

SITE DEVELOPMENT PLAN

FOR

19 CANAL STREET

MILLBURY, MASSACHUSETTS 01527

RECORD APPLICANT:

ELITE HOME BUILDERS, LLC
P.O. BOX 1205
WESTBOROUGH, MA 01581
(508) 560-9440

RECORD OWNER:

ELITE HOME BUILDERS, LLC
P.O. BOX 1205
WESTBOROUGH, MA 01581
(508) 560-9440

LAND PLANNERS—CIVIL ENGINEERS:

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

LANDSCAPE ARCHITECT

LAND DESIGN COLLABORATIVE
45 LYMAN STREET SUITE 1
WESTBOROUGH, MA 01581
(508) 952-6300

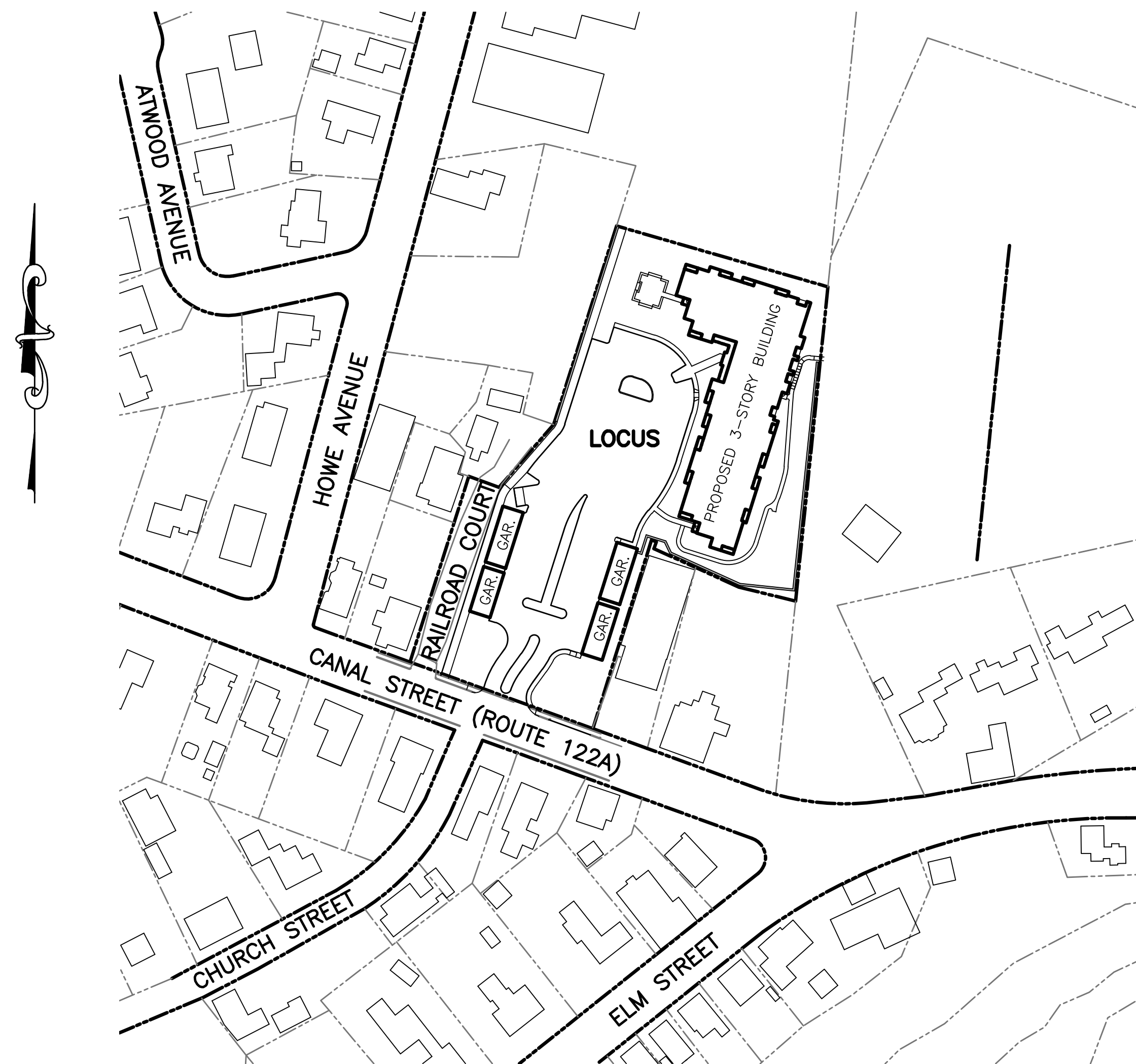
ARCHITECT

HPA DESIGN INC.
35 MAIN STREET
MILFORD, MA 01757
(781) 407-0000

LAND SURVEYOR:

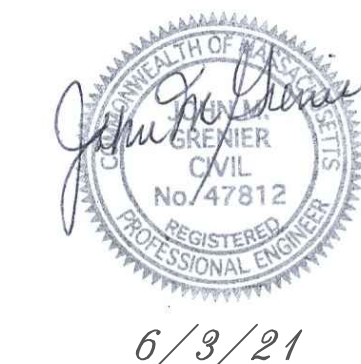
REALMAPINFO, LLC
11 APEX DRIVE SUITE 300 S
MARLBOROUGH, MA 01752

ZONING DISTRICT: BUSINESS I (B-1)



LOCUS:
SCALE: 1"=100'

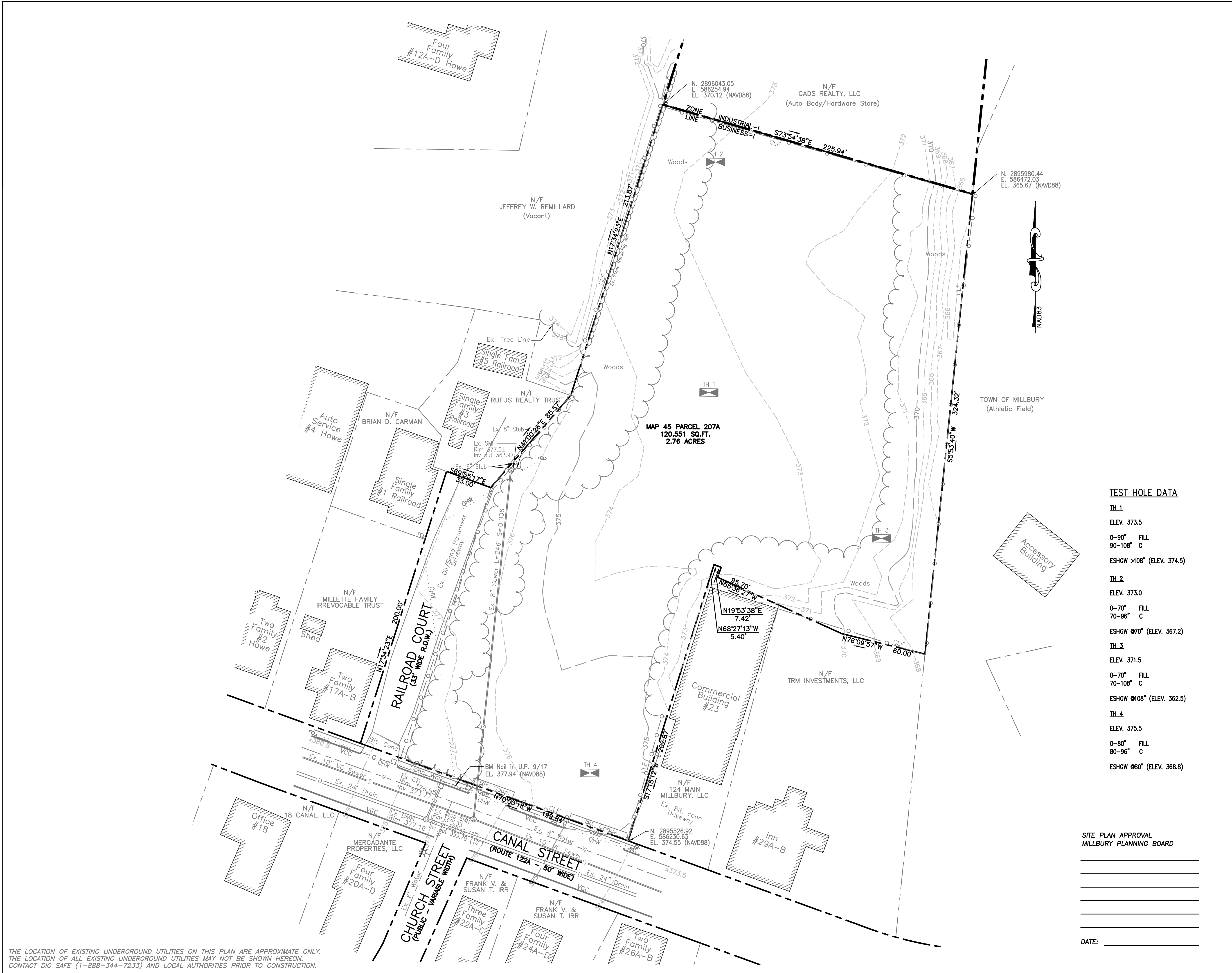
INDEX DESCRIPTION	SHEET NUMBER
COVER	1 OF 10
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DETAIL PLAN	8 OF 10
DETAIL PLAN	9 OF 10
DETAIL PLAN	10 OF 10



SITE PLAN APPROVAL
MILLBURY PLANNING BOARD

DATE: _____

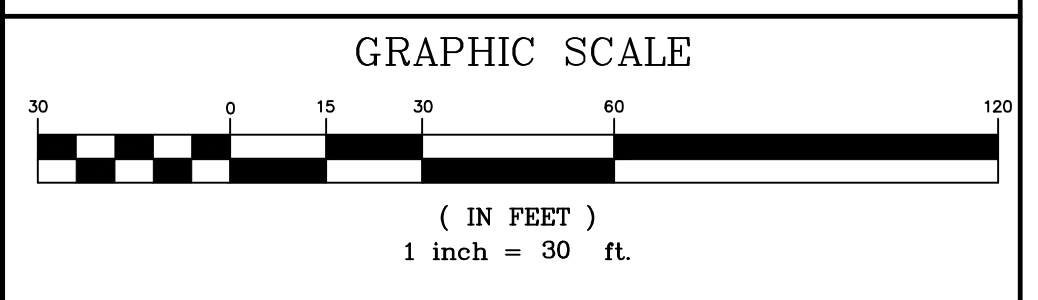
1	6/3/21	TOWN COMMENTS / STANTEC COMMENTS
REV. NO.	DATE	REVISION
SCALE: AS SHOWN		DATE: APRIL 9, 2021
COVER SHEET		
SHEET NO.: SHEET 1 OF 10		PROJECT NO.: G-611



LEGEND:

---	EXISTING PROPERTY LINE
---	EXISTING EASEMENT LINE
---	EXISTING CONTOUR - HIGH
---	EXISTING CONTOUR - LOW
---	EXISTING EDGE PAVEMENT
---	EXISTING CURB
---	EXISTING TREE LINE
---	EXISTING STONE WALL
D	EXISTING DRAIN LINE
S	EXISTING SEWER LINE
W	EXISTING WATER LINE
G	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRES
---	ZONE LINE

- NOTES:**
1. REFERENCE TOWN OF MILLBURY ASSESSORS MAP 45 PARCEL 207A.
 2. EXISTING CONDITIONS SURVEY PERFORMED BY REALMAPINFO, LLC 11 APEX DRIVE SUITE 300 S MARLBOROUGH, MA 01752.
 3. SITE IS NOT LOCATED IN A FLOOD ZONE AS SHOWN ON FIRM MAP PANEL 250318C0809E FOR THE TOWN OF MILLBURY MASSACHUSETTS, WORCESTER COUNTY, DATED JULY 4, 2011.
 4. DATUM IS NAVD 88 AND NAD 83.
 5. EXISTING UTILITIES ARE FROM RECORD SOURCES AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.



TEST HOLE DATA

TH 1
ELEV. 373.5
0-90° FILL
90-108° C
ESHGW >108° (ELEV. 374.5)
TH 2
ELEV. 373.0
0-70° FILL
70-96° C
ESHGW @70° (ELEV. 367.2)
TH 3
ELEV. 371.5
0-70° FILL
70-108° C
ESHGW @108° (ELEV. 362.5)
TH 4
ELEV. 375.5
0-80° FILL
80-96° C
ESHGW @80° (ELEV. 368.8)

SITE PLAN APPROVAL
MILLBURY PLANNING BOARD

DATE: _____

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REV. NO.	DATE	REVISION
TITLE:		
SITE DEVELOPMENT PLAN FOR 19 CANAL STREET MILLBURY, MASSACHUSETTS 01527		
PREPARED FOR:		
ELITE HOME BUILDERS, LLC P.O. BOX 1205 WESTBOROUGH, MASSACHUSETTS 01581		
PREPARED BY:		
J.M. GRENIER ASSOCIATES INC. 325 DONALD LYNCH BOULEVARD SUITE 100 MARLBOROUGH, MASSACHUSETTS 01752		
TELE NO.: (508) 845-2500		
SCALE:	DATE:	
1" = 30'	APRIL 9, 2021	
EXISTING CONDITIONS		
SHEET NO.:	PROJECT NO.:	
SHEET 2 OF 9	G-611	



Turning Performance Analysis

07/31/2012

Bid Number: 206
Department: MILLBURY FIRE DEPARTMENT, MA

Chassis: Arrow-XT Chassis, PAP/SkyArm/Midmount MUX, 2010
Body: Aerial, Platform, 95', Mid-Mount, No Pump, S/S

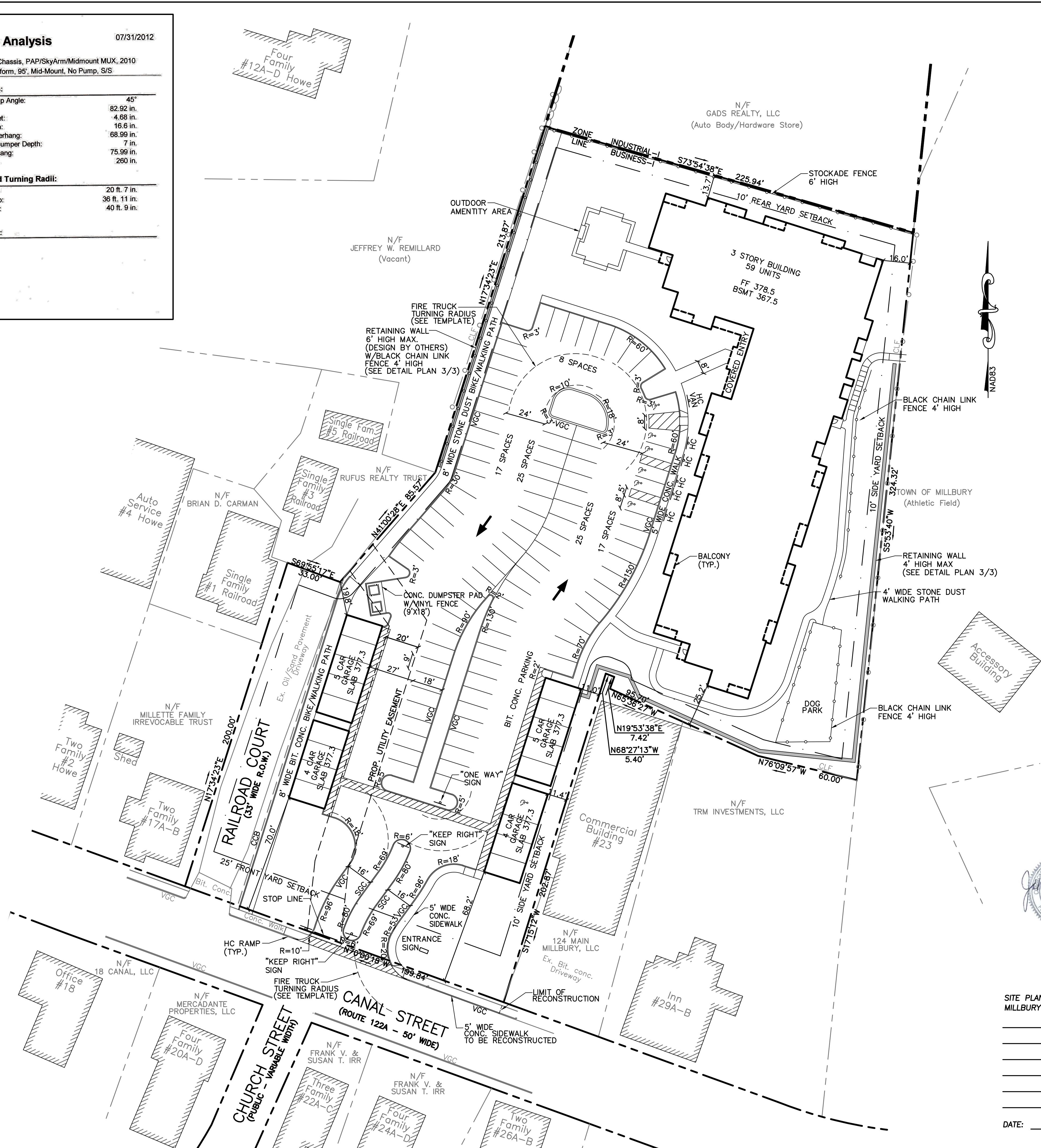
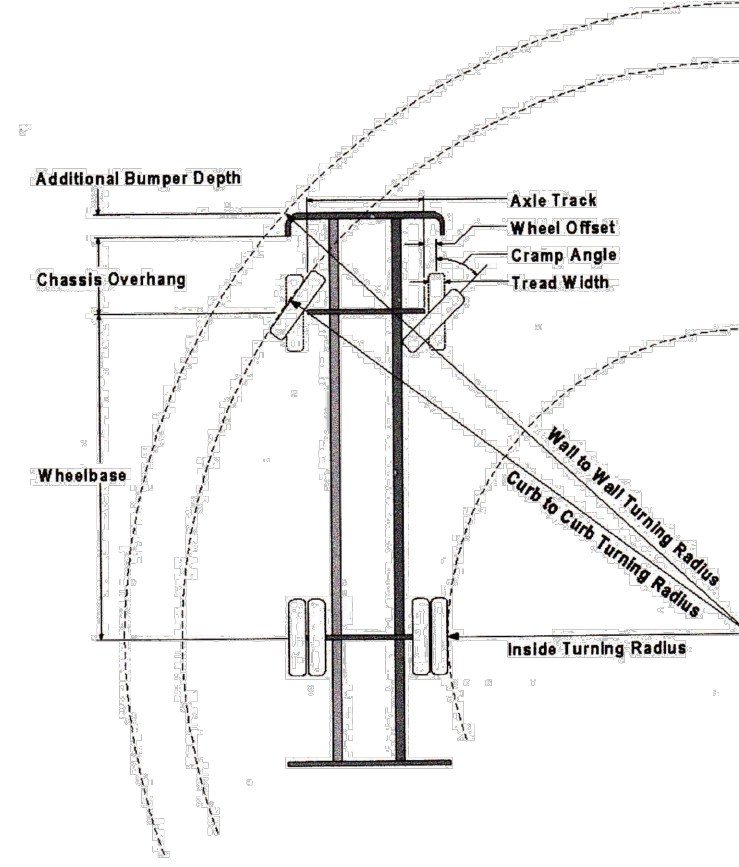
Parameters:

Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.88 in.
Tread Width:	16.6 in.
Chassis Overhang:	68.99 in.
Additional Bumper Depth:	7 in.
Front Overhang:	75.99 in.
Wheelbase:	260 in.

Calculated Turning Radii:

Inside Turn:	20 ft. 7 in.
Curb to curb:	36 ft. 11 in.
Wall to wall:	40 ft. 9 in.

Comments:



LEGEND:

- EXISTING PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- 370--- EXISTING CONTOUR - HIGH
- 368--- EXISTING CONTOUR - LOW
- 370--- PROPOSED CONTOUR - HIGH
- 368--- PROPOSED CONTOUR - LOW
- EXISTING EDGE PAVEMENT
- EXISTING CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED GRANITE CURB
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING STONE WALL
- PROPOSED DRAIN LINE
- EXISTING SEWER LINE
- PROPOSED SEWER LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING OVERHEAD WIRES
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED EROSION CONTROL
- ZONE LINE

ZONING SUMMARY:

CURRENT ZONE: BUSINESS I (B-1)

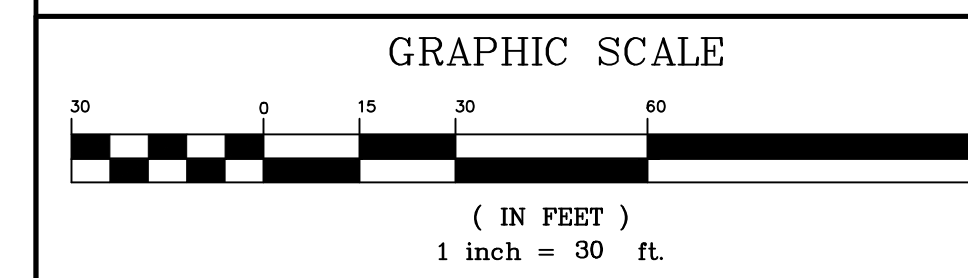
	REQUIRED	PROVIDED
MIN. LOT AREA	120,500 SQ.FT.*	120,551 SQ.FT.
MIN. FRONTAGE	100'	199.84'
MIN. FRONT YARD SETBACK	25'	68.2'
MIN. SIDE YARD SETBACK	10'	11.4'
MIN. REAR YARD SETBACK	10'	13.7'
MAX. LOT COVERAGE	30%	22.4%
MIN. OPEN SPACE	20%	39.6%

*12,500 SQ.FT. FIRST UNIT + 1,250 SQ.FT./ADDITIONAL DU + 500 SQ.FT./BEDROOM OVER 2
 12,500 SQ.FT. + 1,250 SQ.FT.*58 + 500 SQ.FT.*71 = 120,500 SQ.FT.

