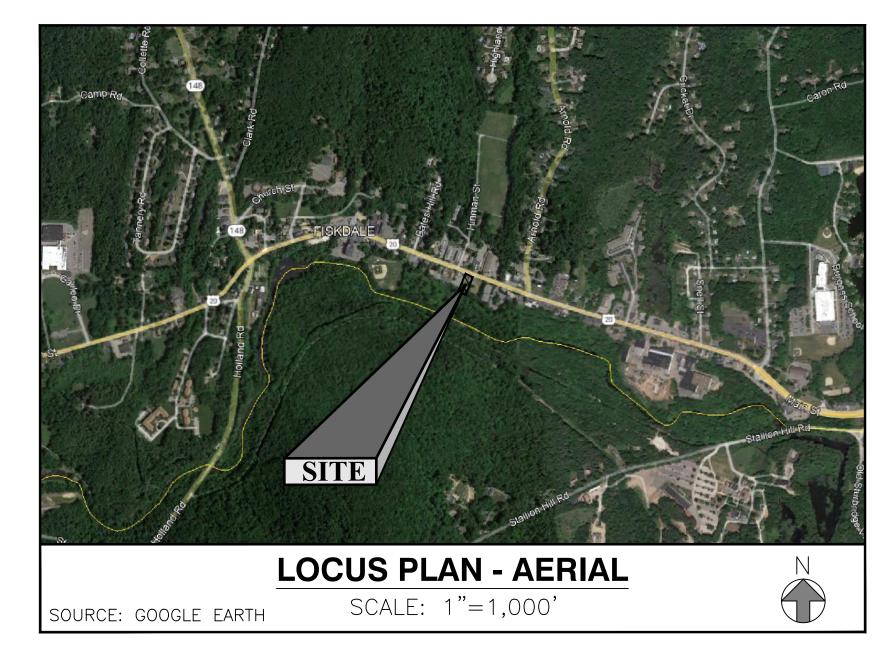
MULTI-FAMILY RESIDENTIAL PROJECT

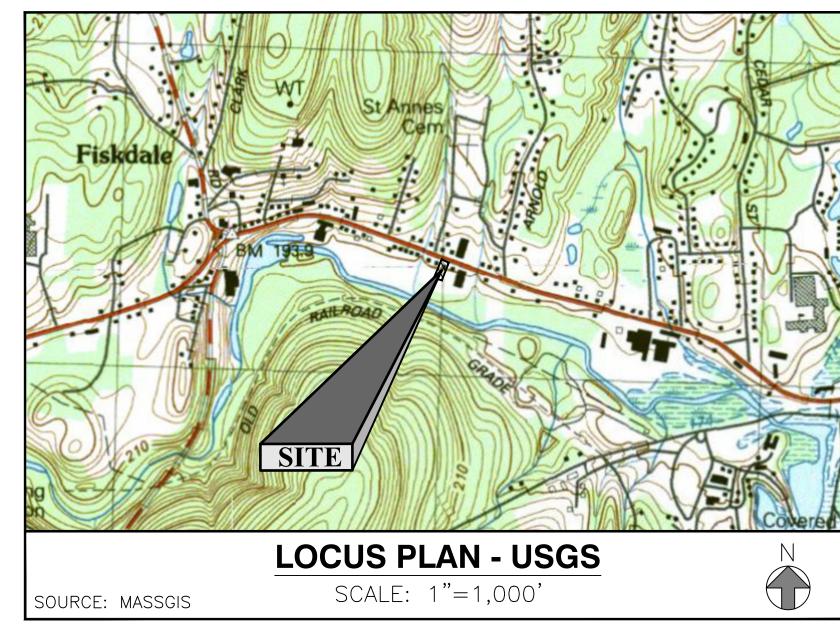
505 MAIN STREET STURBRIDGE, MA 01518

SHEET INDEX **Issue Date** Title **Cover Sheet** C001 December 22, 2022 Site Demo & Sediment and Erosion Control Plan December 22, 2022 Layout Plan December 22, 2022 Grading & Drainage Plan December 22, 2022 December 22, 2022 Site Details - 1 December 22, 2022 Site Details - 2

REFERENCE PLAN INDEX					
No.	Title	Issue Date			
-	Boundary & Topographic Survey (Levesque Geomatics Inc.)	October 27, 2022			

