONSTRUCTION ENTRANCE IS REQUIRED TO PREVENT TRACKING OF SILT, MUD, ETC. ONTO EXISTING ROADS. THE STONE SHALL BE REPLACED REGULARLY AS WELL AS WHEN THE STONE IS SILT LADEN OR EQUIPMENT IS OBSERVED TO BE TRACKING SOIL ONTO THE ROADWAYS. SEE GENERAL CONSTRUCTION REQUIREMENTS, SEE NOTE #4 BELOW.
  - THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL ON & OFF SITE AND SHALL UTILIZE EROSION CONTROL MEASURES WHERE NEEDED, REGARDLESS OF WHETHER THE MEASURES ARE SPECIFIED HEREIN, ON THE PLAN OR IN ANY ORDER OF CONDITIONS.
- PRELIMINARY SITE WORK:**
- MATERIAL REMOVED SHOULD BE STOCKPILED, SEPARATING THE TOPSOIL FOR FUTURE USE ON THE SITE OR IN A SECURED OFF SITE AREA APPROVED BY THE OWNER. EROSION CONTROLS SHALL BE UTILIZED ALONG THE DOWN SLOPE OF THE PILES IF THE PILES ARE TO REMAIN FOR MORE THAN THREE WEEKS.
  - IF INTENSE RAINFALL IS ANTICIPATED, THE INSTALLATION OF SUPPLEMENTAL HAY BALE DIKES, SILT FENCES, OR ARMORED DIKES SHALL BE UTILIZED.
  - IF THE SITE CONSTRUCTION OCCURS AT ANY TIME OTHER THAN THE APRIL - DECEMBER CONSTRUCTION SEASON, ALL DRAINAGE SYSTEMS TEMPORARY OR PERMANENT SHALL MAINTAIN TO ENSURE ADEQUATE HYDRAULIC CAPACITY, AND DRAINING CHARACTERISTICS.
- EROSION CONTROL MEASURES:**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EROSION AND SEDIMENTATION ARE CONTROLLED. THIS PLAN SHALL BE ADAPTED TO FIT THE CONTRACTOR'S EQUIPMENT, WEATHER CONDITIONS, AND ANY CONDITIONS ISSUED BY THE TOWN OF MILLBURY.
  - THE MOST IMPORTANT ASPECTS OF CONTROLLING EROSION AND SEDIMENTATION ARE LIMITING THE EXTENT OF DISTURBANCE AND STABILIZING SURFACES AS SOON AS POSSIBLE. OF SECONDARY IMPORTANCE IN EROSION CONTROL IS THE LIMITING THE SIZE AND LENGTH OF THE TRIBUTARY DRAINAGE AREA WITHIN THE WORK SITE AND DRAINAGE STRUCTURES. THESE FUNDAMENTAL PRINCIPLES SHALL BE THE KEY FACTOR IN THE CONTRACTOR'S CONTROL OF EROSION ON THE SITE.
  - THE EXISTING SOIL CONDITIONS PROVIDE THE POTENTIAL OF RUNOFF TO OFF-SITE AREAS WITH EROSION POTENTIAL.
  - ALL DISTURBED SURFACES SHALL BE STABILIZED A MINIMUM OF 14 DAYS AFTER CONSTRUCTION IN ANY PORTION OF THE SITE HAS CEASED OR IS TEMPORARILY HALTED UNLESS ADDITIONAL CONSTRUCTION IS INTENDED TO BE INITIATED WITHIN 21 DAYS.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL EROSION CONTROL DEVICES WITHIN THE LIMIT OF WORK. ALL EROSION CONTROL DEVICES SHALL BE REGULARLY INSPECTED. ANY SEDIMENTS REMOVED FROM THE CONTROL DEVICES SHALL BE DISPOSED OF.
  - AT NO TIME SHALL SILT-LADEN WATER BE ALLOWED TO ENTER SENSITIVE AREAS (WETLANDS, OFF-SITE AREAS AND DRAINAGE SYSTEMS). ANY RUNOFF FROM DISTURBED SURFACES SHALL BE DIRECTED THROUGH SETTLING BASINS AND EROSION CONTROL BARRIERS PRIOR TO ENTERING ANY SENSITIVE AREAS.
- GENERAL CONSTRUCTION REQUIREMENTS:**
- ANY REFUELING OF CONSTRUCTION VEHICLES AND EQUIPMENT SHALL NOT TAKE PLACE INSIDE OF A 100 FOOT BUFFER ZONE, NEAR THE ENTRANCE TO ANY DRAINAGE SYSTEM AND SHALL NOT BE CONDUCTED IN PROXIMITY TO SEDIMENTATION BASINS OR DIVERSION SWALES.
  - NO ON-SITE DISPOSAL OF STUMPS, SOLID WASTE, INCLUDING CONSTRUCTION MATERIALS IS ALLOWED.
  - NO MATERIALS SHALL BE DISPOSED OF INTO THE WETLANDS, OR EXISTING/PROPOSED DRAINAGE SYSTEMS. ALL CONTRACTORS INCLUDING: CONCRETE SUPPLIERS, PAINTERS AND PLASTERERS, SHALL BE INFORMED THAT THE CLEANING OF EQUIPMENT IS PROHIBITED IN AREAS WHERE THE WASH-WATER WILL DRAIN DIRECTLY TO THE SITE DRAINAGE SYSTEMS.
  - CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL WHICH SHALL INCLUDE STREET SWEEPING AND/OR WATERING OF ALL PAVED SURFACES WITHIN THE SITE AND OFF-SITE THAT ARE IMPACTED BY SITE CONSTRUCTION ON A REGULAR BASIS, A MINIMUM OF ONCE PER WEEK AND/OR AS NECESSARY.
  - THE CONTRACTOR SHALL UNDERTAKE ALL WORK TO LIMIT AIRBORNE SEDIMENTS, ONLY CLEAN, POTABLE WATER MAY BE USED TO CONTROL DUST.
- LANDSCAPING:**
- LANDSCAPING SHALL OCCUR AS SOON AS POSSIBLE TO PROVIDE PERMANENT STABILIZATION OF DISTURBED SURFACES.
  - CONTRACTOR SHALL UTILIZE A VARIETY OF SLOPE STABILIZATION METHODS AND MATERIALS WHICH SHALL BE ADJUSTED TO THE SITE CONDITIONS. EROSION CONTROL BLANKETS OR MIRAFI MIRAMAT (OR SIMILAR PRODUCTS) SHALL BE AVAILABLE ON SITE.
  - IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT ALLOW THE ESTABLISHMENT OF VEGETATION, TEMPORARY MULCHING WITH HAY, TACKIFIED WOOD CHIPS OR OTHER METHODS SHALL BE PROVIDED.
  - ALL DISTURBED SURFACES TO BE PLANTED SHALL RECEIVE A MINIMUM OF 6" TOPSOIL SHALL BE PLACED AND ITS SURFACE SMOOTHED TO THE SPECIFIED GRADES.
  - ALL SLOPES OF 2:1 OR GREATER SHALL BE STABILIZED WITH EROSION CONTROL FABRIC.
  - SEED APPLICATIONS SHALL BE IN ACCORDANCE WITH THE GRASS AND SLOPE COVER SPECIFICATIONS.
  - TO ENSURE A DENSE, SUCCESSION GROWTH, SEED IS REQUIRED ON ALL DISTURBED SURFACES.
- CONSTRUCTION SEQUENCING**
- SELECTIVELY CUT TREES AND CLEAR BRUSH TO BE CHIPPED AND HAULLED OFF SITE.
  - STAKE LOCATION OF AND INSTALL EROSION BARRIER AS DELINEATED ON SITE PLAN.
  - MAINTENANCE OF EXISTING BURIED CULVERT NEAR THE NORTHERN PROPERTY LINE, INCLUDING REMOVAL OF SEDIMENT AND DEBRIS SHALL BE PERFORMED PRIOR TO CONSTRUCTION.
  - STRIP TOP AND SUBSOIL AS NECESSARY IN WORK AREA. STOCKPILE MATERIAL ON WESTERN PORTION OF LOT FOR BACKFILLING PURPOSES AT COMPLETION OF CONSTRUCTION.
  - PERFORM SITE GRADING, CUTS AND FILLS AS WELL AS CONSTRUCT RETAINING WALLS. TEMPORARY BASIN(S) SHALL BE CONSTRUCTED DURING THIS PROCESS TO ENSURE STORMWATER IS CONTROLLED DURING CONSTRUCTION.
  - CONSTRUCT BUILDING AND INSTALL UTILITIES. SUBSURFACE DRAINAGE SHALL NOT BE CONNECTED TO PARKING LOT DRAINAGE SYSTEM UNTIL ALL TRIBUTARY DRAINAGE AREAS ARE STABILIZED AND THERE IS NO POTENTIAL FOR SILT LADEN WATER TO ENTER THE SUBSURFACE RECHARGE CHAMBERS.
  - INSTALL FINISH PAVEMENT, CURBING AND LANDSCAPING.

