



TOWN OF MILFORD, NEW HAMPSHIRE
OFFICE OF COMMUNITY DEVELOPMENT

1 UNION SQUARE, MILFORD, NH 03055

TEL: (603)249-0620

WEB: WWW.MILFORD.NH.GOV

STAFF MEMO

Date: February 24, 2021
To: Town of Milford Planning Board
From: Jason Cleghorn, Town Planner
Subject: **SP2021-08 Andrew and Krista Gardent and A.C. Engineering & Consulting (applicants/owners), 637 North River Road, Map 3, Lot 12.** Public Hearing for the review of a major site plan related to the excavation of approximately 70,000 cubic yards of material for construction of a new driveway, single family residence, and ~5,000 s.f. agricultural barn with associated stormwater control and re-contouring activities for planned agricultural/silvicultural fields.

BACKGROUND:

The applicant is before the Planning Board seeking approval of a major site plan application within Map 3 Lot 12 for the excavation of sand and gravel of approximately 70,000 cubic yards to be used in the construction of an access driveway and future agricultural fields and associated future farm and silvicultural (tree farm) uses.

ADDRESS:

637 North River Road

EXISTING USE:

The property has been partially excavated and an existing access road traversing northward toward the rear of the parcel has been created along a wetland system, which created access to a future homestead site.

LOT AREA:

The property totals approximately 31 acres. The area to be excavated is in a smaller sub-area of around +/- 4 acres.

APPLICATION STATUS:

The application is complete and ready to be accepted. The Board will need to make a determination of regional impact.

NOTICES:

Notices were sent to all property abutters on February 24, 2021.

ZONING DISTRICT/INFORMATION:

The subject property is within the Residential "R" District: The intent of the Residence "R" District is to provide for low-density residential and agricultural land uses, and other compatible land uses, that are sensitive to the rural character and environmental constraints existing in the district.

Zoning Ordinance § 5.04.1 (D) permits the harvesting of natural resources, which sand and gravel excavation such as this major site plan contemplates would fall under.

EXISTING CONDITIONS:

The subject property, Tax Map 3, Lot 12 is a large 31 acre parcel with limited frontage along North River Road. The property is flanked on the west side by a linear wetland system and on the east side by single family residences along Cortland Rd. The property itself is narrow nearest the North River Road frontage and widens as it moves northward. The parcel is approximately 2,700 (~1/2 mile) feet in depth. An access road traversing the property has already been

constructed and excavation has occurred onsite without benefit of the Alteration of Terrain permit from NHDES or the major site plan review as part of this application.

A 12-foot access road (driveway) begins at the property's frontage along North River Road and extends up and over an esker (*glacial deposit of organic material in a linear formation*) toward the rear of the property. Excavation has occurred along the slopes of the access road although it should be noted that it appears after staff made a site visit that the applicant did a thorough job with silt fencing and stormwater management, in general. The property would be served in the future via well and septic as public water and sewer lines end at the other side of the Veterans Bridge over the Souhegan River.

TRAFFIC AND ACCESS MANAGEMENT:

Vehicular ingress and egress to the property will be a single entrance driveway connection onto North River Road along the western property boundary with Map 6 Lot 12. Staff would suggest that the primary access be shifted to the secondary driveway access to the east (an existing driveway throat exists) so as to minimize the impact of haul trucks and their creation of noise, dust and visual impact on the existing single family residence at Map 6 Lot 12. The adjusted driveway configuration would have an impact on the planned agricultural field, but at twelve (12) feet of width, and to decrease impacts on adjacent residences, Staff believes that potential shift to be both feasible and reasonable.

OPEN SPACE/LANDSCAPING:

As part of *Milford Gravel and Earth Removal Regulations 2014*, Staff would request that the applicant as contemplated in *§ Article V (9) and § Article IX (2)* that a vegetative buffer of arborvitae or other similar plant material be constructed on but not limited to the boundary of the property with **Map 6 Lot 27** and **Map 4 Lot 3-2** to minimize the impact of the haul trucks, the sand and gravel separation via shaker/separator and the general impact of the operation on those particular adjacent properties. Staff would welcome the Planning Board's input as to other areas in which it may believe that additional sound reducing vegetative barriers would benefit the adjacent public and the operation.

DRAINAGE:

Although the project is not located within the 100-year flood plain as shown on the Flood Insurance Rate Map Number 330096, dated September 25, 2009, the properties fall within the Milford Groundwater Protection Zone 2 Overlay.

PARKING: N/A

LIGHTING PLAN: N/A

BUILDING ELEVATIONS: N/A

INTERDEPARTMENTAL REVIEWS:

Ambulance:

1. The length and grade of the proposed driveway/access road is of concern. The owner should be made aware of possible delays in response due to access issues during times of inclement weather and when the driveway is covered in snow or ice.

Assessing:

1. How will the phasing be done for the excavation and how long will the excavation take through full completion and reclamation?

Building Department:

Conservation Commission:

Fire Department: No comments.

Heritage Commission:

Police Department: No comments.

Public Works:

1. This property is on state of NH right-of-way, the town of Milford cannot hold any driveway permits for this property as shown.
2. Driveway sloping does get close to wetland buffer in one spot (near match line), may require some extra siltation protection.
3. A driveway profile should be provided.
4. DPW doesn't require, this may be planning board, DPW only has approval of location of signs (within "Town" ROW), and this is a limited access area.

SoRLAC: N/A

Water Utilities:

Zoning Administrator:

Stormwater:

1. Borings or test pits must be added to the plans to verify water table elevations in the excavation area.
2. Update the Sequence of Construction to reflect the excavation process.

Planning Department:

1. A phasing plan with an established timeline through the rest of the excavation through final restoration and reclamation should be added to this site plan/documentation.
2. As work has already been done without benefit of an Alteration of Terrain (AoT) permit for NHDES or site plan approval from the Town of Milford, no additional excavation should occur until both of these permitting activities are completed.
3. Article X, § (A and B) of the *Milford Gravel and Earth Removal Regulations (MGERR* hereafter) will require a yearly \$50.00 permit fee for future inspections and compliance and a bond of \$7,500 per acre of any excavated area for potential reclamation to be made by the Town(in lieu of applicant reclamation) will be required moving forward.
4. What were the results of any soil borings or test pits to determine groundwater levels onsite?
5. The *MGERR* in the *Appendix #4* and in *Article V (2)* requires a description of the haul routes. Where will the material be hauled off site and over which roadway networks, off and away from the property?
6. The hours of operation as well as the days of the week are limited by the *MGERR*. Moving forward, strict adherence to these dates and times will be paramount to the success of the operation and the minimization of impact on adjacent residences.
7. The location of the shaker/separator will have a large impact on the adjacent neighbors. While it is understood that the equipment will need to be moved according to the area being excavated, please be diligent in choosing potential locations for it which minimize auditory impacts to those neighboring properties. Any temporary (or permanent) sound screening adjacent to the shaker/screener which might reduce the sound will be constructive.
8. Although the culvert through the wetland crossing was pre-existing, please add a small data table to the plans calculating the areas of impact to any existing wetland systems in this location or any other location with an impact.
9. Staff is unclear on what the applicant's intent for a Reclamation Plan was intended to be. The *MGERR* requires a formal Reclamation Plan.
10. NHDOT will require a Driveway Permit for the project's connection to North River Rd. along either the existing driveway connection or the other connection which staff is recommending.
11. Staff will need to review the Wildlife Biologist's report about the property as part of the AoT permit.

