

LEGEND

---	PROPERTY LINE
---	BUILDING SETBACK
---	EDGE OF BVW
---	25' ZNV TO BVW
---	100' BUFFER TO BVW
---	100-YR FLOOD EL.
---	EDGE OF PAVEMENT
---	CONTOUR
---	DRAIN
---	SEWER
---	WATER
---	WALL
○	UTILITY POLE
○	HYDRANT
○	SEWER MANHOLE
○	WATER GATE
○	DRAIN MANHOLE
□	CATCHBASIN
○	TREE

- GENERAL NOTES:**
- DATUM: TOWN OF READING SEWER BASE.
 - BENCHMARK: HYDRANT SPINDLE ON NORTH SIDE OF SALEM STREET AT INTERSECTION OF BELMONT STREET EL. 210.80 ON READING SEWER BASE.
 - NO GRADING SHALL OCCUR WITHIN THE 25' ZONE OF NATURAL VEGETATION.
 - REFERENCE THE FOLLOWING PLAN: PLAN OF LAND IN READING, MA DATED 29 DEC 88, REVISED 23 JAN 89, PREPARED BY DESIGN STATE SURVEY, INC.
 - TP#1 PERFORMED ON 19 APRIL 2005 AND WITNESSED BY CHRISTOPHER COLE OF THE TOWN OF READING ENGINEERING DEPARTMENT.
 - GROUNDWATER AT TP#1 IS AT ELEVATION 186.8. THE PERC RATE AT TEST PIT #1 IS 7 MIN. PER INCH PERC RATE AT TP#2 IS 4 MIN PER INCH.
 - WETLANDS WERE FLAGGED BY HUGHES ENVIRONMENTAL IN MAY 2012.
 - REFLAGGING OF WETLANDS AND EXISTING TREES WERE FIELD LOCATED BY GUERRIERE & HALNON OF MILFORD, MA IN SPRING 2018. WETLANDS FLAGS WERE FIELD VERIFIED BY HUGHES ENVIRONMENTAL WITH MINOR MODIFICATIONS AS NOTED ON THE PLAN.
 - TP'S 2 & 3 WERE PERFORMED ON APRIL 3, 2012 AND WITNESSED BY CHRIS COLE AND CHARLES TIRONE OF THE TOWN OF READING.

TP#1
 DEEP TEST PERFORMED 19APR05 BY SPM
 PERC. TEST PERFORMED 19APR05 BY SPM/DS
 WITNESSED CHRIS COLE/FRAN FINK
 SOIL EVALUATOR SCOTT MIDDLE

194.12	0	2"
193.95	A	6"
193.62	FS	10YR3/2
193.04	B	10YR5/8
(ESTIMATED)186.79	LS	2.5YR6/6
184.04		108"

ESTIMATED SEASONAL HIGH GROUNDWATER: 7.33 FEET BELOW EXISTING GRADE (DH#1)
 PERC RATE AT TEST PIT #1 IS 7 MIN. PER INCH
 PERC RATE AT TP#2 IS 4 MIN PER INCH.

TP#2
 DEEP TEST PERFORMED 3APRIL2012 BY S.M
 PERC. TEST PERFORMED N/A BY N/A
 WITNESSED CHRIS COLE/CHARLES TIRONE
 SOIL EVALUATOR SCOTT MEDEIROS

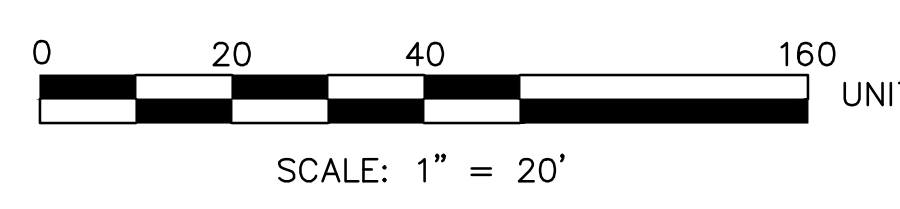
193.5	AP	7"
192.92	S	10YR3/1
192.17	BW	7.5YR5/8
187.09	LS	10YR6/3
(ESTIMATED)187.7		61"

ESTIMATED SEASONAL HIGH GROUNDWATER: 6.42 FEET BELOW EXISTING GRADE

TP#3
 DEEP TEST PERFORMED 3APRIL2012 BY S.M
 PERC. TEST PERFORMED N/A BY N/A
 WITNESSED CHRIS COLE/CHARLES TIRONE
 SOIL EVALUATOR SCOTT MEDEIROS