REVISIONS/ISSUES					
No.	Note	Date			
1	Issued for Permitting	December 22, 2022			





OWNER

Jenny Bounphasaysonh 126 Southbridge Road Dudley, MA 01571

APPLICANT

STL Group, LLC
P.O. Box 638
Sturbridge, MA 01566

ENVIRONMENTAL CONSULTANT

EcoTec, Inc.
102 Grove Street
Worcester, MA 01605

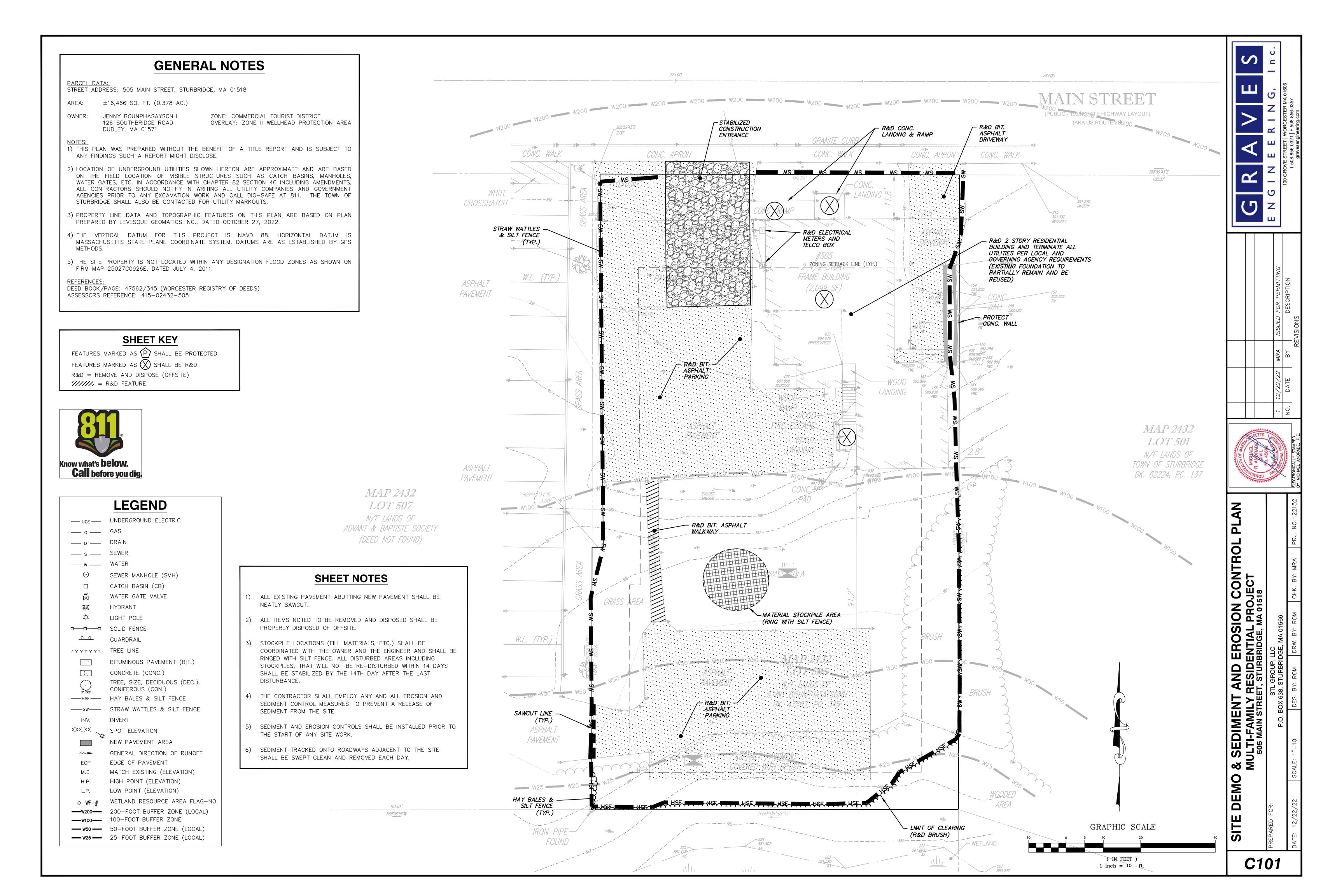
SURVEYOR

Levesque Geomatics Inc. 43 Glendale Road Sturbridge, MA 01518



100 GROVE STREET | WORCESTER MA 01605 T 508-856-0321 | F 508-856-0357 gravesengineering.com





PROJECT ZONING INFORMATION

<u>REQUIRED</u> **EXISTING** <u>PROPOSED</u> COMMERCIAL TOURIST COMMERCIAL TOURIST COMMERCIAL TOURIST ZONING DISTRICT 10,000 SQ. FT. MINIMUM LOT AREA 16,466 SQ. FT. 16,466 SQ. FT. FRONTAGE 100 FT. 96.25 FT. 96.25 FT. FRONT SETBACK 25 FT. 11.7 FT. 11.7 FT. SIDE SETBACK 10 FT. 2.8 FT. 3.0 FT. 10 FT. 91.2 FT. 90.5 FT. REAR SETBACK MAX. LOT COVERAGE 30% 12.7% 16% MAX. # BUILDING STORIES IMPERVIOUS AREA COVERAGE 59.6% 66.3%

ZONING DISTRICT SOURCE: THE ABOVE INFORMATION WAS OBTAINED FROM THE TOWN OF STURBRIDGE ZONING BYLAWS, AS AMENDED THROUGH JUNE 7, 2021.