Comments and recommendations provide an overview of areas needed to be addressed at the Public Hearing or shown as part of the application:

STAFF RECOMMENDATIONS:

The applicant should be prepared to address all of the comments raised by the Planning Board, Conservation Commission, Town Consultants, Staff, and public pertaining to the Subdivision Plan. The Planning Board's discussion should center on the applicant's need to cure the outstanding state and local permitting issues including the outstanding Alteration of Terrain Permit and NHDOT Driveway Permit.

Aerial of 637 North River Rd, Map 3 Lot 12.



Existing Conditions at the frontage along N. River Rd.



Photos along the access driveway (taken in the summer)



Photo 1



Photo 2

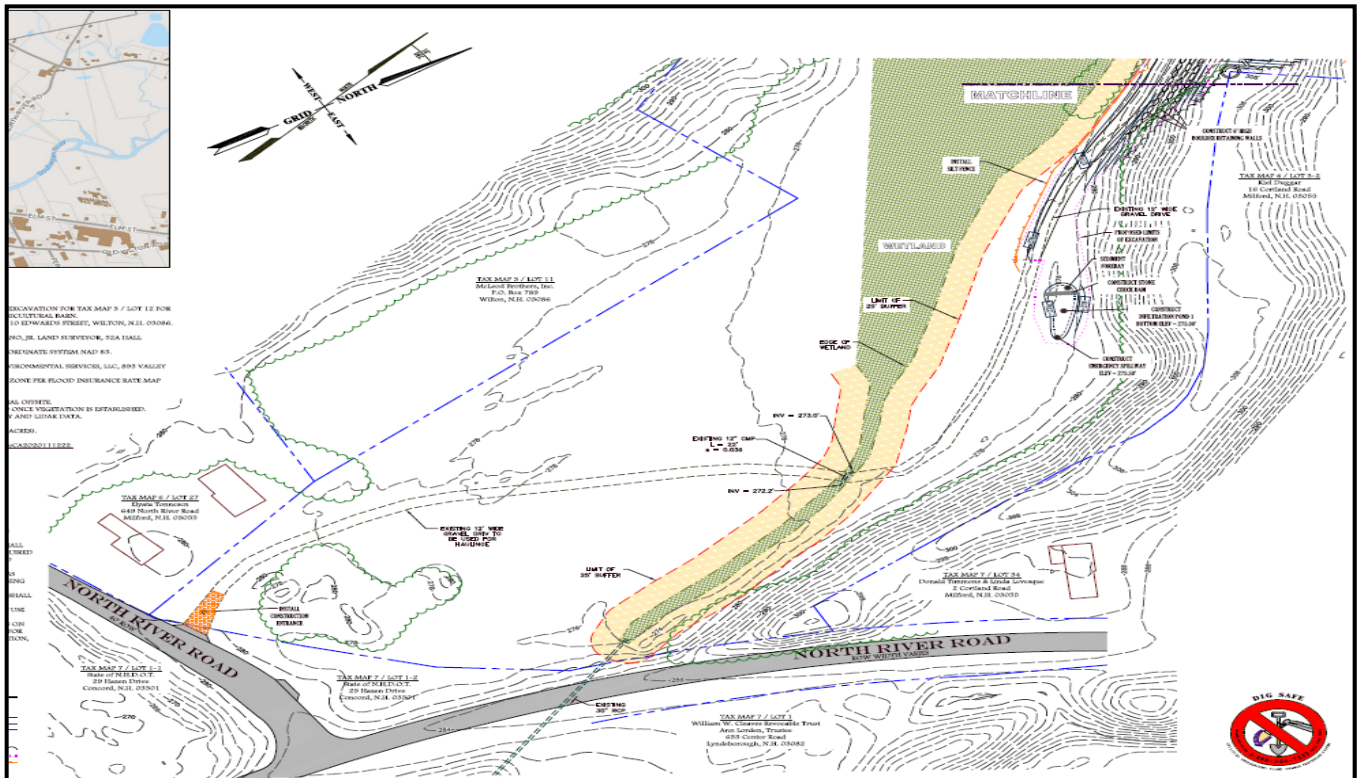


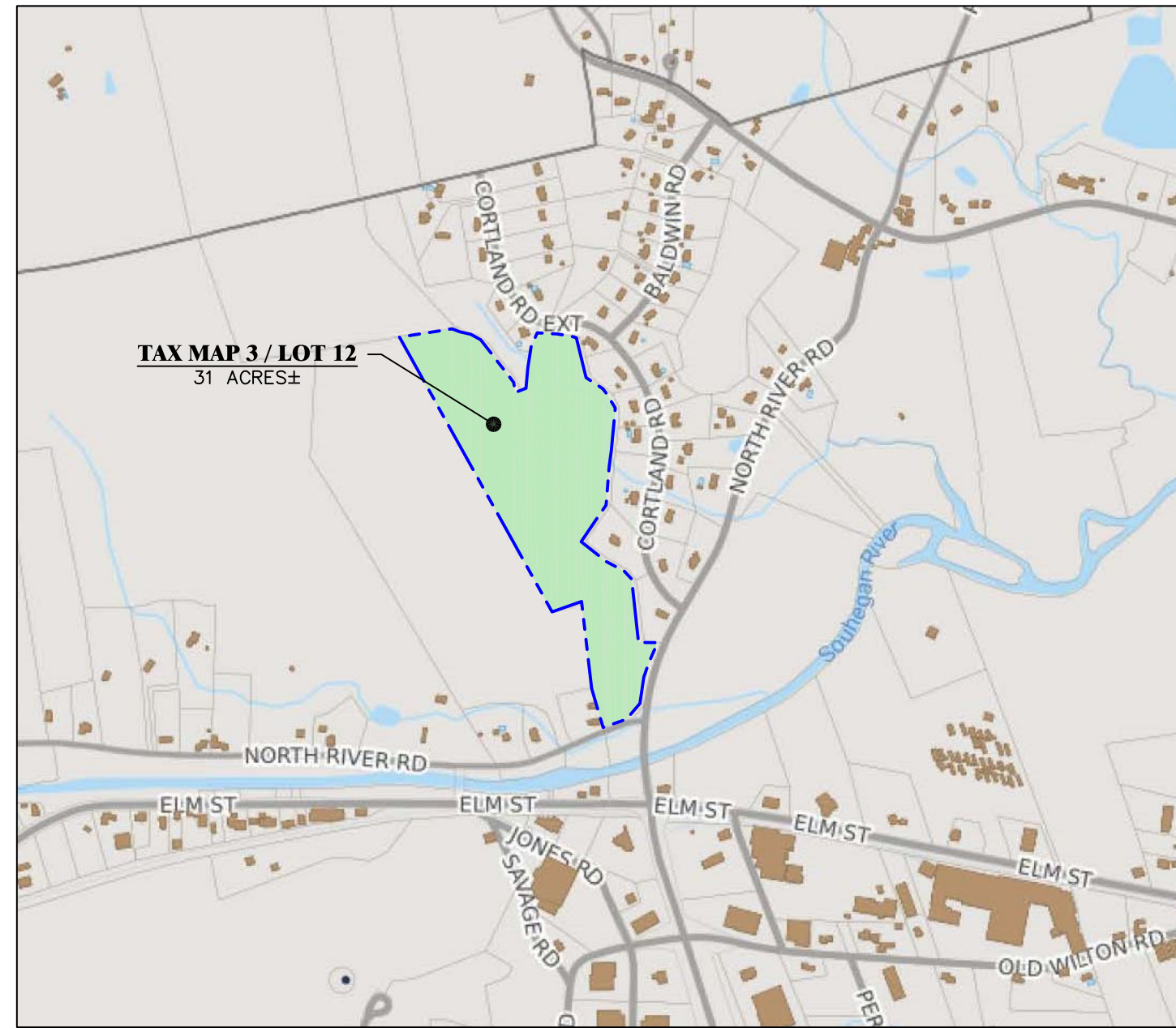
Photo 3



Photo 4

Site Plan Sheets showing the access drive, the wetland areas and the proposed residence and agricultural barn