- LEGEND:**
- EXISTING PROPERTY LINE
  - - - - - EXISTING CONTOUR - HIGH
  - - - - - EXISTING CONTOUR - LOW
  - 410 --- PROPOSED CONTOUR - HIGH
  - 408 --- PROPOSED CONTOUR - LOW
  - 408 --- PROPOSED EDGE OF PAVEMENT
  - EXISTING CURB
  - PROPOSED EDGE OF PAVEMENT
  - PROPOSED VERTICAL GRANITE CURB
  - PROPOSED CAPE COD BERM
  - EDGE VEGETATED WETLAND
  - WETLAND BUFFER
  - PROPOSED TREE LINE
  - EXISTING STONE WALL
  - EXISTING DRAIN LINE
  - PROPOSED DRAIN LINE
  - EXISTING SEWER LINE
  - PROPOSED SEWER LINE
  - EXISTING WATER LINE
  - PROPOSED WATER LINE
  - EXISTING OVERHEAD WIRES
  - PROPOSED UNDERGROUND ELECTRIC
  - PROPOSED EROSION CONTROL



REV. NO.	DATE	REVISION
1	2/9/22	TOWN COMMENTS / STANTEC COMMENTS
1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS

**TITLE:**

**SITE DEVELOPMENT PLAN  
FOR  
1497 GRAFTON ROAD  
MILLBURY, MASSACHUSETTS 01527**

**PREPARED FOR:**

**PARKLUND PLACE, LLC  
4 ABBOTT PLACE  
MILLBURY, MASSACHUSETTS 01527**

**PREPARED BY:**

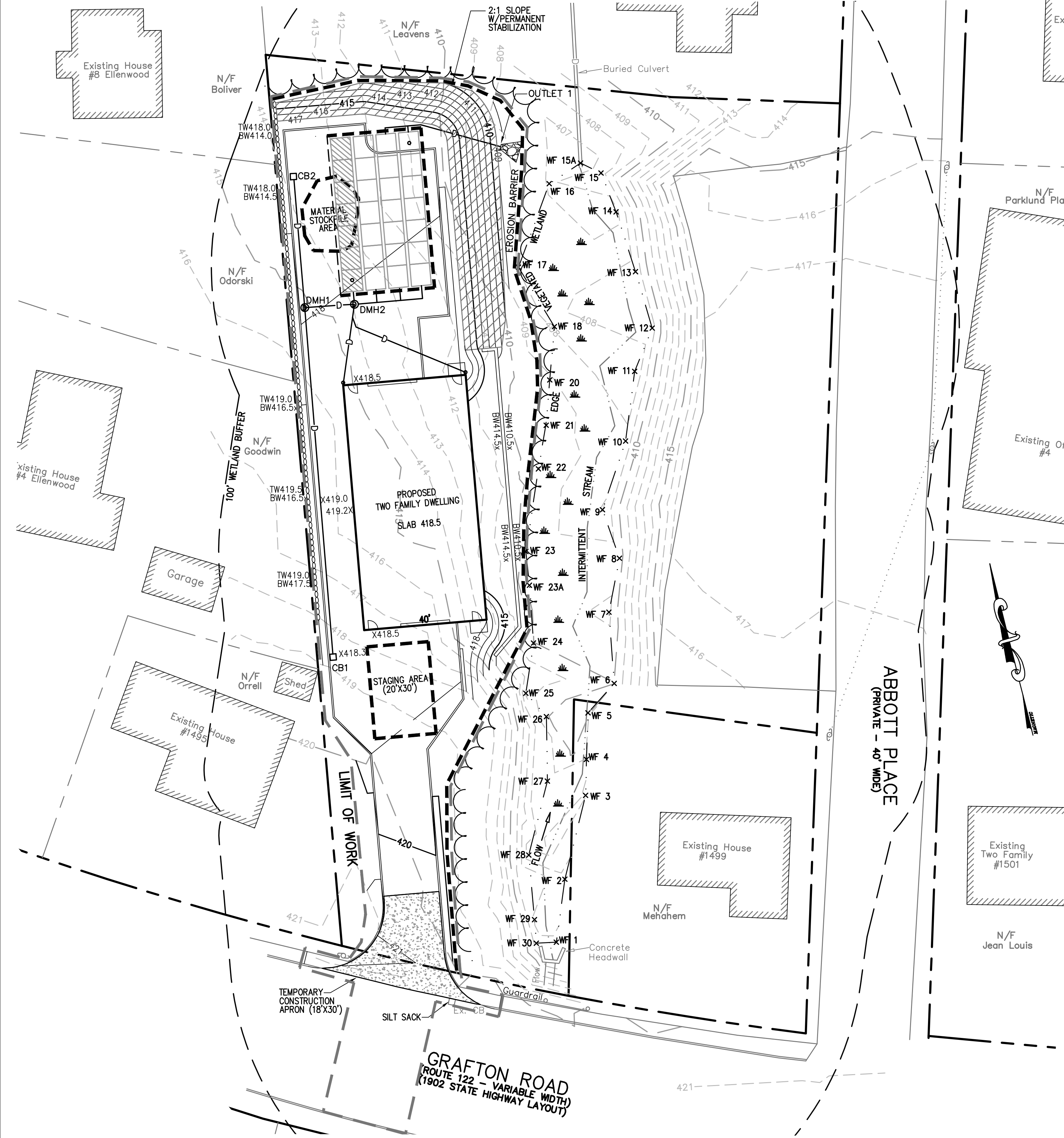
**J.M. GRENIER ASSOCIATES INC.  
325 DONALD LYNCH BOULEVARD SUITE 100  
MARLBOROUGH, MASSACHUSETTS 01752**

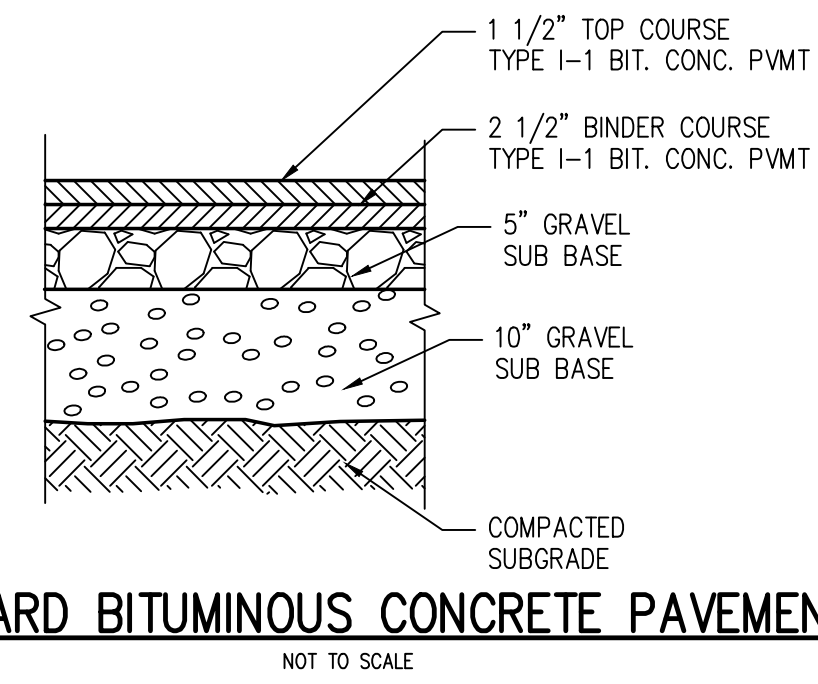
TELE NO.: (508) 845-2500      jmrenier@townisp.com

**SCALE:** 1" = 20'      **DATE:** NOVEMBER 2, 2021

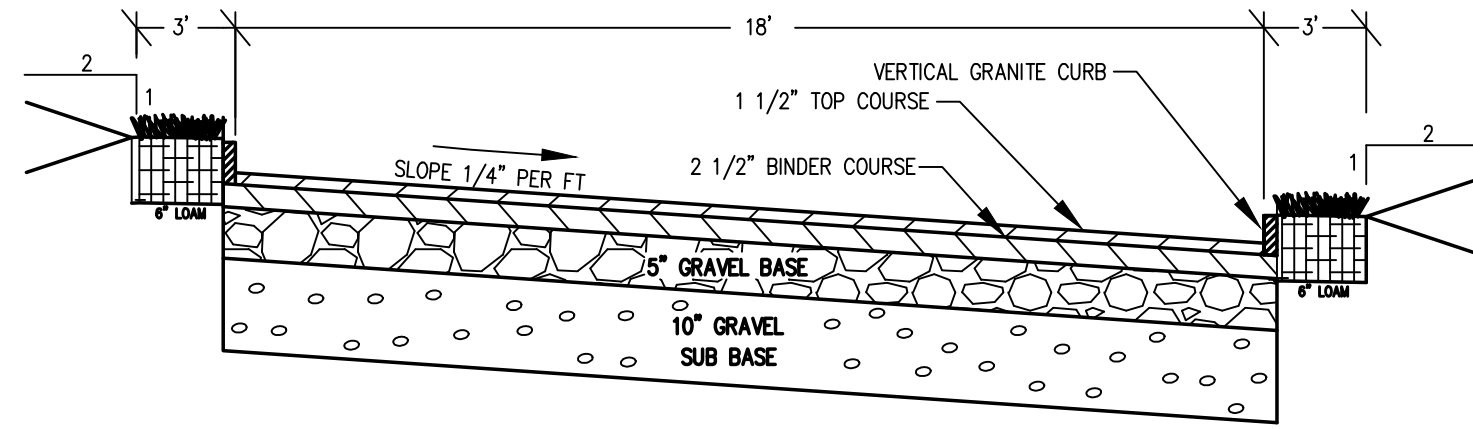
**EROSION & SEDIMENTATION CONTROL PLAN**