MAP 2432

LOT 507

N/F LANDS OF

N69°08'56"W

PARKING SCHEDULE

REQUIRED PARKING DWELLING UNIT: 2 SPACES/UNIT

8 UNITS TOTAL

TOTAL SPACES REQUIRED = 8 UNITS X 2 SPACES = 16 SPACES

16 SPACES (INCLUDES 9 COMPACT SPACES (9' X 16'), AND 7 STANDARD SPACES (9' X

SNOW STORAGE NOTES

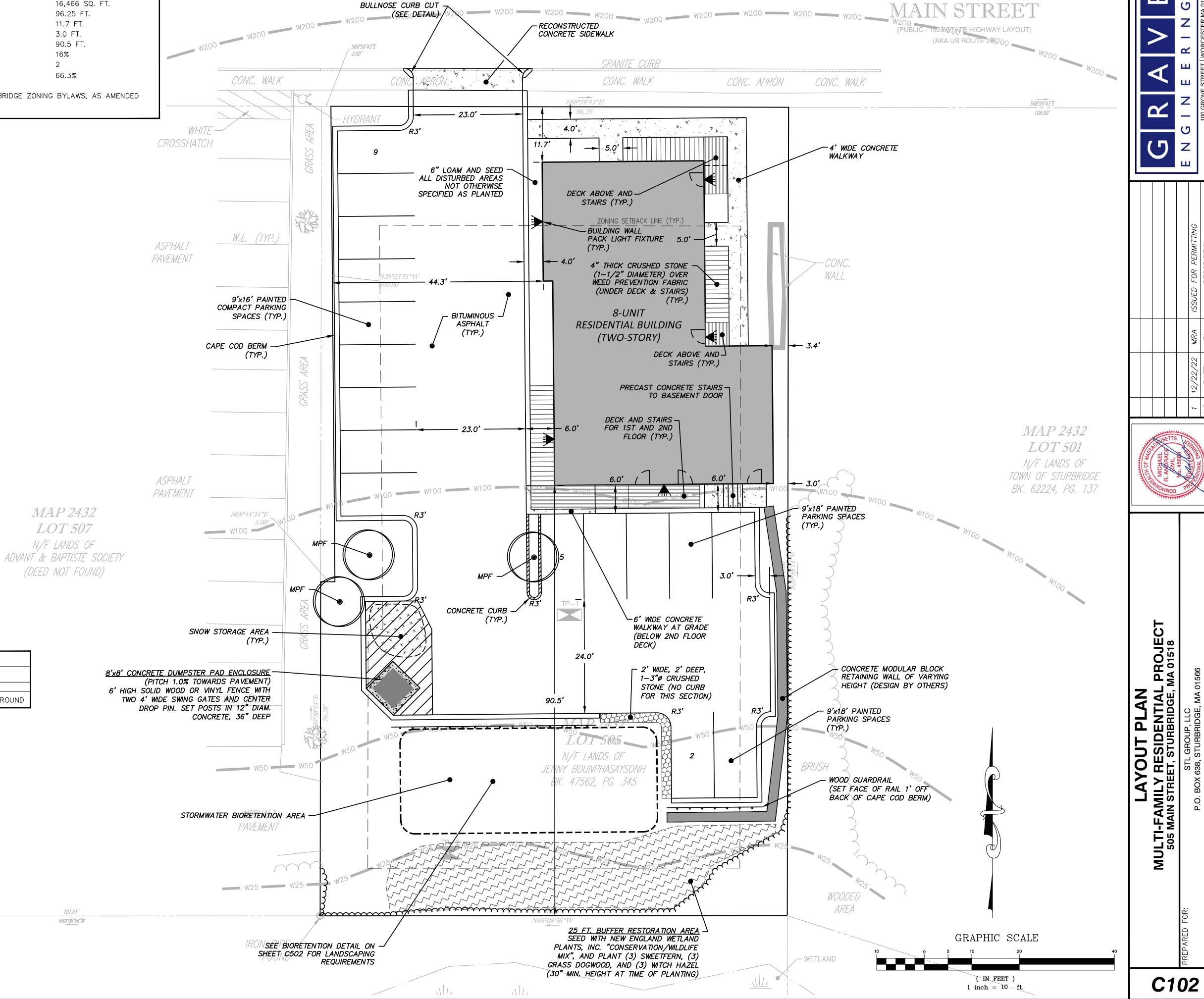
SNOW SHALL BE STORED WITHIN AREAS AS SHOWN ON THIS SHEET DESIGNATED BY THIS HATCHING F

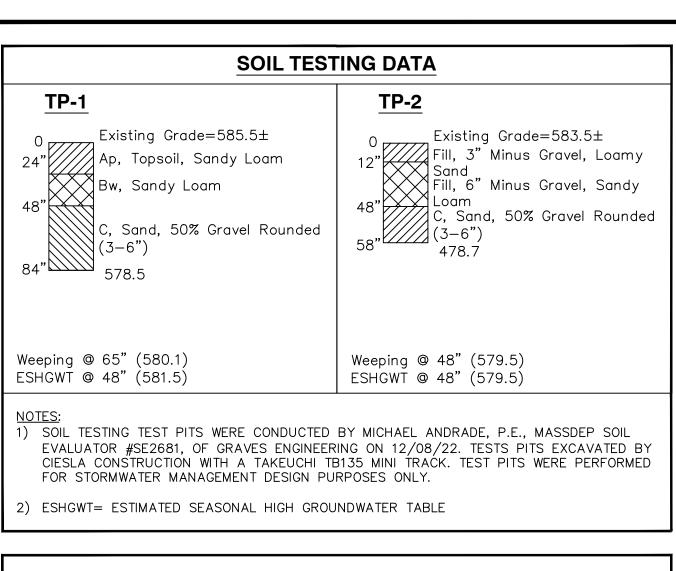
SNOW STORAGE LOCATIONS SHOWN REPRESENT THE MINIMUM NECESSARY AND THE OWNER SHALL EXPAND SUCH AREAS AS NEEDED. SNOW SHALL NOT BE PLACED SO AS TO INHIBIT VEHICLE SIGHT LINES FOR ENTERING AND EXITING THE SITE AND INTERNAL SITE CIRCULATION NOR PLACED TO INHIBIT SITE DRAINAGE.

SHEET NOTES

- 1) ALL DIMENSIONS SHOWN ARE MEASURED FROM TOE OF CURB OR CENTER OF PAINTED LINE.
- 2) CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS WITH 6 INCHES OF LOAM AND SEED OR AS OTHERWISE NOTED ON THE PLANS.
- 3) THE CONTRACTOR SHALL COORDINATE WITH PLANS BY OTHERS (ARCHITECTURAL, STRUCTURAL, MEP, ETC.)
- 4) PAVEMENT MARKINGS SHALL BE PAINTED WITH WHITE TRAFFIC PAINT CONFORMING TO SECTION M7.01.08 OF THE MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION. LINE WIDTH SHALL BE 4 INCHES.
- 5) PROPOSED LIGHTING SHALL BE BUILDING WALL PACK FIXTURE AS NECESSARY FOR BUILDING AND SITE SECURITY, ALL NEW FIXTURES SHALL BE LED, FULLY SHIELDED TO PREVENT LIGHT SPILLAGE ABOVE THE HORIZONTAL AND ONTO ABUTTING PROPERTIES, AND NIGHT SKY COMPLIANT.