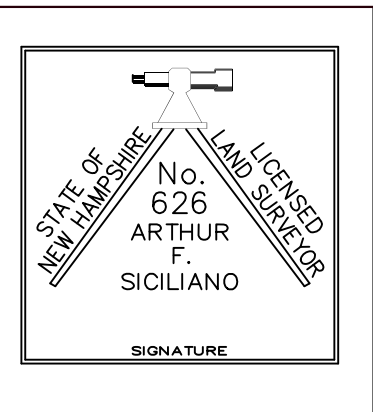




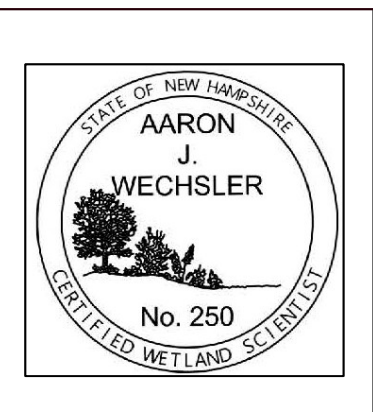
LOCUS MAP
SCALE: 1" = 1000'

OWNER OF RECORD:
Andrew & Krista Gardent
10 Edwards Street
Wilton, N.H. 03086
Book 9209 / Page 1674

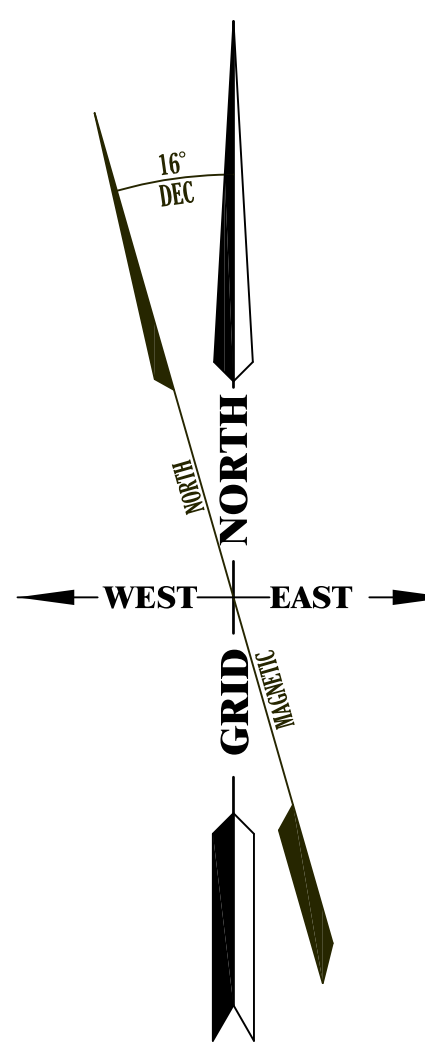
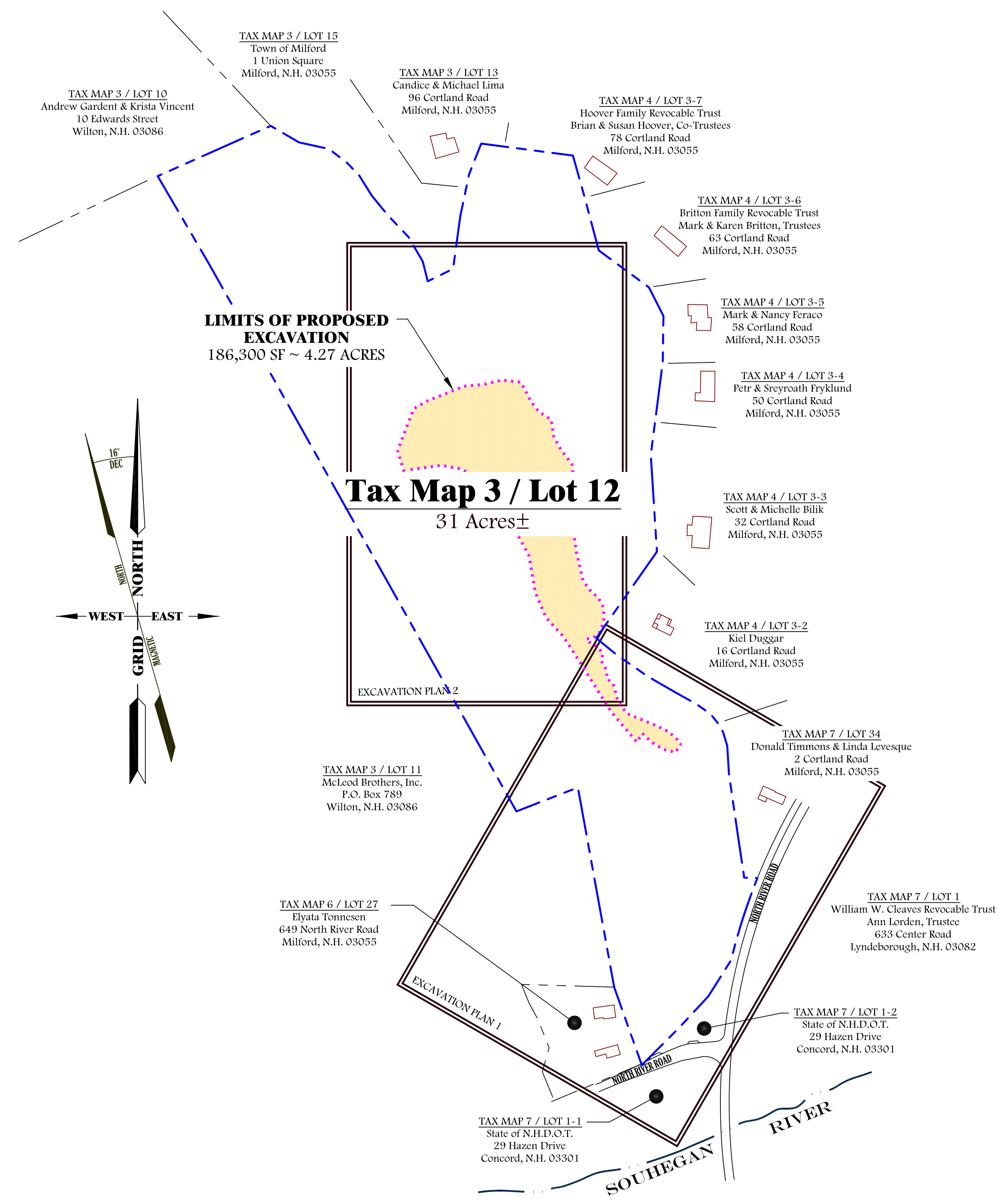
SURVEYOR:
Arthur F. Siciliano, Jr.
Land Surveyor
52A Hall Avenue
Henniker, N.H. 03242