**SHEET NO.:** SHEET 7 OF 9      **PROJECT NO.:** G-613

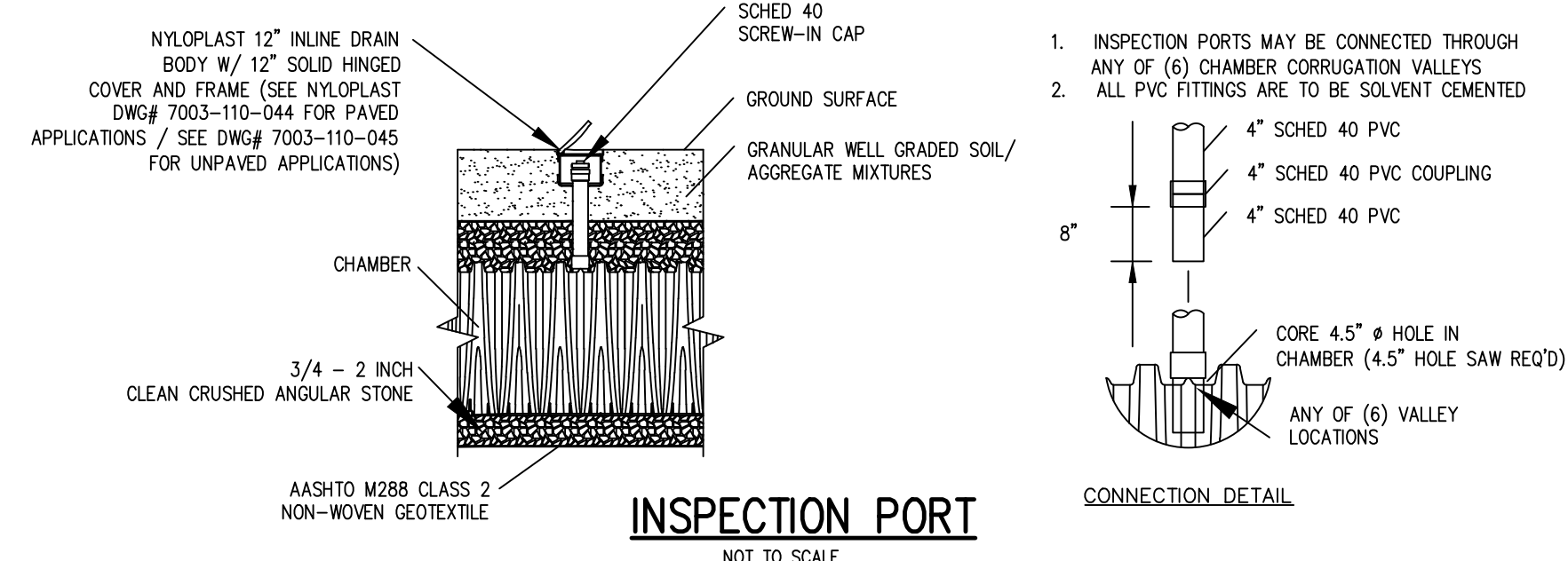




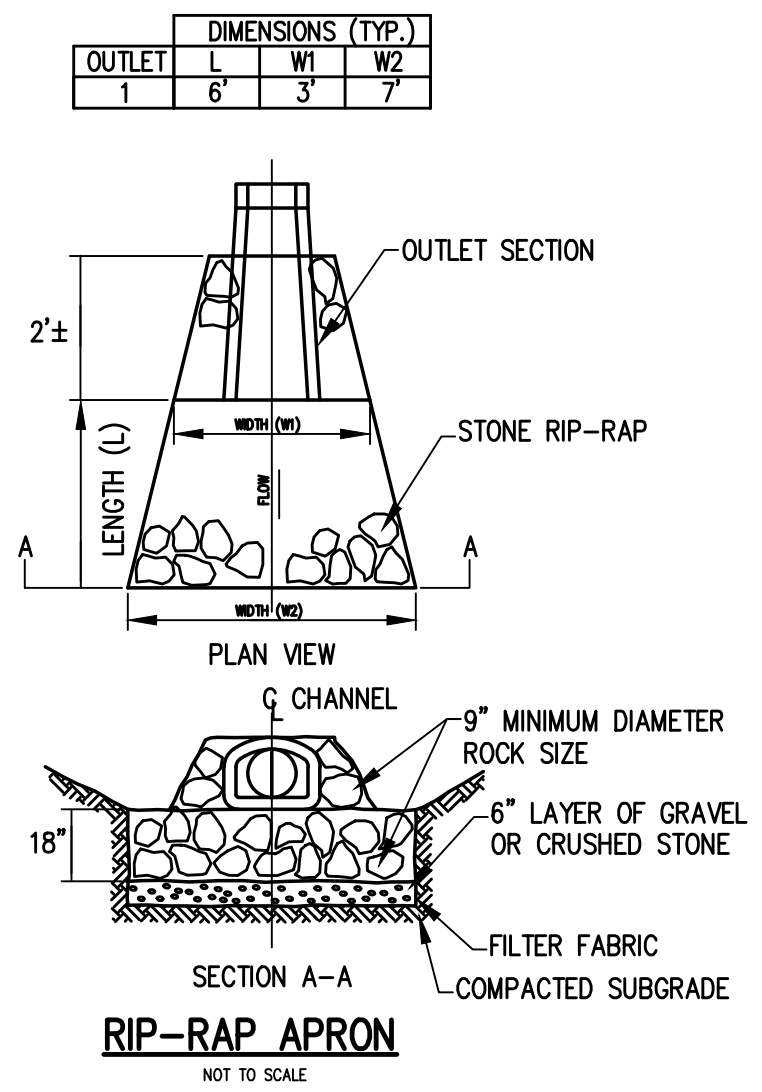
**STANDARD BITUMINOUS CONCRETE PAVEMENT**  
NOT TO SCALE



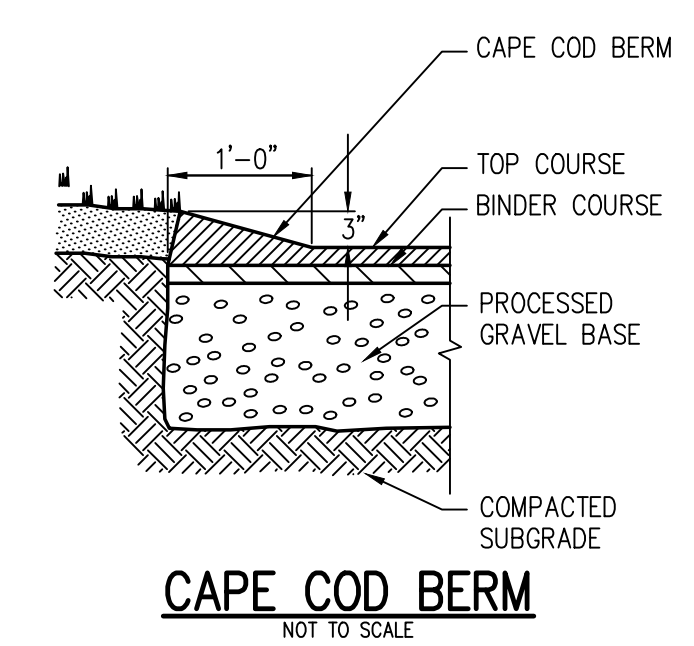
**DRIVEWAY CROSS SECTION**  
NOT TO SCALE