PARKING SPACE REQUIREMENTS

USE	REQUIRED
MULTI-FAMILY (3/2 BEDROOM UNIT) x 14 UNITS =	42 SPACES
MULTI-FAMILY (2/1 BEDROOM UNIT) x 45 UNITS =	90 SPACES
	132 SPACES
	110 SPACES PROPOSED*

* WAIVER REQUESTED FOR REDUCTION IN REQUIRED PARKING SPACES



REV. NO.	DATE	REVISION
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TELE NO.: (508) 845-2500
 SCALE: 1" = 30'
 DATE: MAY 25, 2021

LAYOUT PLAN

SHEET NO.: SHEET 3 OF 10
 PROJECT NO.: G-611



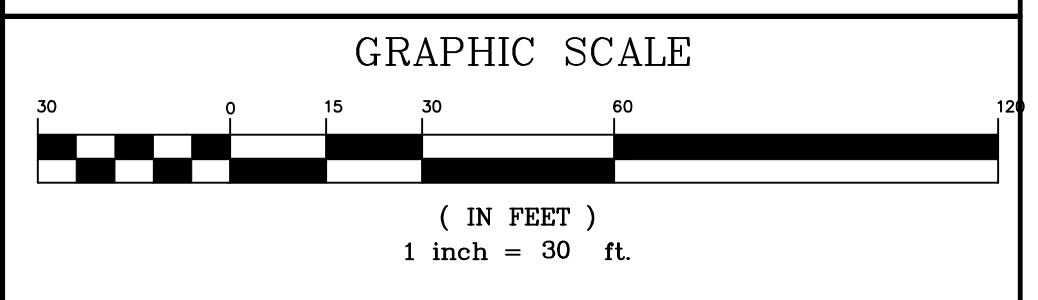
SITE PLAN APPROVAL
 MILLBURY PLANNING BOARD

DATE:



LEGEND:

- EXISTING PROPERTY LINE
- - - EXISTING EASEMENT LINE
- - - PROPOSED EASEMENT LINE
- 370- EXISTING CONTOUR - HIGH
- 368- EXISTING CONTOUR - LOW
- 370- PROPOSED CONTOUR - HIGH
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- EXISTING EDGE PAVEMENT
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- PROPOSED WATER LINE
- EXISTING GAS LINE
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- EXISTING OVERHEAD WIRES
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED EROSION CONTROL
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1	6/3/21	TOWN COMMENTS / STANTEC COMMENTS

TITLE:

**SITE DEVELOPMENT PLAN
FOR
19 CANAL STREET
MILLBURY, MASSACHUSETTS 01527**

PREPARED FOR:

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P.O. BOX 1205
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325 DONALD LYNCH BOULEVARD SUITE 100
MARLBOROUGH, MASSACHUSETTS 01752**

TELE NO.: (508) 845-2500

SCALE: 1" = 30' DATE: APRIL 9, 2021

GRADING AND DRAINAGE PLAN

SHEET NO.: SHEET 4 OF 10 PROJECT NO.: G-611



SITE PLAN APPROVAL
MILLBURY PLANNING BOARD

DATE: _____



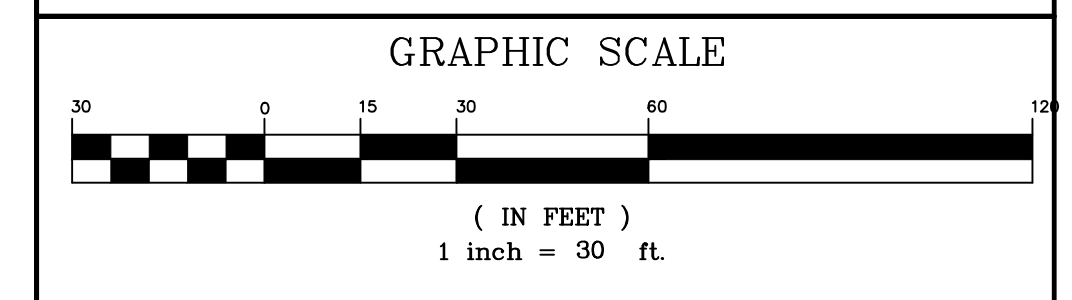
DRAINAGE SCHEDULE

CB 1 (FLAT TOP) RIM 376.80 INV 373.07	LEFT ROOF DRAIN INV 375.25
8" PVC L=17 S=0.005	6" PVC L=110' S=0.018
CB 2 (FLAT TOP) RIM 376.10 INV 373.23	FRONT ROOF DRAIN INV 375.25
8" PVC L=51 S=0.005	6" PVC L=90' S=0.022
DMH 1 (STORMCEPTOR 900) RIM 377.1 INV IN 372.98 (CB 1) INV IN 372.98 (CB 2) INV OUT 372.88 (DMH 2) INV OUT 374.26 (EX. CB)	CB 5 (DOUBLE GRATE/FLAT TOP) RIM 376.00 INV IN 373.30 (LEFT ROOF) INV IN 373.30 (FRONT ROOF) INV OUT 372.30
8" PVC L=66' S=0.005 (DMH 2)	CB 6 (DOUBLE GRATE/FLAT TOP) RIM 376.00 INV 372.80
8" PVC L=32' S=0.015 (OVERFLOW TO EX. CB)	12" HDPE L=10' S=0.005
DMH 2 RIM 376.40 INV IN 372.55 INV OUT 372.45 (RECHARGE ROW) INV OUT 371.95 (ISOLATOR ROW)	DMH 4 RIM 376.10 INV IN 372.75 (CB 6) INV IN 372.13 (CB 5) INV OUT 372.03
EX CB EX RIM 376.55 PROP INV IN 373.77 EX INV OUT 373.77	18" HDPE L=66' S=0.005
CB 3 (DOUBLE GRATE/FLAT TOP) RIM 376.00 INV 372.80	DMH 5 (STORMCEPTOR 900) RIM 377.20 INV IN 371.65 (DMH 3) INV IN 371.65 (DMH 4) INV OUT 371.55
12" HDPE L=22' S=0.005	18" HDPE L=8' S=0.005
DMH 3 (DOUBLE GRATE/FLAT TOP) RIM 376.00 INV 372.80	DMH 6 RIM 377.30 INV IN 371.51 INV OUT 371.41 (RECHARGE ROW) INV OUT 370.95 (ISOLATOR ROW)
12" HDPE L=10' S=0.011	12" HDPE L=77' S=0.014 (OVERFLOW)
LEFT GARAGE DRAIN INV 374.00	DMH 7 RIM 377.5 INV IN 371.92 INV OUT 371.82
6" PVC L=57' S=0.014	12" HDPE L=97' S=0.014
RIGHT GARAGE DRAIN INV 374.00	DMH 8 RIM 376.2 INV IN 370.46 INV OUT 370.36
6" PVC L=40' S=0.020	12" HDPE L=89' S=0.014
DMH 3 RIM 376.10 INV IN 373.19 (LEFT GARAGE) INV IN 373.19 (RIGHT GARAGE) INV IN 372.69 (CB 3) INV IN 372.69 (CB 4) INV OUT 372.09	4" PVC L=10' S=0.100 (CHAMBER 4 OVERFLOW)
18" HDPE L=72' S=0.006	DMH 9 RIM 376.5 INV IN 371.50 (CHAMBER 4) INV IN 369.11 (DMH 8) INV OUT 367.20
	12" HDPE L=195' S=0.010
	FE 1 INV 365.25

LEGEND:

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---	PROPOSED GAS LINE
---	EXISTING OVERHEAD WIRES
---	PROPOSED UNDERGROUND ELECTRIC
---	PROPOSED EROSION CONTROL
---	ZONE LINE

- ### 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 CANAL STREET SHALL BE BACKFILLED AS REQUIRED BY THE TOWN OF MILLBURY.
 - 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.
 - 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.
 - SIZE OF WATER LINE MAY VARY DEPENDING ON FIRE FLOW REQUIREMENTS.
 - 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.



1	6/3/21	TOWN COMMENTS / STANTEC COMMENTS
REV. NO.	DATE	REVISION



SITE PLAN APPROVAL
MILLBURY PLANNING BOARD

DATE: _____

TITLE:
SITE DEVELOPMENT PLAN FOR 19 CANAL STREET MILLBURY, MASSACHUSETTS 01527

PREPARED FOR:
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P.O. BOX 1205
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PREPARED BY:
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325 DONALD LYNCH BOULEVARD SUITE 100
MARLBOROUGH, MASSACHUSETTS 01752

TELE. NO.: (508) 845-2500

SCALE: **1" = 30'** DATE: **APRIL 9, 2021**

UTILITY PLAN

SHEET NO.: **SHEET 5 OF 10** PROJECT NO.: **G-611**

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LAND DESIGN COLLABORATIVE
Chauncy Place | Terrace North | Suite 1
45 Lyman Street
Westborough, MA 01581

508.952.6300 | LDcollaborative.com

THE CONTENT, INFORMATION AND DESIGN OF THIS PLAN ARE PROPRIETARY AND DUBLICATION AND/OR UTILIZATION FOR ANY PURPOSES IS STRICTLY PROHIBITED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM LAND DESIGN COLLABORATIVE. ONLY APPROVED, SIGNED AND SEALED PLANS SHALL BE UTILIZED FOR CONSTRUCTION PURPOSES.
© LAND DESIGN COLLABORATIVE, LLC.

Prepared For:

Elite Home Builders
PO Box 1205
Westborough, MA 01581

Project Applicant:

Elite Home Builders
PO Box 1205
Westborough, MA 01581

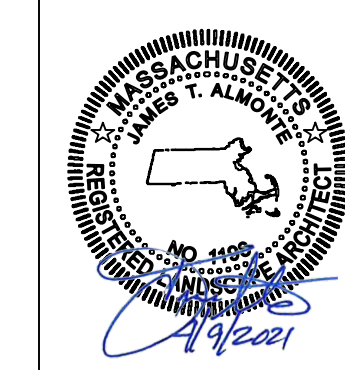
Project Title:

Canal Street
Millbury, MA
(Worcester County)

Sheet Title:

LANDSCAPE PLAN

For Discussion

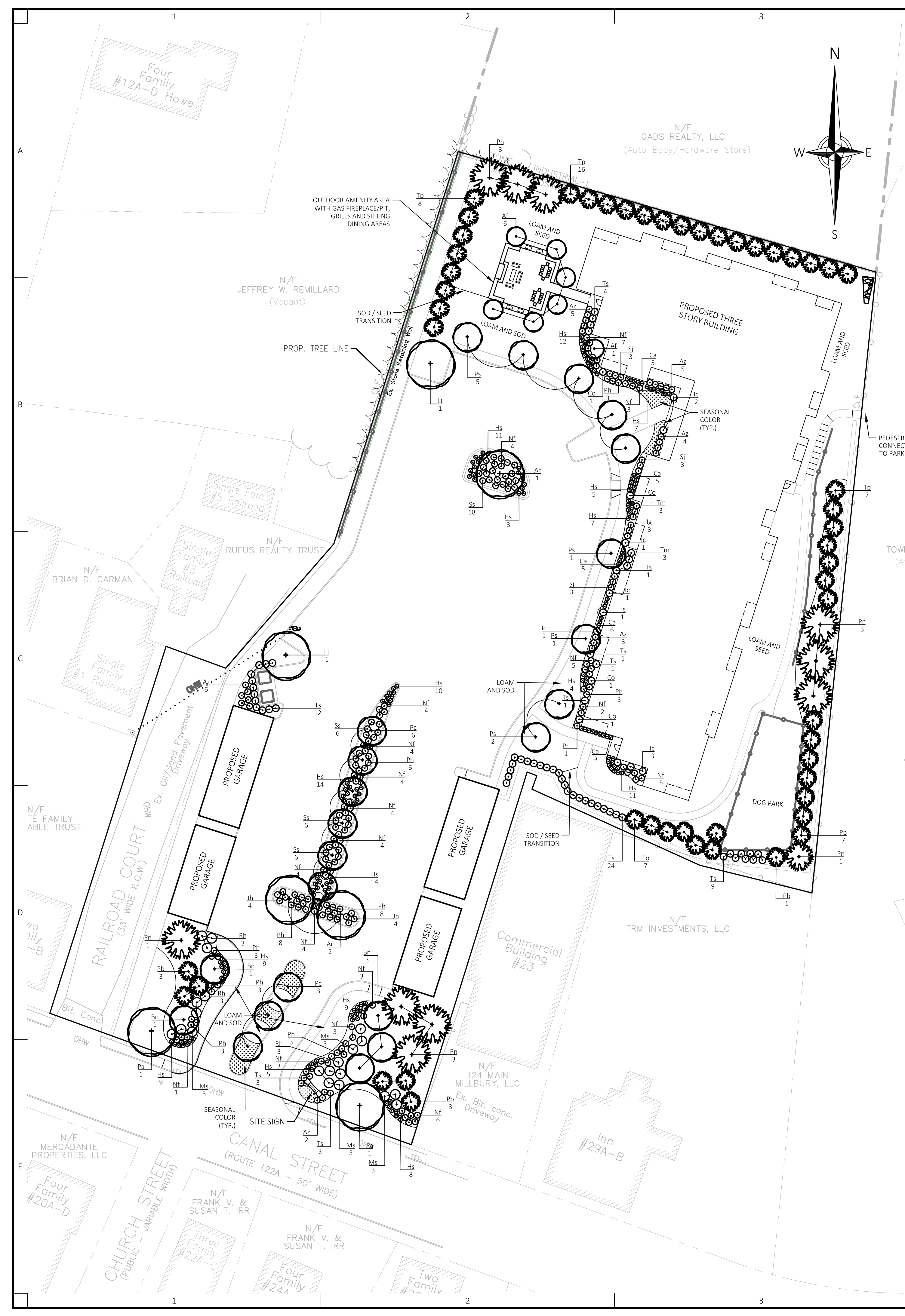


No: Date: Revision | Issue:
Drawn By: JTA Checked By: JTA
Date: 04/09/2021 Project No.: 20-0042

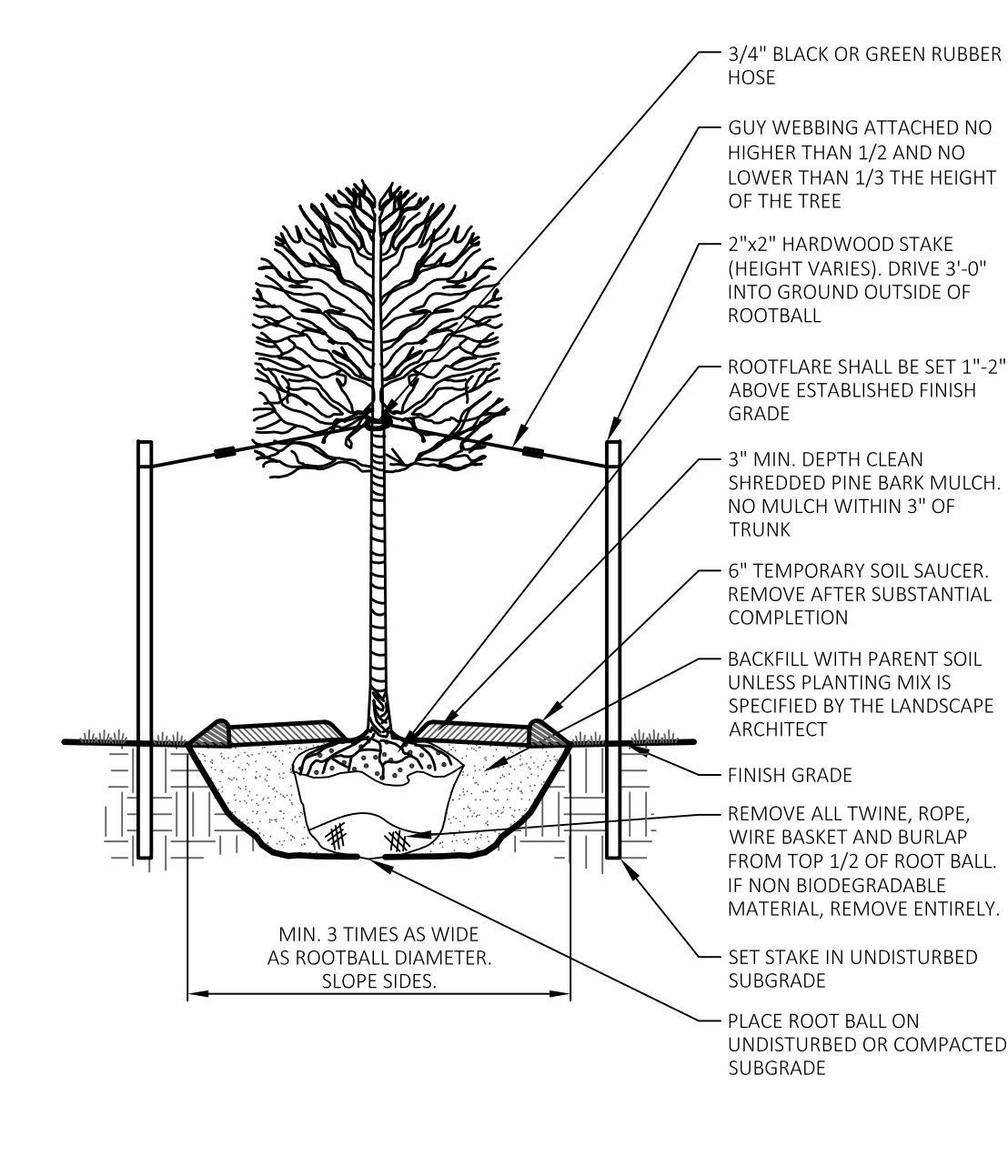
0 15' 30' 60' 90'
Scale: 1" = 30'

Sheet No.:

6 of 9

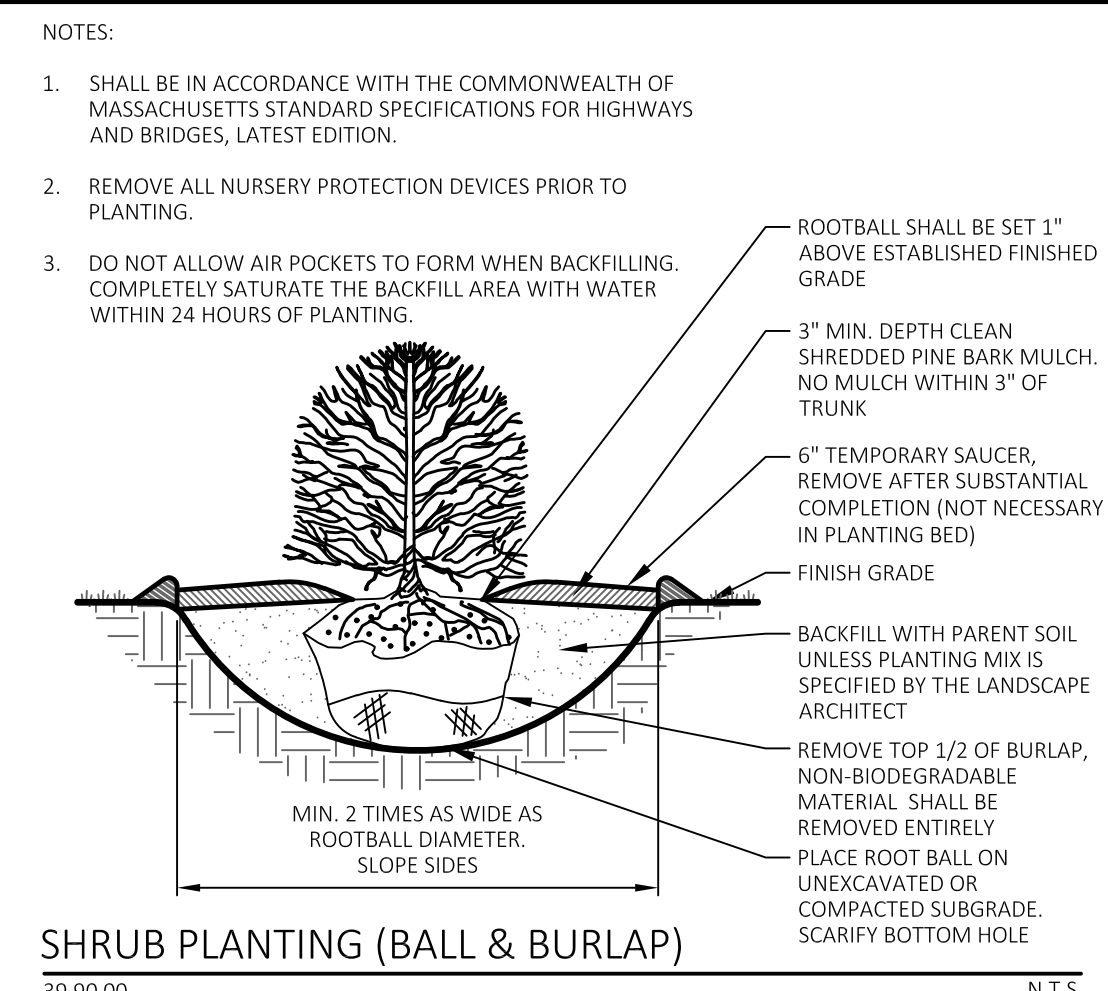


- NOTES:
- SHALL BE IN ACCORDANCE WITH THE COMMONWEALTH OF MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
 - ALL TREES SHALL CONFORM TO AAN STANDARDS PUBLICATION ANSI Z60.1.
 - TREE SHALL BE SET PLUMB AND LEVEL.
 - STAKING ONLY UPON APPROVAL OF PROJECT LANDSCAPE ARCHITECT. STAKES ARE TO BE REMOVED NO LATER THAN ONE YEAR FROM THE TIME OF PLANTING
 - REMOVE ALL NURSERY PROTECTION DEVICES PRIOR TO PLANTING.
 - DO NOT HEAVILY PRUNE TREE AT TIME OF PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS AND BROKEN OR DEAD BRANCHES. DO NOT REMOVE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN
 - DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING. COMPLETELY SATURATE THE BACKFILL AREA WITH WATER WITHIN 24 HOURS OF PLANTING.



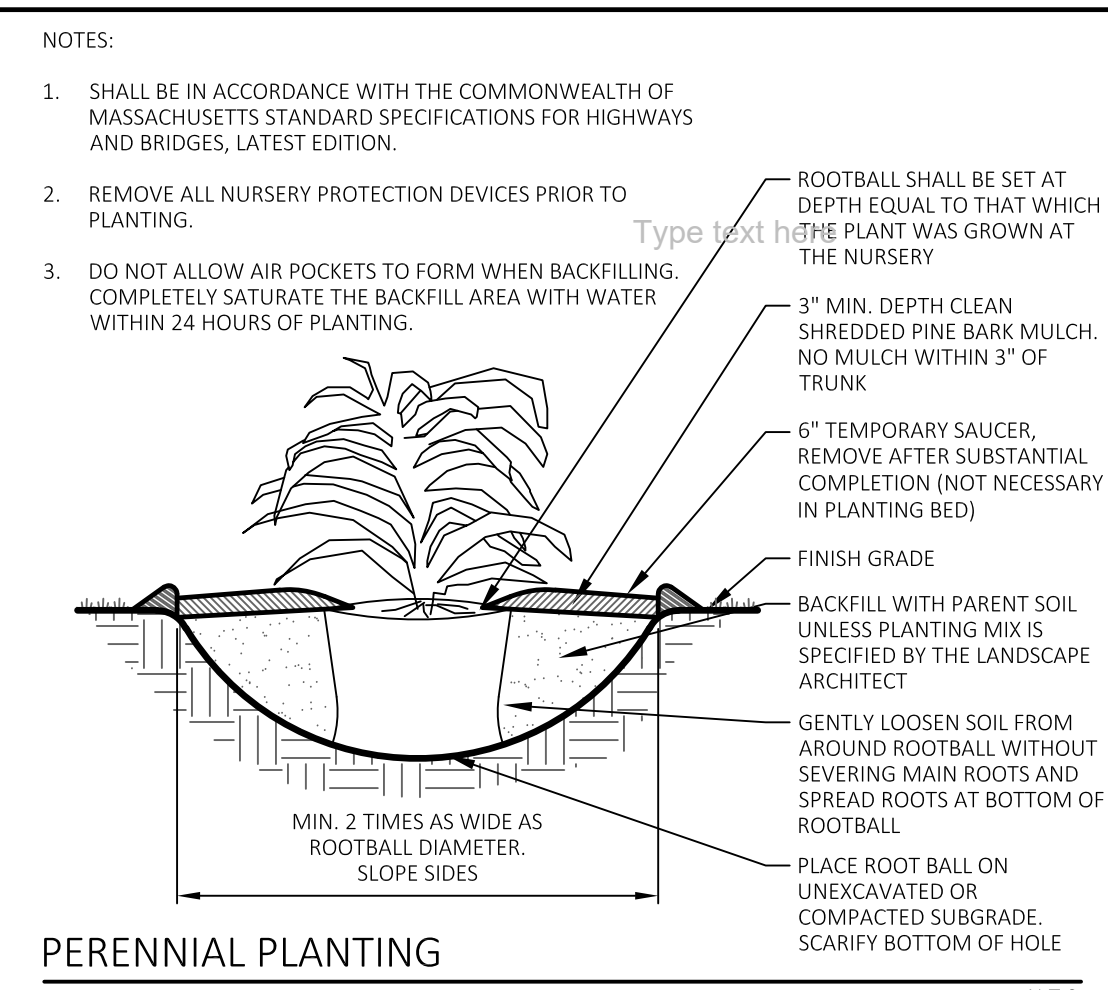
DECIDUOUS TREE PLANTING

39 90 00 N.T.S.



SHRUB PLANTING (BALL & BURLAP)

39 90 00 N.T.S.