WETLAND SCIENTIST:
Aaron Wechsler
41 Liberty Hill Road
Building 2 ~ Suite 201
Henniker, N.H. 03242



A.C.Engineering & Consulting
Civil Engineering & Land Planning
43 Bear Hill Road East Washington, N.H. 03280 Phone: (603) 325-5114 acengineer@gsinet.net



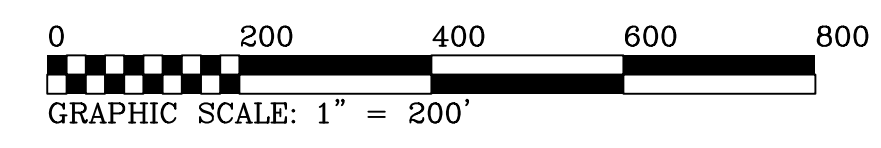
SITE OVERVIEW

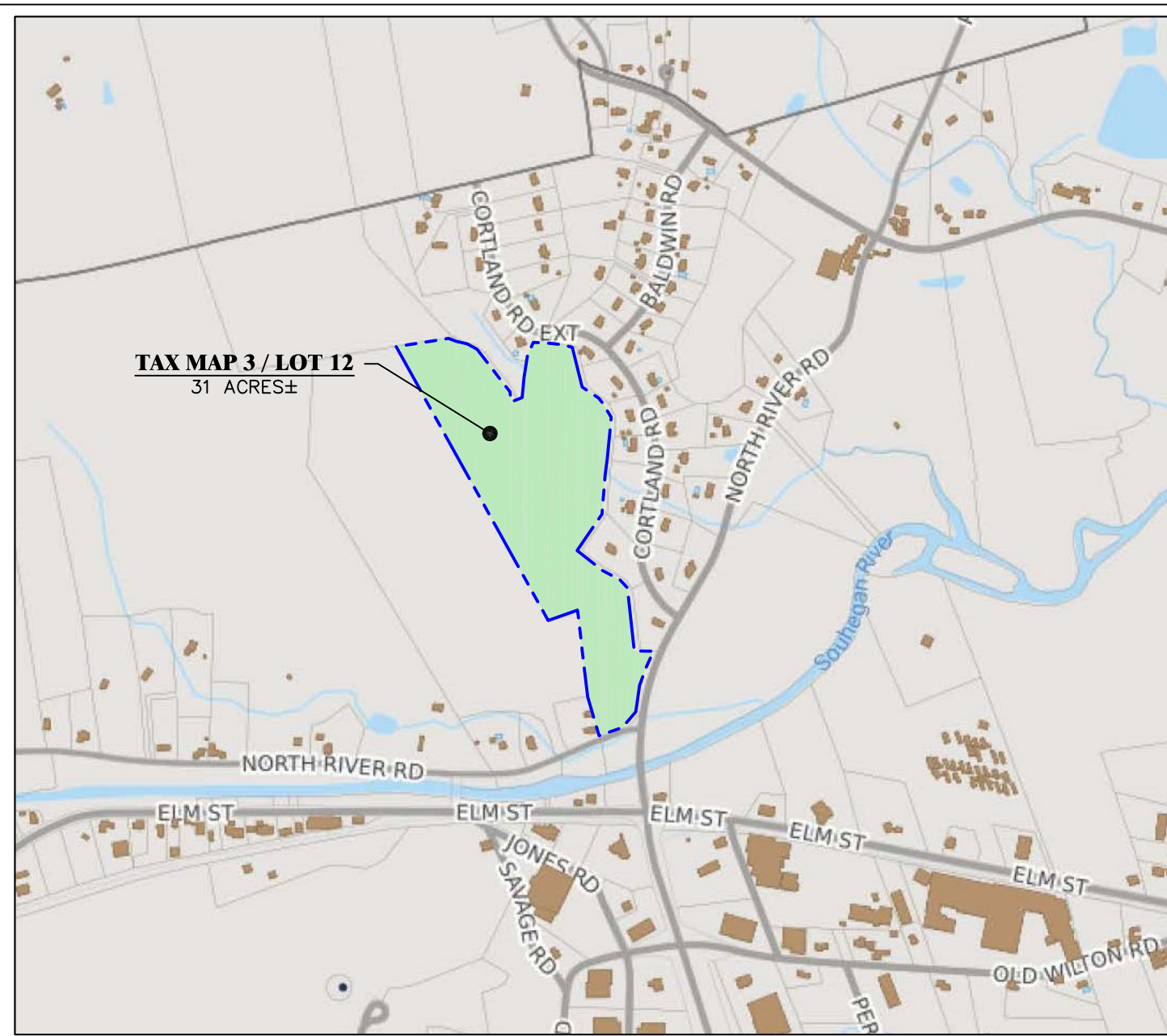
Gardent Property

Tax Map 3 / Lot 12

North River Road ~ Milford, N.H.

- SHEET INDEX**
- EXCAVATION PLAN 1
 - EXCAVATION PLAN 2
 - CONSTRUCTION DETAILS
 - EROSION CONTROL 1
 - EROSION CONTROL 2
 - EROSION CONTROL 3