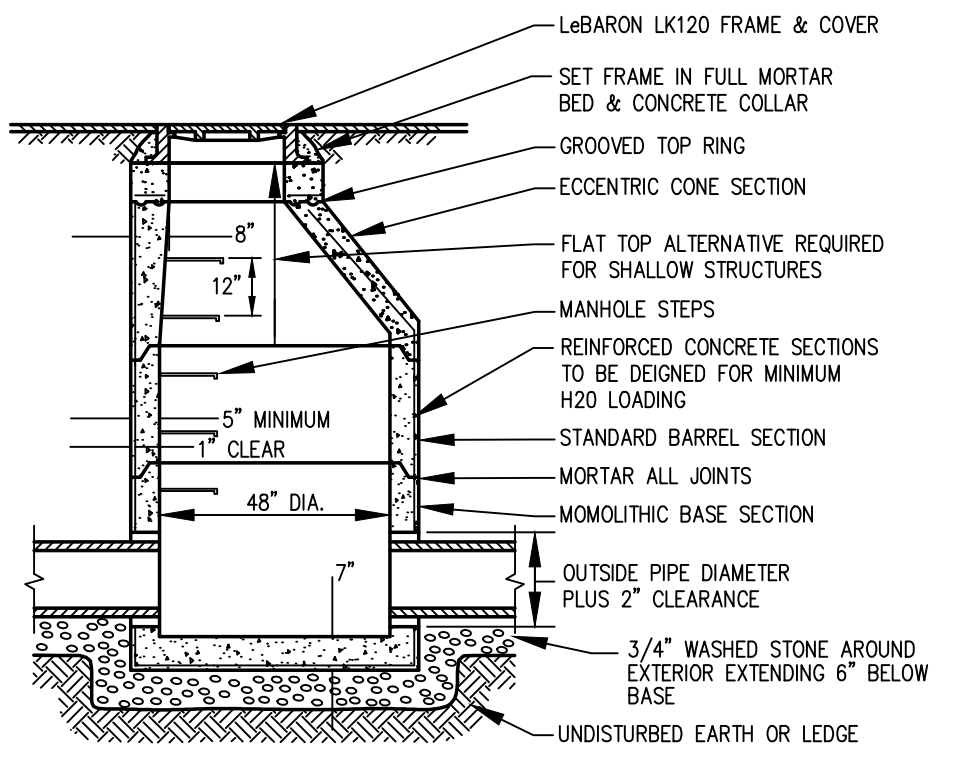
**INSPECTION PORT**  
NOT TO SCALE



**RIP-RAP APRON**  
NOT TO SCALE



**CAPE COD BERM**  
NOT TO SCALE

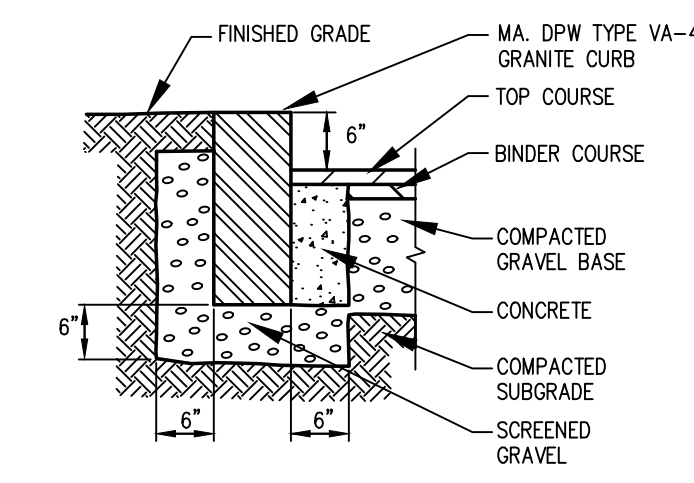


**PRECAST CONCRETE DRAIN MANHOLE**  
NOT TO SCALE

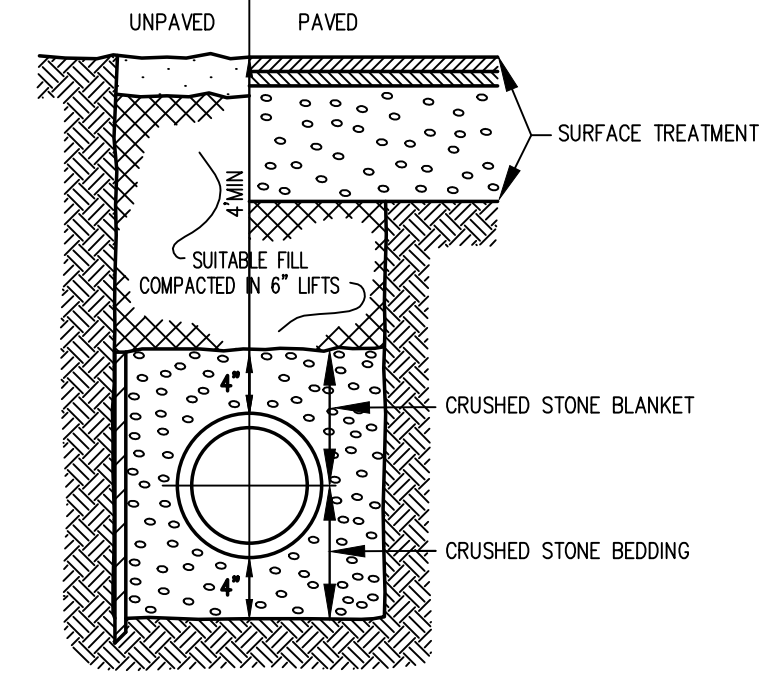
**ACCEPTABLE FILL MATERIALS: STORMTECH CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION <sup>1</sup>	COMPACTION/DENSITY REQUIREMENT
(D)	FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
(C)	FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDEDMENT STONE (B LAYER) TO 24" (610 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 24" (610 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LIFTS IN 6" (152 mm) LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY.
(B)	EMBEDEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE TO THE 'C' LAYER ABOVE.	3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
(A)	FOUNDATION STONE BELOW CHAMBERS FROM THE SURFACE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	3, 35, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY 1.

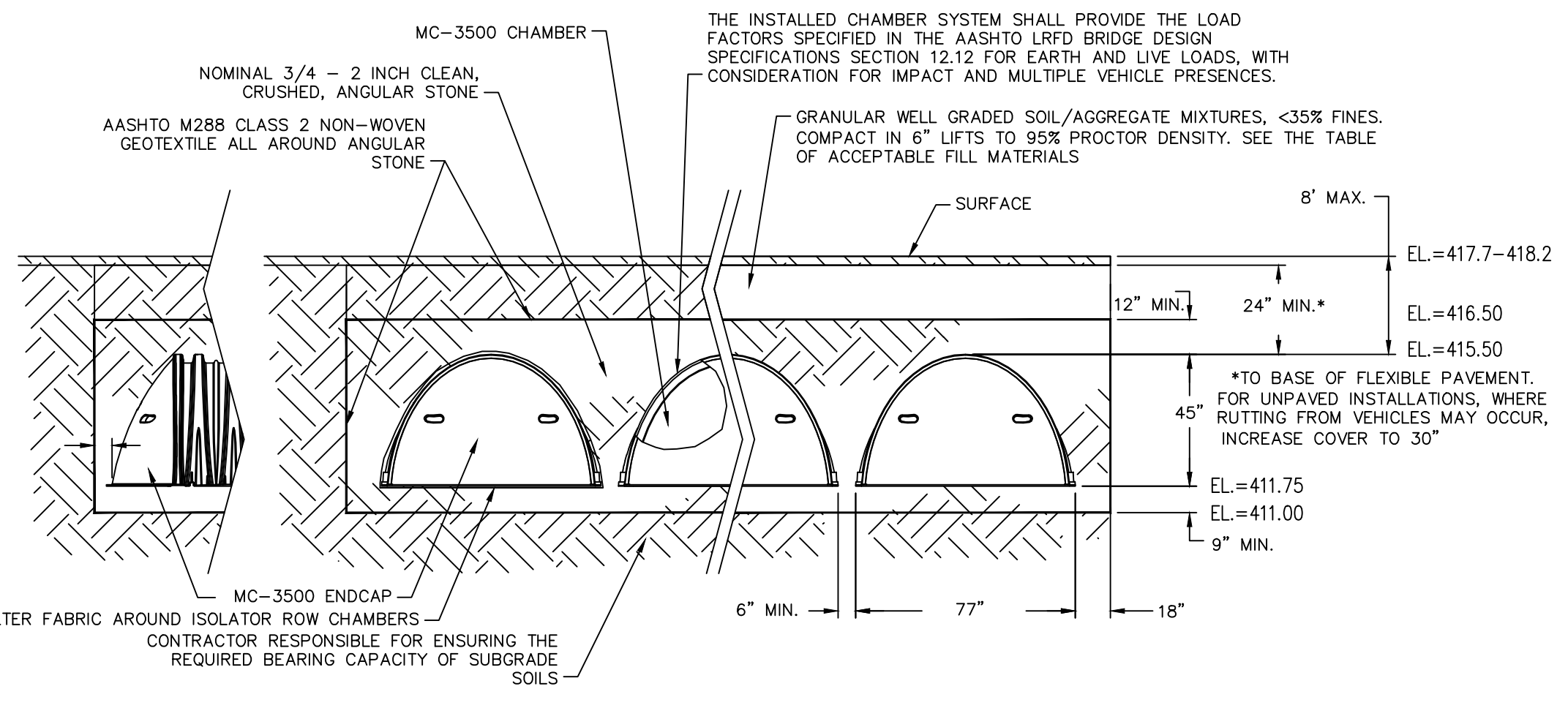
PLEASE NOTE:  
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".  
2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (152 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.