PLANTING LIST					
CODE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
ORNAMENTAL TREES					
MPF	3	MALUS 'DONALD WYMAN'	'DONALD WYMAN' CRABAPPLE	4'-5' HT.	@ 6" ABOVE GROUND





SHEET NOTES

- 1) PROVIDE POSITIVE DRAINAGE IN ALL FINISH GRADED WORK AREAS INCLUDING AWAY FROM ALL BUILDINGS.
- 2) ADJUST ALL STRUCTURES (MANHOLES, WATER GATE VALVES, SHUTOFFS, ETC.) TO PROPOSED FINISH GRADES WITHIN THE LIMIT OF WORK.
- 3) ALL DISTURBED AREAS OUTSIDE OF PAVEMENT SHALL BE RESTORED WITH 6 INCHES OF LOAM AND SEEDED OR LANDSCAPED IN ACCORDANCE WITH THE LANDSCAPING PLANS.
- 4) ALL FINISHED GRASSED SLOPES EQUAL TO OR GREATER THAN A 3:1 SLOPE SHALL BE STABILIZED WITH AN EROSION CONTROL MATTING SUCH AS SC-150 BY NORTH AMERICAN GREEN, CURLEX II BY AMERICAN EXCELSIOR, OR ENGINEER APPROVED EQUAL. COORDINATE MATTING LOCATIONS WITH THE LANDSCAPE PLANS AND GROUND COVER MATERIALS.
- 5) PROPOSED GRADES AS SHOWN SHALL BE CARRIED TO ALL PAVEMENT CORNERS HOWEVER GRADE ADJUSTMENTS SHALL BE MADE BY THE CONTRACTOR AS NECESSARY TO PROVIDE POSITIVE DRAINAGE FROM ALL
- 6) SPOT GRADE KEY:

(E) = EXISTING GRADE TO BE MAINTAINED

TC = TOP OF CURB FINISH GRADE

BC = BOTTOM OF CURB FINISH GRADE

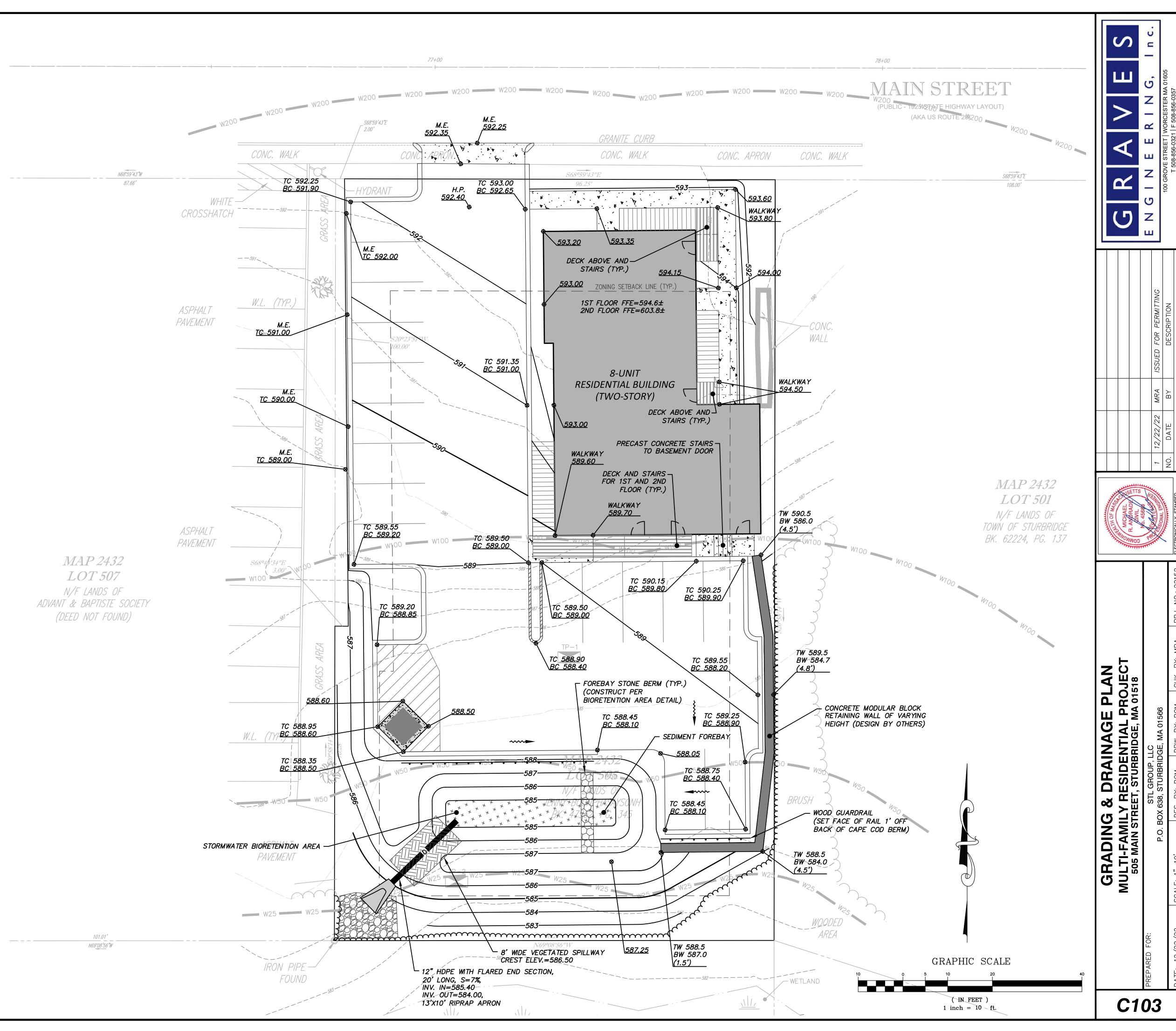
FFE = BUILDING FINISH FLOOR ELEVATION

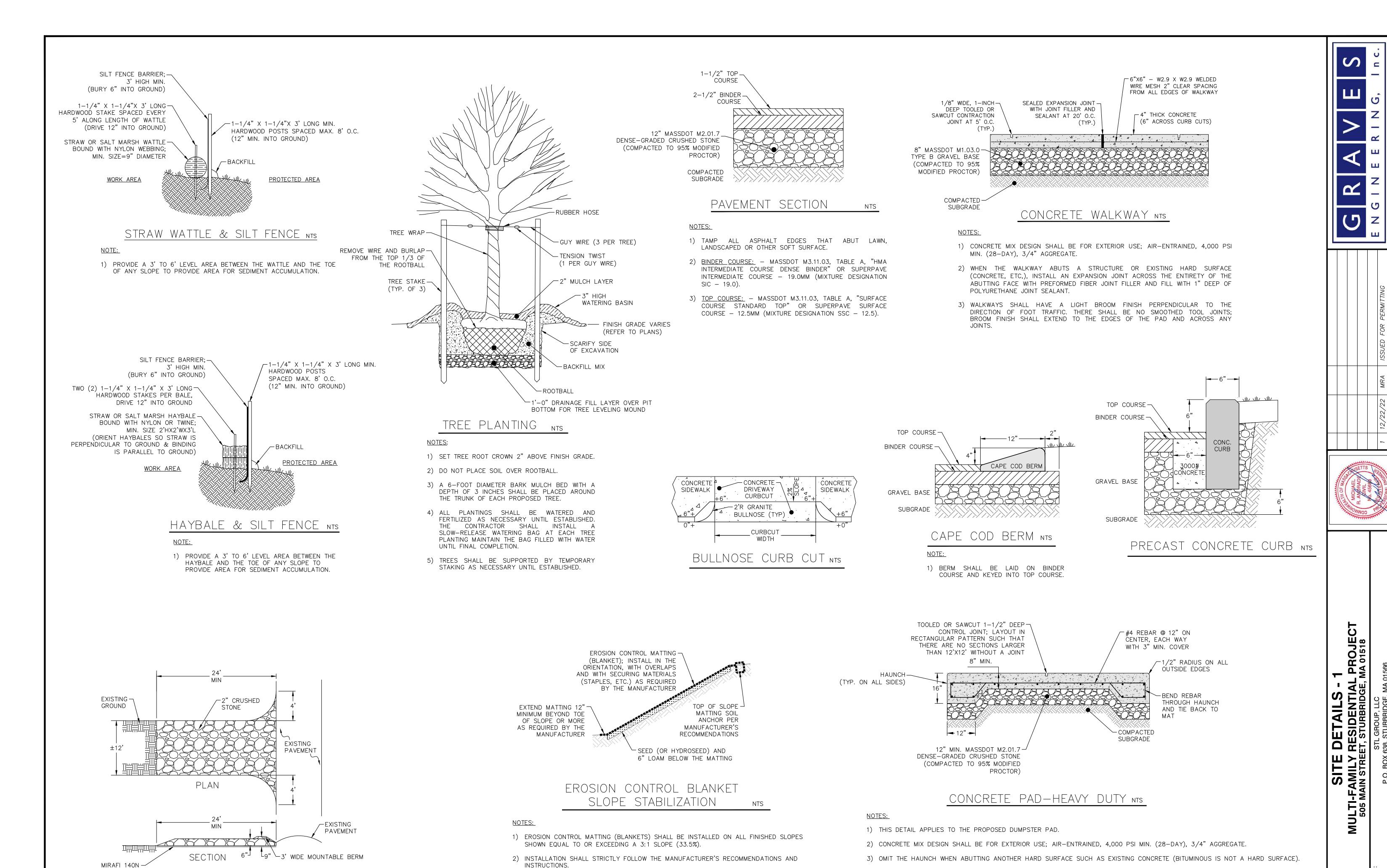
VIF = VERIFY IN FIELD (CONTRACTOR)

TW = TOP OF WALL (FINISH CRADE)

TW = TOP OF WALL (FINISH GRADE)

- BW = BOTTOM OF WALL (FINISH GRADE)
- 7) SITE SOILS PER USDA-NRCS WEB SOIL SURVEY ARE POOTATUCK FINE SANDY LOAM (MAP UNIT 2A), AND CANTON FINE SANDY LOAM (MAP UNIT 420B). ON-SITE SOIL TESTING WAS CONDUCTED ON DECEMBER 8, 2022. SEE LOG THIS SHEET.
- 8) ALL NEW PAVEMENT AND CONCRETE SURFACES SHALL BE CONSTRUCTED TO PROPOSED GRADES AS SHOWN AND SHALL BE SMOOTH AND UNIFORM ELIMINATING DEFORMITIES, DEPRESSIONS, PUDDLES, AND TRIP HAZARDS. PROVIDE POSITIVE DRAINAGE ON ON ALL NEW PAVEMENT AND CONCRETE SURFACES, AWAY FROM BUILDINGS, AND TO EXISTING CATCH BASINS, OUTFALLS OR OTHER COLLECTION POINTS.
- 9) UNLESS NOTED OTHERWISE, PROPOSED WALKWAYS SHALL HAVE RUNNING (LONGITUDINAL) SLOPES NO GREATER THAN 4.5%. CROSS SLOPES OF WALKWAYS SHALL BE PITCHED TO DRAIN BUT NO MORE THAN 1.5%. NEW WALKWAYS SHALL MATCH (BE FLUSH WITH) EXISTING ELEVATIONS WHERE SHOWN OR NOTED WITH CHANGES IN LEVELS (ELEVATIONS) NO GREATER THAN 1/4-INCH, AND WITH FINISH GRADES OF EXISTING AND PROPOSED BIT. WALKS, CONCRETE PADS, ETC.
- 10) UTILITY MATERIALS, CONSTRUCTION, AND TESTING SHALL COMPLY WITH TOWN OF STURBRIDGE STANDARDS.





3) UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS FOR A PARTICULAR LOCATION AND

STABILIZATION ARE: SC150 BY NORTH AMERICAN GREEN, CURLEX II BY AMERICAN

EXCELSIOR COMPANY, OR LANDLOK C2 BY PROPEX (OR ENGINEER APPROVED EQUAL).

APPLICATION, ACCEPTABLE EROSION CONTROL BLANKETS FOR GENERAL SLOPE

FILTER FABRIC

STABILIZED CONSTRUCTION ENTRANCE NTS

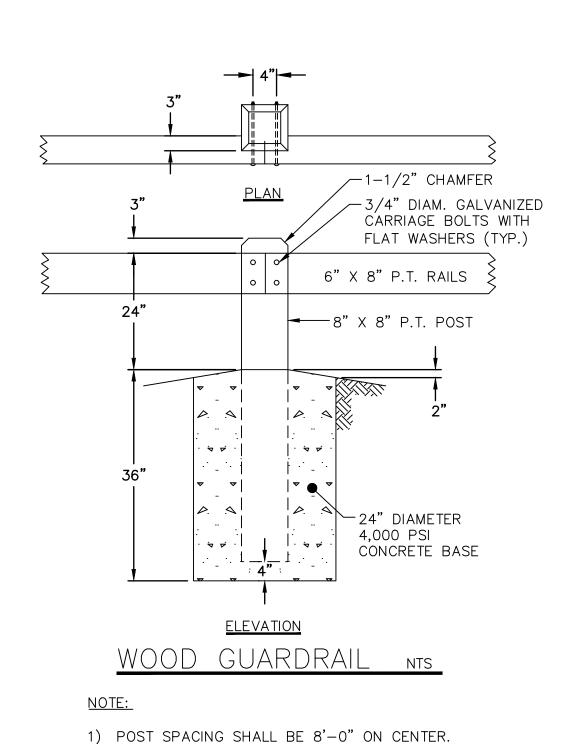
C501

4) WHEN THE PAD ABUTS A STRUCTURE OR EXISTING HARD SURFACE (CONCRETE, ETC,), INSTALL AN EXPANSION JOINT ACROSS THE

5) PAD SHALL HAVE A MEDIUM BROOM FINISH. THERE SHALL BE NO SMOOTHED TOOL JOINTS; BROOM FINISH SHALL EXTEND TO THE

EDGES OF THE PAD AND ACROSS ANY JOINTS.

ENTIRETY OF THE ABUTTING FACE WITH PREFORMED FIBER JOINT FILLER AND FILL WITH 1" DEEP OF POLYURETHANE JOINT SEALANT.



STORMWATER BIORETENTION AREA NOTES

- I. PLANTINGS WITHIN THE BIORETENTION AREA MAY BE SUBSTITUTED WITH MORE READILY AVAILABLE SPECIES APPROVED BY GRAVES ENGINEERING, INC. ALL PLANT SPECIES MUST BE NATIVE TO MASSACHUSETTS AND A NON—INVASIVE SPECIES. PLANTINGS SHALL BE ARRANGED IN A NATURAL MANNER; ENGINEER SHALL APPROVE A PLANTING PLAN PREPARED BY THE CONTRACTOR PRIOR TO PLANTING.
- 2. BIORETENTION SOIL MIX SHALL BE A MIX OF SAND, COMPOST AND SOIL AS FOLLOWS: 40% SAND, 20-30% TOPSOIL, AND 30-40% COMPOST.
- 3. SOIL MIX MUST BE UNIFORM, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES; CLAY CONTENT LESS THAN 5%, pH BETWEEN 5.5 AND 6.5.
- 4. SOIL MIX SAND COMPONENT SHALL BE GRAVELLY SAND MEETING ASTM D422 AS FOLLOWS:

 SIEVE SIZE
 % PASSING

 2"
 100

 3/4"
 70-100

 1/4"
 50-80

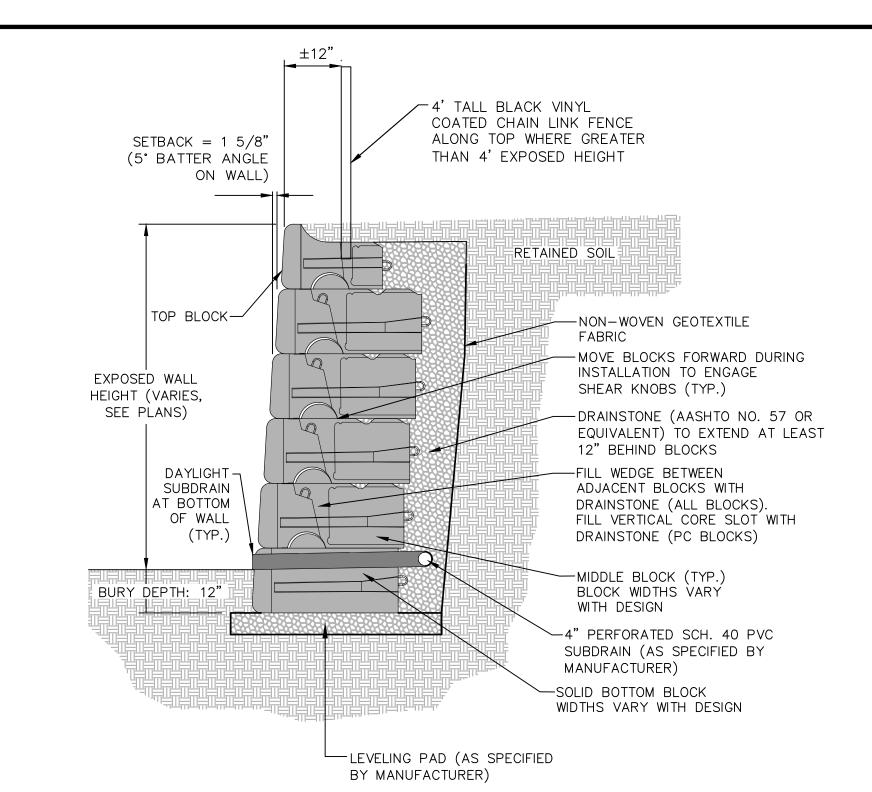
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 15-40