LOCUS MAP
SCALE: 1" = 1000

NOTES

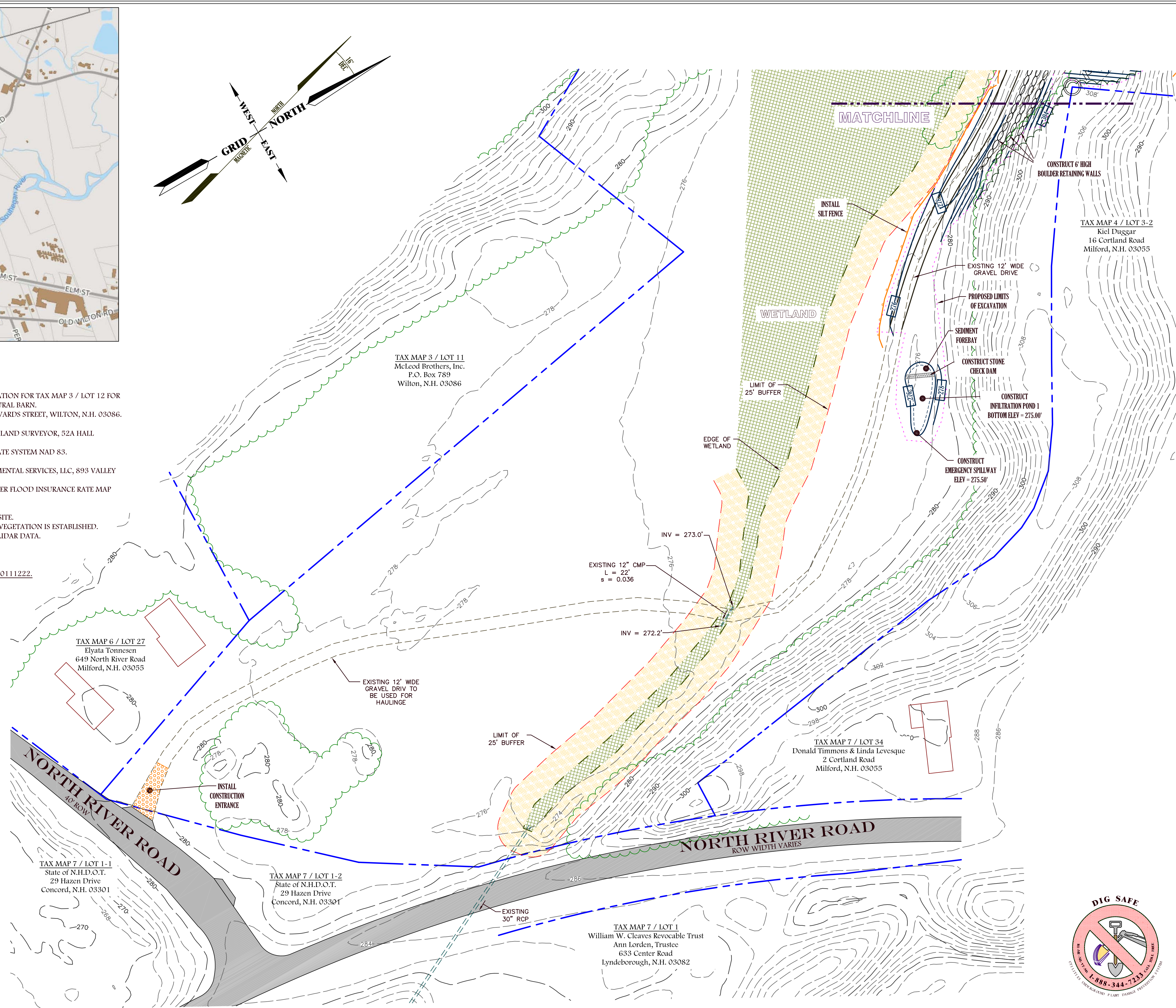
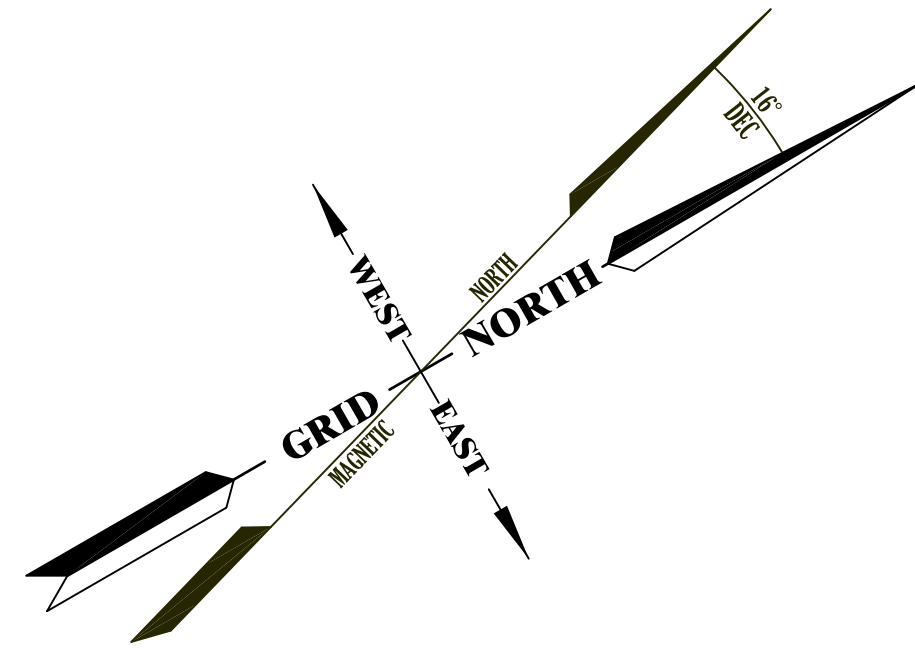
1. THE PURPOSE OF THIS PLAN IS TO SHOW PROPOSED GRAVEL EXCAVATION FOR TAX MAP 3 / LOT 12 FOR THE CONSTRUCTION OF A NEW HOUSE, DRIVEWAY AND AGRICULTURAL BARN.
2. OWNER OF RECORD: ANDREW GARDENT & KRISTA VINCENT, 10 EDWARDS STREET, WILTON, N.H. 03086.
3. PROPERTY IS LOCATED IN THE RESIDENTIAL (R) DISTRICT.
4. SURVEY OF EXISTING CONDITIONS PROVIDED BY ART SICILIANO, JR. LAND SURVEYOR, 52A HALL AVENUE, HENNIKER, N.H. 03242.
 - HORIZONTAL DATUM IS BASED ON NH STATE PLANE COORDINATE SYSTEM NAD 83.
 - VERTICAL DATUM IS BASED ON NAVD 1988.
5. WETLANDS DELINEATED BY AARON WECHSLER OF ASPEN ENVIRONMENTAL SERVICES, LLC, 893 VALLEY ROAD, WASHINGTON, N.H. 03280.
6. A PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD ZONE PER FLOOD INSURANCE RATE MAP PANEL 33011CO452D.
7. WATER TRUCK TO BE USED ON-SITE FOR DUST CONTROL.
8. EXISTING GRAVEL DRIVE TO BE USED FOR HAULING MATERIAL OFFSITE.
9. TEMPORARY EROSION CONTROL MEASURES TO BE REMOVED ONCE VEGETATION IS ESTABLISHED.
10. TOPOGRAPHIC CONTOURS COMPILED FROM ON-SITE SURVEY AND LIDAR DATA.
11. BOUNDARY SHOWN IS APPROXIMATE.
12. TOTAL AREA OF PROPOSED EXCAVATION IS 186,300 SF (4.28 ACRES).
13. ALL DISTURBED AREAS TO BE LOAMED & SEEDED.
14. NHDES INDIVIDUAL SEWAGE DISPOSAL SYSTEM APPROVAL #eCA2020111222.
15. NHDES ALTERATION OF TERRAIN PERMIT PENDING.

OPERATIONAL STANDARDS

1. NO OPERATION OF THE GRAVEL AND EARTH REMOVAL BUSINESS SHALL OPERATE OUTSIDE THE HOURS OF 7:00AM TO 5:00PM, MONDAY THROUGH FRIDAY. IN ADDITION, NO EXCAVATION SHALL BE ALLOWED ON A LEGAL HOLIDAY. OTHER HOURS MAY BE REQUIRED OR PERMITTED WHICH ARE COMPATIBLE WITH NEIGHBORHOOD CONDITIONS.
2. TRUCKS ENTERING SIGNS SHALL BE ERRECTED BY THE OPERATOR AS REQUIRED BY THE DIRECTOR OF PUBLIC WORKS AND THE PLANNING BOARD.
3. A COPY OF THE APPROVED GRAVEL AND EARTH REMOVAL PLAN SHALL BE ON SITE AT ALL TIMES.
4. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR SUBSEQUENT USE IN RECLAMATION OF THE SITE.
5. NATURAL VEGETATION ADJACENT TO NEIGHBORING PROPERTIES ON WHICH EXCAVATION IS NOT INTENDED SHALL BE MAINTAINED FOR THE PURPOSE OF EROSION CONTROL, SCREENING, NOISE REDUCTION, DUST CONTROL, AND PROPERTY EVALUATION.