193.50	AP	7"
192.92	S	10YR3/1
192.42	BW	7.5YR5/8
187.09	LS	10YR6/3
(ESTIMATED)187.7		64"

ESTIMATED SEASONAL HIGH GROUNDWATER: 6.42 FEET BELOW EXISTING GRADE



MAP 23 LOTS 125 & 126
 AZALEA CIRCLE
 READING, MASSACHUSETTS

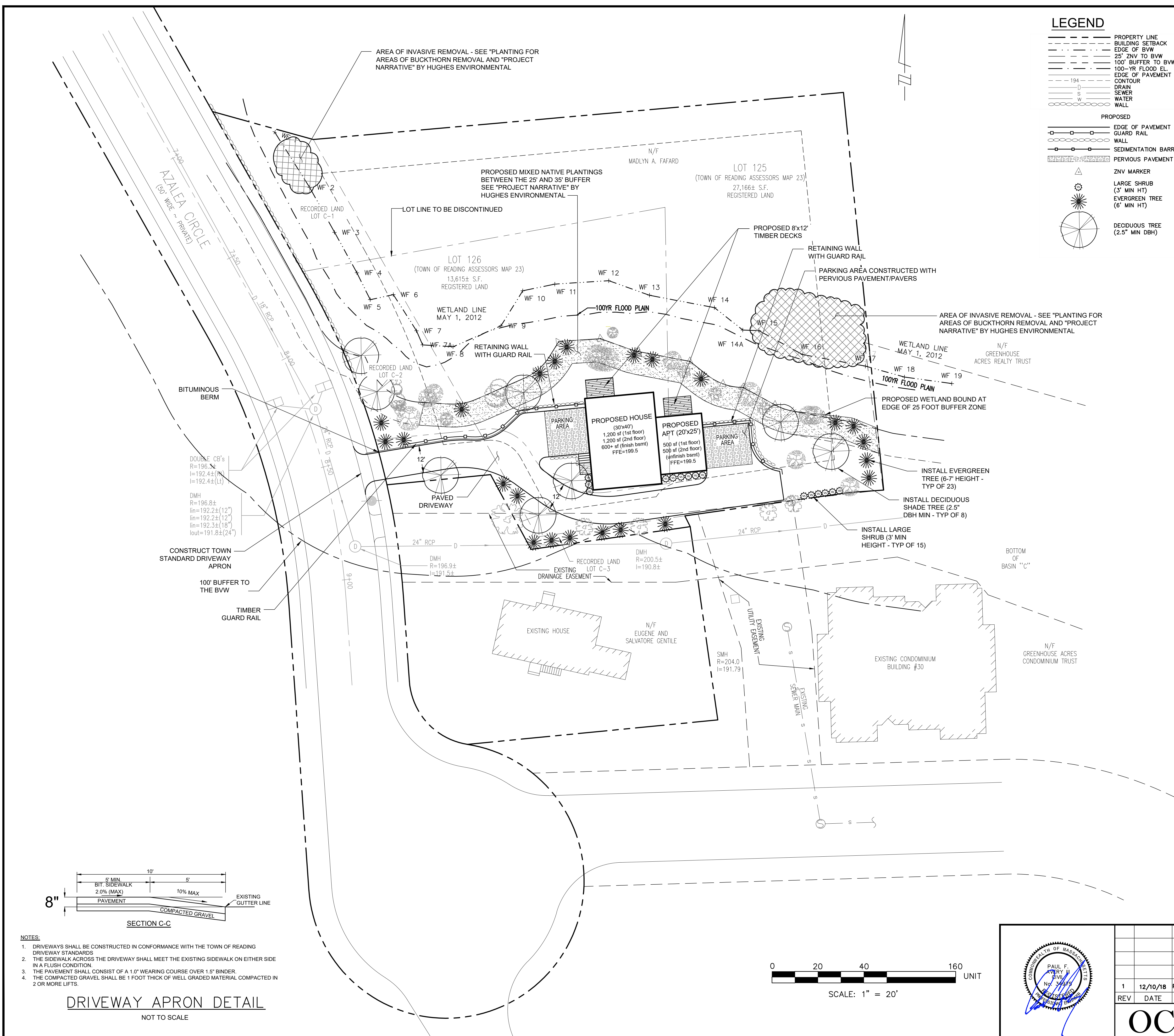
**EXISTING
 CONDITIONS PLAN**

REV	DATE	DESCRIPTION	BY
1	12/10/18	PER CON-COM & ENGINEERING COMMENTS SPM	SPM

OCG Oak Consulting Group, LLC
 P.O. Box 1123
 Newburyport, MA 01950
 Ph. 978.312.3120

SCALE: AS SHOWN DESIGN: PFA SHEET:
 DRAWN: PFA PROJECT: 12012
 CHECKED: SPM DATE: 7/9/18

C-001



LEGEND

- PROPERTY LINE
 - BUILDING SETBACK
 - EDGE OF BVW
 - 25' ZNV TO BVW
 - 100' BUFFER TO BVW
 - 100-YR FLOOD EL.
 - EDGE OF PAVEMENT
 - CONTOUR
 - SEWER
 - DRAIN
 - WATER
 - WALL
- PROPOSED**
- EDGE OF PAVEMENT
 - GUARD RAIL
 - WALL
 - SEDIMENTATION BARRIER
 - PERVIOUS PAVEMENT
- ZNV MARKER
- LARGE SHRUB (3' MIN HT)
 - EVERGREEN TREE (6' MIN HT)
 - DECIDUOUS TREE (2.5' MIN DBH)

GENERAL NOTES:

1. DATUM: TOWN OF READING SEWER BASE.
2. BENCHMARK: HYDRANT SPINDLE ON NORTH SIDE OF SALEM STREET AT INTERSECTION OF BELMONT STREET EL. 210.80 ON READING SEWER BASE.
3. NO GRADING OR LAND DISTURBANCE SHALL OCCUR WITHIN THE 25' ZONE OF NATURAL VEGETATION.
4. ALL DRAINAGE STRUCTURES ARE EXISTING, EXCEPT PROPOSED LEACHING CATCH BASIN AND ROOF INFILTRATION CHAMBERS.
5. LOCATION OF EROSION CONTROL TO BE REVIEWED BY CONSERVATION ADMINISTRATOR PRIOR TO CONSTRUCTION.
6. RETAINING WALLS TO BE CONSTRUCTED IN CONFORMANCE WITH MASS. DPW CONSTRUCTION SPECIFICATIONS 685.20 AND 685.40. FOR SPECIFICATIONS ON STONE SEE CONSTRUCTION DETAIL. WALL MAY BE SUBSTITUTED FOR A MODULAR BLOCK WALL SUCH AS VERSA-LOC OR EQUAL.
7. THE CONTRACTOR SHALL NOTIFY DIG-SAFE AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBANCE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE TOWN, STATE, AND FEDERAL CODES.
9. CLEAN AND COAT VERTICAL FACE OF PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
10. COORDINATE ALL WORK WITH IN THE PUBLIC RIGHT OF WAYS WITH THE TOWN OF READING.

TREE REMOVAL/REPLACEMENT

TOTAL NUMBER OF TREES 6" DBH OR GREATER TO BE REMOVED = 42

REPLACEMENT PLANTINGS:

- 23 EVERGREEN TREES 6" OR GREATER IN HEIGHT
- 8 DECIDUOUS TREES 2.5" DBH OR GREATER
- 15 SHRUBS 3" OR GREATER IN HEIGHT
- 36 TREE EQUIVALENTS PROPOSED

PLANTING FOR AREAS OF BUCKTHORN REMOVAL

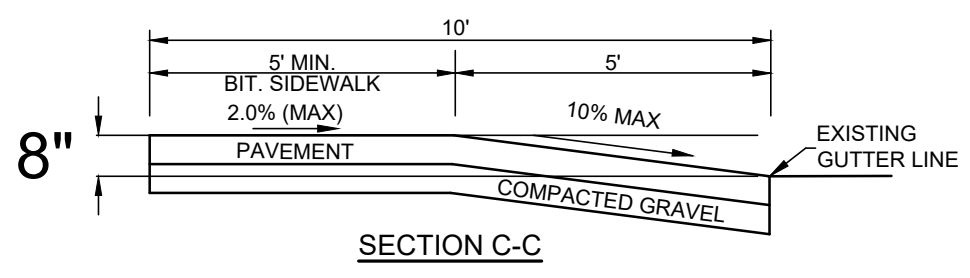
Common Name	Latin Name	Location	Quantity	Plant Size	Wetland Status
Invasive removal and native planting area in wetland and in gaps along upland side of line - plant size based on availability. At least 12 saplings.					
Sweet Pepperbush	Clethra alnifolia	Along upland side of wetland boundary on upland side to fill in gaps in plantings	TBD	3-4'	FAC+
Northern Arrowwood	Viburnum aceroides	Along wetland side of wetland boundary to fill in gaps	TBD	3-4'	FACW-
Winterberry	Ilex verticillata	Along and near wetland boundary on wetland side. Note one male plant for every 5 female.	TBD	3-4'	FACW- (outside 1' min)
Holly	Vaccinium corymbosum	Further side of wetland line in drier portions of wetland	TBD	3'	FACW-
Red-osier Dogwood	Cornus sericea	In wetland area	TBD	3-4'	FACW-
Speckled Alder	Alnus incana/rugosa	In wetland area	TBD	3-4'	FACW-
Red maple	Acer rubrum	In wetland area, not in standing water on either side of wetland line	At least 12	4-6'	FAC
Swamp White Oak	Quercus bicolor	In wetland area, not in standing water	Saplings to be planted	4-6'	FACW-
Black Oak	Quercus velutina	On upland edge and along wetland boundary		4-6'	FAC