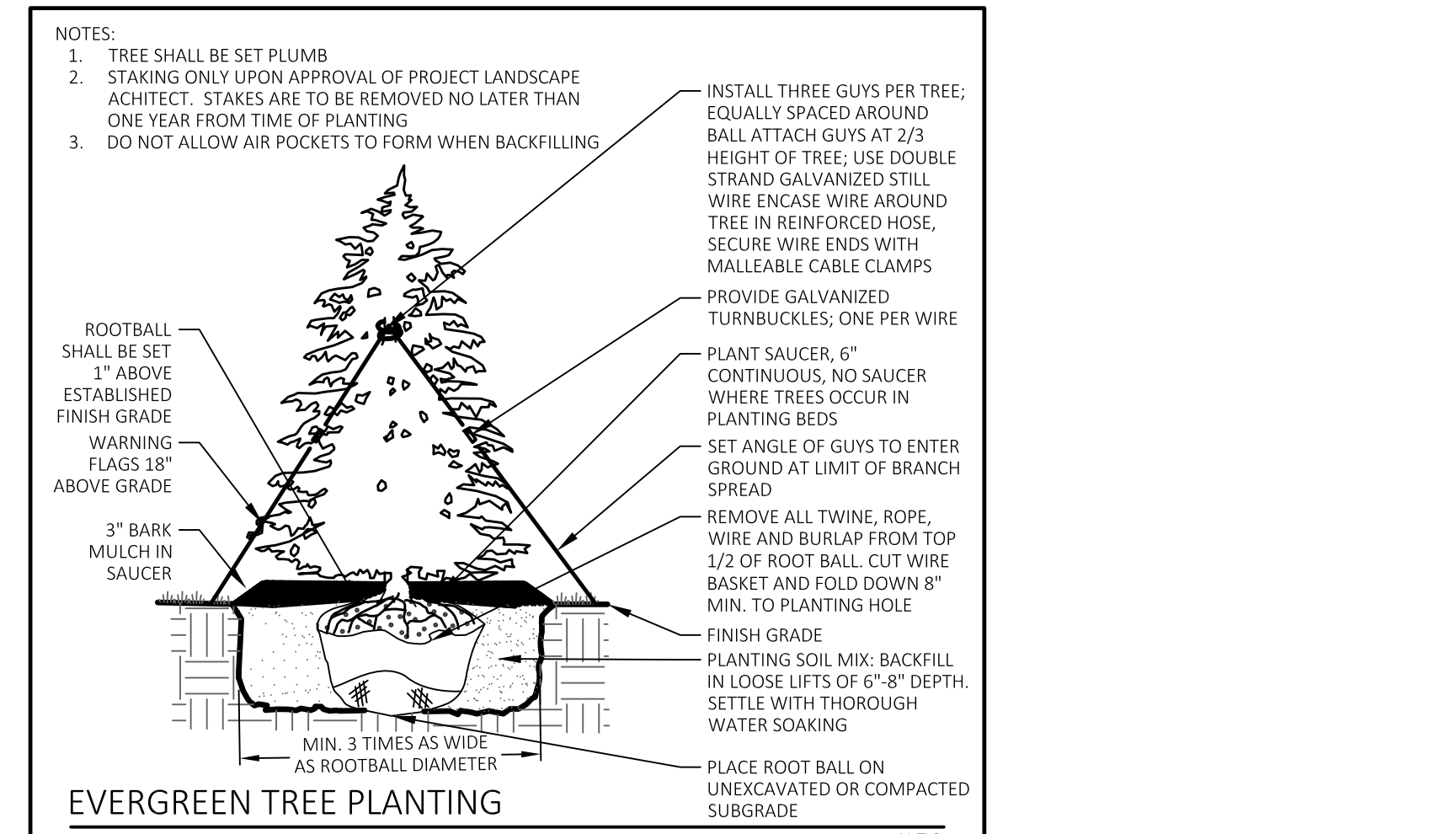
PERENNIAL PLANTING

39 90 00 N.T.S.

PLANTING NOTES:

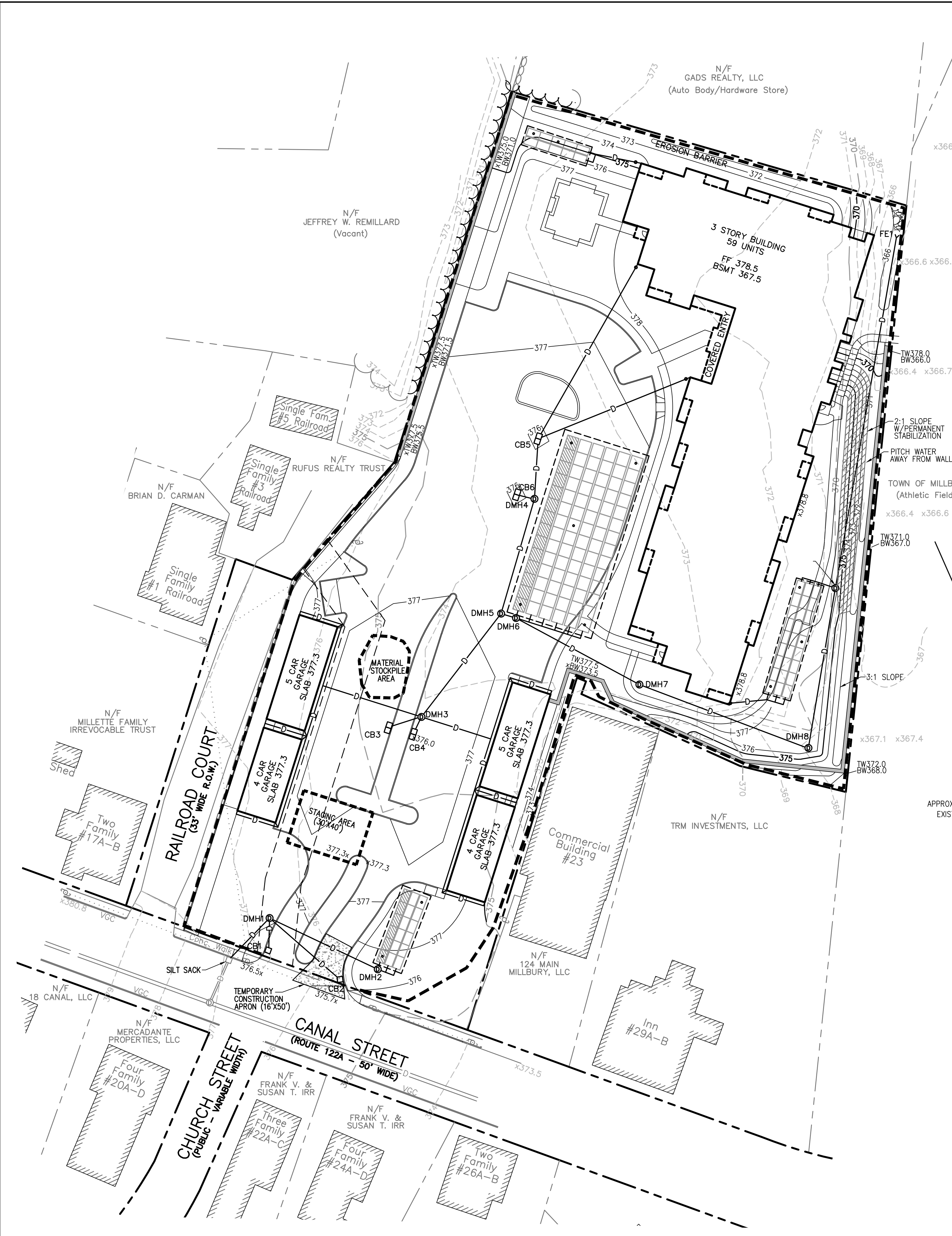
QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
DECIDUOUS TREES							
7	Af	Acer x freemani 'Autumn Blaze'	Autumn Blaze Red Maple	2" - 2.5" cal.	B&B	AS SHOWN	Limb up to 6'
3	Ar	Acer rubrum 'October Glory'	October Glory Red Maple	2" - 2.5" cal.	B&B	AS SHOWN	Limb up to 6'
5	Bn	Betula nigra 'Heritage'	Heritage River Birch	2" - 2.5" cal.	B&B	AS SHOWN	Limb up to 6'
3	Lt	Liriodendron tulipifera	Tulip Tree	2" - 2.5" cal.	B&B	AS SHOWN	Limb up to 6'
2	Pa	Platanus x acerifolia 'Bloodgood'	London Plane Tree	2" - 2.5" cal.	B&B	AS SHOWN	Limb up to 6'
9	Ps	Prunus sargentii 'Columbianus'	Columbian Sargent Cherry	2" - 2.5" cal.	B&B	AS SHOWN	Limb up to 6'
9	Pc	Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear	2" - 2.5" cal.	B&B	AS SHOWN	Limb up to 6'
EVERGREEN TREES							
8	Pn	Picea abies	Norway Spruce	7" - 8" ht.	B&B	AS SHOWN	AS SHOWN
14	Pb	Picea pungens 'Baby Blue Eyes'	Baby Blue Eyes Colorado Spruce	5" - 6" ht.	B&B	AS SHOWN	AS SHOWN
14	Ts	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae	7" - 8" ht.	B&B	AS SHOWN	AS SHOWN
7	To	Thuja occidentalis 'Techny'	Techny American Arborvitae	7" - 8" ht.	B&B	AS SHOWN	AS SHOWN
31	Tp	Thuja plicata	Giant Arborvitae	7" - 8" ht.	B&B	AS SHOWN	AS SHOWN
SHRUBS							
25	Az	Azalea 'Karen'	Karen Azalea	18"-24" ht.	CONTAINER	AS SHOWN	AS SHOWN
4	Co	Chamaecyparis obtusa 'Nana Gracilis'	Dwarf Hinoki Cypress	4'-5' ht.	CONTAINER	AS SHOWN	AS SHOWN
8	Ic	Ilex crenata 'Stededa'	Stededa Japanese Holly	3'-4' ht.	B&B	AS SHOWN	AS SHOWN
3	Ig	Ilex glabra 'Compacta'	Compact Holly	18"-24" ht.	B&B	AS SHOWN	AS SHOWN
8	Jh	Juniperus horizontalis compacta andorra	Andorra Juniperus	18"-24" sp.	CONTAINER	AS SHOWN	AS SHOWN
9	Rh	Rhododendron catawbiense 'Boursault'	Boursault Rhododendron	3'-4' ht.	B&B	AS SHOWN	AS SHOWN
9	Sj	Spirea japonica 'Goldflame'	Goldflame Spirea	18"-24" ht.	CONTAINER	AS SHOWN	AS SHOWN
6	Tm	Taxus media 'Densiformis'	Densiformis Spreading Japanese Yew	15"-18" ht.	B&B	AS SHOWN	AS SHOWN
ANNUALS, PERENNIALS AND ORNAMENTAL GRASSES							
30	Ca	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	#2	CONTAINER	AS SHOWN	AS SHOWN
143	Hs	Hemerocallis 'Stella D'Oro'	Stella D'Oro Daylily	#2	CONTAINER	AS SHOWN	AS SHOWN
12	Ms	Miscanthus sinensis 'Gracillimus'	Maiden Grass	#2	CONTAINER	AS SHOWN	AS SHOWN
70	Nf	Nepeta faassenii 'Blue Wonder'	Blue Wonder Cat Mint	#2	CONTAINER	AS SHOWN	AS SHOWN
44	Ph	Pennisetum alopecuroides 'Hamel'	Hamel Fountain Grass	#2	CONTAINER	AS SHOWN	AS SHOWN
36	Ss	Schizachyrium scoparium 'Standing Ovation'	Standing Ovation Little Bluestem	#2	CONTAINER	AS SHOWN	AS SHOWN

- PLANTING NOTES:
- ALL PLANT MATERIAL SHALL MEET THE THE SPECIFICATIONS AND GUIDELINES OF THE AMERICAN STANDARD FOR NURSERY STOCK ISSUED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
 - ANY PROPOSED SUBSTITUTION OF PLANT MATERIAL SHALL BE EQUAL IN OVERALL SIZE, HEIGHT, LEAF, FORM, BRANCHING HABIT, FRUIT, FLOWER, COLOR, AND CULTURE. ALL PROPOSED SUBSTITUTIONS SHALL BE REVIEWED AND APPROVED IN WRITING BY LANDSCAPE ARCHITECT PRIOR TO PURCHASING.
 - FINAL QUANTITIES FOR EACH PLANT TYPE SHALL BE AS GRAPHICALLY SHOWN ON THE PLANS. THIS NUMBER SHALL TAKE PRECEDENCE IN CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND ON THE PLAN. THE LANDSCAPE CONTRACTOR SHALL REPORT AND DISCREPANCIES BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLANT LIST AND PLANT LABELS PRIOR TO BIDDING.
 - THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL AT THE SITE. MATERIAL SHALL BE REMOVED FROM THE PROPERTY BY THE LANDSCAPE CONTRACTOR AND REPLACED WITH PLANT MATERIAL APPROVED BY LANDSCAPE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
 - ALL TREES SHALL BE BAILED AND BURLAPPED UNLESS OTHERWISE SPECIFIED.
 - THE LANDSCAPE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL BELOW AND ABOVE GRADE UTILITIES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS.
 - ALL TREE PLANTINGS TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION FROM PROPOSED AND EXISTING SEWER AND WATER LINES.
 - ALL PLANTING BEDS ARE TO BE CROWNED WITH TOPSOIL AND MULCH ABOVE ADJACENT AREAS.
 - NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICT.
 - THE LANDSCAPE CONTRACTOR SHALL LAYOUT ALL PLANT MATERIAL AS SHOWN ON THE PLANS AND SHALL NOTIFY THE LANDSCAPE ARCHITECT A MINIMUM OF 48 HOURS PRIOR TO INSTALLATION FOR FIELD REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
 - PROVIDE A 3" DEPTH OF MULCH AS SHOWN ON THE PLANTING DETAILS UNDER AND AROUND ALL PLANT MATERIAL AND IN ALL PLANT BEDS AND LANDSCAPE ISLANDS. MULCH SHALL BE CLEAN, SHREDDED PINE BARK MULCH UNLESS OTHERWISE SPECIFIED. PRIOR TO SPREADING MULCH, APPLY A WEED PRE-EMERGENT SUCH AS "PREEM" OR APPROVED EQUAL. FOLLOW MANUFACTURER'S APPLICATION INSTRUCTIONS.
 - ALL TREES ADJACENT TO SIDEWALKS SHALL HAVE A 6"-8" MINIMUM BRANCHING HEIGHT AT TIME OF PLANTING.
 - LAWN AND DISTURBED SHALL RECEIVE A MINIMUM OF 6" OF LOAM AND SPECIFIED SEED MIX UNLESS OTHERWISE NOTED. AREAS OVER 2:1 SLOPE SHALL BE PROTECTED WITH EROSION CONTROL FABRIC.
 - THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE MAINTENANCE OF THE PLANT MATERIAL AND LAWN AREAS UNTIL DATE OF FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT. WATERING SHALL BE PROVIDED DURING THE FIRST GROWING SEASON WHEN NATURAL RAINFALL IS BELOW ONE INCH PER WEEK.
 - IF AN IRRIGATION SYSTEM IS PROVIDED THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL COORDINATION WITH THE IRRIGATION CONTRACTOR TO PROVIDE OTHER IRRIGATION TO ALL TREES, PLANT BEDS AND LAWN AREAS UNLESS OTHERWISE NOTED. IRRIGATION DESIGN AND PERMITTING TO BE PROVIDED BY OTHERS.
 - ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE LANDSCAPE CONTRACTOR FOR A PERIOD OF ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT. ALL REPLACEMENTS SHALL BE AT NO ADDITIONAL COST TO OWNER.



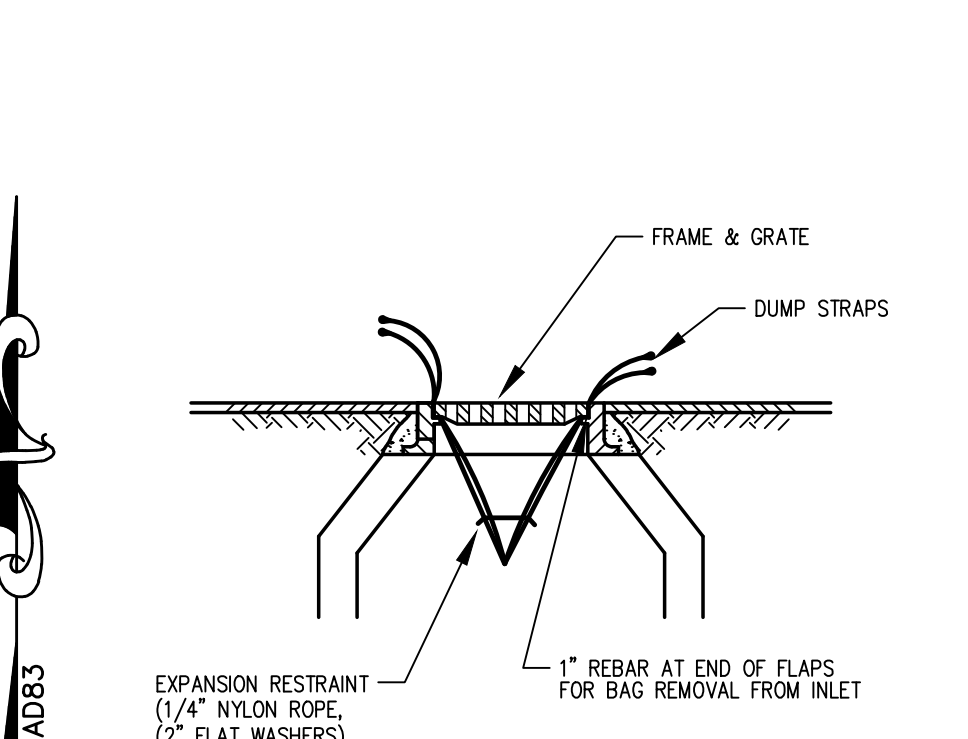
EVERGREEN TREE PLANTING

32 90 00 - EVERGREEN TREE PLANTING N.T.S.

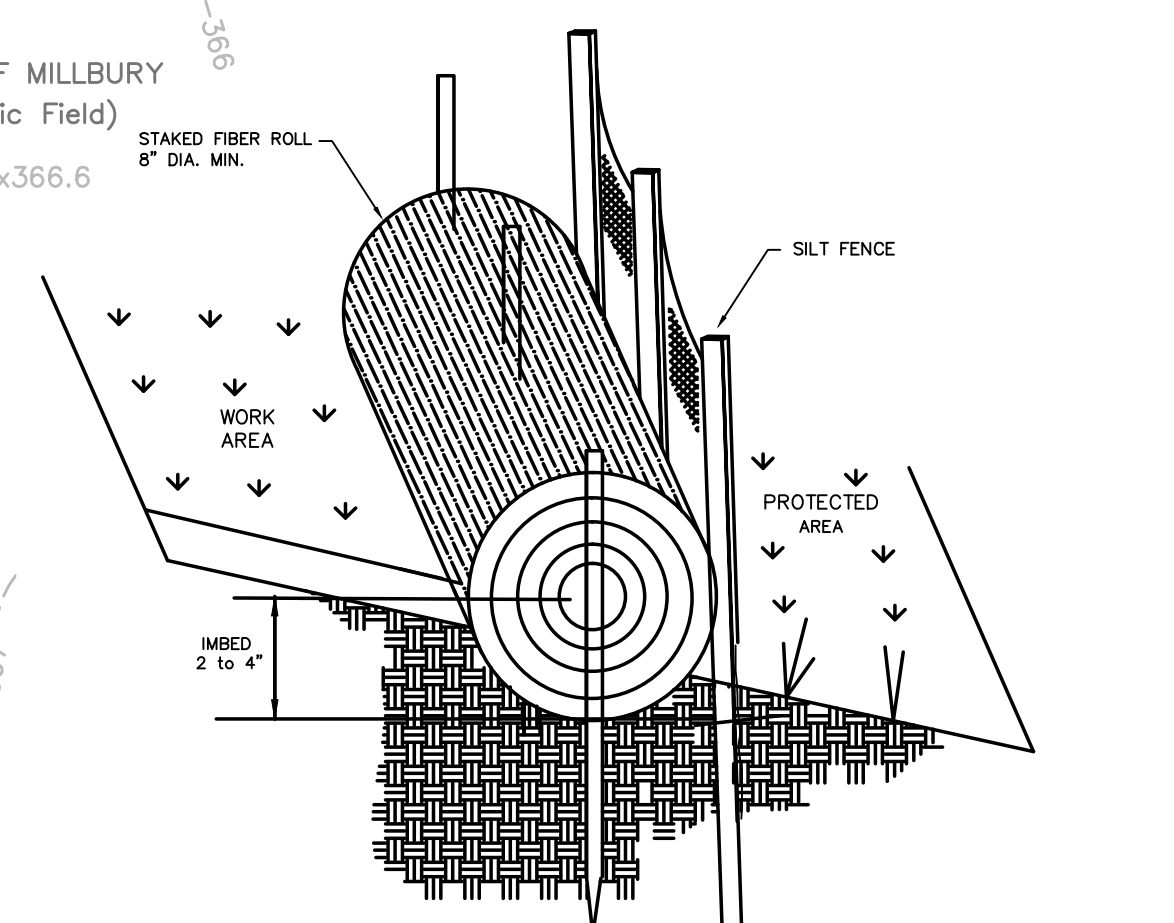


CONSTRUCTION SEQUENCING

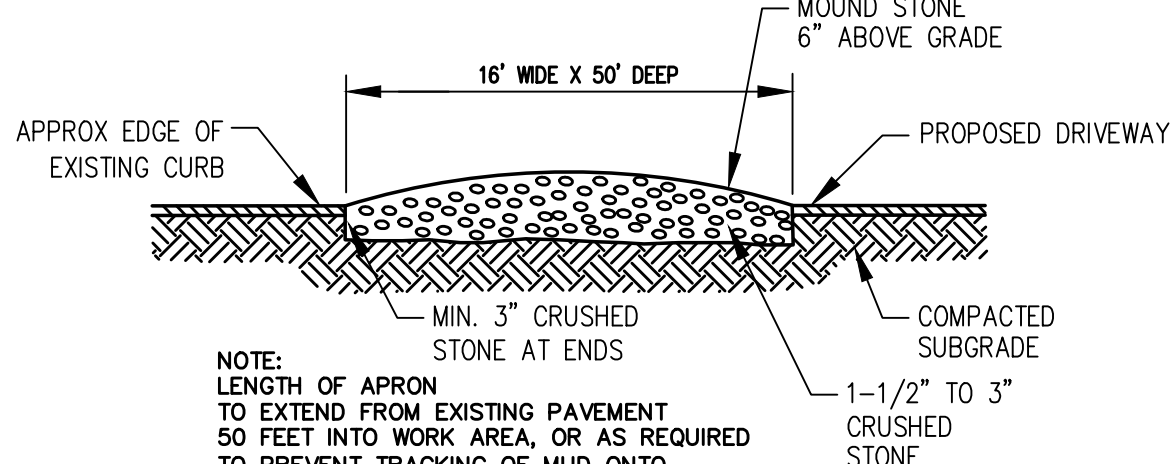
1. SELECTIVELY CUT TREES AND CLEAR BRUSH TO BE CHIPPED AND HAULLED OFF SITE.
2. STAKE LOCATION OF AND INSTALL EROSION CONTROL AS DELINEATED ON SITE PLAN.
3. STRIP TOP AND SUBSOIL AS NECESSARY IN WORK AREA. STOCKPILE MATERIAL ON CENTRAL PORTION OF LOT FOR BACKFILLING PURPOSES AT COMPLETION OF CONSTRUCTION.
4. 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.
5. CONSTRUCT BUILDING AND INSTALL UTILITIES. SUBSURFACE DRAINAGE SYSTEM 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.
6. INSTALL FINISH PAVEMENT, CURBING AND LANDSCAPING.