LEGEND

	PROPERTY LINE		EDGE OF WETLAND
	EDGE OF PAVEMENT		WETLAND BUFFER
	EDGE OF GRAVEL		TREELINE
	2' CONTOUR		LIMIT OF EXCAVATION
	10' CONTOUR		SILT FENCE



TAX MAP 3 / LOT 11
McLeod Brothers, Inc.
P.O. Box 789
Wilton, N.H. 03086

TAX MAP 6 / LOT 27
Elyata Tomnesen
649 North River Road
Milford, N.H. 03055

TAX MAP 7 / LOT 1-1
State of N.H.D.O.T.
29 Hazen Drive
Concord, N.H. 03301

TAX MAP 7 / LOT 1-2
State of N.H.D.O.T.
29 Hazen Drive
Concord, N.H. 03301

TAX MAP 7 / LOT 34
Donald Timmons & Linda Levesque
2 Cortland Road
Milford, N.H. 03055

TAX MAP 7 / LOT 1
William W. Cleaves Revocable Trust
Ann Lorden, Trustee
633 Center Road
Lyndeborough, N.H. 03082



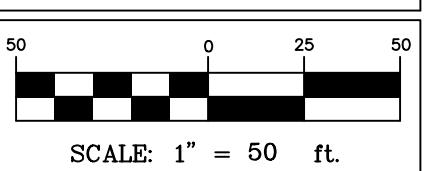
A.C. Engineering & Consulting
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43 Bear Hill Road
East Washington, N.H. 03280

NO.	DATE	DESCRIPTION	BY

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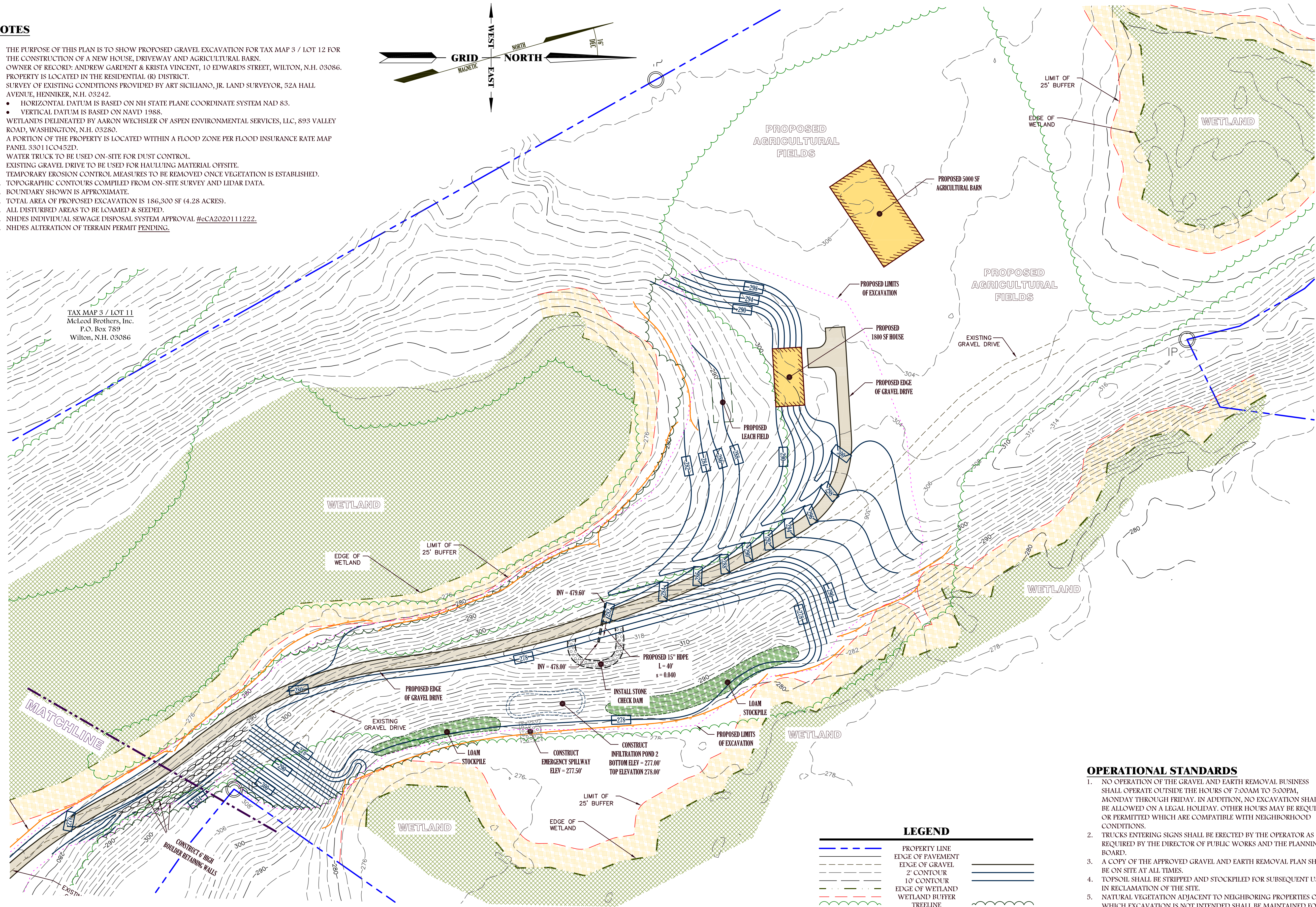
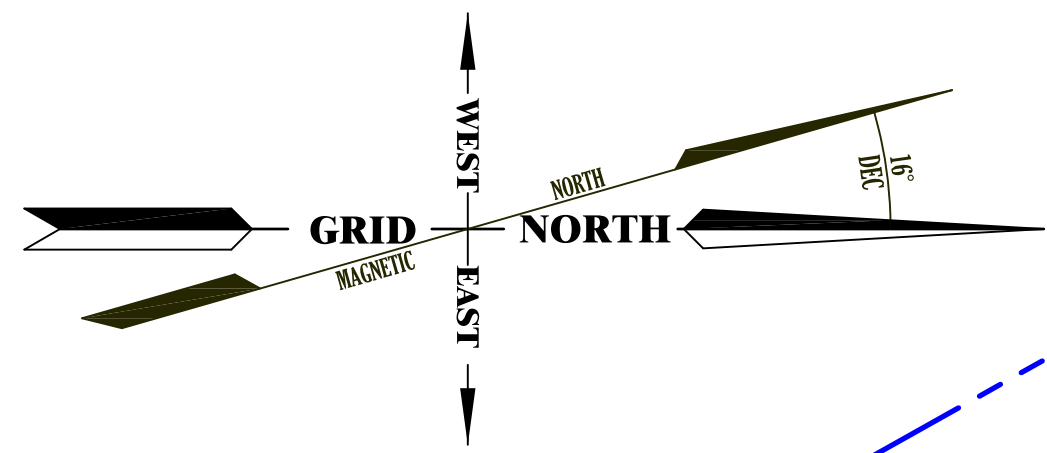
EXCAVATION PLAN 1
Gardent Property
Tax Map 3 / Lot 12
North River Road ~ Milford, N.H.