SUPPLEMENTAL PLANTINGS IN ZNV

Common Name	Latin Name	Location based on available light	Quantity	Plant Size	Wetland Status
Buffer zone area - plant size based on availability. No mulch is to be used. Approximately 15 plantings, at least 5 saplings.					
Sweet Pepperbush	Clethra alnifolia	Partial to full shade	TBD	3-4'	FAC+
American witchhazel	Hamamelis virginiana L.	Partial to full shade	TBD	3-4'	FAC-
Highbush Blueberry	Vaccinium corymbosum	Full sun to partial shade Towards wetland line	TBD	3-4'	FACW
American Hazelnut	Corylus americana	Full sun to full shade, drier areas	TBD	3-4'	FACU-
Black Oak	Quercus velutina	In open areas with sun or partial shade		4-6'	FAC
Red Maple	Acer rubrum	Full sun to full shade		4-6'	FAC
Black Gum	Nyssa sylvatica	Full sun to full shade		4-6'	FAC

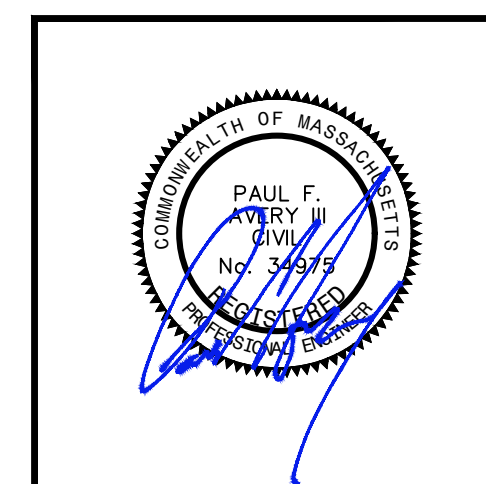
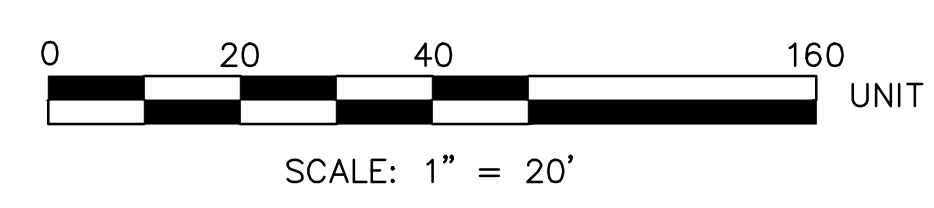
In the additional 10 foot zone.

Common Name	Latin Name	Location based on available light	Quantity	Plant Size	Wetland Status
Buffer zone area - plant size based on availability. No mulch is to be used other than organic vegetable based weed free compost. At least 4 saplings will be planted in this area.					
Sweet Pepperbush	Clethra alnifolia	Partial to full shade	TBD	3-4'	FAC+
American witchhazel	Hamamelis virginiana L.	Partial to full shade	TBD	3-4'	FAC-
American Hazelnut	Corylus americana	Full sun to full shade, drier areas	TBD	3-4'	FACU-
Virginia Rose	Rosa virginiana	Sunier areas and between driveway and house corners and 25 foot NDZ.	TBD	3-4'	FAC
Great laurel	Rhododendron maximum	Partial to full shade	TBD	3-4'	FAC
Inkberry	Ilex glabra	Partial to full sun	TBD	2-3'	FACW-
Gray Dogwood	Cornus racemosa	Full sun to full shade	TBD	3-4'	FAC
Red Maple	Acer rubrum	Full sun to full shade	At least 4	4-6'	FAC
Black Gum	Nyssa sylvatica	Full sun to full shade	saplings	4-6'	FAC
American Holly	Ilex Opaca	Full sun to full shade		4-6'	FACU+



- NOTES:**
1. DRIVEWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE TOWN OF READING DRIVEWAY STANDARDS
 2. THE SIDEWALK ACROSS THE DRIVEWAY SHALL MEET THE EXISTING SIDEWALK ON EITHER SIDE IN A FLUSH CONDITION
 3. THE PAVEMENT SHALL CONSIST OF A 1.0" WEARING COURSE OVER 1.5" BINDER.
 4. THE COMPACTED GRAVEL SHALL BE 1 FOOT THICK OF WELL GRADED MATERIAL COMPACTED IN 2 OR MORE LIFTS.

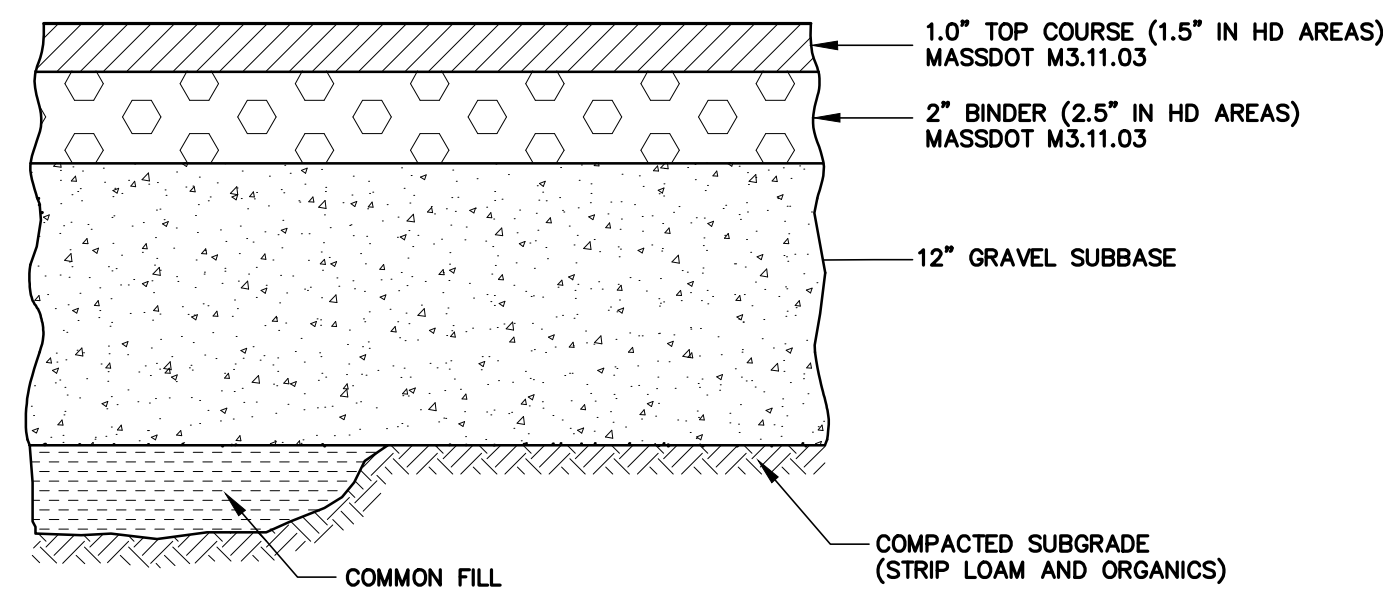
DRIVEWAY APRON DETAIL
NOT TO SCALE



OCG Oak Consulting Group, LLC P.O. Box 1123 Newburyport, MA 01950 Ph. 978.312.3120		SCALE: AS SHOWN	DESIGN: PFA	SHEET: C-002
		DRAWN: PFA	PROJECT: 12012	
1	12/10/18	PER CON-COM & ENGINEERING COMMENTS SPM	BY:	
REV	DATE	DESCRIPTION	BY	