SILT SACK DETAIL
NOT TO SCALE



SILT FENCE/STRAW WATTLE BARRIER DETAIL
NOT TO SCALE



CONSTRUCTION ENTRANCE APRON
NOT TO SCALE

- STORMWATER COLLECTION & TREATMENT SYSTEM INSPECTION & MAINTENANCE GUIDELINES**
1. 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.
 2. The catch basins throughout the entire site shall be inspected annually. Unit shall be cleaned when accumulated sediments reach a depth of 6 inches. Accumulated sediment must be disposed of in accordance with applicable local, state, and federal guidelines and regulations. The contractor will be responsible for the maintenance of the unit until such time as the site work is complete. The maintenance will then be the responsibility of the owner(s).
 3. The Stormceptor units shall be inspected and cleaned as recommended by the manufacturer.
 4. The subsurface infiltration systems 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.
 5. 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.

GENERAL:

1. 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:

1. 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.
2. THE CONTRACTOR SHALL ESTABLISH A STAGING AREA AS SHOWN ON THE PLAN FOR THE OVERNIGHT STORAGE OF EQUIPMENT AND STOCKPILING OF MATERIALS.
3. 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.
4. 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.
5. 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:

1. 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.
2. IF INTENSE RAINFALL IS ANTICIPATED, THE INSTALLATION OF SUPPLEMENTAL HAY BALE DIKES, SILT FENCES, OR ARMORED DIKES SHALL BE UTILIZED.
3. 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:

1. 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.
2. 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.
3. THE EXISTING SOIL CONDITIONS PROVIDE THE POTENTIAL OF RUNOFF TO OFF-SITE AREAS WITH EROSION POTENTIAL.
4. 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.
5. 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.
6. 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:

1. 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.
2. NO ON-SITE DISPOSAL OF STUMPS, SOLID WASTE, INCLUDING CONSTRUCTION MATERIALS IS ALLOWED.
3. 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.
4. 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.
5. THE CONTRACTOR SHALL UNDERTAKE ALL WORK TO LIMIT AIRBORNE SEDIMENTS, ONLY CLEAN, POTABLE WATER MAY BE USED TO CONTROL DUST.

LANDSCAPING:

1. LANDSCAPING SHALL OCCUR AS SOON AS POSSIBLE TO PROVIDE PERMANENT STABILIZATION OF DISTURBED SURFACES.
2. 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.
3. 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.
4. ALL DISTURBED SURFACES TO BE PLANTED SHALL RECEIVE A MINIMUM OF 6" TOPSOIL SHALL BE PLACED AND ITS SURFACE SMOOTHED TO THE SPECIFIED GRADES.
5. ALL SLOPES OF 2:1 OR GREATER SHALL BE STABILIZED WITH EROSION CONTROL FABRIC.
6. SEED APPLICATIONS SHALL BE IN ACCORDANCE WITH THE GRASS AND SLOPE COVER SPECIFICATIONS.
7. TO ENSURE A DENSE, SUCCESSION GROWTH, SEED IS REQUIRED ON ALL DISTURBED SURFACES.

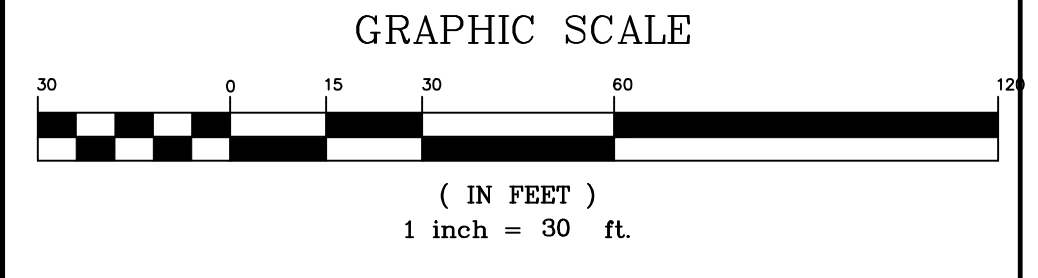


SITE PLAN APPROVAL
MILLBURY PLANNING BOARD

DATE: _____

LEGEND:

- EXISTING PROPERTY LINE
- - - EXISTING EASEMENT LINE
- - - PROPOSED EASEMENT LINE
- 370- EXISTING CONTOUR - HIGH
- 368- EXISTING CONTOUR - LOW
- 370- PROPOSED CONTOUR - HIGH
- 368- PROPOSED CONTOUR - LOW
- EXISTING EDGE PAVEMENT
- EXISTING CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED GRANITE CURB
- EXISTING TREE LINE
- 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 GAS LINE
- PROPOSED GAS LINE
- EXISTING OVERHEAD WIRES
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED EROSION CONTROL
- ZONE LINE



REV. NO.	DATE	REVISION
1	6/3/21	TOWN COMMENTS / STANTEC COMMENTS

TITLE:
SITE DEVELOPMENT PLAN
FOR
19 CANAL STREET
MILLBURY, MASSACHUSETTS 01527

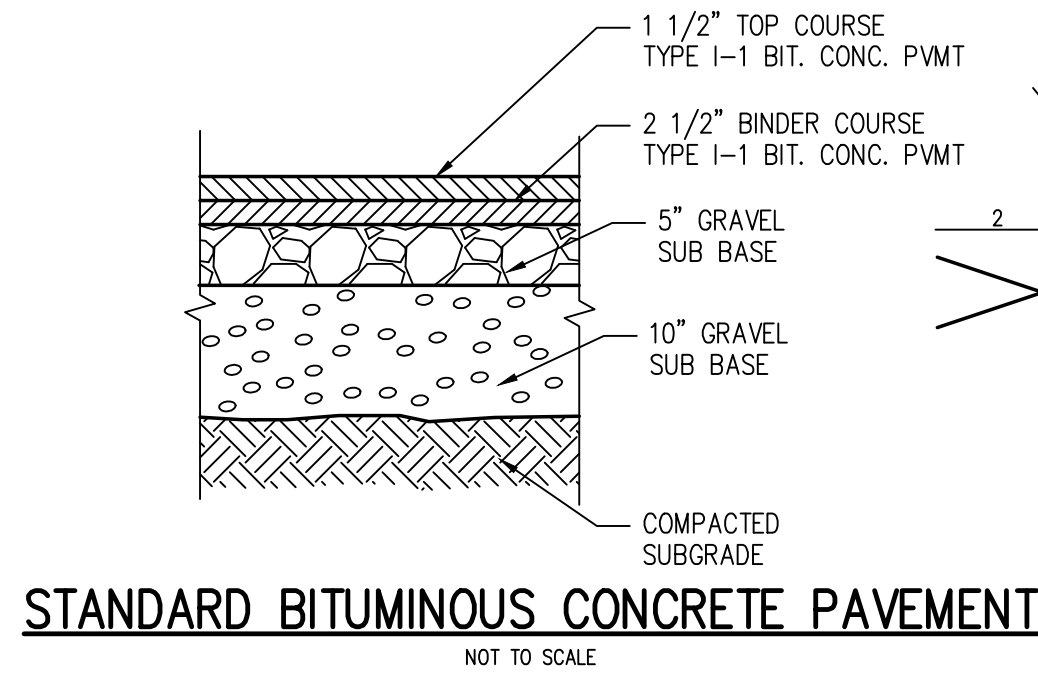
PREPARED FOR:
ELITE HOME BUILDERS, LLC
P.O. BOX 1205
WESTBOROUGH, MASSACHUSETTS 01581

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

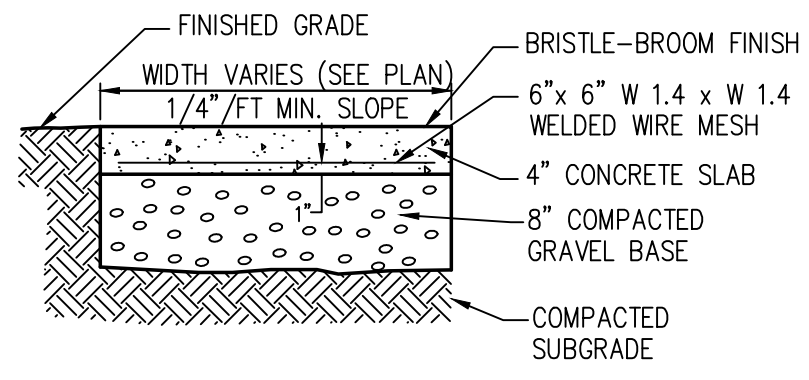
TELE. NO.: (508) 845-2500
SCALE: 1" = 30'
DATE: APRIL 9, 2021

EROSION & SEDIMENTATION CONTROL PLAN

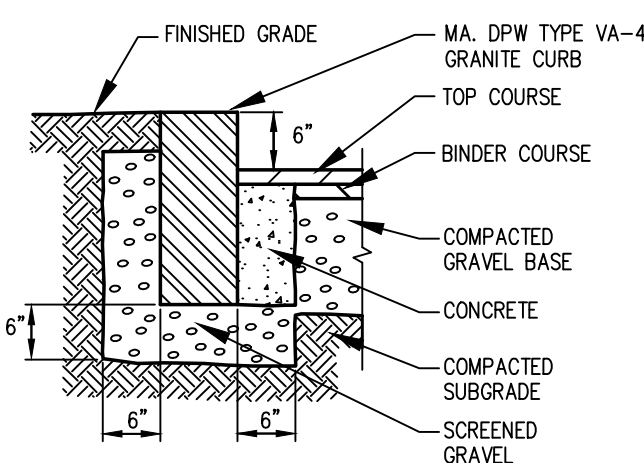
SHEET NO.: SHEET 7 OF 10
PROJECT NO.: G-611



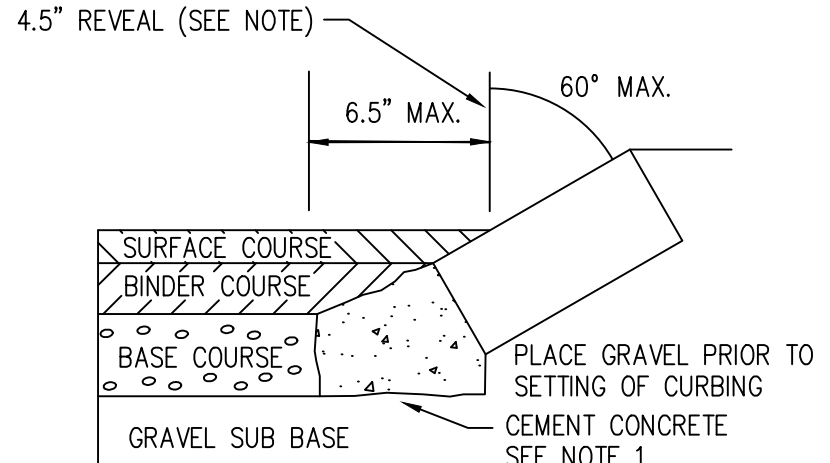
STANDARD BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE



CEMENT CONCRETE WALK
NOT TO SCALE

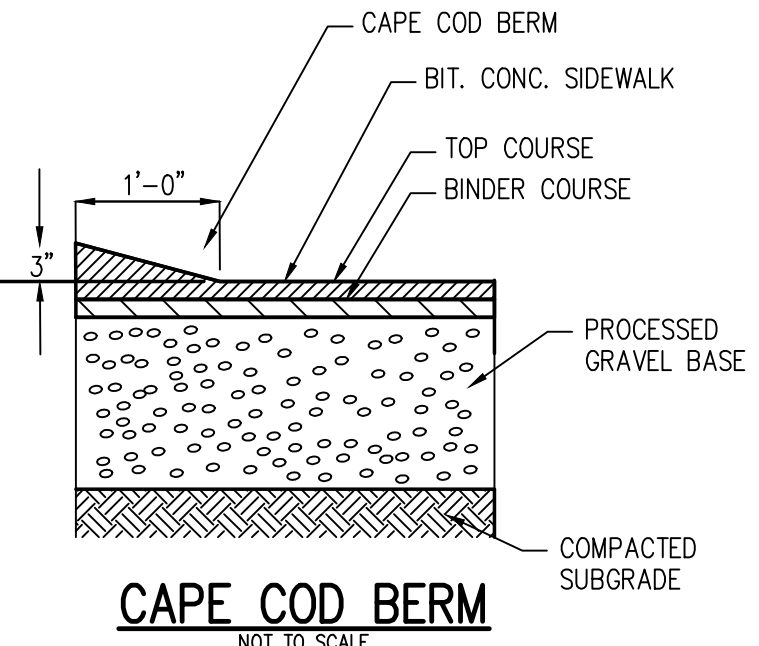


VERTICAL GRANITE CURB
NOT TO SCALE

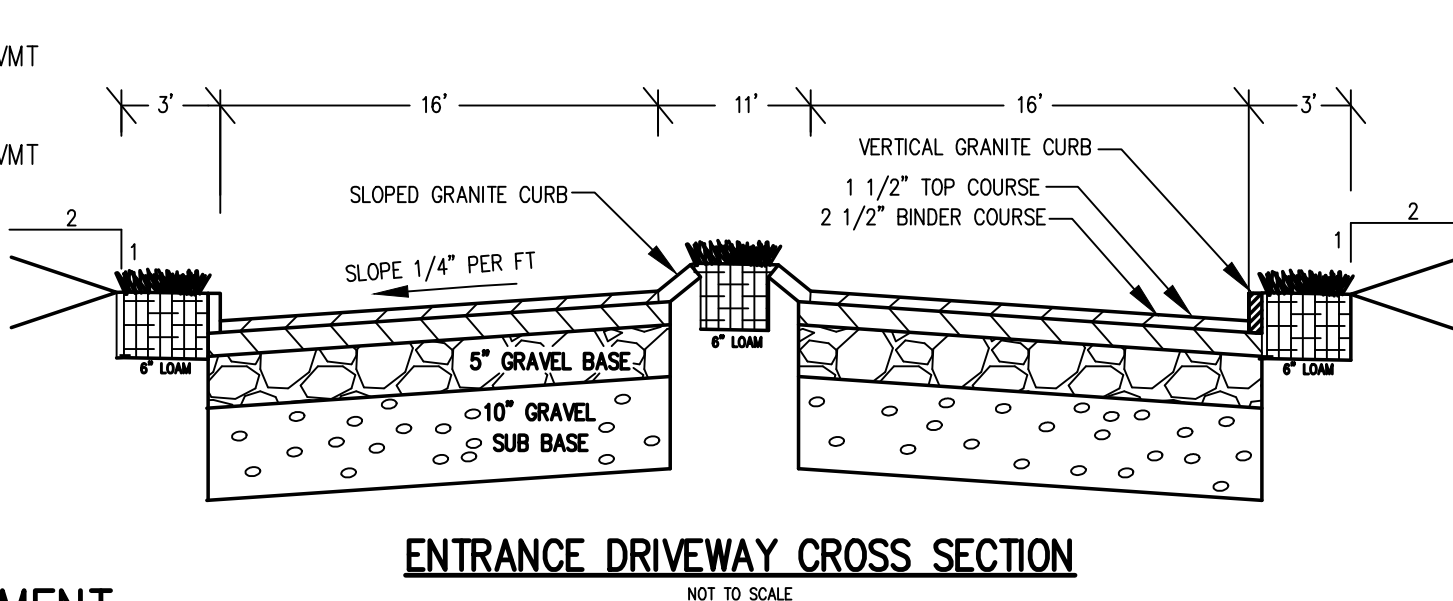


SLOPED GRANITE CURB
NOT TO SCALE

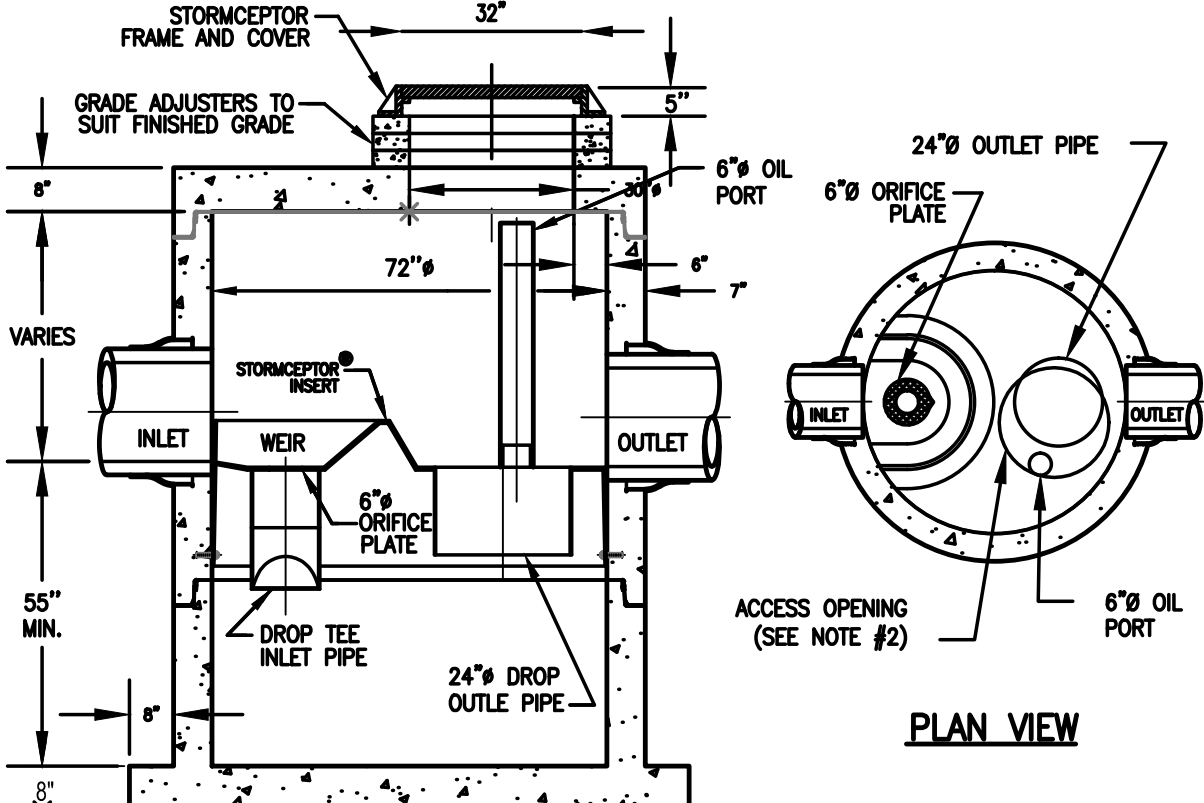
- NOTES:
- ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE TO THE DEPARTMENT UNDER SECTION 144 OF THE STANDARD SPECIFICATIONS, ALL TEST REQUIREMENTS ARE WAIVED, BITUMINOUS CONCRETE IS NOT TO BE USED AS A SUBSTITUTE.
 - THE REVEAL IS TO BE 4.5" UNDER ALL CONDITIONS.



CAPE COD BERM
NOT TO SCALE



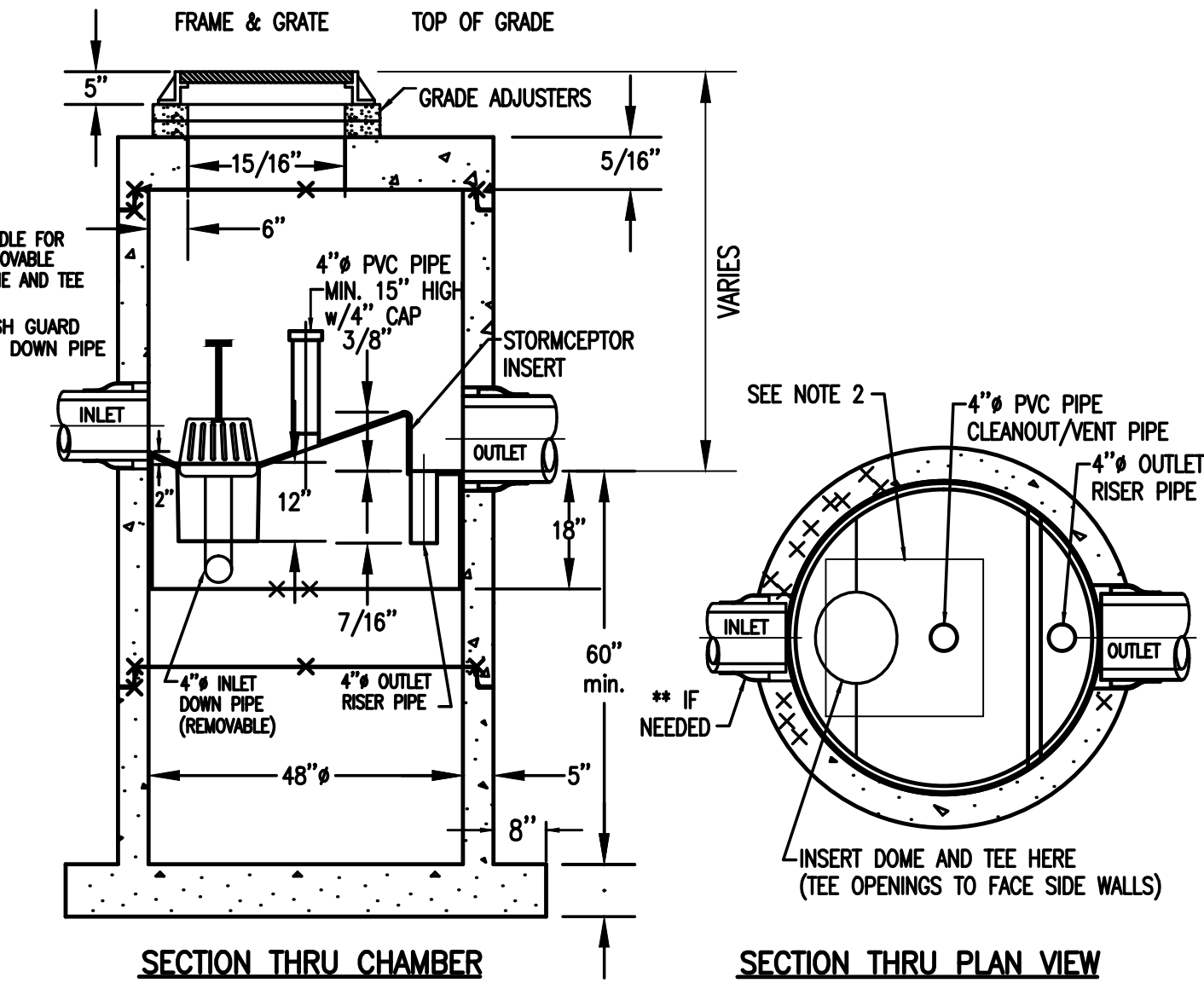
ENTRANCE DRIVEWAY CROSS SECTION
NOT TO SCALE



SECTION THRU CHAMBER

PRECAST CONCRETE STORMCEPTOR
MODEL: STC 900 (OR EQUAL)
(900 US GALLON CAPACITY)

- NOTES:
- THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE OUTLET WHERE APPLICABLE.
 - THE COVER SHOULD BE POSITIONED OVER THE 4" CLEANOUT/VENT PIPE AND THE 4" INLET DOWN PIPE.
 - THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.