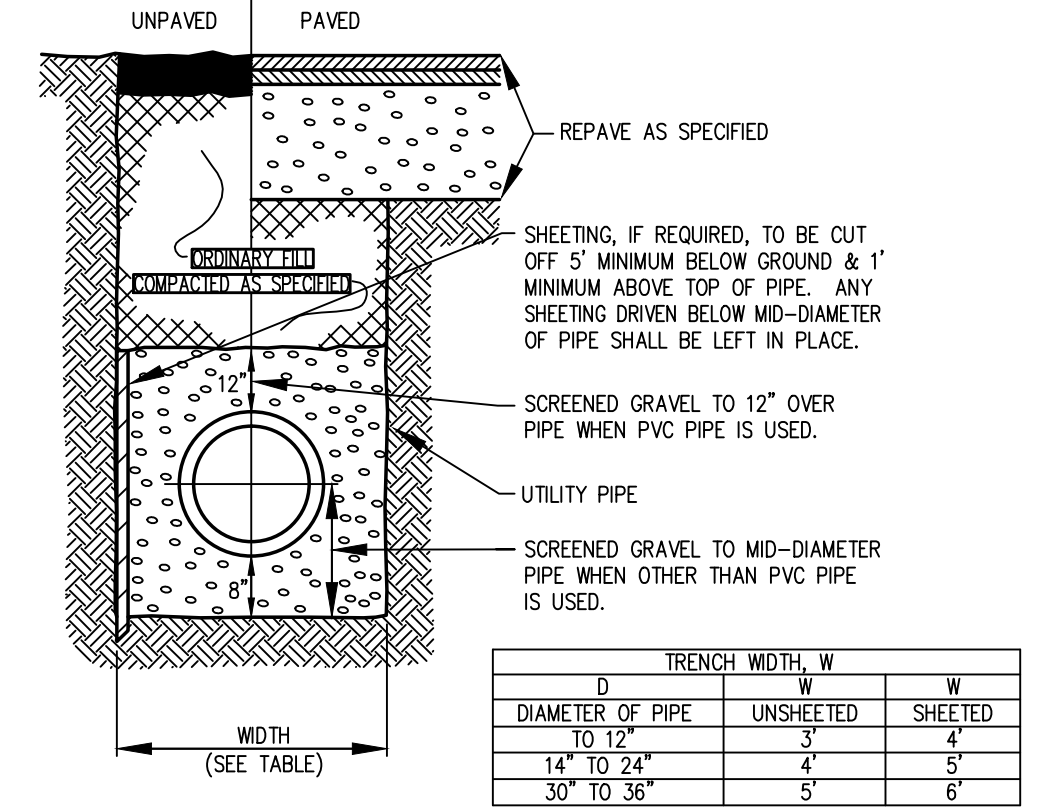
**VERTICAL GRANITE CURB**  
NOT TO SCALE



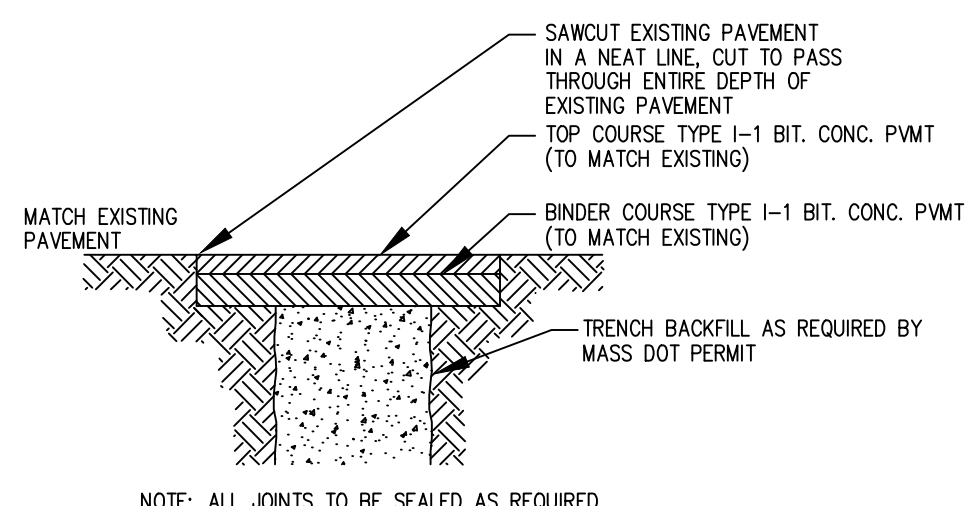
**TYPICAL SEWER TRENCH SECTION**  
NOT TO SCALE



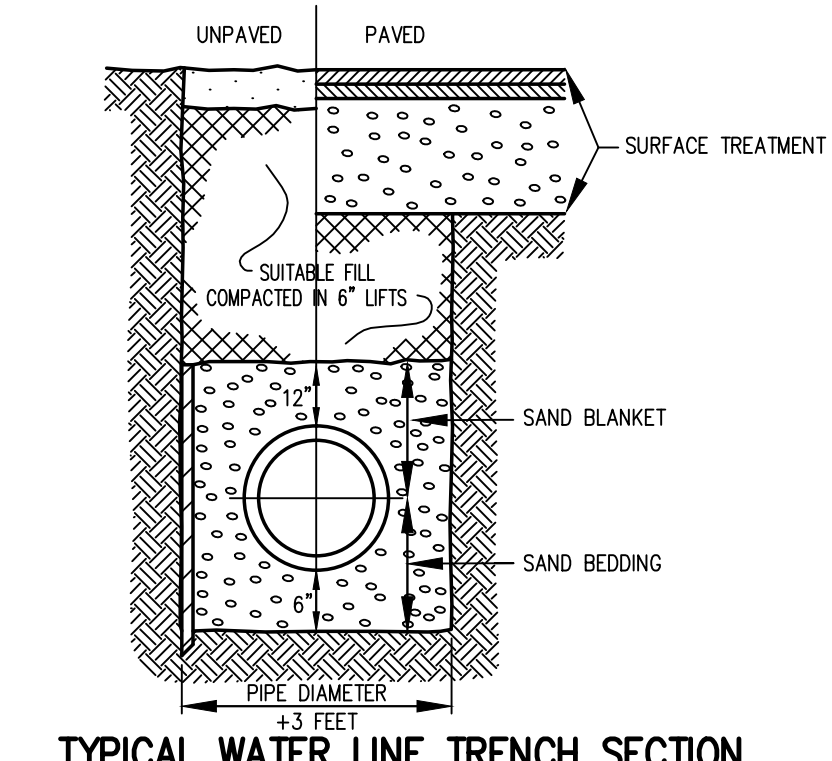
**STORMTECH MC-3500 INFILTRATION CHAMBERS (OR APPROVED EQUAL) CROSS-SECTION**  
NOT TO SCALE