MAP 23 LOTS 125 & 126
AZALEA CIRCLE
READING, MASSACHUSETTS

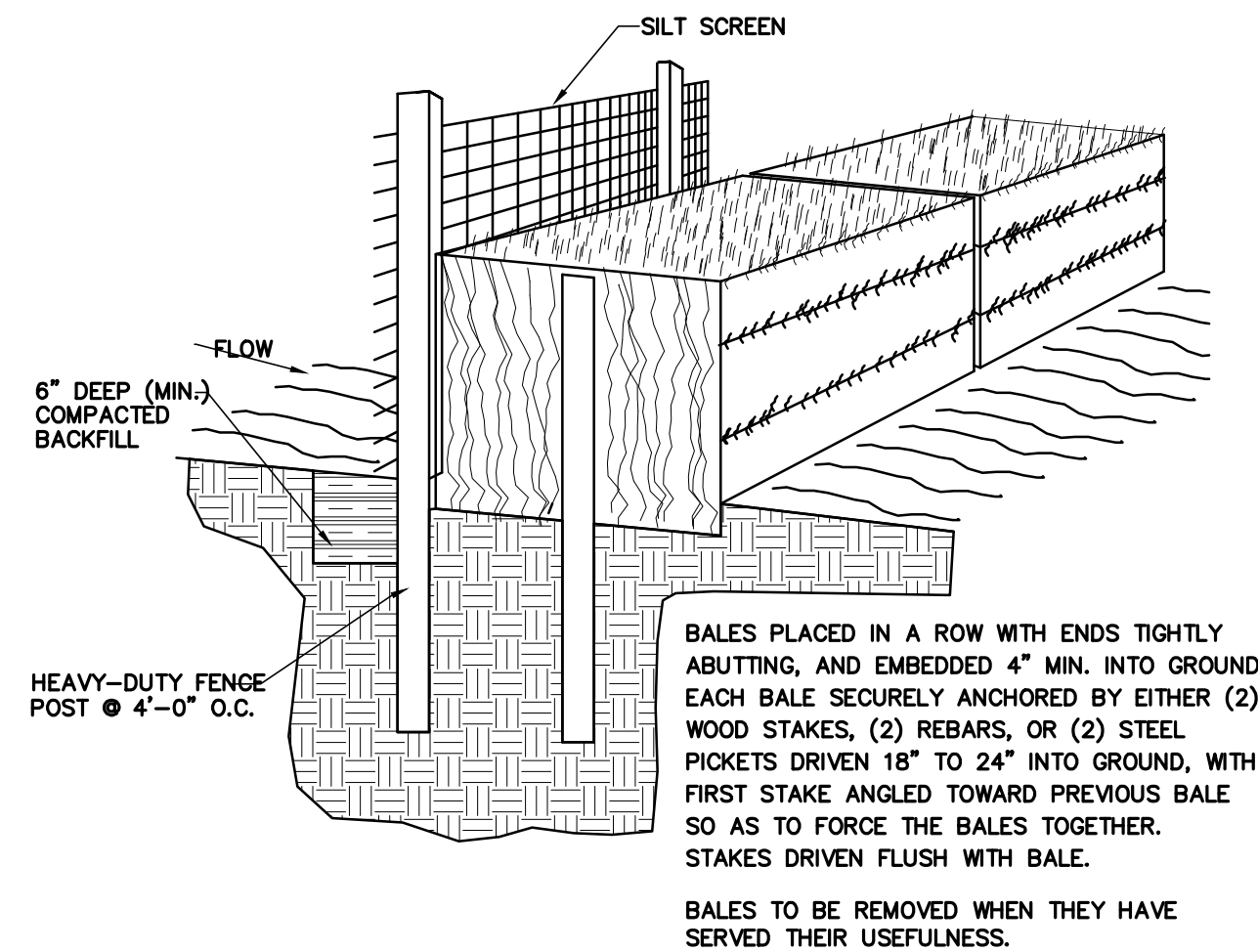
SITE PLAN



NOTE:

1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.