- 5. SOIL MIX TOPSOIL COMPONENT SHALL BE SANDY LOAM, LOAMY SAND OR LOAM TEXTURE. COMPOST COMPONENT SHALL BE PROCESSED YARD WASTE IN COMPLIANCE WITH MASSDEP GUIDELINES AND NOT CONTAIN BIOSOLIDS.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING SOIL TESTING TO VERIFY THE SOIL USED FALLS WITHIN THESE LIMITS.
- 7. SPILLWAY TURF REINFORCEMENT MATTING (TRM) SHALL BE NORTH AMERICAN GREEN MODEL P300, OR ENGINEER
- APPROVED EQUAL.

 8. INTERIOR SIDE SLOPES SHALL BE SEEDED WITH NEW ENGLAND WETLAND PLANTS "EROSION
- CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES" OR AN ENGINEER APPROVED EQUAL.
- 9. THE TERM "BIORETENTION AREA" IS SYNONYMOUS WITH THE TERM "RAIN GARDEN".

STORMWATER BIORETENTION AREA PLANTING LIST						
CODE	QTY.	BOTANICAL NAME	AME COMMON NAME		NOTES	
GRASSES						
PV	3	PANICUM VIRGATUM	SWITCH GRASS	2 GAL.	18" O.C.	
PA	3	PENNSETUM ALOPECUROIDES	FOUNTAIN GRASS	2 GAL.	18" O.C.	
PERENNIAL	_S					
ATU	15	ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	2 GAL.	24" O.C.	
ER	15	ECHINOPS RITRO	GLOBE THISTLE	1 GAL.	18" O.C.	
ATR	15	ANAPHALIS TRIPLINERVIS	PEARLY EVERLASTING	1 GAL.	18" O.C.	
SHRUBS				•		
IV	3	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	36" SPREAD	B&B	
VD	3 VIBURNUM DENTATUM		ARROWWOOD	3 GAL. B		
Al	Al 3 ALNUS INCANA		SPECKLED ADLER	#2 CONT.	CONT.	

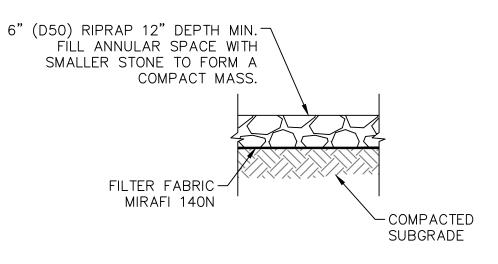
BIORETENTION AREA & FOREBAY ELEVATION SCHEDULE				
	FOREBAY	BIORETENTION AREA		
TOP OF BERM ELEV.	586.50	587.00		
BOTTOM ELEV.	585.00	585.00		
100 YR PEAK ELEV.	-	586.28		
SPILLWAY ELEV.	-	586.50		
BOTTOM OF SOIL MIX	-	582.85		



TYPICAL GRAVITY-TYPE PRECAST CONCRETE MODULAR BLOCK RETAINING WALL SECTION NTS

NOTES:

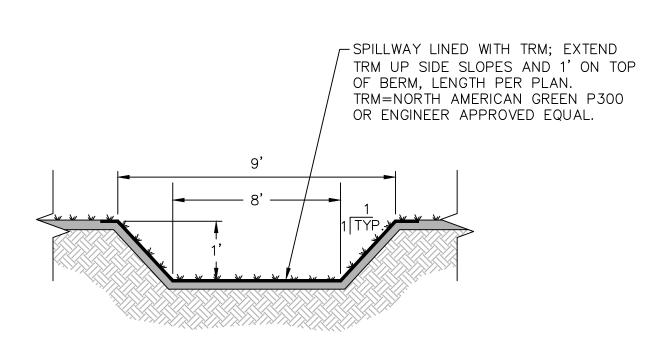
- 1) BLOCK TEXTURE (FINISH) SHALL BE SIMILAR TO "LIMESTONE" BY REDI-ROCK INTERNATIONAL, LLC. AND BASED ON CONTRACTOR-SELECTED WALL MANUFACTURER.
- 2) BLOCK COLOR SHALL BE GRAY.
- 3) CONTRACTOR IS RESPONSIBLE FOR WALL MANUFACTURER'S COST OF PREPARING STRUCTURAL ENGINEERING DRAWINGS.
- 4) DESIGN SUBJECT TO CHANGE BASED ON STRUCTURAL ENGINEER—PREPARED DRAWINGS AND OWNER MATERIAL SELECTIONS.



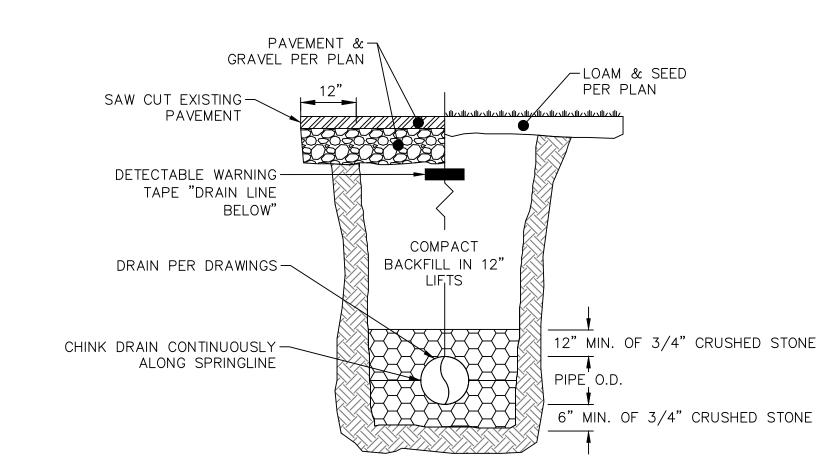
RIPRAP APRON SECTION NTS

NOTE:

1) THIS DETAIL APPLIES TO ALL SPECIFIED RIPRAP APPLICATIONS.