SCALE: 1" = 50 ft.
DATE: 1-21-21
DWG: 2014-BASE

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	10' CONTOUR		EDGE OF WETLAND
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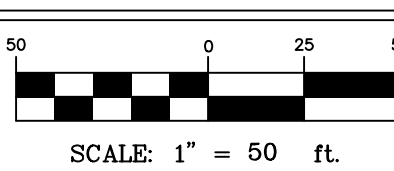
A.C. Engineering & Consulting
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acengineering@gsinet.net

43 Bear Hill Road
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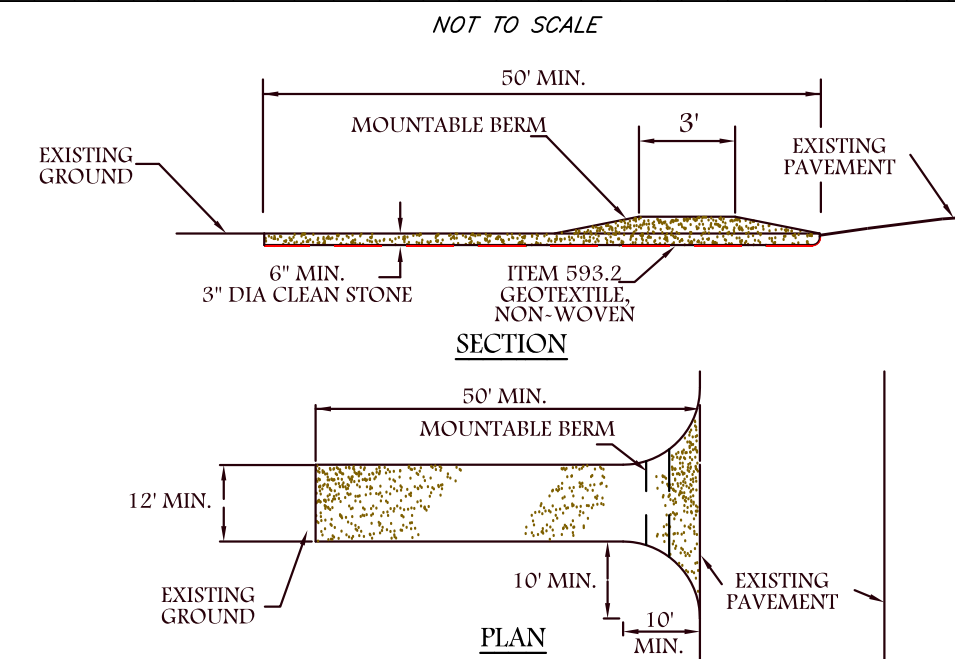
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EXCAVATION PLAN 2
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North River Road ~ Milford, N.H.



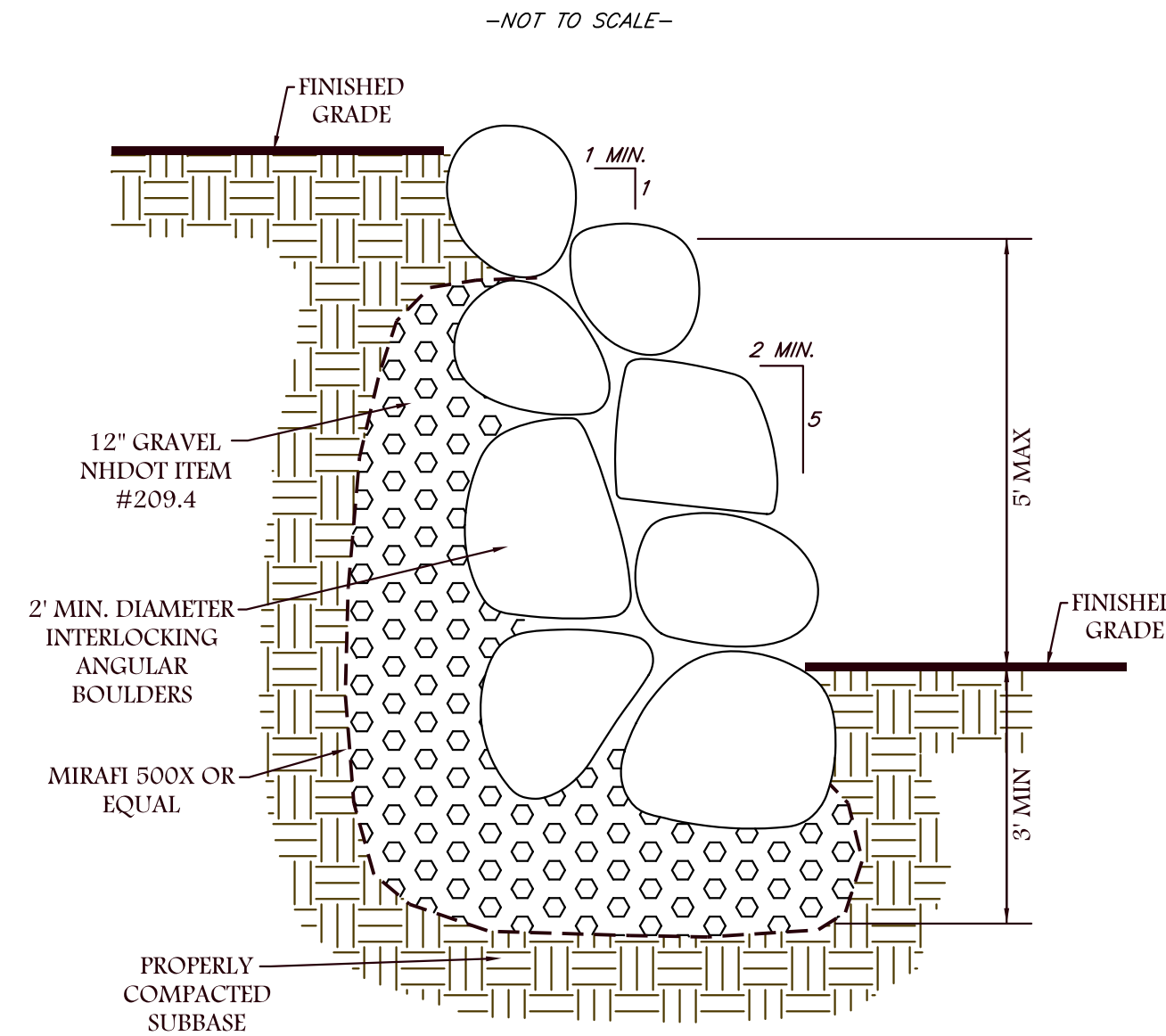
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STABILIZED CONSTRUCTION ENTRANCE