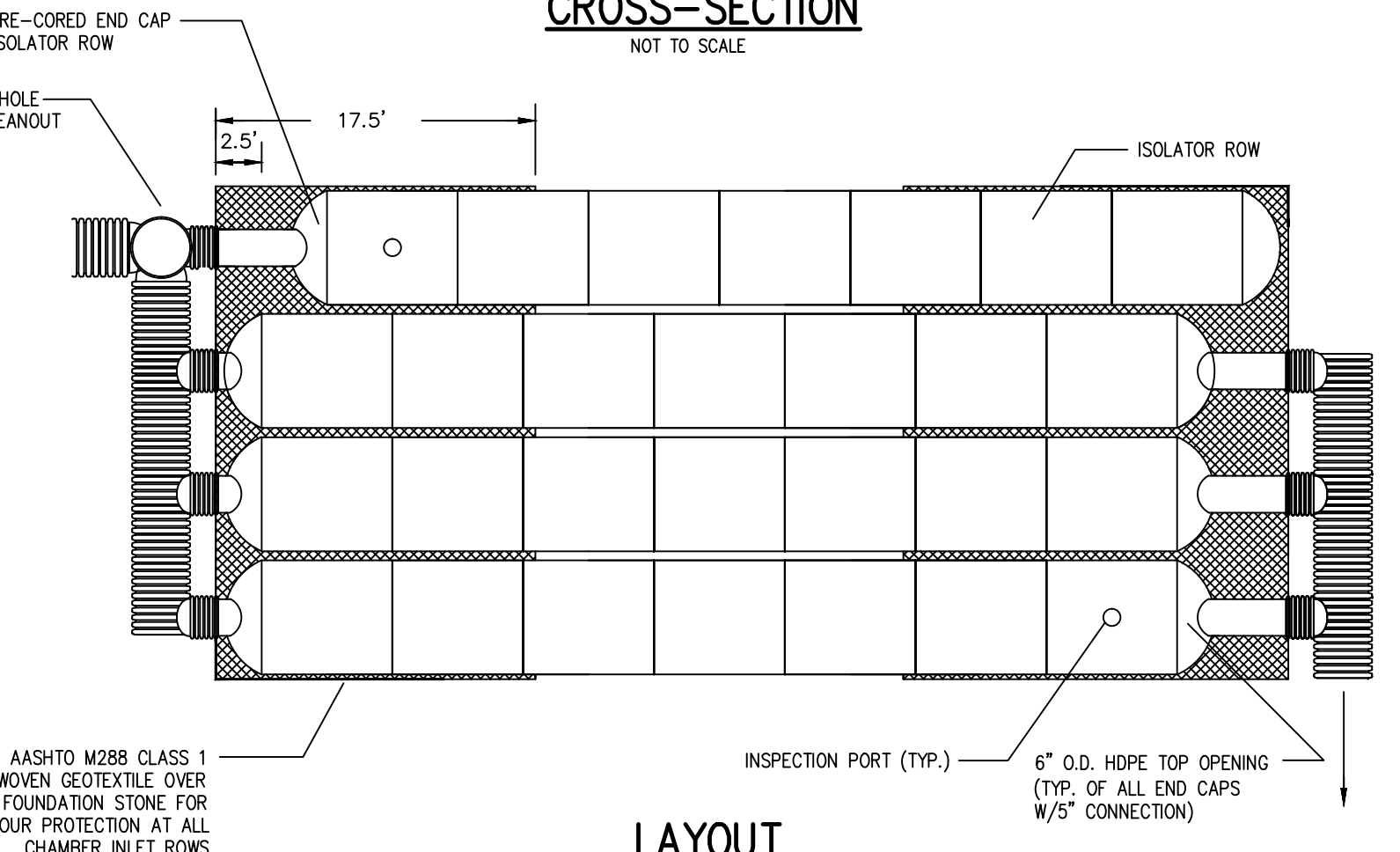
**TYPICAL TRENCH SECTION**  
NOT TO SCALE



**PERMANENT PAVEMENT REPAIR**  
NOT TO SCALE

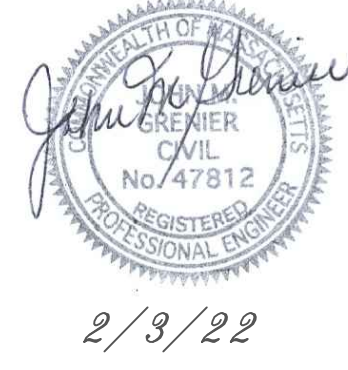


**TYPICAL WATER LINE TRENCH SECTION**  
NOT TO SCALE



**LAYOUT**  
NOT TO SCALE

- NOTES:
- ALL DESIGN SPECIFICATIONS FOR STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH MC-3500 DESIGN MANUAL.
  - THE INSTALLATION OF STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH MC-3500 INSTALLATION INSTRUCTIONS.
  - THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 TO RECEIVE A COPY OF THE LATEST STORMTECH MC-3500 INSTALLATION INSTRUCTIONS.
  - CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

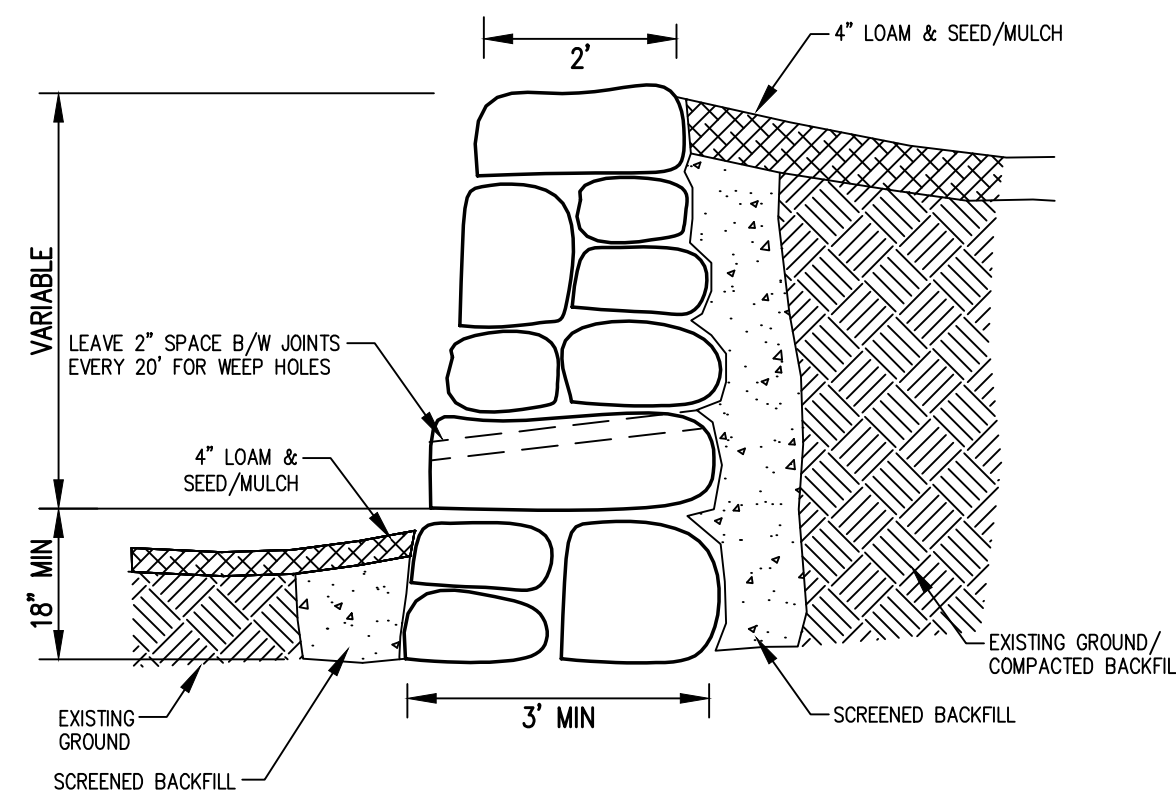


**SITE PLAN APPROVAL**  
MILLBURY PLANNING BOARD

DATE: \_\_\_\_\_

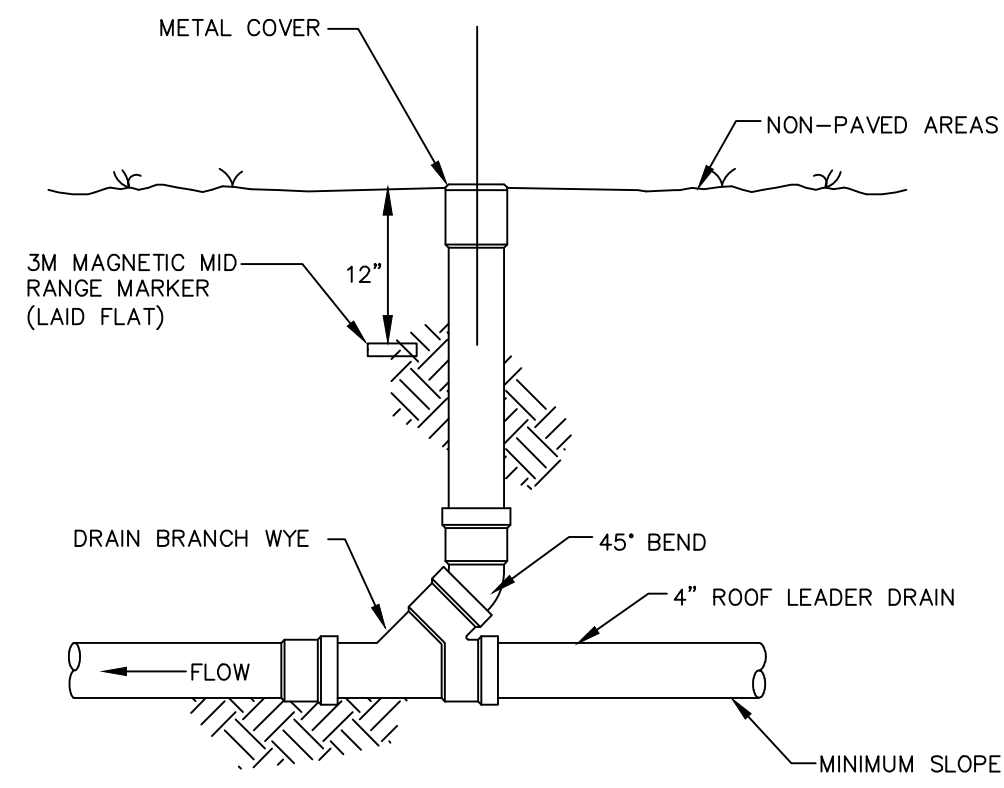
1	2/9/22	TOWN COMMENTS / STANTEC COMMENTS
1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS
REV. NO.	DATE	REVISION
<b>TITLE:</b>		
<b>SITE DEVELOPMENT PLAN FOR 1497 GRAFTON ROAD MILLBURY, MASSACHUSETTS 01527</b>		
<b>PREPARED FOR:</b>		
<b>PARKLUND PLACE, LLC 4 ABBOTT PLACE MILLBURY, MASSACHUSETTS 01527</b>		
<b>PREPARED BY:</b>		
<b>J.M. GRENIER ASSOCIATES INC. 325 DONALD LYNCH BOULEVARD SUITE 100 MARLBOROUGH, MASSACHUSETTS 01752</b>		
TELE NO.: (508) 845-2500      jmgrnier@townisp.com		
<b>SCALE:</b>	N.T.S.	<b>DATE:</b> NOVEMBER 2, 2021
<b>DETAIL PLAN 1/2</b>		
<b>SHEET NO.:</b>	SHEET 8 OF 9	<b>PROJECT NO.:</b> G-613