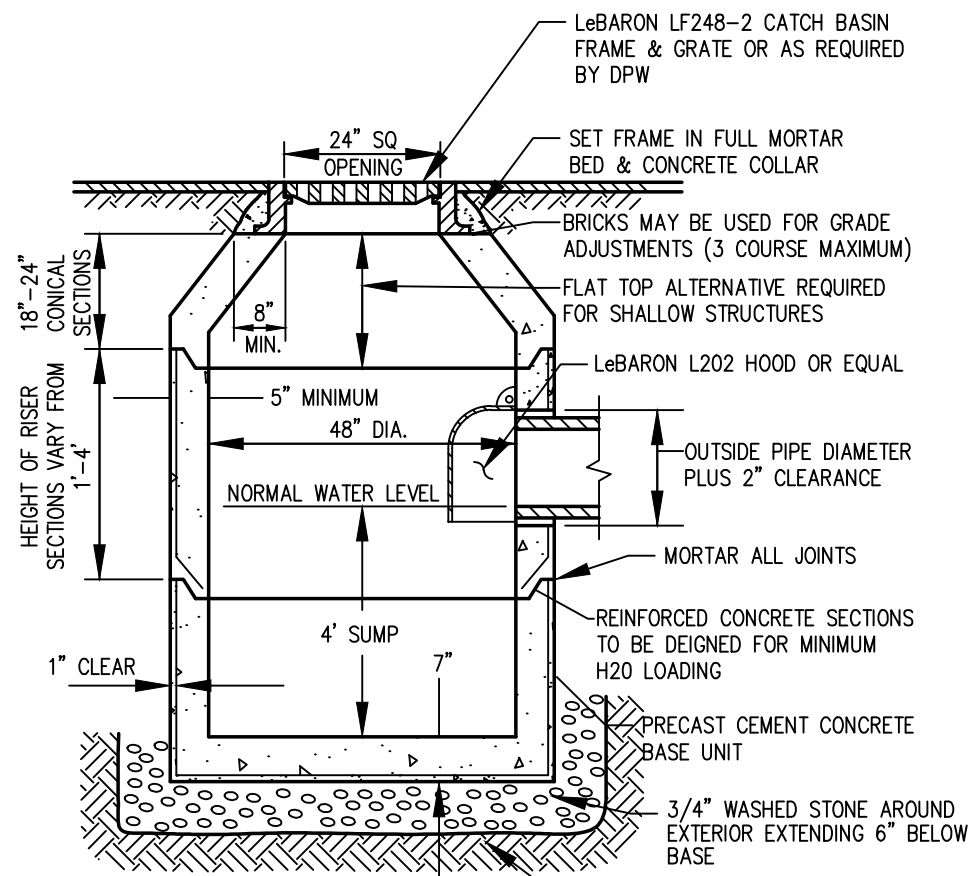


SECTION THRU CHAMBER

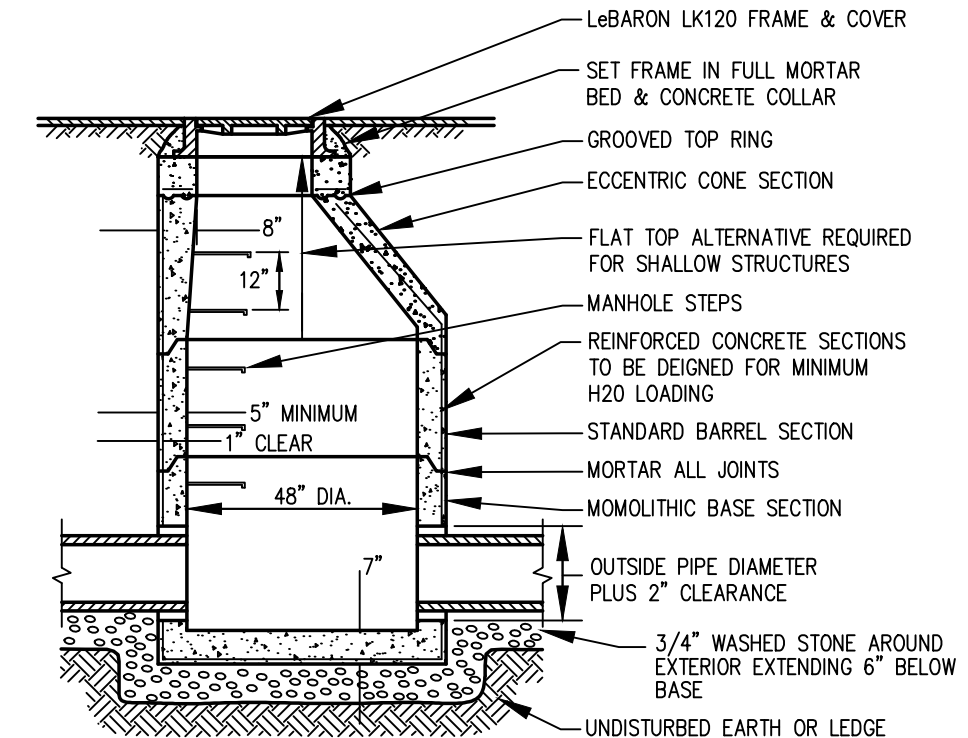
SECTION THRU PLAN VIEW

PRECAST CONCRETE STORMCEPTOR HYDRO CONDUIT
MODEL: STC 450i (OR EQUAL)
(450 US Gallon Capacity)

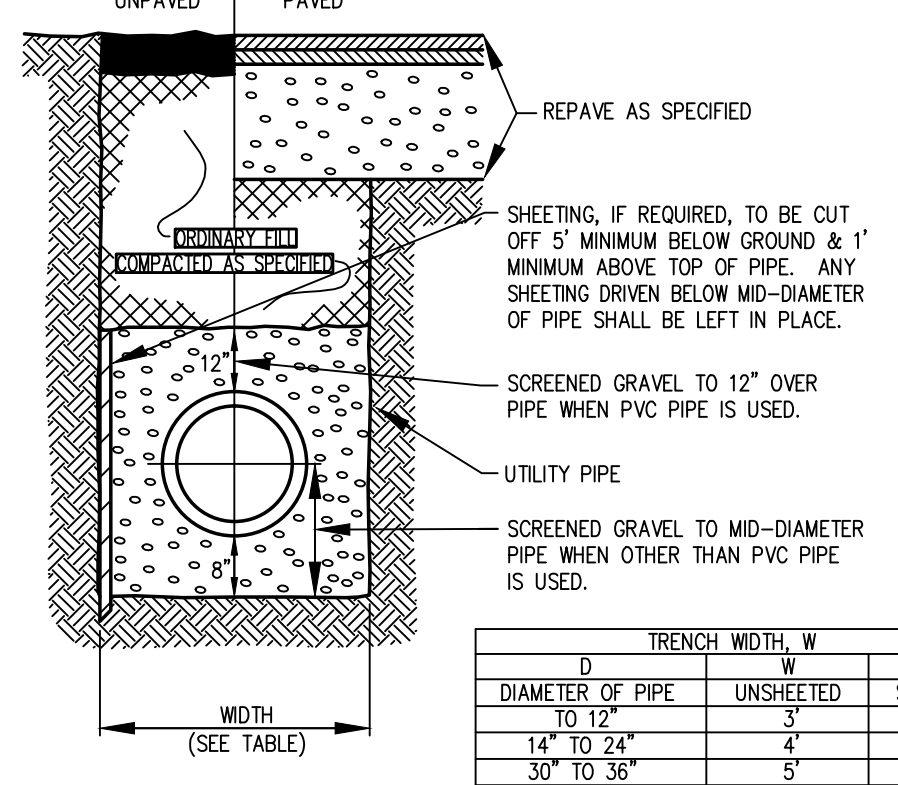
- NOTES:
- THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE OUTLET WHERE APPLICABLE.
 - THE COVER SHOULD BE POSITIONED OVER THE 4" CLEANOUT/VENT PIPE AND THE 4" INLET DOWN PIPE.
 - THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.



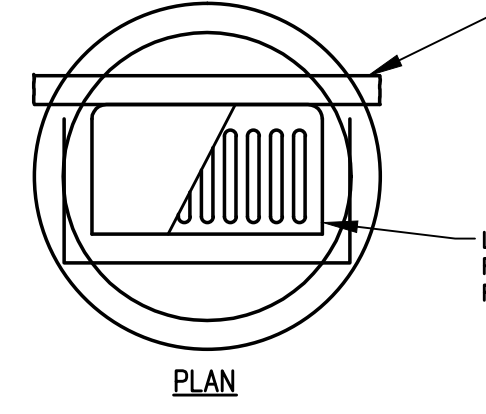
PRECAST CONCRETE CATCH BASIN
NOT TO SCALE



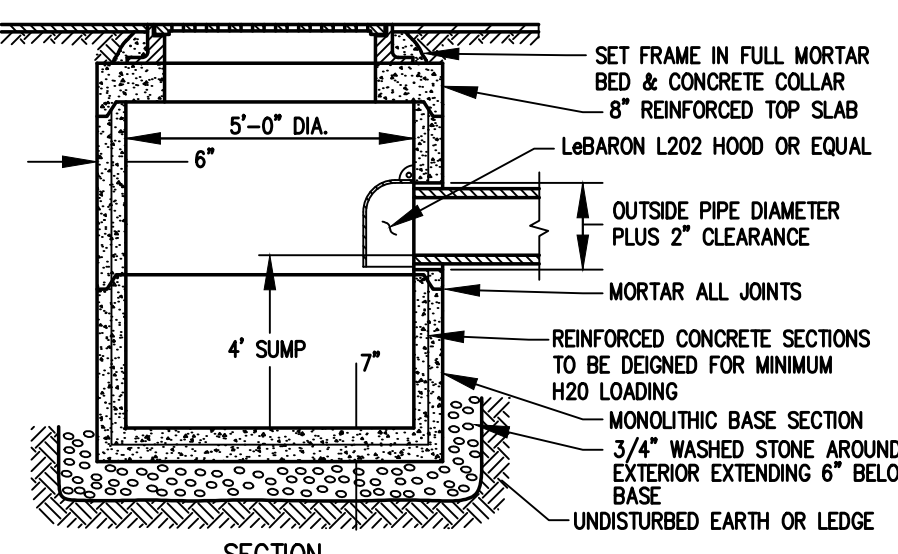
PRECAST CONCRETE DRAIN MANHOLE
NOT TO SCALE



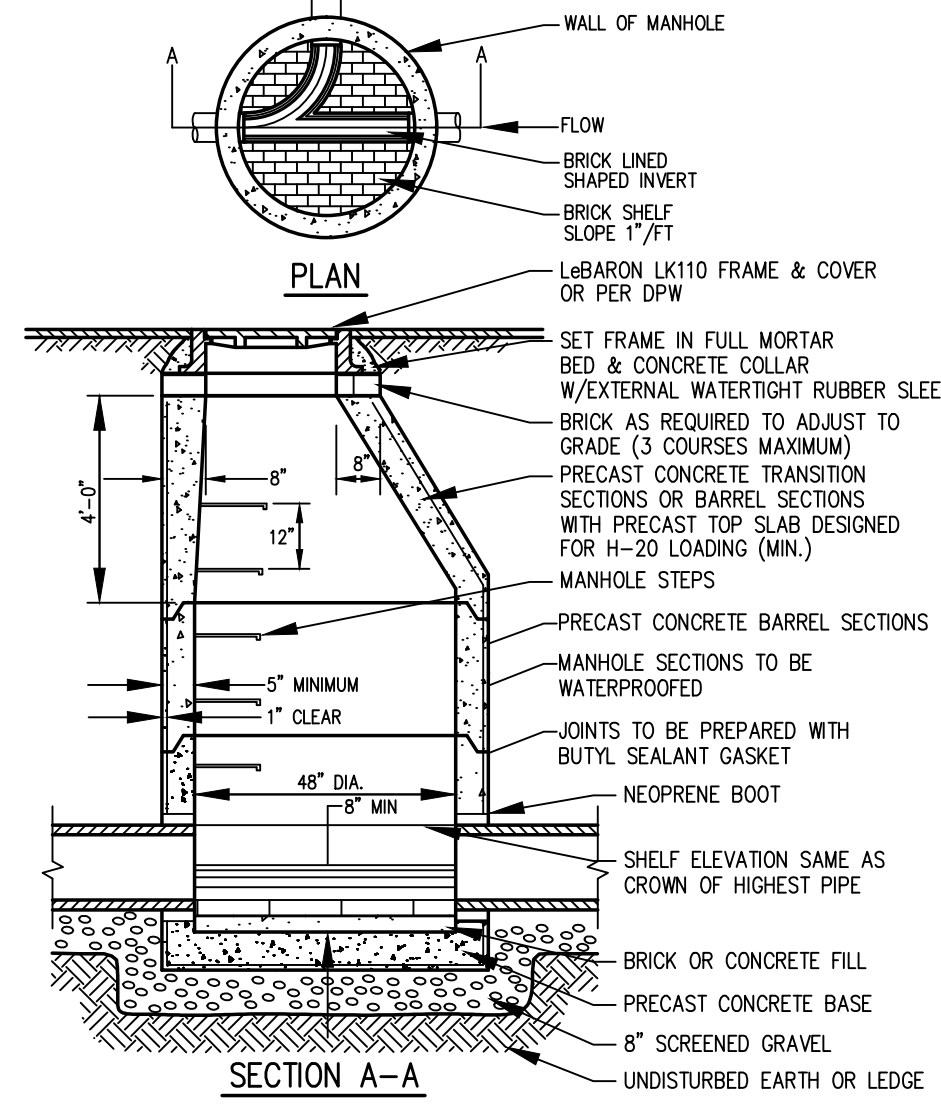
TYPICAL TRENCH SECTION
NOT TO SCALE



DOUBLE GRATE
NOT TO SCALE



FLAT TOP CATCH BASIN
NOT TO SCALE



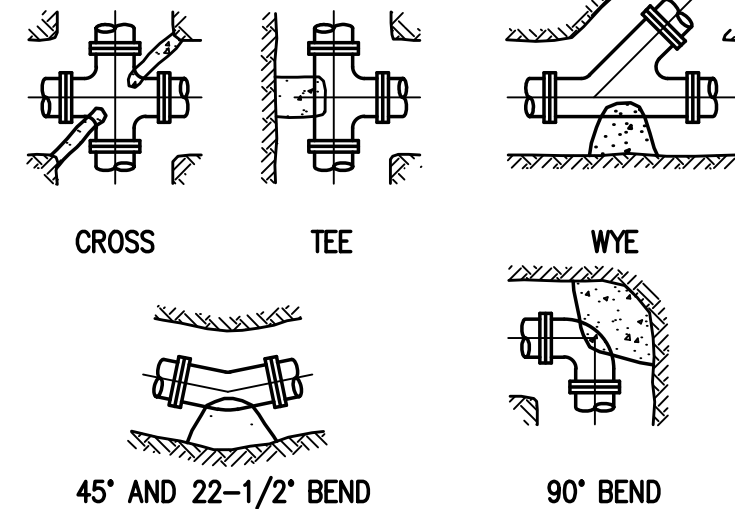
PRECAST SEWER MANHOLE
NOT TO SCALE

- NOTES:
- EXTERNAL RUBBER BAND SEAL BY SSI OR APPROVED EQUAL SHALL BE PROVIDED AT ALL JOINTS.
 - FLEXIBLE MANHOLE SLEEVES SHALL INCLUDE STAINLESS STEEL CLAMPS AND EXPANSION RINGS.
 - DOUBLE BUTYL RUBBER FLEXIBLE ROPE SEAL SHALL BE UTILIZED AT EACH HORIZONTAL JOINT.

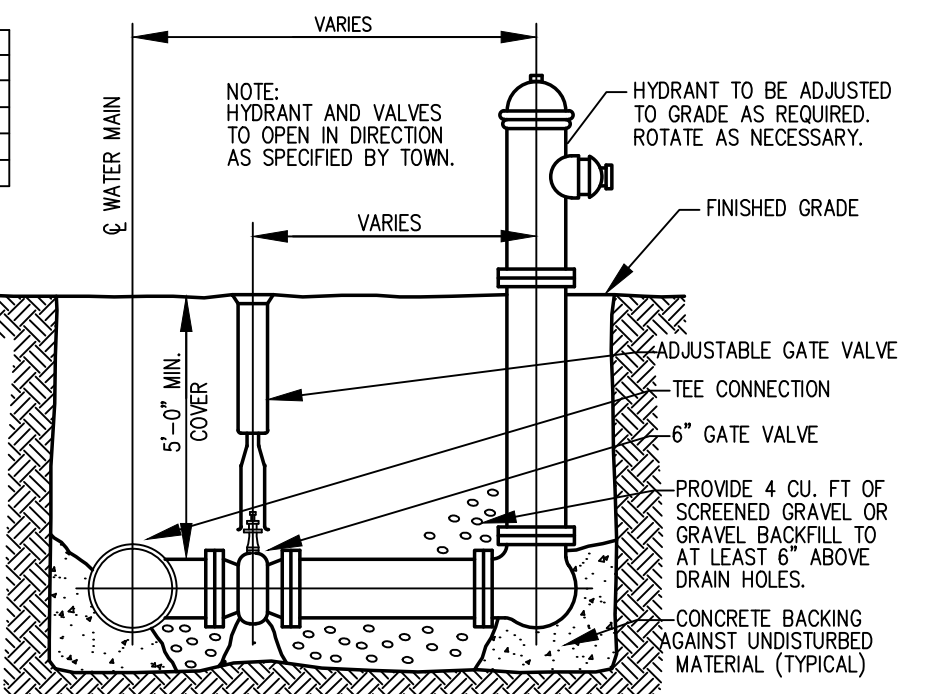
TABLE OF BEARING AREA IN SQ. FT. AGAINST UNDISTURBED SOIL

SIZE OF MAIN	90 DEGREE BEND	TEE & PLUG	45 DEGREE BEND
6"	10	8	6
8"	16	12	10
10"	26	19	15
12"	36	26	20

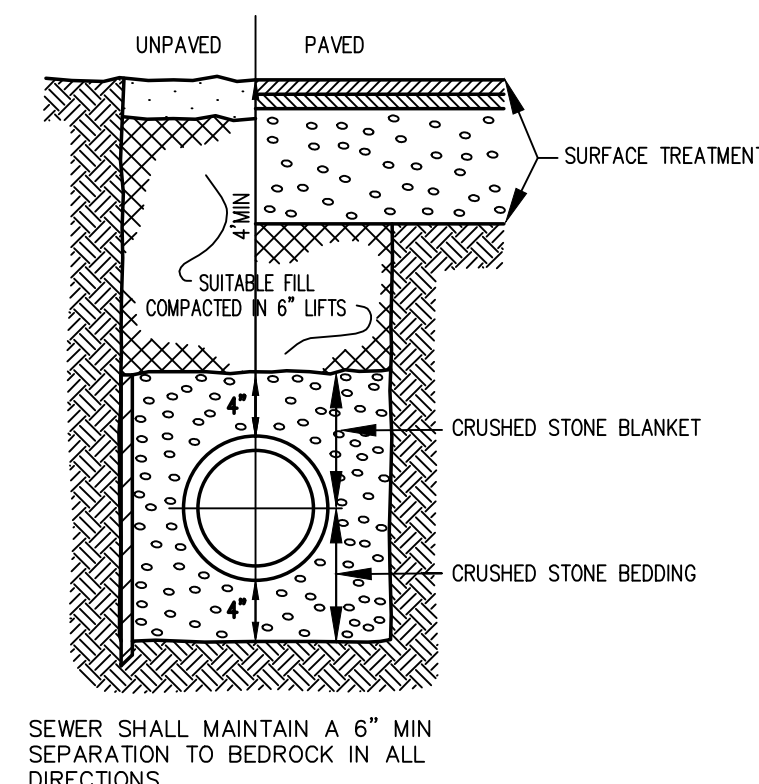
- NOTE: FOR FITTINGS W/ LESS THAN 45° DEFLECTION USE BEARING AREA FOR 45° BEND.
NOTE: ALL CONCRETE SHALL BE 2500 P.S.I.



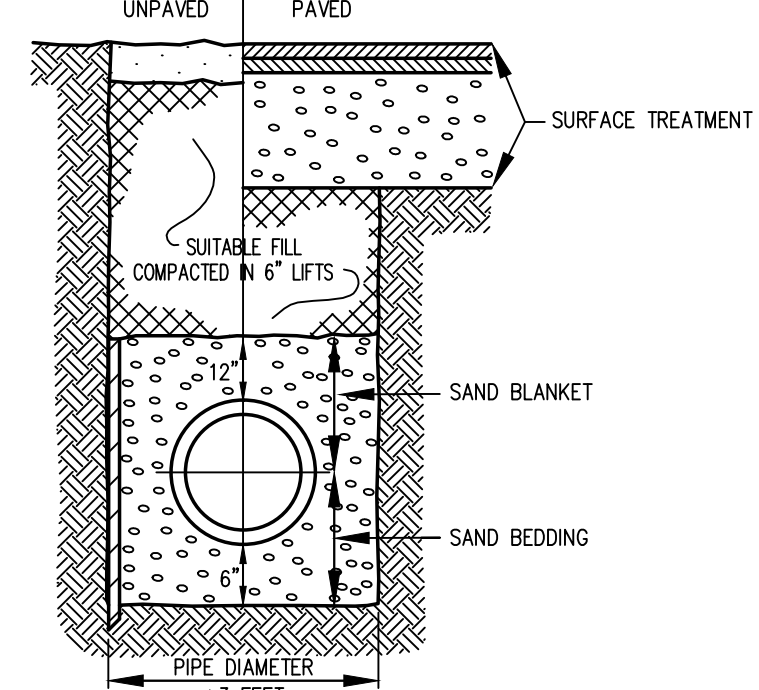
THRUST BLOCK SCHEDULE
NOT TO SCALE



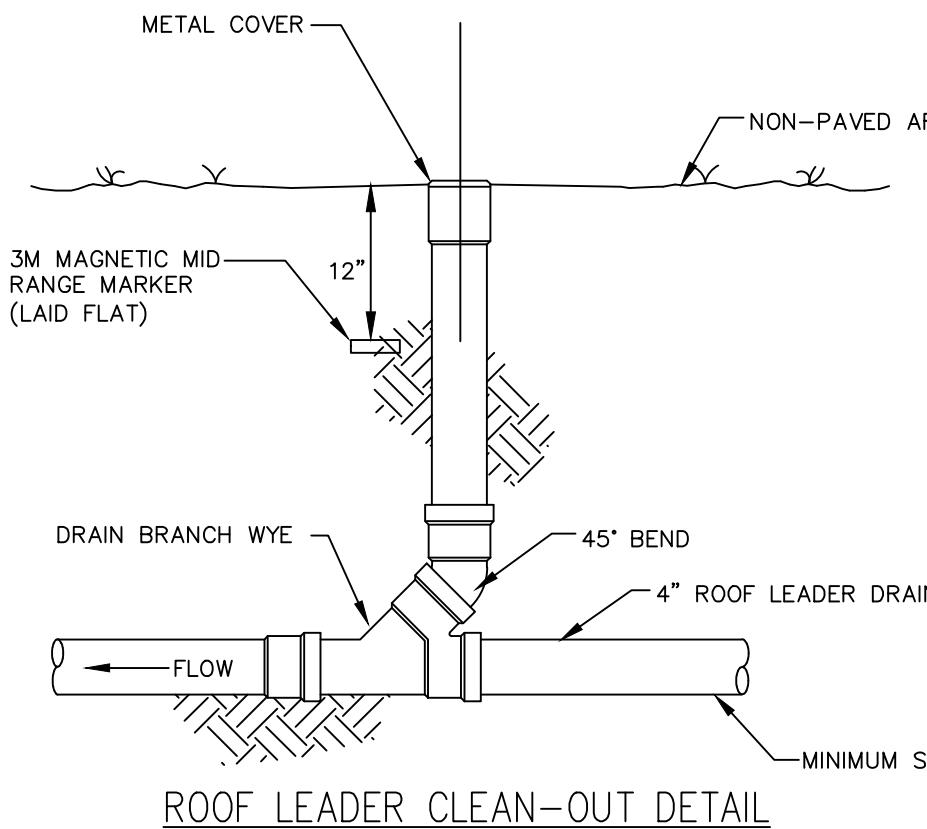
HYDRANT AND VALVE DETAIL WITH RESTRAINED JOINT HYDRANT TEE
NOT TO SCALE



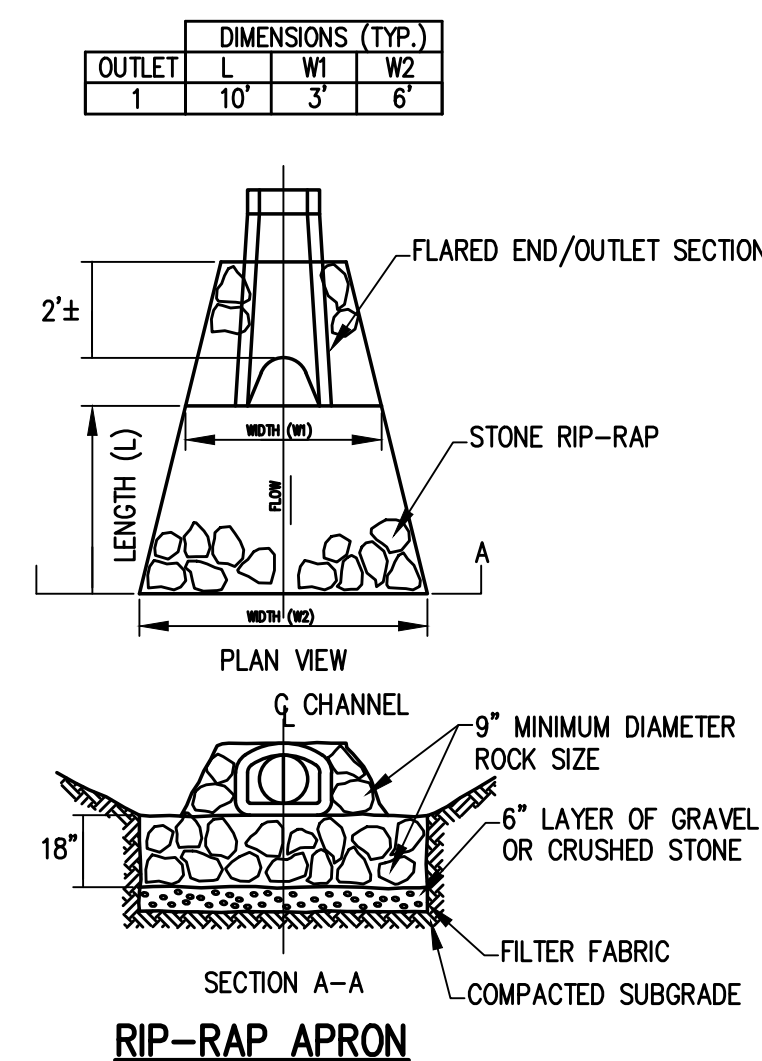
TYPICAL SEWER TRENCH SECTION
NOT TO SCALE