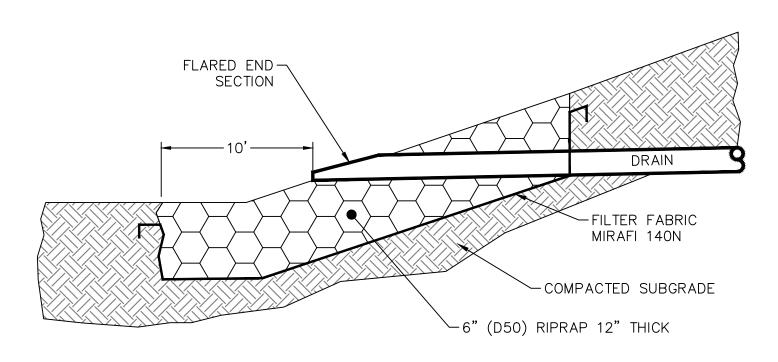
SPILLWAY SECTION



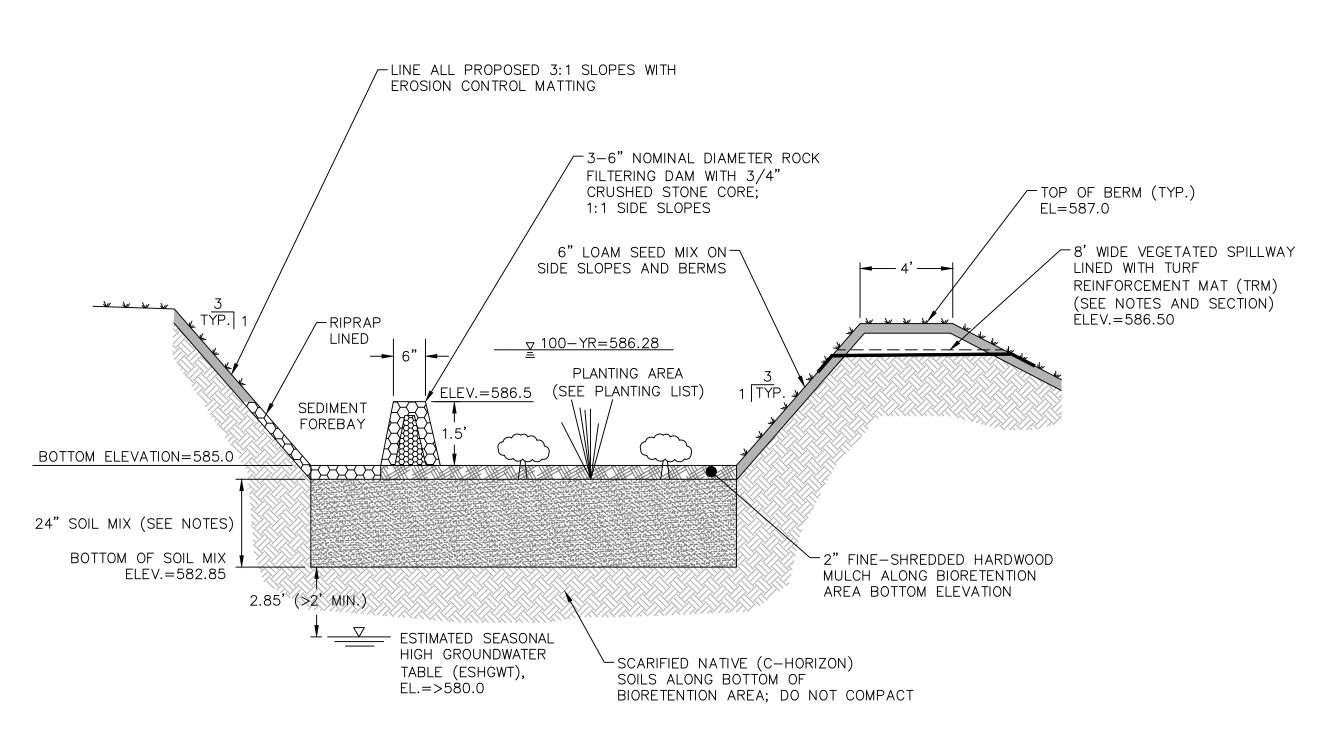
HDPE/PVC DRAIN TRENCH SECTION NTS

NOTES:

- 1) BACKFILL SHALL BE AN AASHTO CLASS III SOIL; EITHER TRENCH SPOILS OR AN IMPORTED SAND AND GRAVEL WITH FINES AND COMPACTED TO 90% OF THE PROCTOR DENSITY.
- 2) BACKFILL OF HDPE PIPE SHALL CONFORM TO ASTM D2321 AND/OR MANUFACTURER'S SPECIFICATIONS.



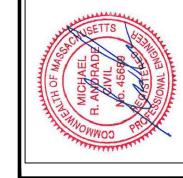
RIPRAP OUTLET DETAIL NTS



STORMWATER BIORETENTION AREA



					A ISSUED FOR PERMITTING	Y DESCRIPTION	REVISIONS
					MRA	AВ	
					12/22/22	DATE	
					1	NO.	
SETTS COLUMN						APED P.E.	



SITE DETAILS - 2

MULTI-FAMILY RESIDENTIAL PROJECT
505 MAIN STREET, STURBRIDGE, MA 01518

STL GROUP, LLC
P.O. BOX 638, STURBRIDGE, MA 01566

C502