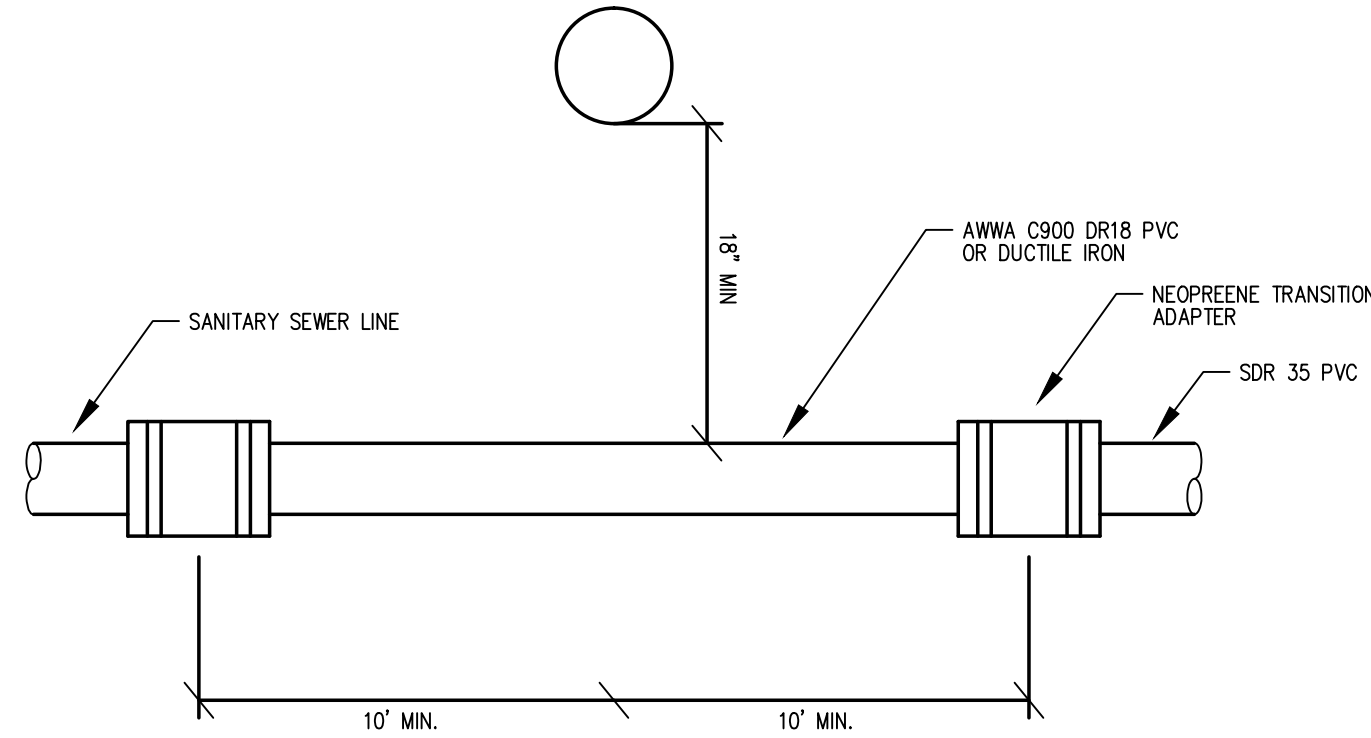


**TYPICAL DRY STONE RETAINING WALL**  
(OR EQUAL)  
NOT TO SCALE

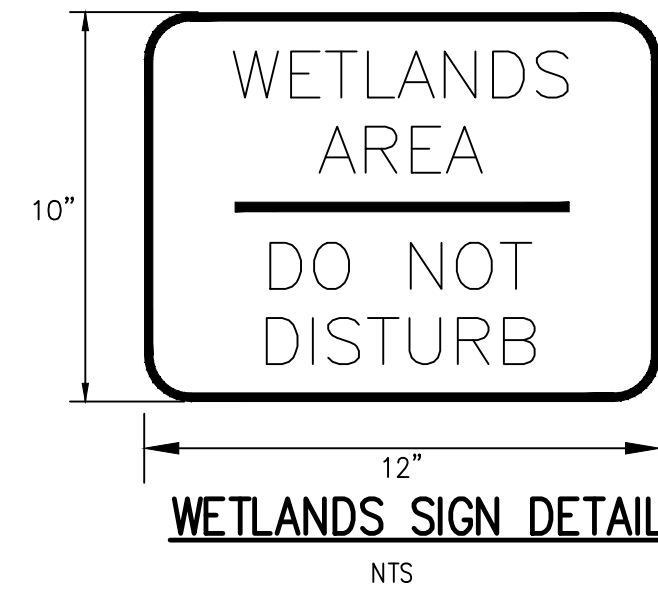
NOTE:  
WALLS GREATER THAN 4 FEET IN HEIGHT ARE CONSIDERED STRUCTURAL AND SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.



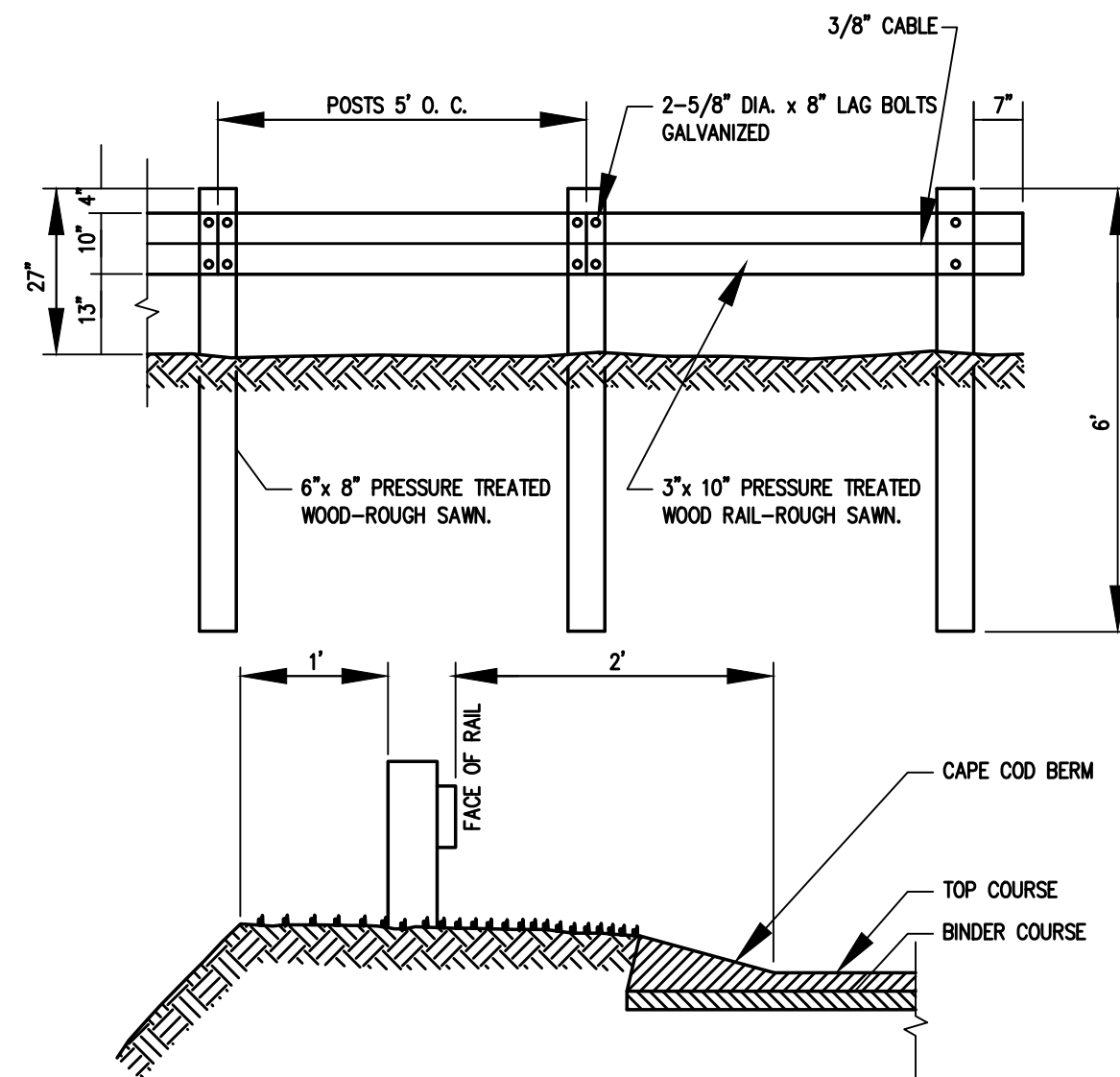
**ROOF LEADER CLEAN-OUT DETAIL**  
NOT TO SCALE