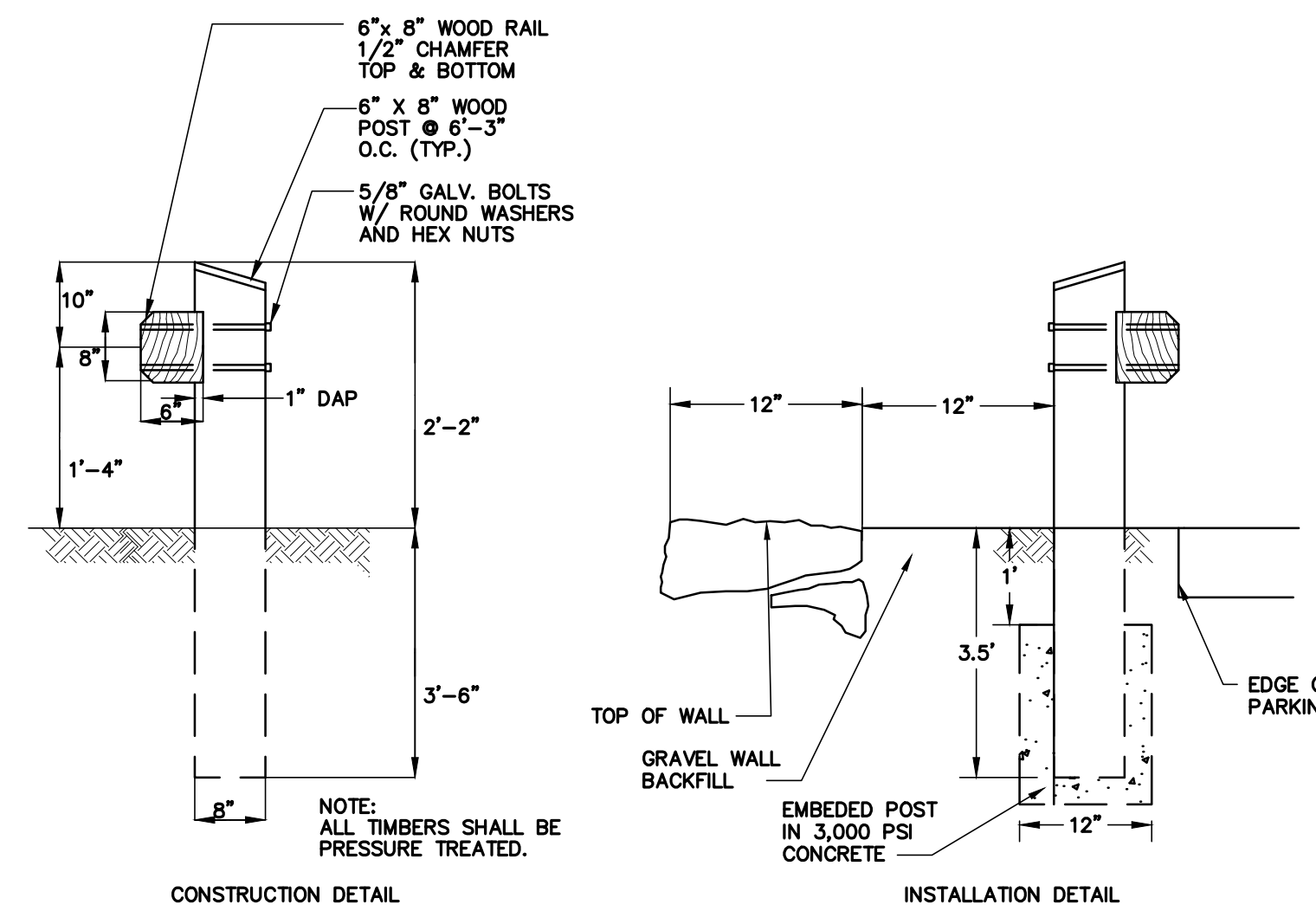
STANDARD PAVEMENT SECTION
NOT TO SCALE



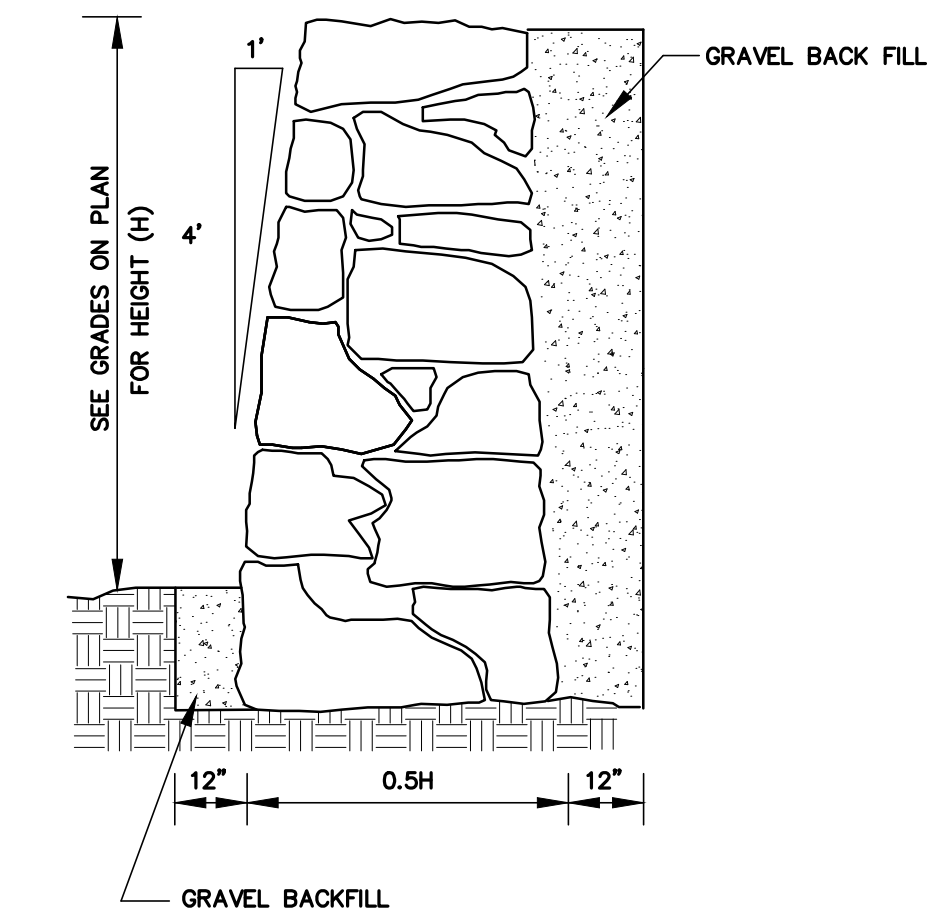
EROSION CONTROL:

CONTROL MEASURES TO BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION. SILTATION BARRIER TO BE INSTALLED PRIOR TO CONSTRUCTION. DISTURB ONLY THOSE AREAS NECESSARY FOR DEVELOPMENT. PRESERVE AS MUCH NATURAL VEGETATION AS POSSIBLE. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. BALES TO BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS. ALL DISTURBED AREAS TO HAVE PERMANENT VEGETATION AS SOON AS POSSIBLE.

HAY BALE AND SILT FENCE
(NOT TO SCALE)



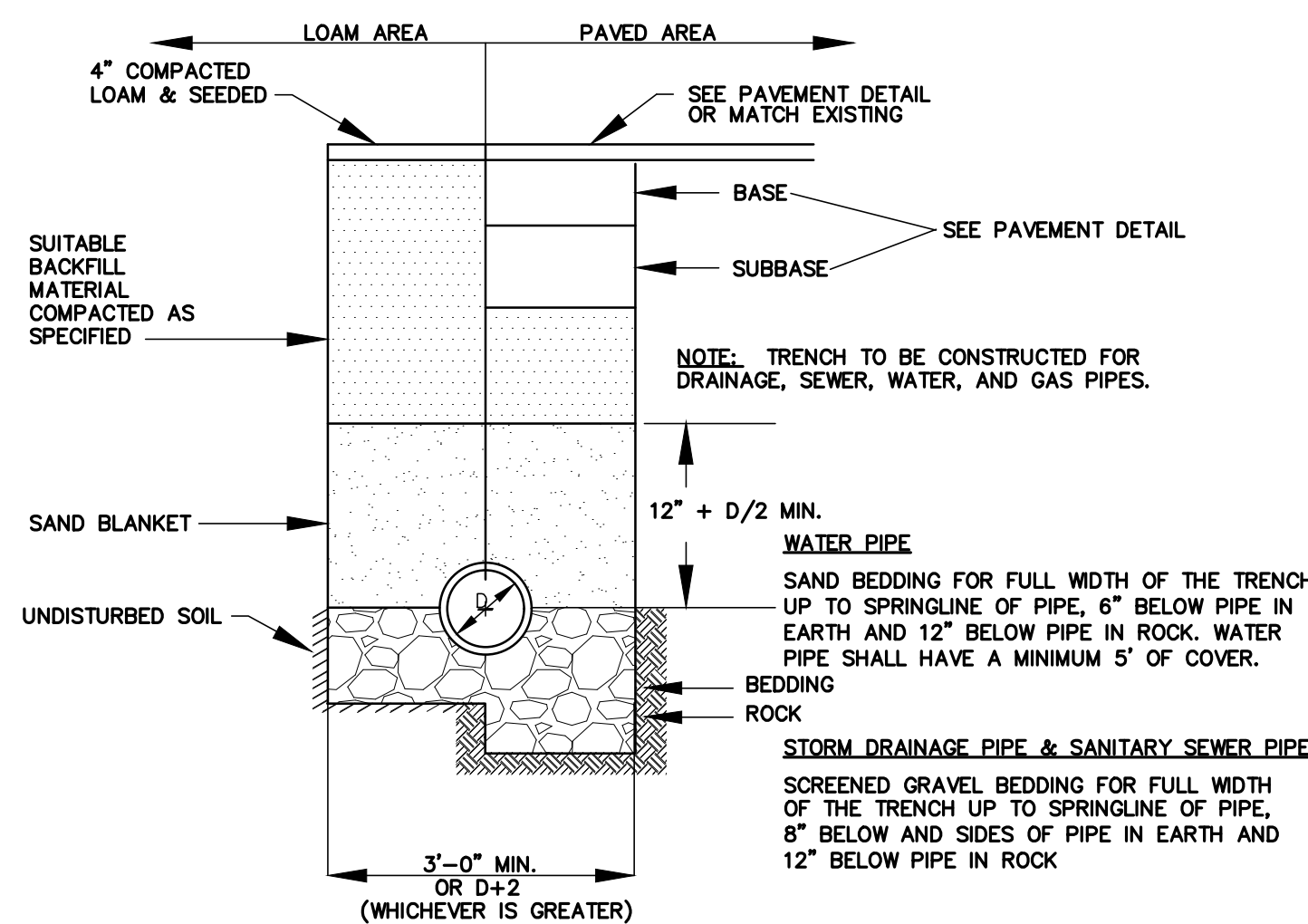
TYPICAL WOOD BEAM GUARD RAIL DETAIL
(NOT TO SCALE)