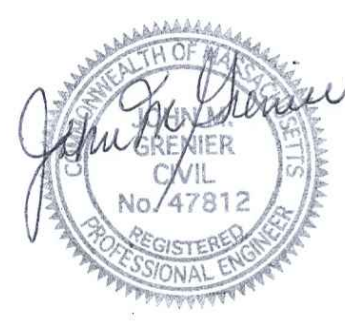
TYPICAL WATER LINE TRENCH SECTION
NOT TO SCALE



ROOF LEADER CLEAN-OUT DETAIL
NOT TO SCALE



RIP-RAP APRON
NOT TO SCALE



6/3/21

REV. NO.	DATE	TOWN COMMENTS / STANTEC COMMENTS	REVISION
1	6/3/21	TOWN COMMENTS / STANTEC COMMENTS	

TITLE:
SITE DEVELOPMENT PLAN FOR 19 CANAL STREET MILLBURY, MASSACHUSETTS 01527

PREPARED FOR:
ELITE HOME BUILDERS, LLC
P.O. BOX 1205
WESTBOROUGH, MASSACHUSETTS 01581

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

TELE NO.: (508) 845-2500

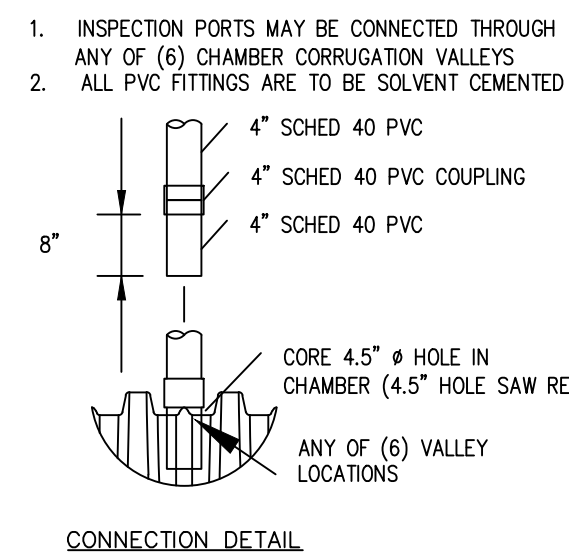
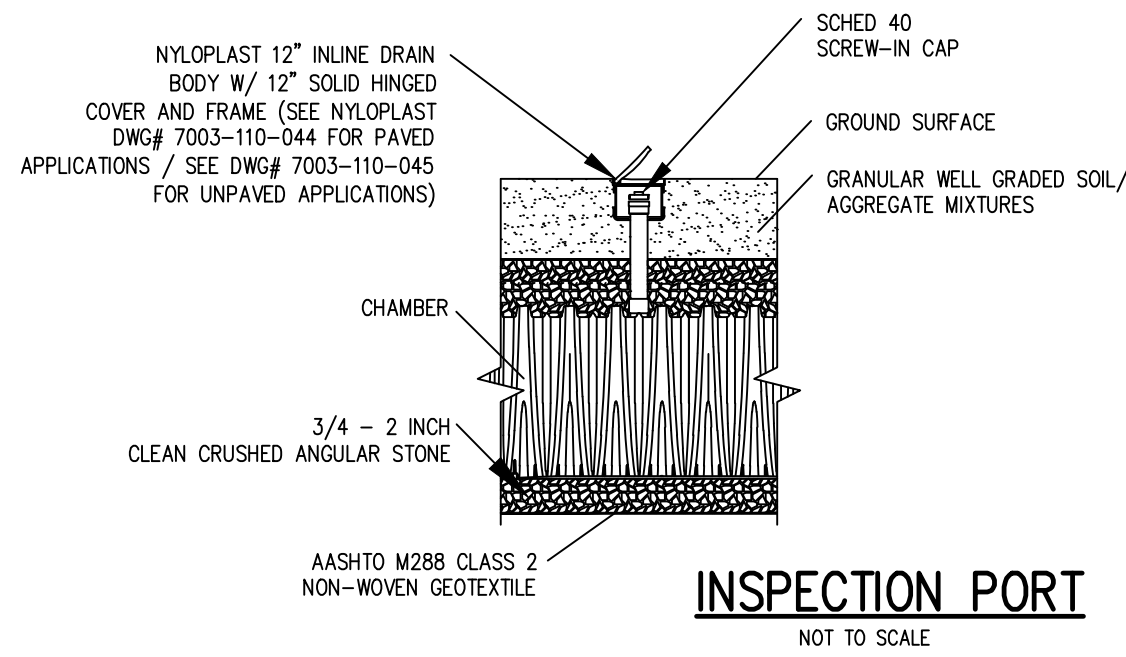
SCALE: N.T.S. **DATE:** APRIL 9, 2021

DETAIL PLAN 1/3

SHEET NO.: SHEET 8 OF 10 **PROJECT NO.:** G-611

SITE PLAN APPROVAL
MILLBURY PLANNING BOARD

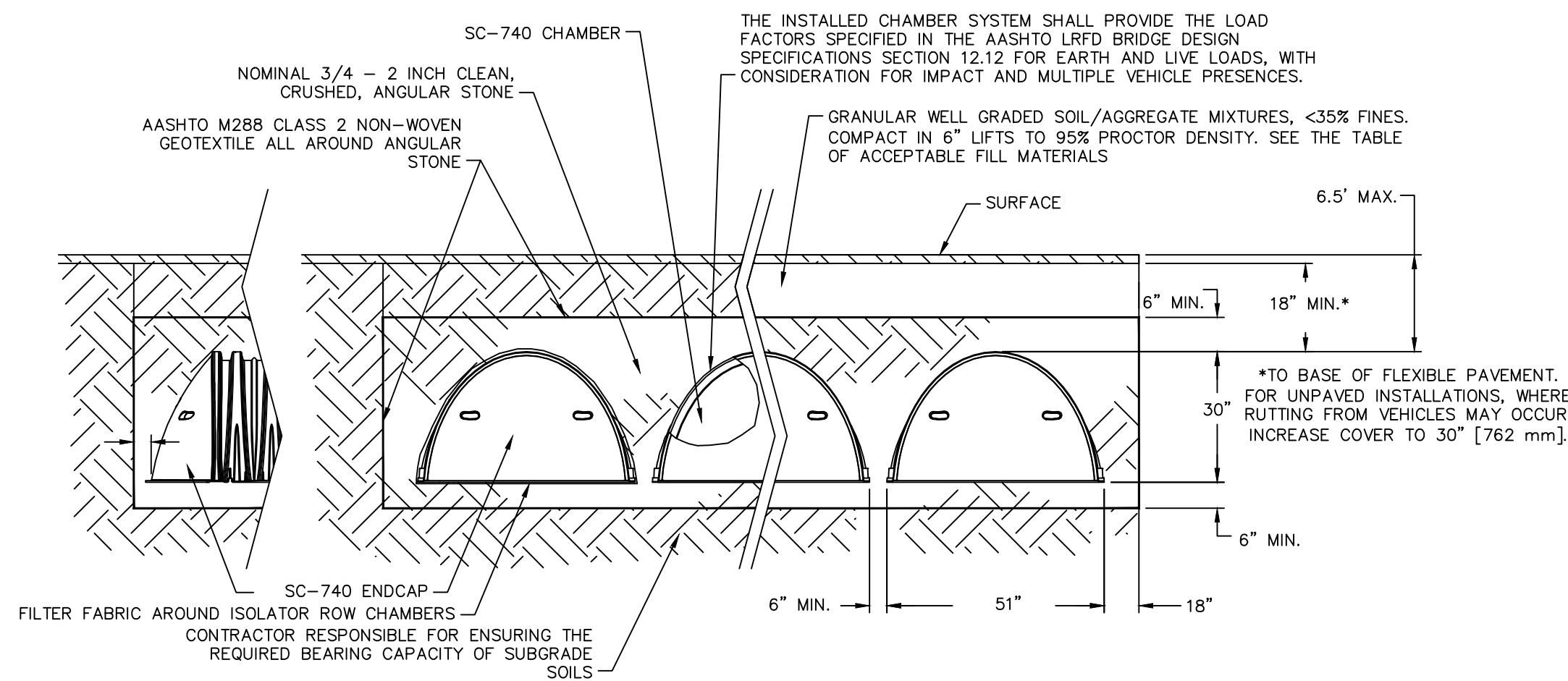
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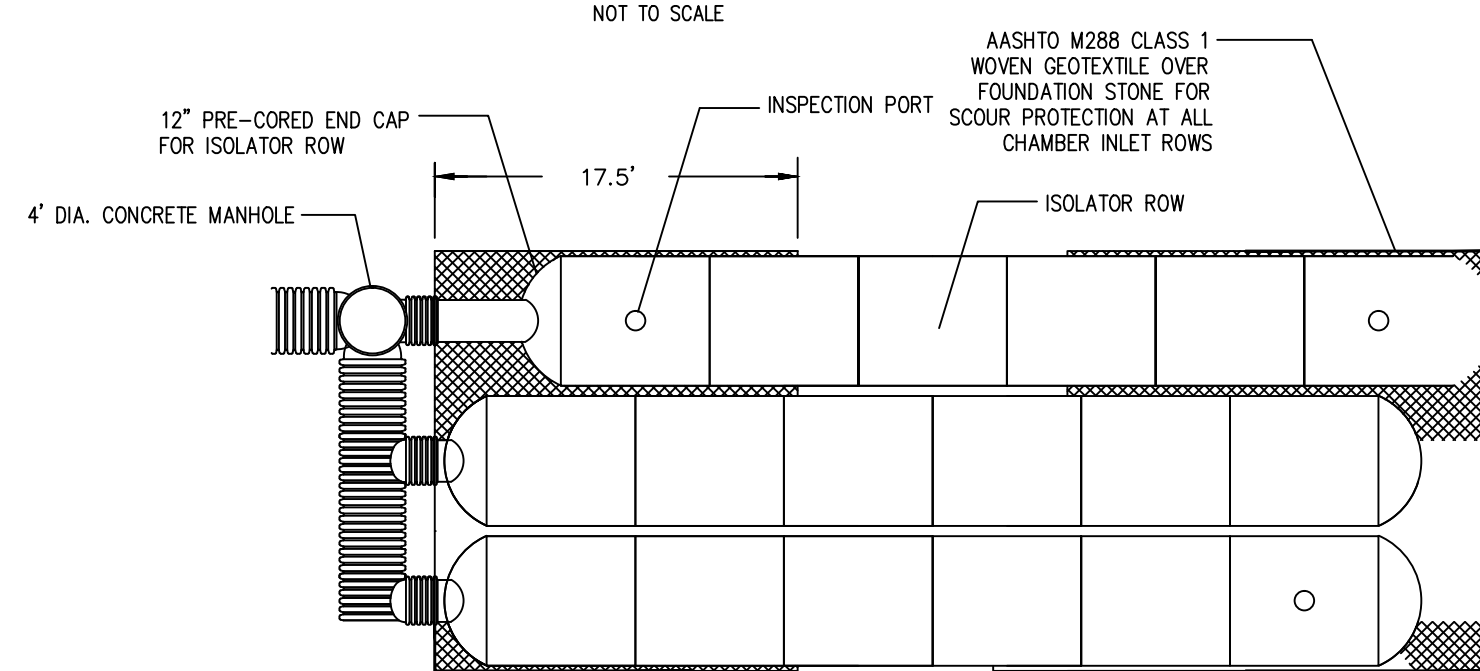
ACCEPTABLE FILL MATERIALS: STORMTECH CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION*	COMPACTION/DENSITY REQUIREMENT
① 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.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
② FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24\"/>			

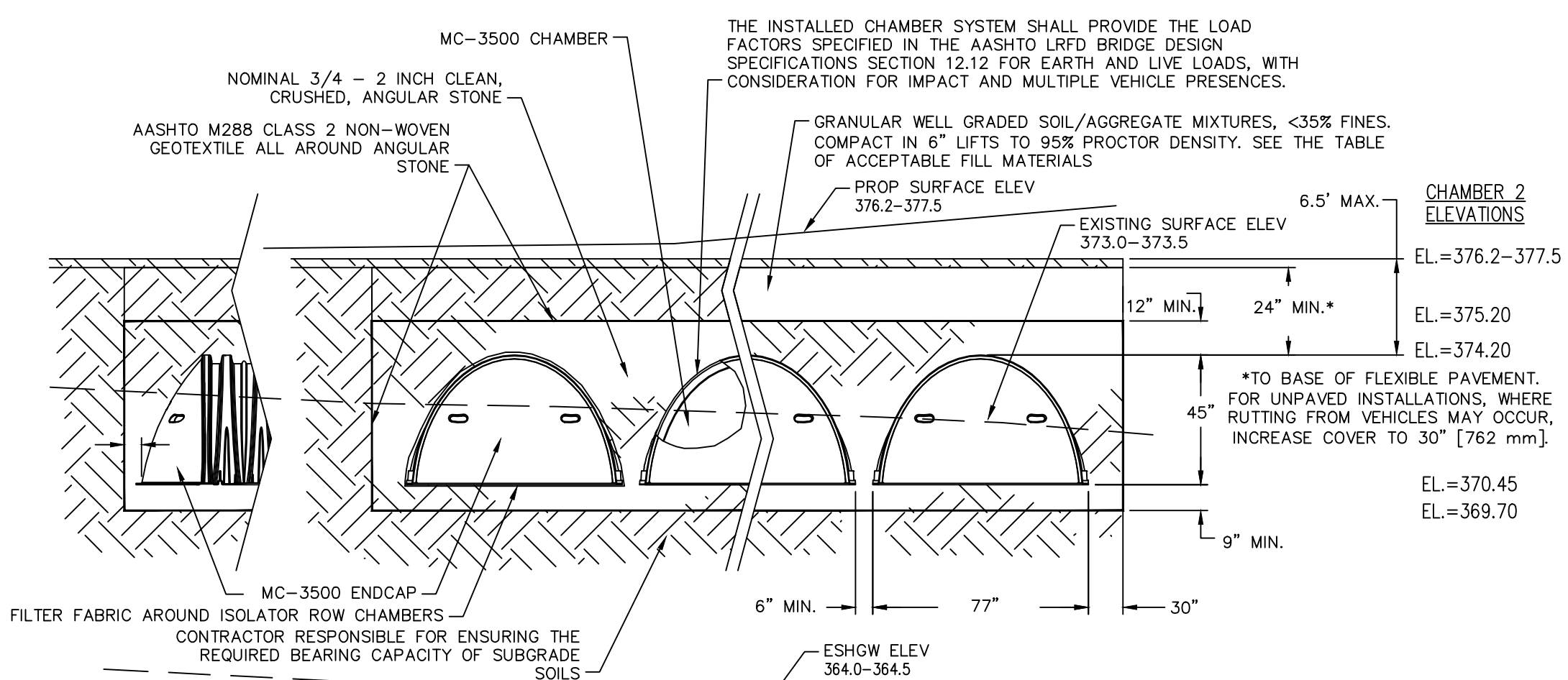
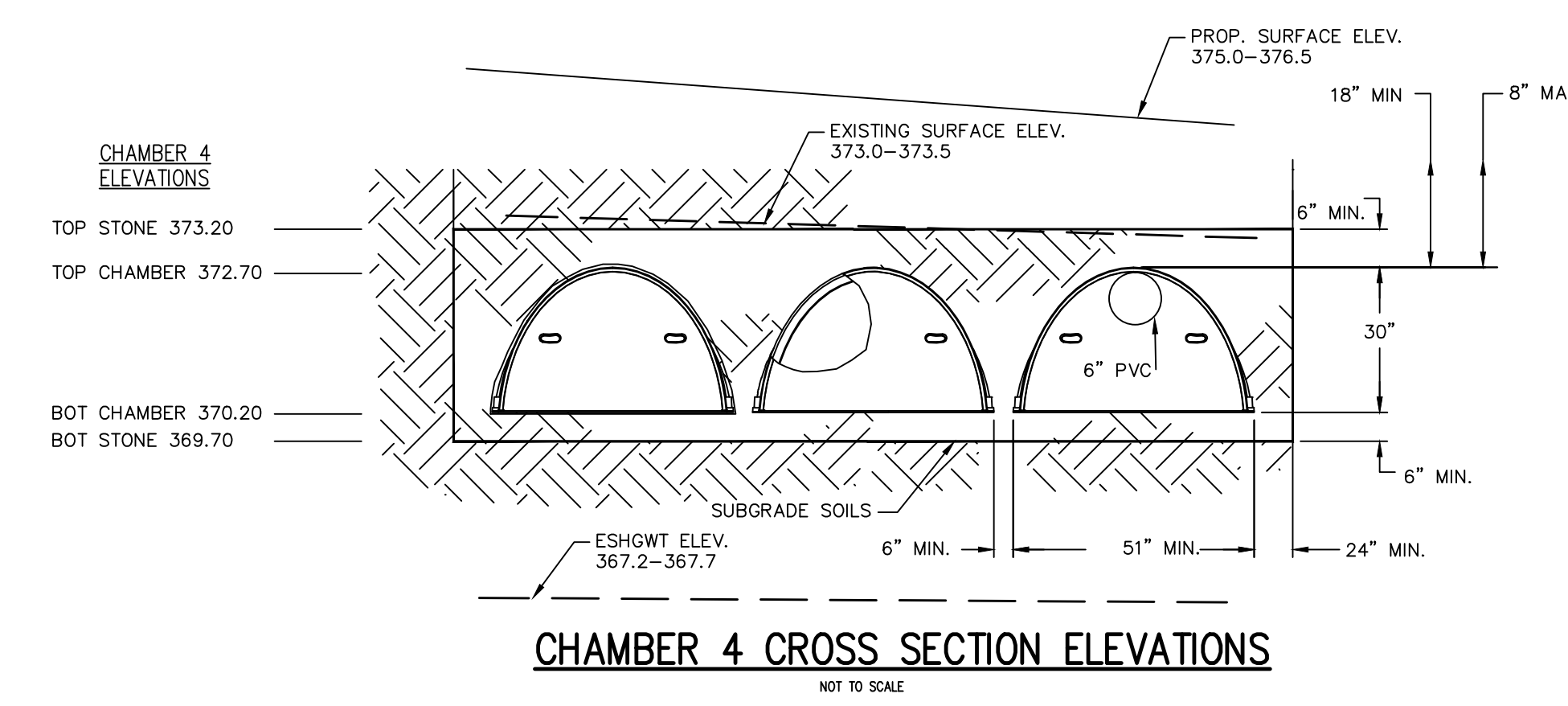
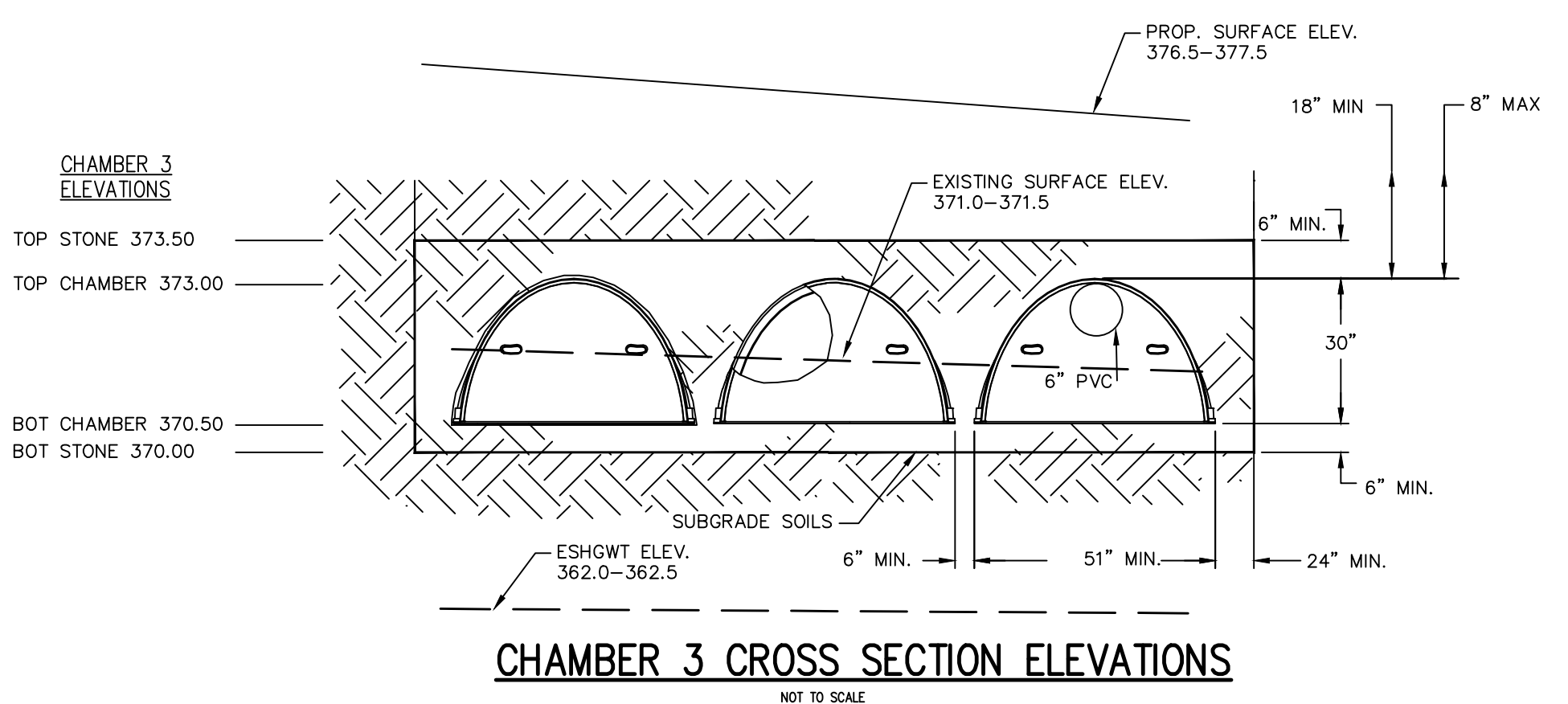
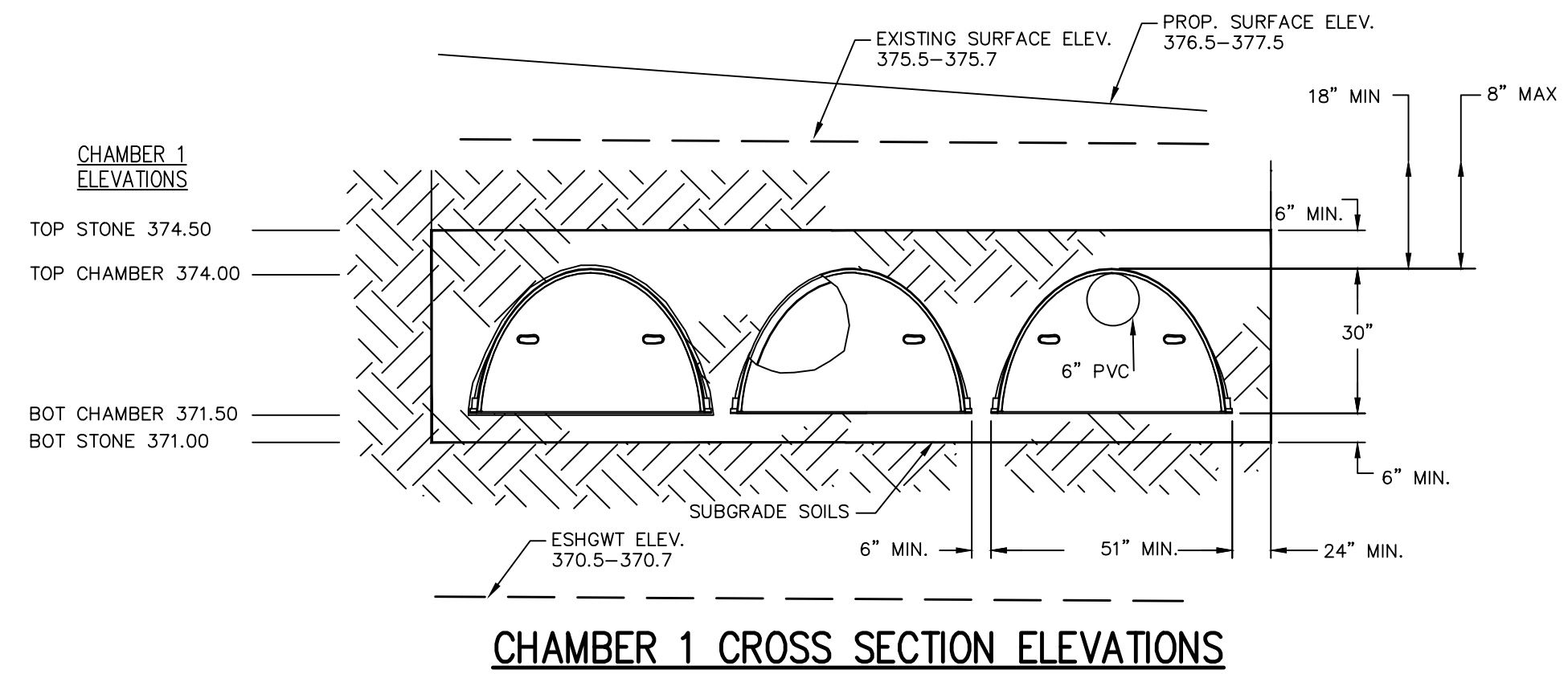
PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: 'CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE'.
 2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9\"/>