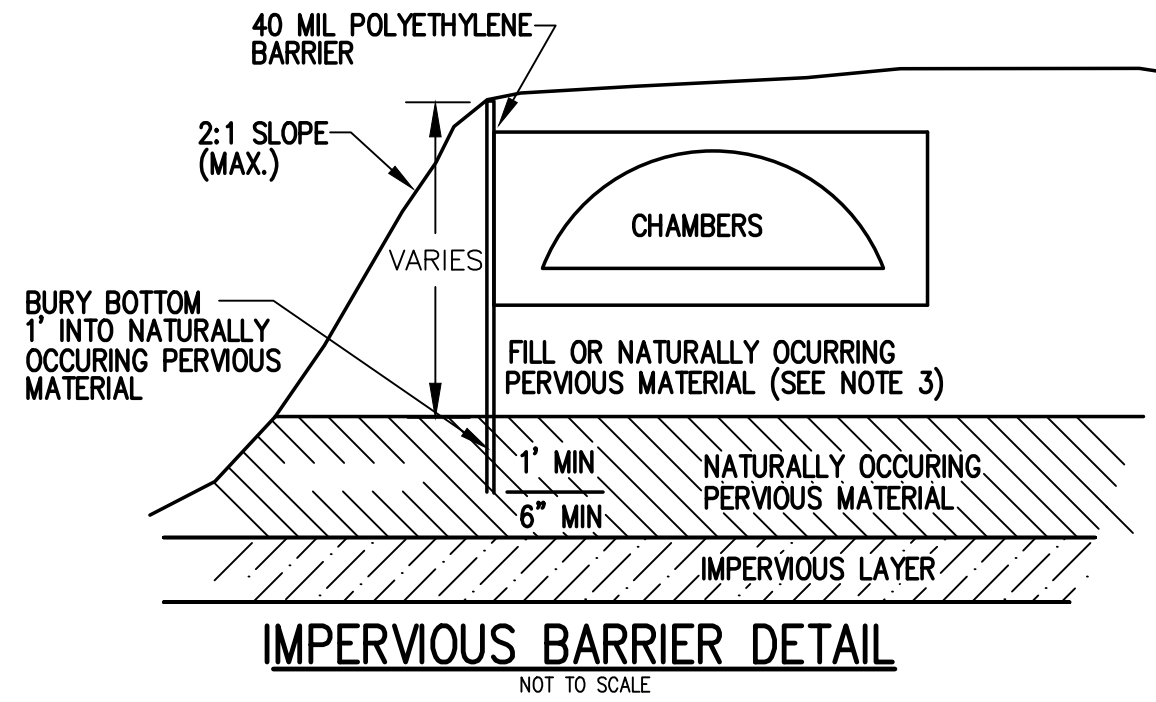
**WATER AND SEWER CROSSING**  
WITH VERTICAL CLEARANCE LESS THAN 2'  
NOT TO SCALE



**WETLANDS SIGN DETAIL**  
NTS



**WOOD GUARDRAIL & POST DETAIL**  
NOT TO SCALE



**IMPERVIOUS BARRIER DETAIL**  
NOT TO SCALE

NOTES:

1. THE PURPOSE OF THE IMPERVIOUS BARRIER IS TO PREVENT BREAKOUT OF WATER FROM THE ADJACENT SLOPE.
2. FILL AND SLOPE SHALL BE CREATED FIRST. THEN AREA FOR RECHARGE CHAMBERS SHALL BE EXCAVATED POLY BARRIER PLACED AT LIMIT OF CHAMBER FIELD AS SHOWN.
3. FILL MATERIAL SHALL BE FREE OF BOULDERS, ORGANICS OR OTHER DELETERIOUS MATERIALS. BACKFILL SHALL BE PLACED AND SPREAD UNIFORMLY IN SUCCESSIVE LIFTS NOT TO EXCEED 12" IN LOOSE THICKNESS. EACH LAYER SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY.

**Typical Physical Property Values of our Chemical Resistant 40mil Polyethylene Breakout Barrier Material**

Properties	Test Method	Minimum Roll Averages	Typical Roll Averages
Thickness mils (mm)	ASTM D 1583	37 (0.94)	40 (1.02)
Density lb/ft <sup>3</sup>	ASTM D792 or ASTM D1505		57.7 (.925)
Minimum Tensile lb/in. width	ASTM D638	80 (140)	84 (147)
84 (147)	1. Tensile strength at yield	13	13
(N/cm width)	2. % elongation at yield	175 (314)	175 (314)
	3. Tensile strength at break	650	700
	4. % elongation at break		68 (119)
	5. Modulus @100% elongation		
Hydrostatic Resistance psi (kPa)	ASTM D751	230 (1586)	250 (1724)
Puncture Resistance lbf (N)	FTMS 101 C - Method 2065	61 (271)	65 (289)
Tear Resistance lbf (N)	ASTM D1004	24 (107)	26 (116)
Volatile Loss - Method A	A ASTM 1203		< 1%
Resistance to Soil Burial (% change maximum in original value)	ASTM G22		- 4%
	1. Tensile strength at yield		
	2. Tensile strength at break		
	3. Elongation at yield		
	4. Elongation at break		
	5. Modulus of elasticity		
Low Temp. Impact Failure Temp F (C)	ASTM D746		< -70 (< -84)
Dimensional Stability & Change	ASTM D1204		< 2
Environmental Stress Crack Resistance Hours to Failure	ASTM D5397 Method A		> 400
Carbon Black %	ASTM D1803	2.5	2.75
WVTR gH <sub>2</sub> O/100 in <sup>2</sup> /24 hrs (gH <sub>2</sub> O/m <sup>2</sup> /24 hrs)	ASTM E96 Method A 73o F, 50% RH		.016 (.018)
Perms grains/ft <sup>2</sup> /hr/in.Hg (grams/m <sup>2</sup> /day/mm Hg)	ASTM E96 Method A 73o F, 50% RH		.021 (.026)
<b>Factory Seam Requirements</b>			
Bonded Seam Strength lb/in. width (N/cm width)	ASTM D4437	72 (126)	80 (140)
Seam Peel Adhesion lb/in. width (N/cm width)	ASTM D4437	56 (98)	62 (109)

Nominal Weight/Thousand Square Feet: Model #MBE40M (Miller Breakout Barrier) - 200 lbs



2/3/22

SITE PLAN APPROVAL  
MILLBURY PLANNING BOARD

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
DATE: \_\_\_\_\_

1	2/9/22	TOWN COMMENTS / STANTEC COMMENTS
1	2/3/22	TOWN COMMENTS / STANTEC COMMENTS
REV. NO.	DATE	REVISION
<b>TITLE:</b>		
<b>SITE DEVELOPMENT PLAN</b> <b>FOR</b> <b>1497 GRAFTON ROAD</b> <b>MILLBURY, MASSACHUSETTS 01527</b>		
<b>PREPARED FOR:</b>		
<b>PARKLUND PLACE, LLC</b> <b>4 ABBOTT PLACE</b> <b>MILLBURY, MASSACHUSETTS 01527</b>		
<b>PREPARED BY:</b>		
<b>J.M. GRENIER ASSOCIATES INC.</b> <b>325 DONALD LYNCH BOULEVARD SUITE 100</b> <b>MARLBOROUGH, MASSACHUSETTS 01752</b>		
TELE NO.: (508) 845-2500 jmgrenier@townisp.com		
SCALE:	N.T.S.	DATE: NOVEMBER 2, 2021
<b>DETAIL PLAN 2/2</b>		
SHEET NO:	PROJECT NO:	
SHEET 9 OF 9	G-613	