NOTE:

- M9.04.4 FIELD STONE MASONRY.
1. STONE FOR FIELD STONE MASONRY SHALL CONSIST OF SOUND DURABLE BLASTED OR FIELD STONE FREE FROM SEAMS, CRACKS AND OTHER STRUCTURAL DEFECTS AND OF AN APPROVED AND SATISFACTORY QUALITY AND SHAPE.
 2. THE STONE SHALL HAVE STRAIGHT EDGES WITHOUT RE-ENTRANT ANGLES. THE FACES SHALL BE FLAT BUT NOT NECESSARILY RECTANGULAR IN SHAPE.
 3. INDIVIDUAL STONE SHALL HAVE, WHEN SET IN THE WALL NO FACE DIMENSION LESS THAN 8 INCHES. STRETCHERS SHALL HAVE A DEPTH IN THE WALL AT LEAST 1 1/2 TIMES THE RISE, AND A LENGTH ON THE FACE AT LEAST TWICE THE RISE.
 4. HEADERS SHALL HAVE A LENGTH ON THE FACE AT LEAST EQUAL TO THE RISE. HEADERS SHALL HOLD IN THE HEART OF THE WALL THE SAME SIZE AS SHOWN ON THE FACE AND SHALL EXTEND AT LEAST 12 INCHES MORE THAN THE STRETCHERS INTO THE BACKING.

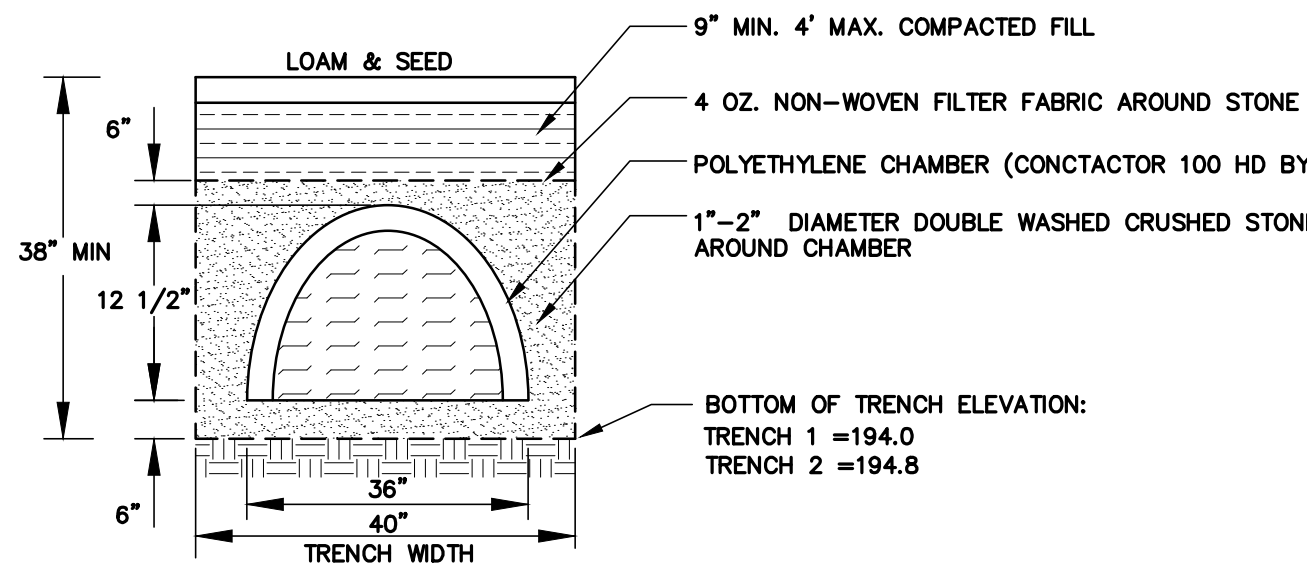
DRY STONE MASONRY WALL
(NOT TO SCALE)



NOTES:

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 93% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