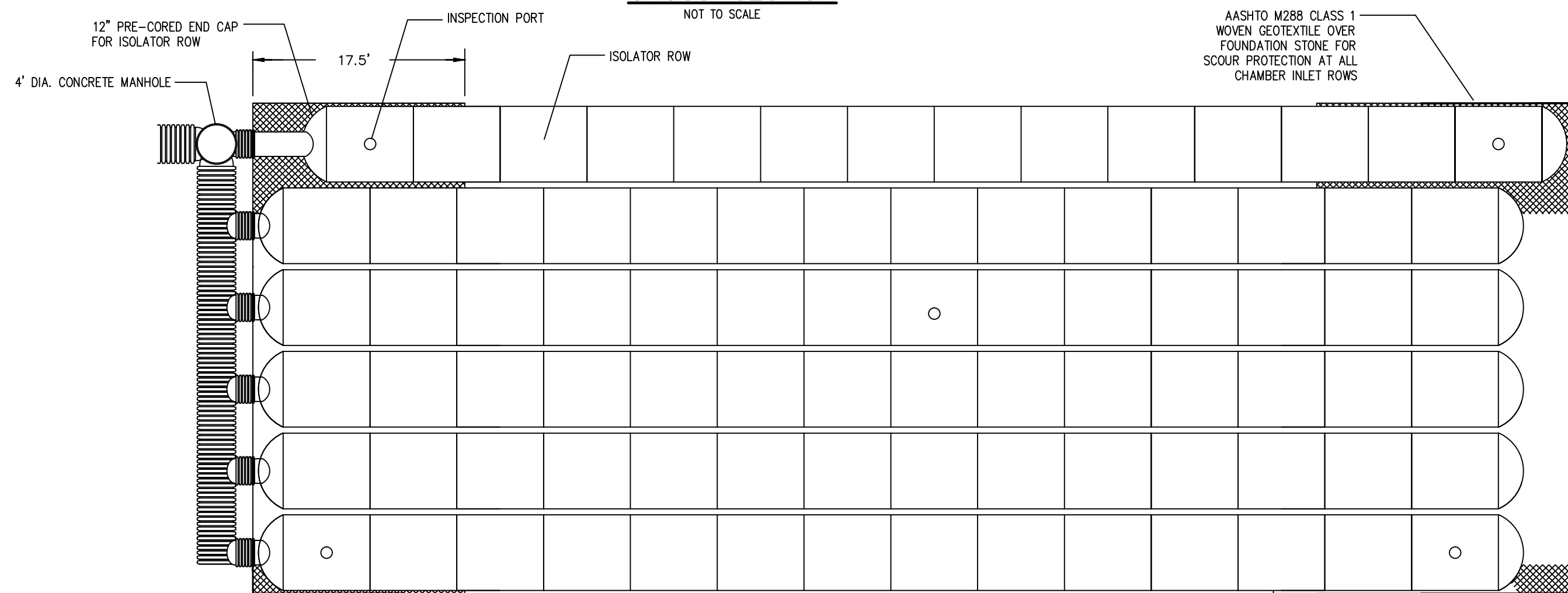
STORMTECH SC-740 INFILTRATION CHAMBERS (OR APPROVED EQUAL) CROSS-SECTION
NOT TO SCALE



1. ALL DESIGN SPECIFICATIONS FOR STORMTECH SC-740 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH SC-740 DESIGN MANUAL.
2. THE INSTALLATION OF STORMTECH SC-740 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH SC-740 INSTALLATION INSTRUCTIONS.
3. 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 SC-740 INSTALLATION INSTRUCTIONS.
4. 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.



STORMTECH MC-3500 INFILTRATION CHAMBER 2 (OR APPROVED EQUAL) CROSS-SECTION
NOT TO SCALE



1. ALL DESIGN SPECIFICATIONS FOR STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH MC-3500 DESIGN MANUAL.
2. THE INSTALLATION OF STORMTECH MC-3500 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH MC-3500 INSTALLATION INSTRUCTIONS.
3. 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.
4. 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.

REV. NO.	DATE	REVISION
1	6/3/21	TOWN COMMENTS / STANTEC COMMENTS

TITLE:
 SITE DEVELOPMENT PLAN
 FOR
 19 CANAL STREET
 MILLBURY, MASSACHUSETTS 01527

PREPARED FOR:
 ELITE HOME BUILDERS, LLC
 P.O. BOX 1205
 WESTBOROUGH, MASSACHUSETTS 01581

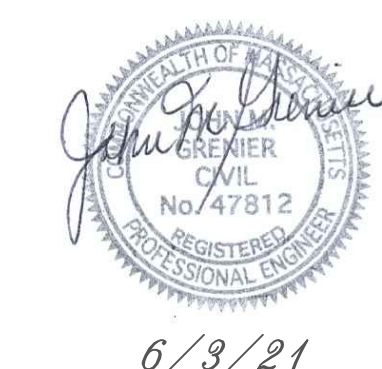
PREPARED BY:
 J.M. GRENIER ASSOCIATES INC.
 325 DONALD LYNCH BOULEVARD SUITE 100
 MARLBOROUGH, MASSACHUSETTS 01752

TELE NO.: (508) 845-2500

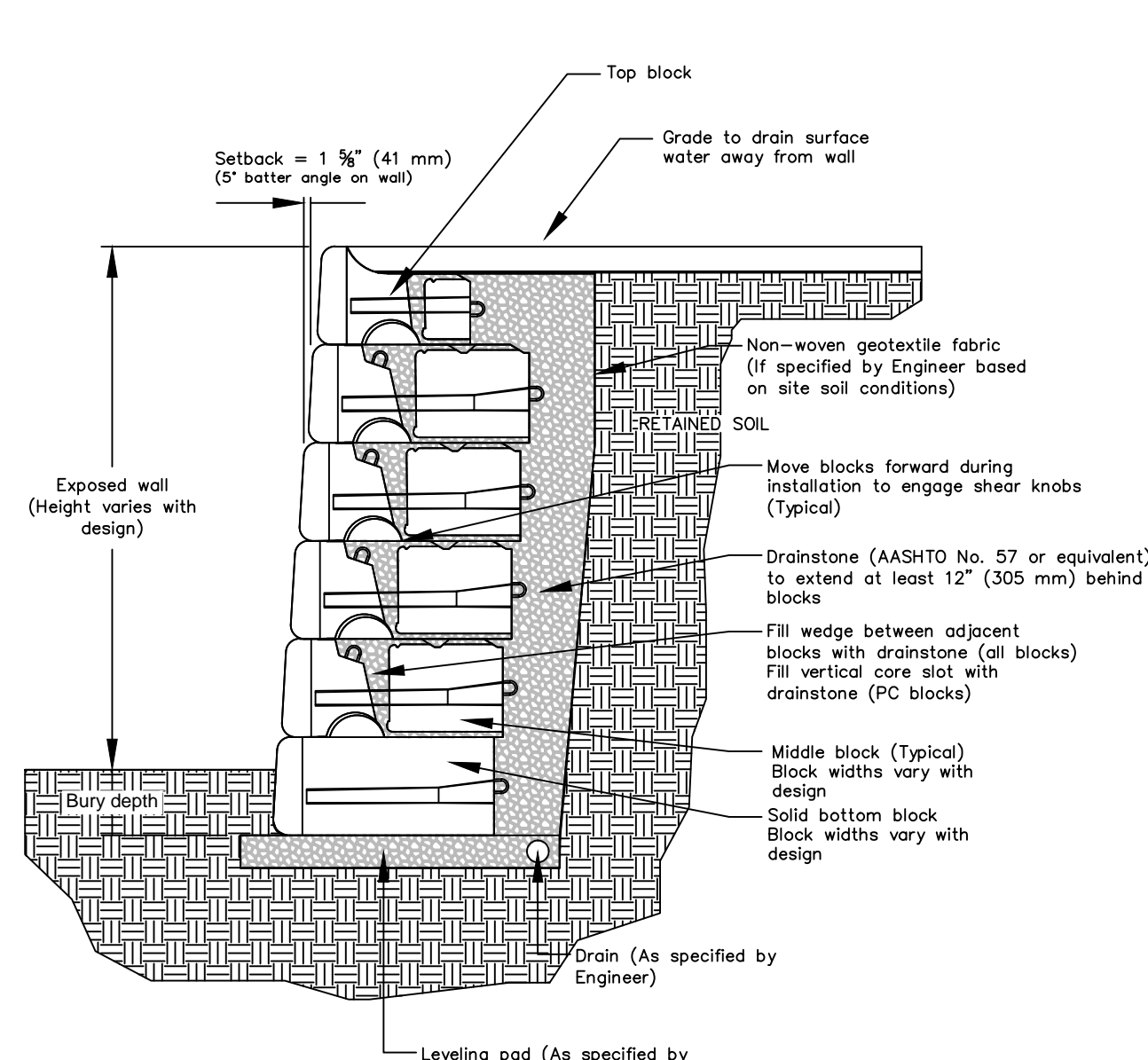
SCALE: N.T.S. **DATE:** APRIL 9, 2021

DETAIL PLAN 2/3

SHEET NO.: SHEET 9 OF 10 **PROJECT NO.:** G-611

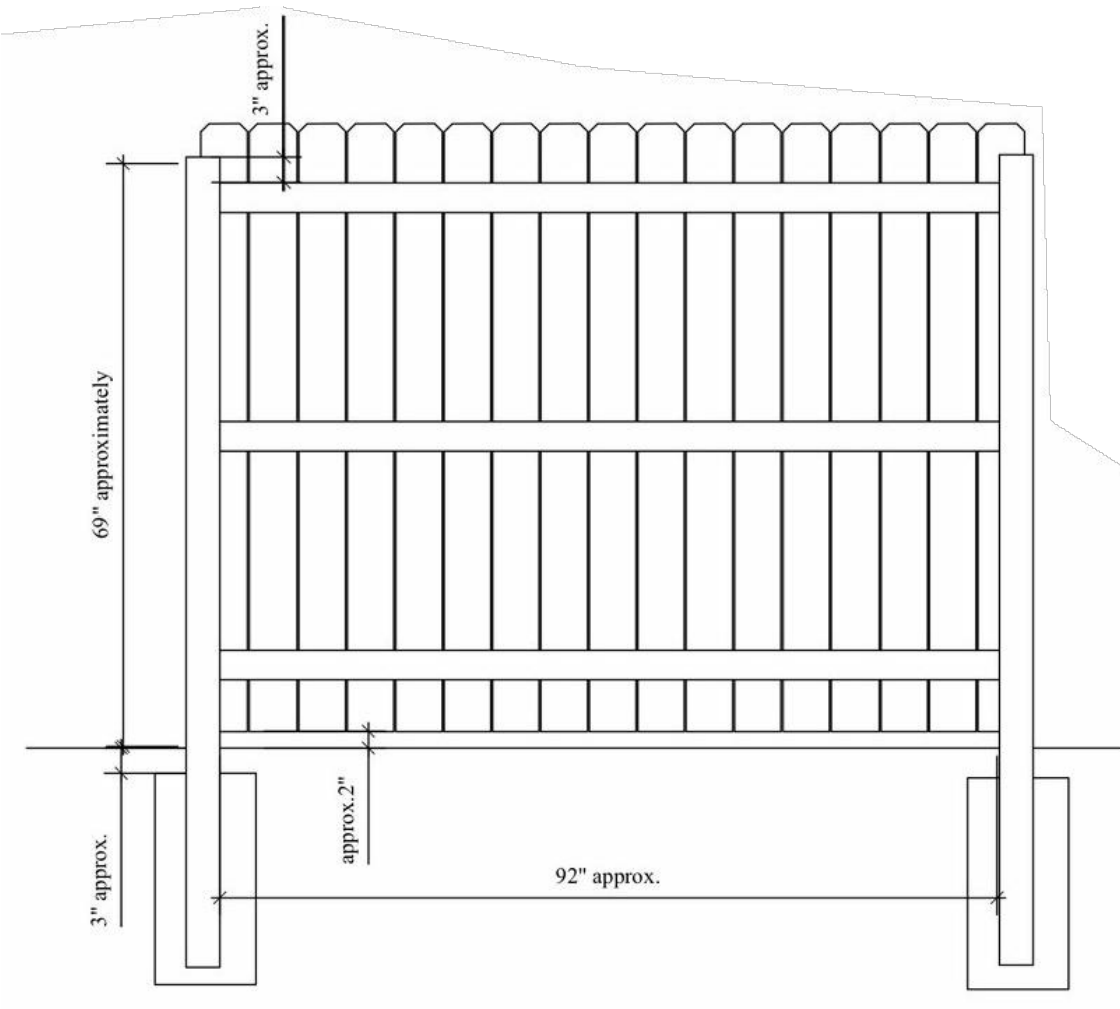


6/3/21

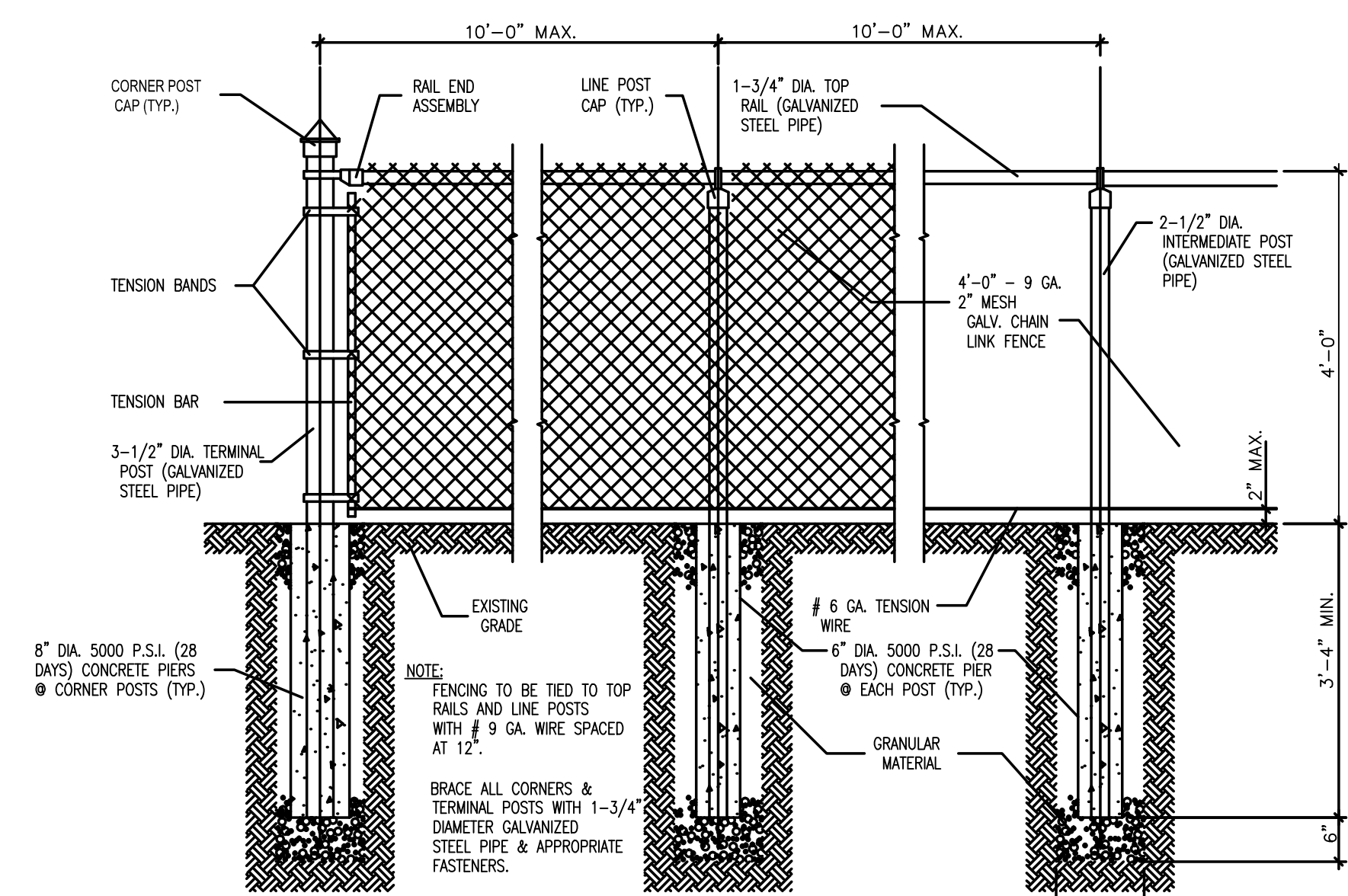


RETAINING WALL DETAIL
NOT TO SCALE

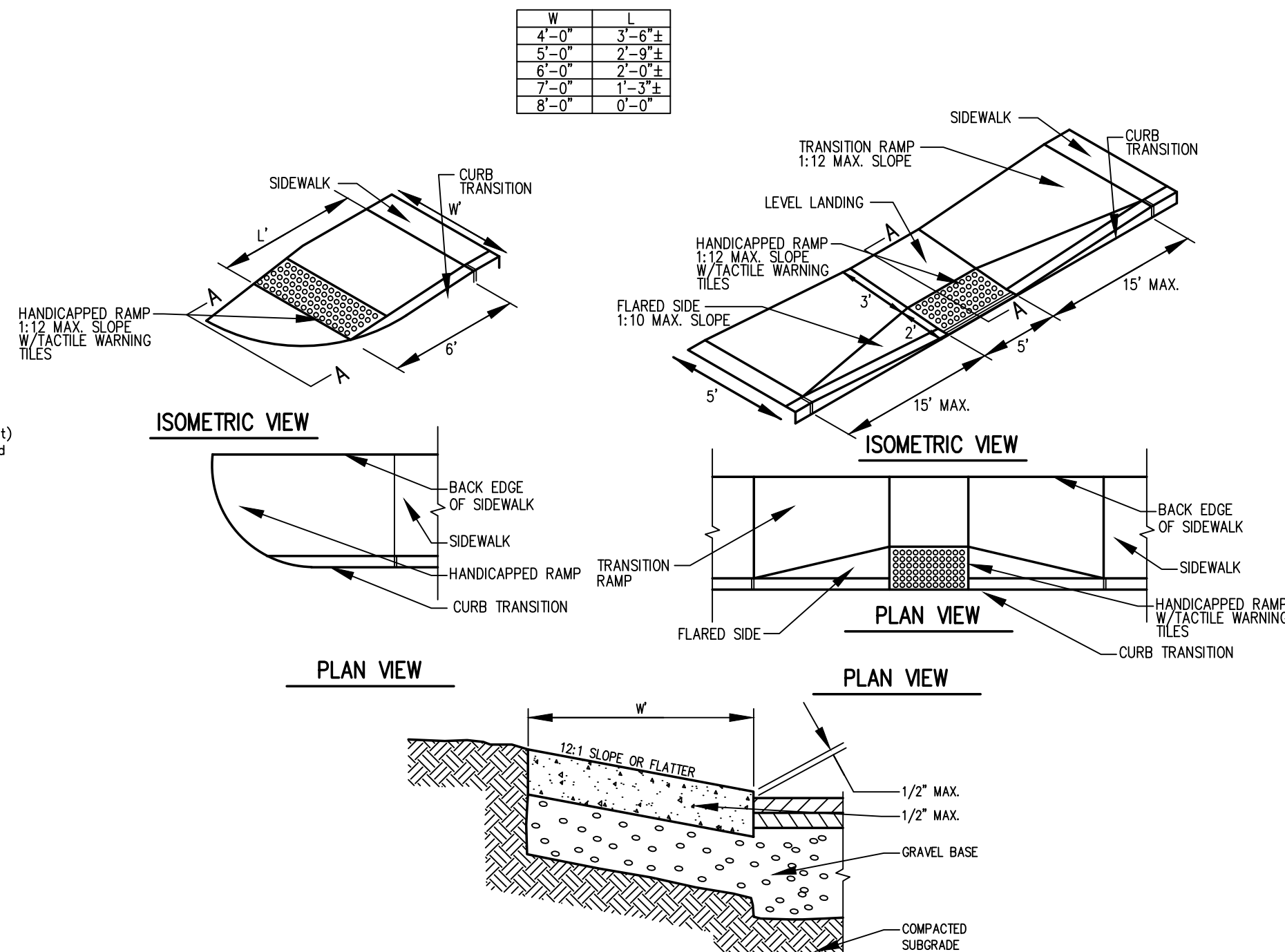
NOTE:
DESIGNS FOR ALL WALLS GREATER THAN 4 FEET IN HEIGHT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AS REQUIRED BY CODE.