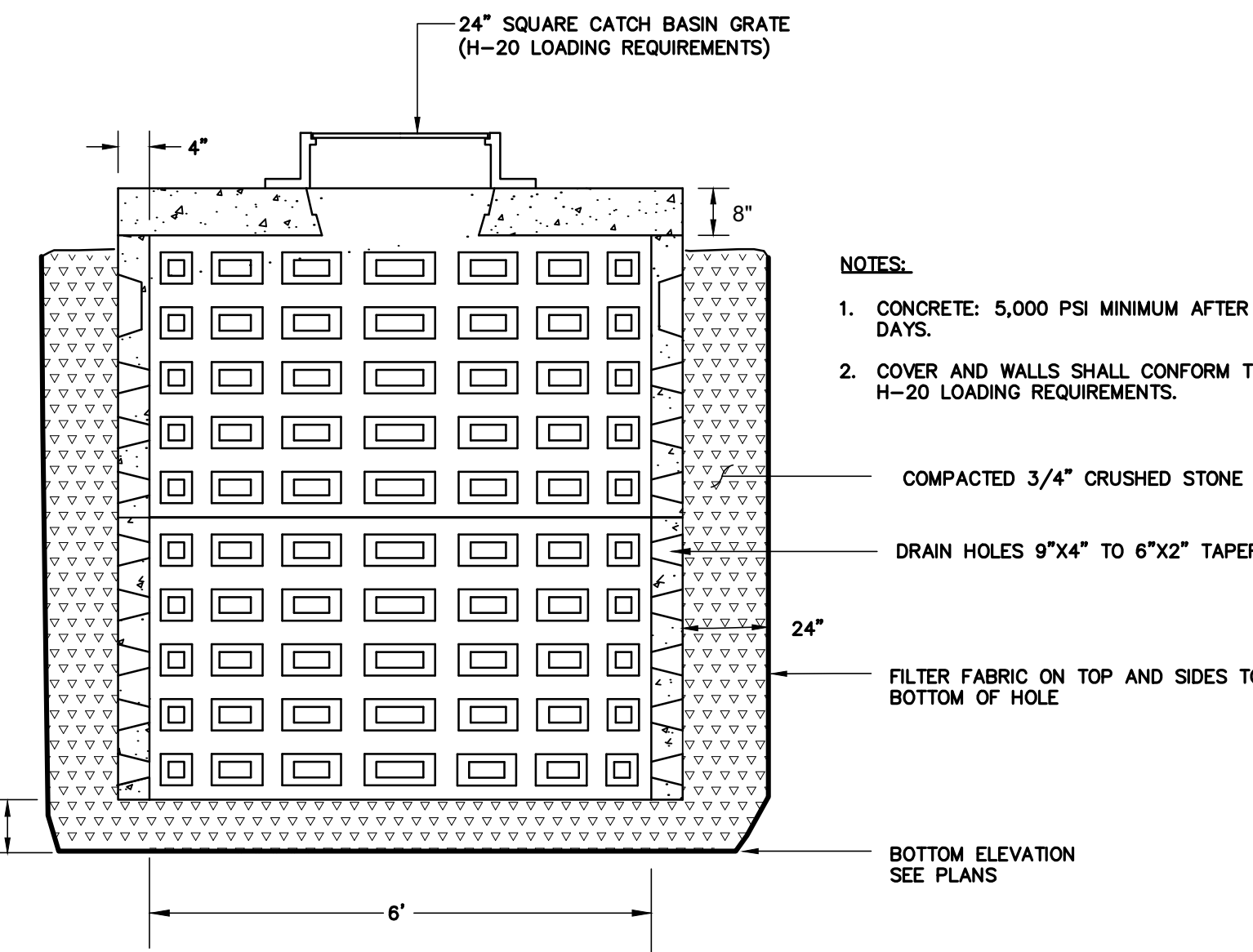
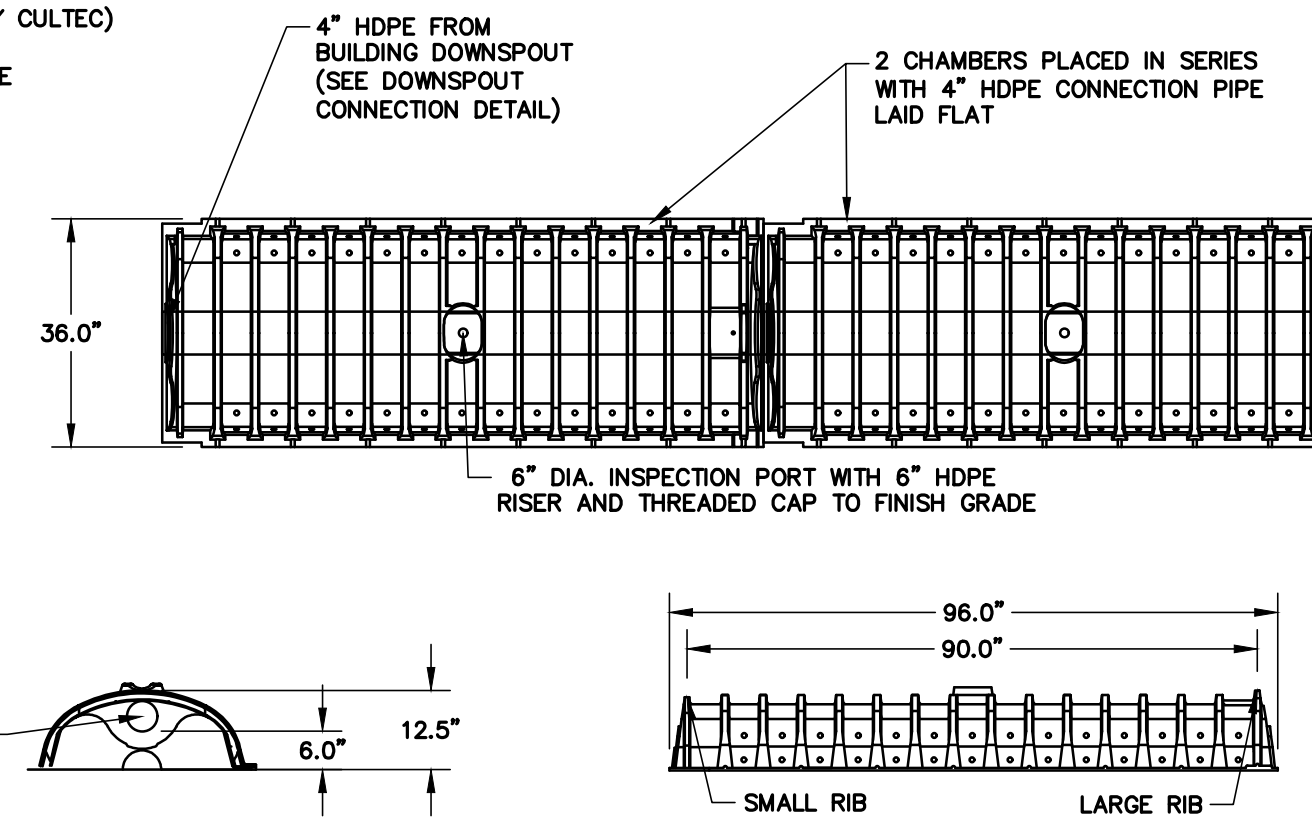
TYPICAL UTILITY TRENCH
NOT TO SCALE



GENERAL NOTES:

1. DESIGN UNIT BASED UPON RECOMMENDED METHOD OF INSTALLATION
2. CAPACITY OF VOID PROVIDED BY CRUSHED STONE IS CALC. @ 40% TOTAL VOLUME
3. TOTAL RETENTION OF CONTACTOR 100 CHAMBER = 28.81 ft³ /Unit (7.5' LONG)
4. TOTAL RUNOFF = 1,700 sq. ft. 1,700 x .5 / 12 = 71 cu. ft. REQUIRED STORAGE USE THREE (3) CONTACTOR 100 CHAMBERS
5. RECHARGE CHAMBERS ARE TO BE CONNECTED TO DOWN SPOUTS WITH PVC TEE AT GRADE TO PROVIDE OVERFLOW PROTECTION.
6. LOCATION OF CHAMBERS MAY VARY DUE TO LOCATION OF UTILITIES AND OR DOWN SPOUTS.

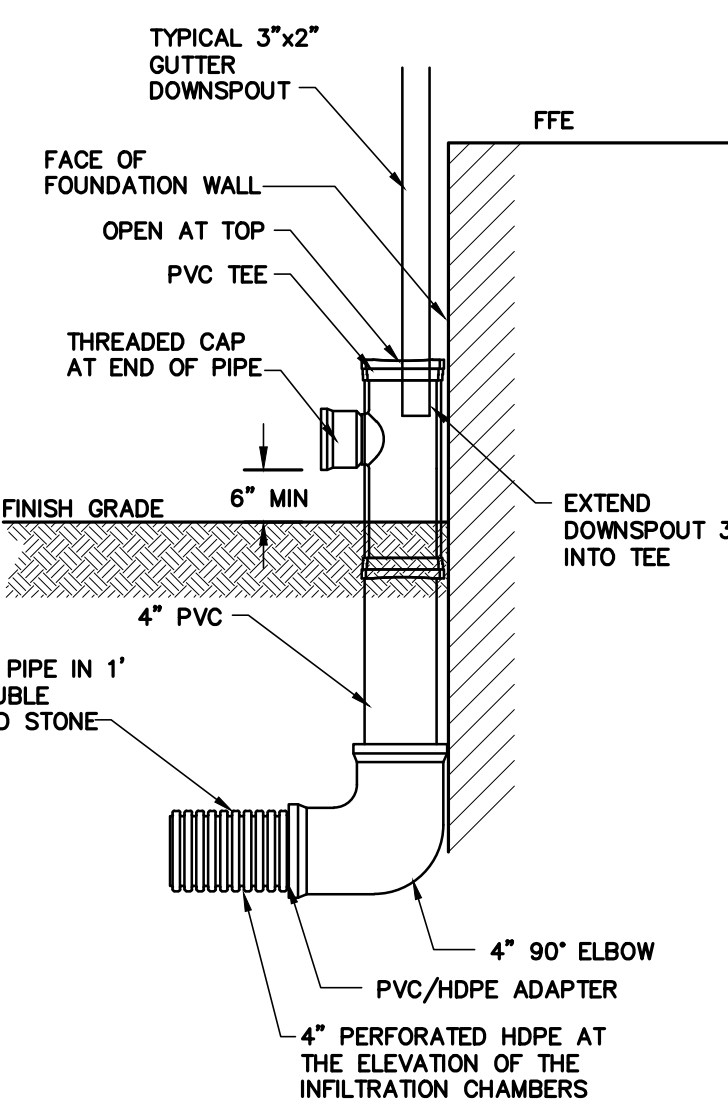
TYPICAL ROOF DRAIN RECHARGER CHAMBER BY
NOT TO SCALE



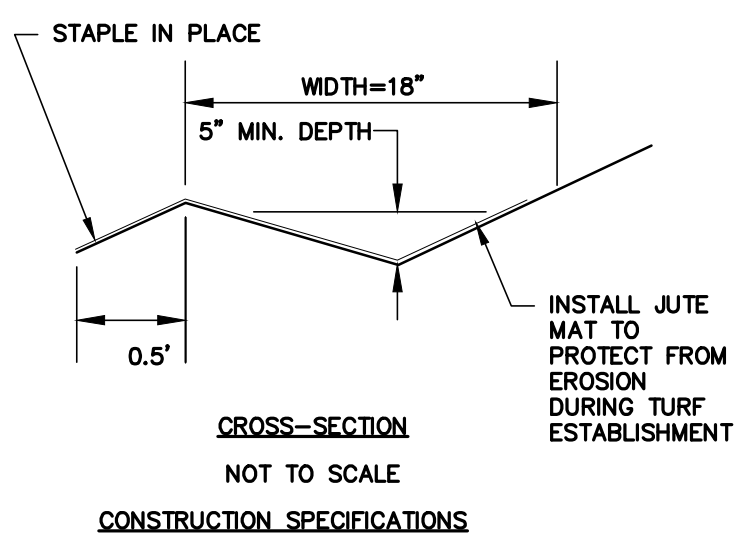
NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. COVER AND WALLS SHALL CONFORM TO H-20 LOADING REQUIREMENTS.

LEACHING CATCH BASIN
(NOT TO SCALE)

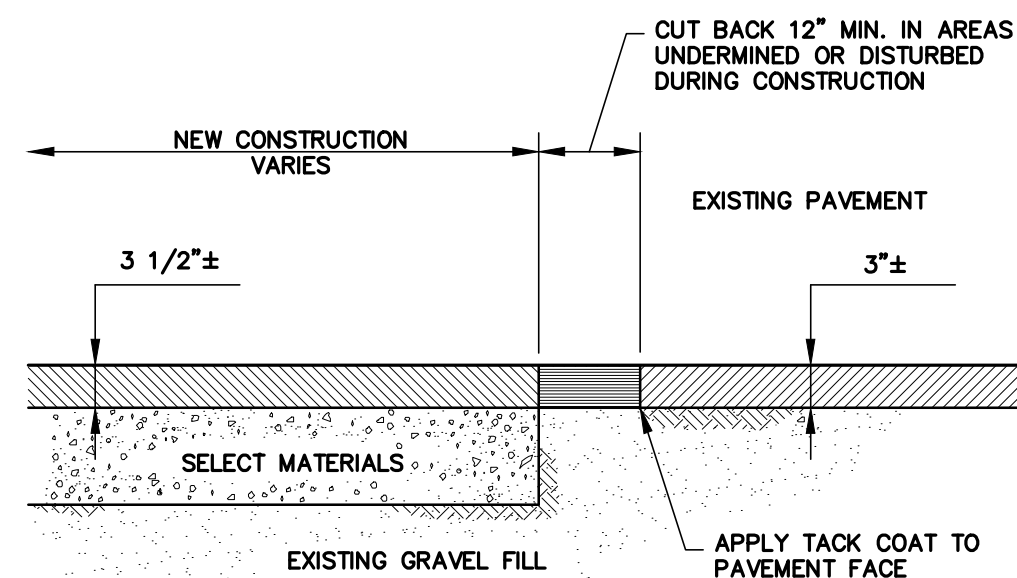


DOWNSPOUT CONNECTION
NOT TO SCALE



1. THE MATTING SHOULD BE A MINIMUM OF 4FT. WIDE EXTENDING 6 INCHES OVER THE LIP AND BURIED 6 INCHES DEEP IN A VERTICAL TRENCH ON THE LOWER EDGE. THE UPPER EDGE SHOULD BE SECURELY HELD IN PLACE WITH CLOSELY SPACED HEAVY DUTY WIRE STAPLES AT LEAST 12 INCHES IN LENGTH.
2. ENSURE THAT THE LIP IS LEVEL TO UNIFORMLY SPREAD DISCHARGE.
3. THE LIP SHALL BE CONSTRUCTED ON UNDISTURBED SOIL NOT FILL.
4. THE LEVEL SPREADER SHALL BE 8' LONG CONSTRUCTED LEVEL.
5. SEED AND MULCH THE DISTURBED AREA IMMEDIATELY AFTER CONSTRUCTION.

LEVEL SPREADER DETAILS
NOT TO SCALE



PAVEMENT SAWCUT
NOT TO SCALE

MAP 23 LOTS 125 & 126
AZALEA CIRCLE
READING, MASSACHUSETTS

SITE DETAILS PLAN

REV	DATE	PER CON-COM & ENGINEERING COMMENTS	SPM	BY
1	12/10/18	PER CON-COM & ENGINEERING COMMENTS	SPM	

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SCALE: AS SHOWN DESIGN: PFA SHEET: C-004

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CHECKED: SPM DATE: 7/9/18