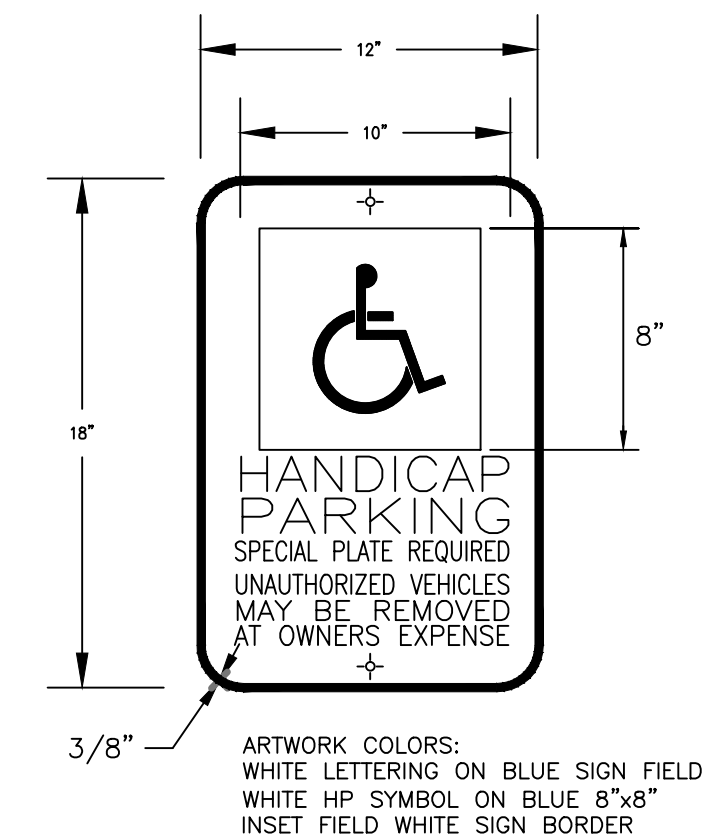
STOCKADE FENCE DETAIL
NOT TO SCALE



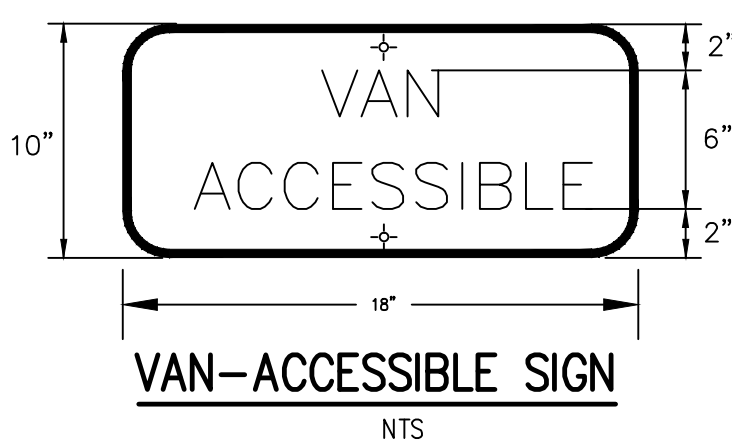
CHAIN FENCE DETAIL
NOT TO SCALE



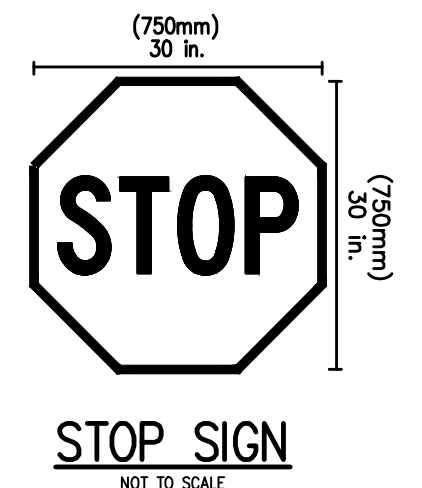
HANDICAP RAMP
NOT TO SCALE



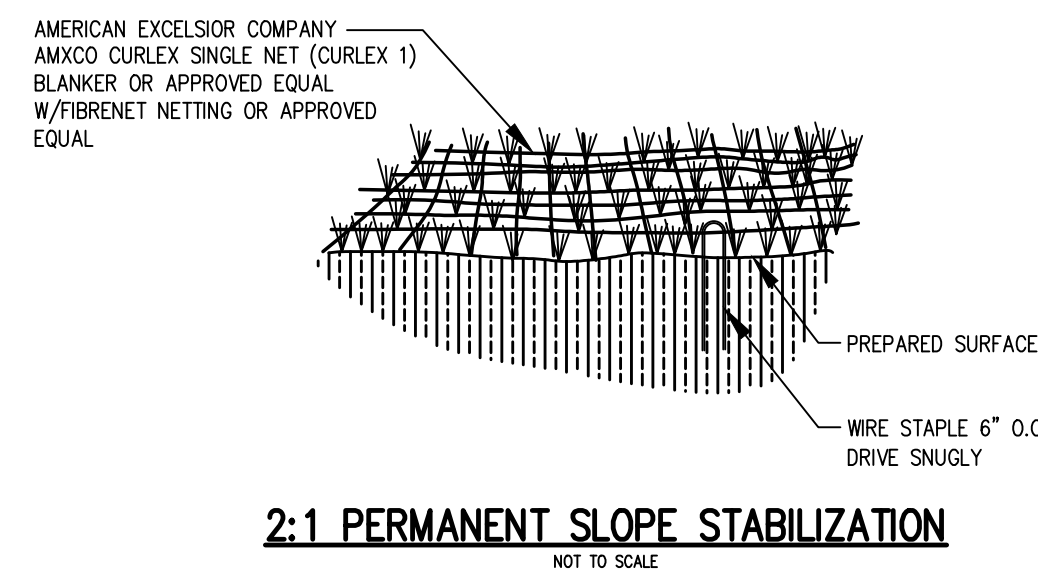
SIGN DETAIL FOR HP PARKING
NTS



VAN-ACCESSIBLE SIGN
NTS



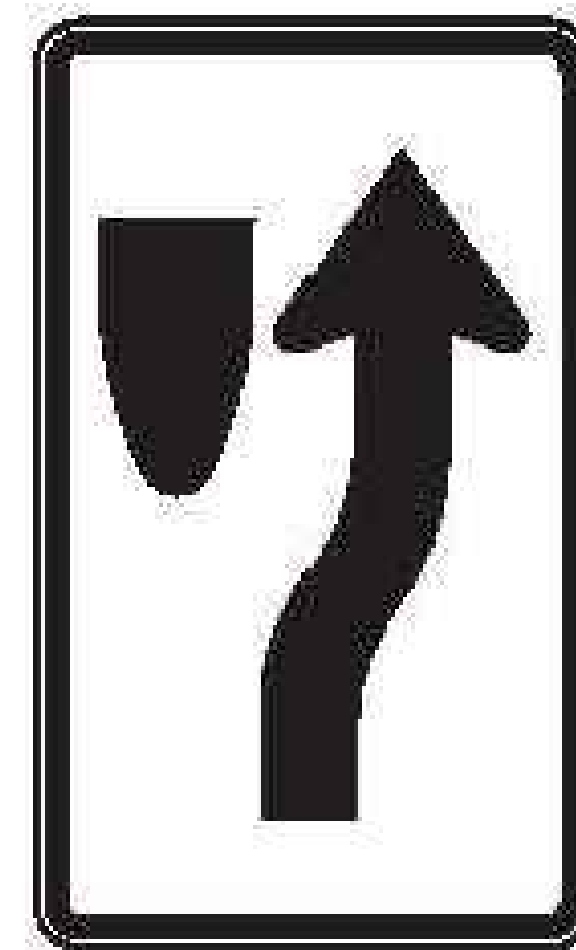
STOP SIGN
NOT TO SCALE



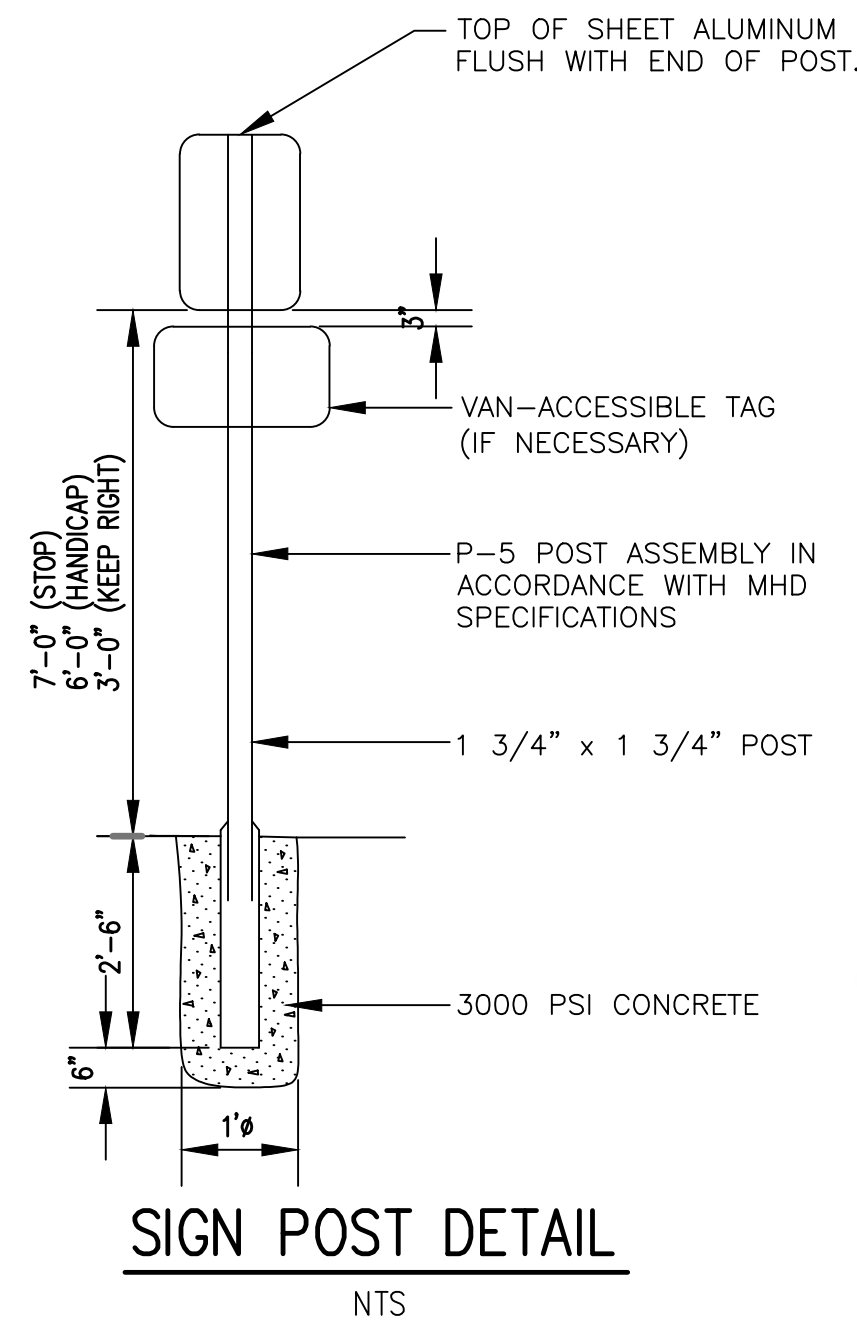
2:1 PERMANENT SLOPE STABILIZATION
NOT TO SCALE



ONE WAY SIGN
NTS



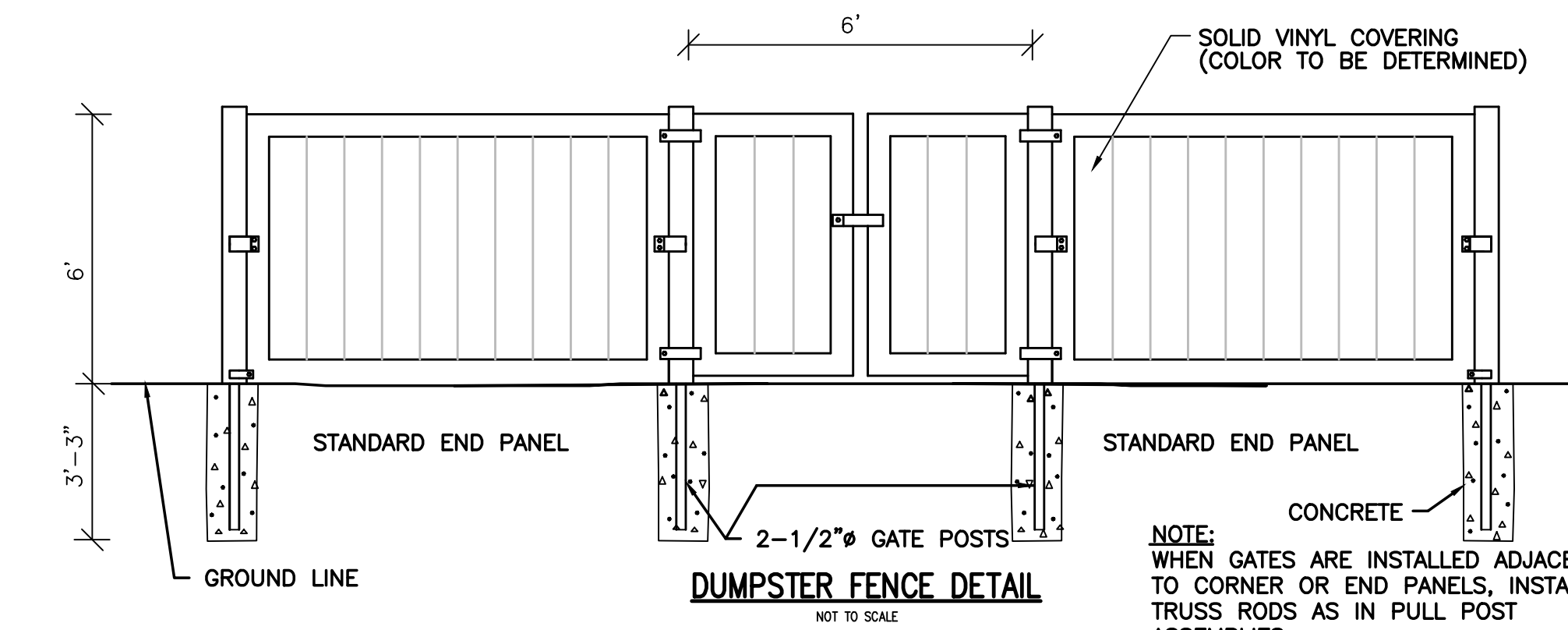
R4-7c
KEEP RIGHT SIGN
NTS



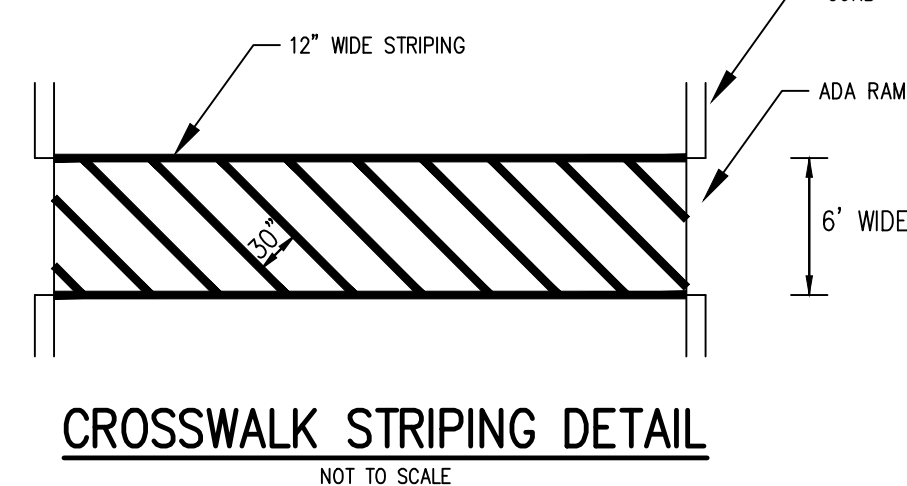
SIGN POST DETAIL
NTS

CONSTRUCTION NOTES

- THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS FROM THOSE SHOWN ON THESE PLANS. ANY PROPOSED REVISIONS TO THE WORK, IF REQUIRED BY THESE SITE CONDITIONS, SHALL NOT BE UNDERTAKEN UNTIL REVIEWED BY THE OWNER AND THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE RELEVANT TOWN DEPARTMENTS AT LEAST 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTIONS.
- IN ORDER TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING AT ALL TIMES NECESSARY SAFETY DEVICES AND PERSONNEL, WARNING LIGHTS, BARRICADES, AND POLICE DETAILS.
- THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE EROSION CONTROL MEASURES ON AN AS NECESSARY BASIS, SUCH THAT EXCESSIVE SOIL EROSION DOES NOT OCCUR. MEASURES SHALL INCLUDE HAY BALE DIKES ALONG THE PERIMETER OF CUTS AND FILLS, MULCHING, AND PLANTING OF DISTURBED AREAS AS SOON AS PRACTICABLE.
- AT THE END OF CONSTRUCTION THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE. A THOROUGH INSPECTION OF THE WORK PERIMETER IS TO BE MADE AND ALL DISCARDED MATERIALS, BLOWN OR WATER CARRIED DEBRIS, SHALL BE COLLECTED AND REMOVED.
- AT THE END OF CONSTRUCTION, AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE CONTRACTOR SHALL CLEAN THE SUMPS OF ALL CATCH BASINS AND THE INVERTS OF ALL DRAINS.
- THE CONTRACTOR IS TO VERIFY THE LOCATION, SIZE, AND DEPTH OF EXISTING UTILITIES PRIOR TO TAPPING INTO, CROSSING OR EXTENDING THEM. IF THE PROPOSED WORK POSES A CONFLICT WITH THE EXISTING UTILITIES, THE ENGINEER IS TO BE NOTIFIED PRIOR TO THE CONTRACTOR CONTINUING.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS, DOOR LOCATIONS, AND ENTRY DETAILS.
- ALL REINFORCED CONCRETE PIPE IS TO BE CLASS III. ALL PVC SANITARY SEWER IS TO BE SDR 35 WITH RUBBER RING JOINTS. ALL PVC STORM DRAIN (PERFORATED AND SOLID) HIGH DENSITY POLYETHYLENE PIPE OR APPROVED EQUAL.
- WALKS SHALL BE OF 4" THICK PORTLAND CEMENT AND SHALL BE CONSTRUCTED ON 8" OF COMPACTED BANK RUN GRAVEL. CONCRETE FOR WALKS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. WALKS SHALL BE REINFORCED WITH W/M 6X6 #10/10, CONFORMING TO ASTM A184.
- NO LEDGE, BOULDERS, OR OTHER UNYIELDING MATERIALS ARE TO BE LEFT WITHIN 6" OF THE UTILITY SERVICES IN THE TRENCH, NOR ARE THEY TO BE USED FOR BACKFILL FOR THE FIRST 12" ABOVE THE SERVICES.
- STANDARD PAVEMENT AREAS SHALL HAVE 10 INCHES OF GOOD, CLEAN BANK-RUN GRAVEL SUB-BASE AND 5 INCHES OF GOOD, CLEAN BANK-RUN GRAVEL BASE, CONFORMING TO MDPW M1.03.1, WITH NO STONES LARGER THAN 3" IN DIAMETER AND SHALL BE PLACED AND ROLLED WITH AT LEAST A TEN TON ROLLER. THE SURFACES SHALL BE WET DURING ROLLING TO BIND THE MATERIAL. ALL STONES OF 4" DIAMETER OR LARGER SHALL BE REMOVED FROM THE SUB-BASE PRIOR TO PLACING BASE MATERIAL.
- STANDARD PAVEMENT AREAS SHALL BE PAVED TO A THICKNESS OF 4" MEASURED AFTER COMPACTION, WITH A 2 1/2" BINDER COURSE AND 1 1/2" TOP COURSE OF CLASS 1 BITUMINOUS CONCRETE PAVEMENT, TYPE I-1.
- THE AGGREGATE SHALL BE COMPOSED, MIXED AND LAID HOT IN TWO COURSES AS SPECIFIED IN THE "COMMONWEALTH OF MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES", 1988 EDITION SECTION 460 FOR CLASS 1 BITUMINOUS CONCRETE PAVEMENT, AS SPECIFICALLY SET FORTH IN SECTION 460.20 AND 460.82.
- EROSION CONTROL GRASS MIXTURE (SIDE SLOPE GREATER THAN 4 HORIZONTAL TO 1 VERTICAL) FOLLOWING COMPLETION OF GRADING. THE FOLLOWING SEED MIX SHALL BE APPLIED:
TYPE OF SEED % BY WEIGHT
CREEPING RED FESCUE
TALL FESCUE
WHITE DUTCH CLOVER
RED TOP
SEED AT THE RATE OF 2#/2,000 SF
USE THE ABOVE MIX AT THE RATE OF 50#/ACRE AND WITH 1/2 BUSHEL/ACRE OF WINTER RYE
- ALL DISTURBED AREAS ARE TO BE LOAMED AND SEEDED WITH A MINIMUM OF 6" OF TOP SOIL SPREAD EVENLY THROUGHOUT. PROVIDE EROSION CONTROL MEASURES AS NECESSARY TO PROVIDE SLOPE STABILITY UNTIL VEGETATION IS ESTABLISHED.
- ALL STUMPS, TOP SOIL, SUB SOIL AND OTHER DELETERIOUS MATERIALS ARE TO BE REMOVED FROM THE PROPOSED BUILDING AND PAVING AREAS.

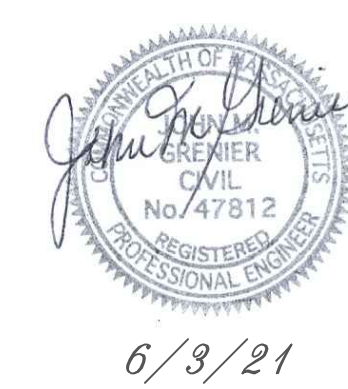


DUMPSTER FENCE DETAIL
NOT TO SCALE



CROSSWALK STRIPING DETAIL
NOT TO SCALE

1	6/3/21	TOWN COMMENTS / STANTEC COMMENTS
REV. NO.	DATE	REVISION
TITLE: SITE DEVELOPMENT PLAN FOR 19 CANAL STREET MILLBURY, MASSACHUSETTS 01527		
PREPARED FOR: ELITE HOME BUILDERS, LLC P.O. BOX 1205 WESTBOROUGH, MASSACHUSETTS 01581		
PREPARED BY: J.M. GRENIER ASSOCIATES INC. 325 DONALD LYNCH BOULEVARD SUITE 100 MARLBOROUGH, MASSACHUSETTS 01752		
TELE NO.: (508) 845-2500		
SCALE: N.T.S.	DATE: APRIL 9, 2021	
DETAIL PLAN 3/3		
SHEET NO.: SHEET 10 OF 10	PROJECT NO.: G-611	



6/3/21

DATE: _____