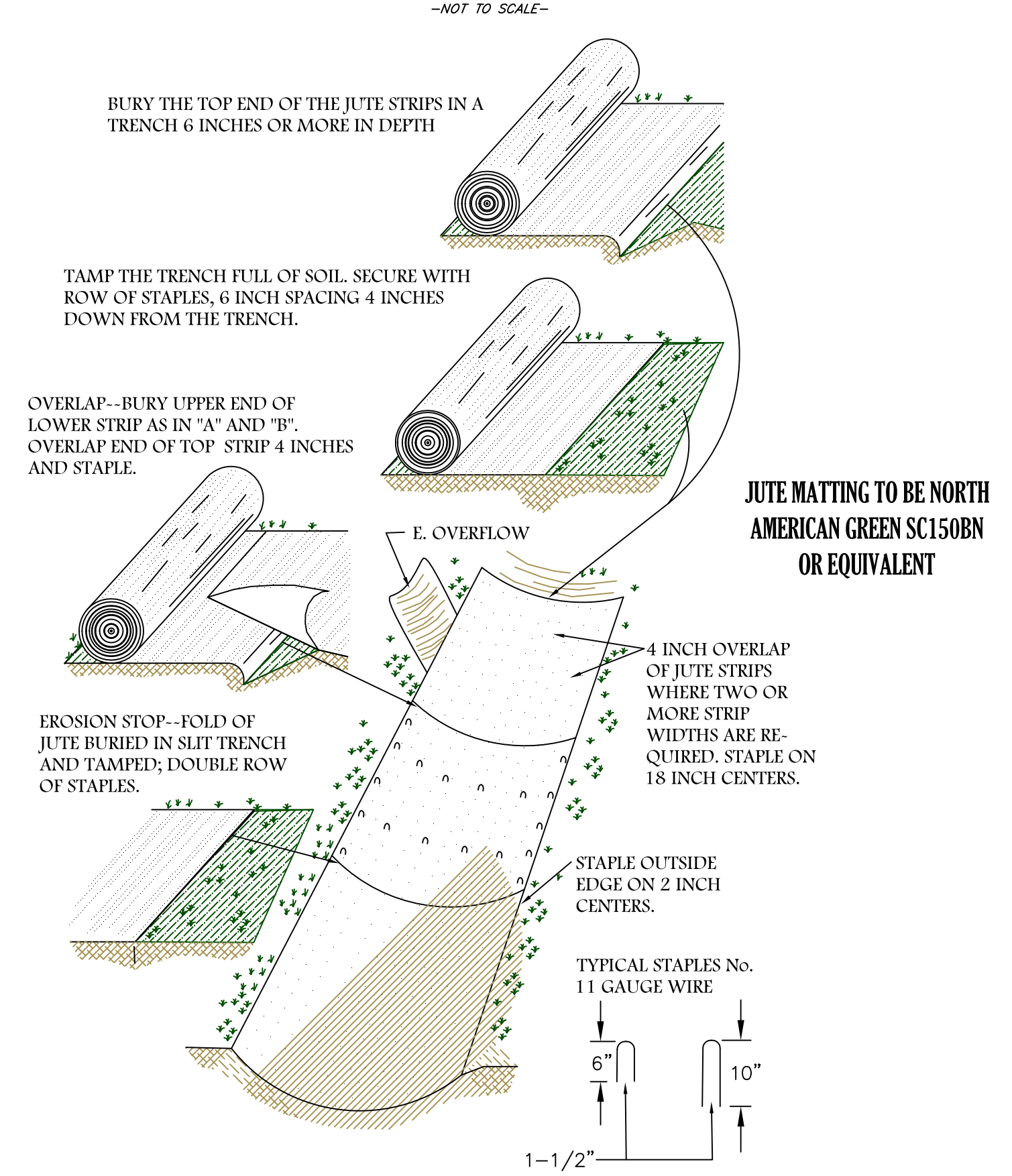


THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC ROADS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE, INCREASING THE LENGTH, AND TIRE WASHDOWN INTO WASHOUT PITS OR APPROVED SEDIMENT TRAPS BEFORE EXITING THE STONE.

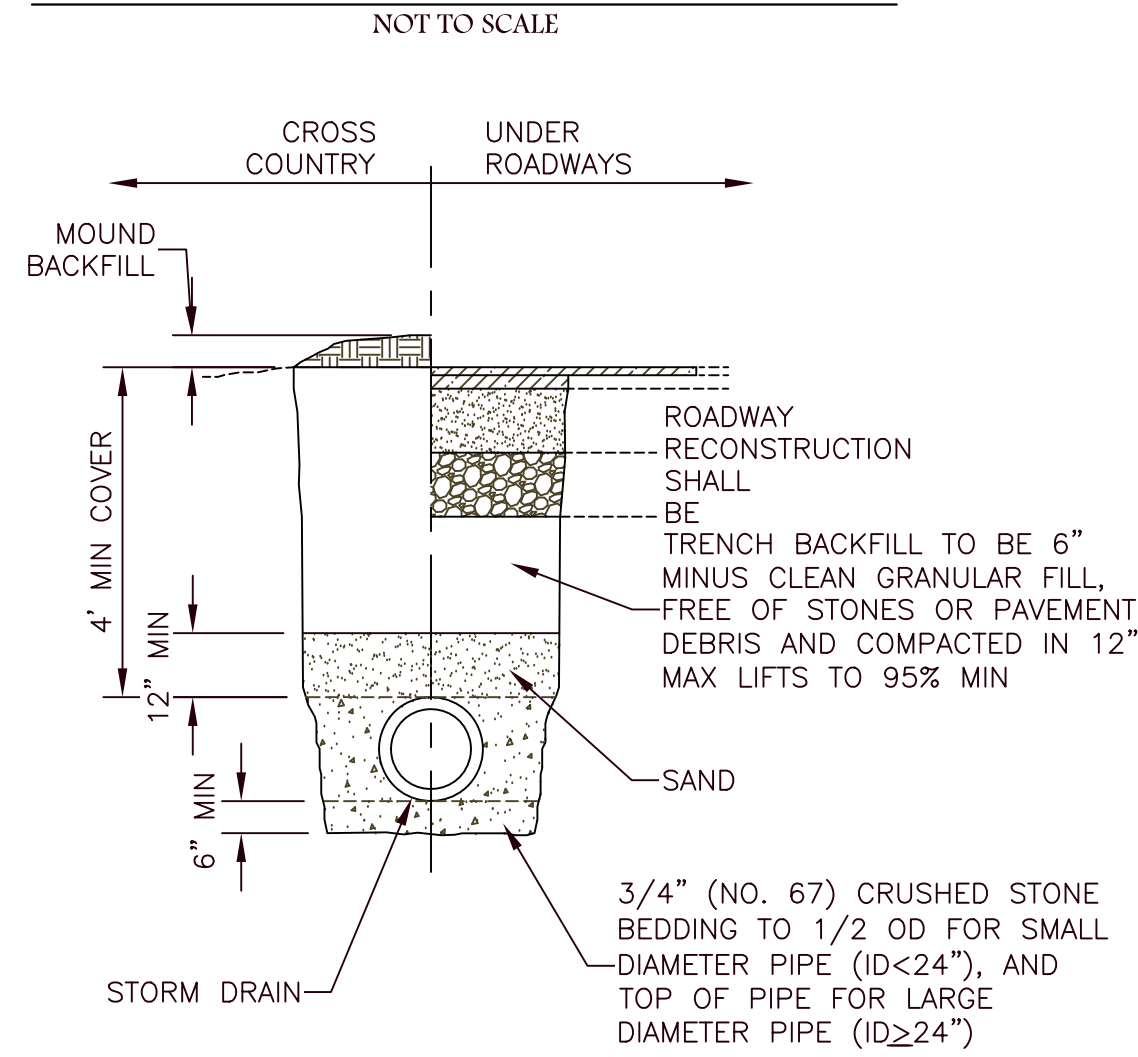
BOULDER RETAINING WALL DETAIL



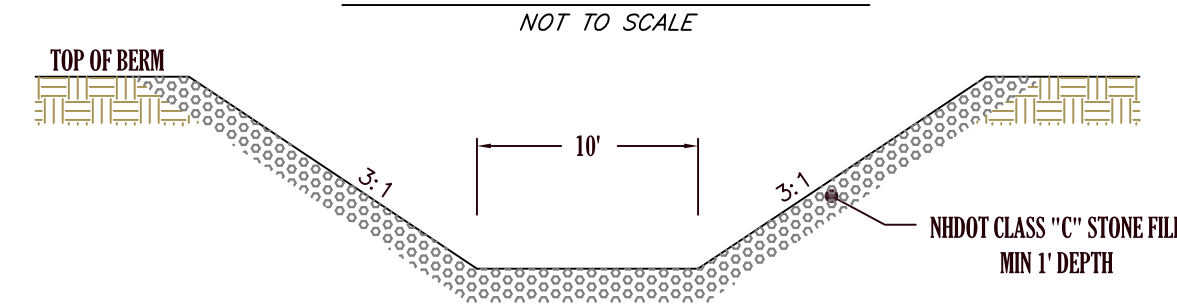
DETAIL FOR STABILIZING WITH JUTE MATTING



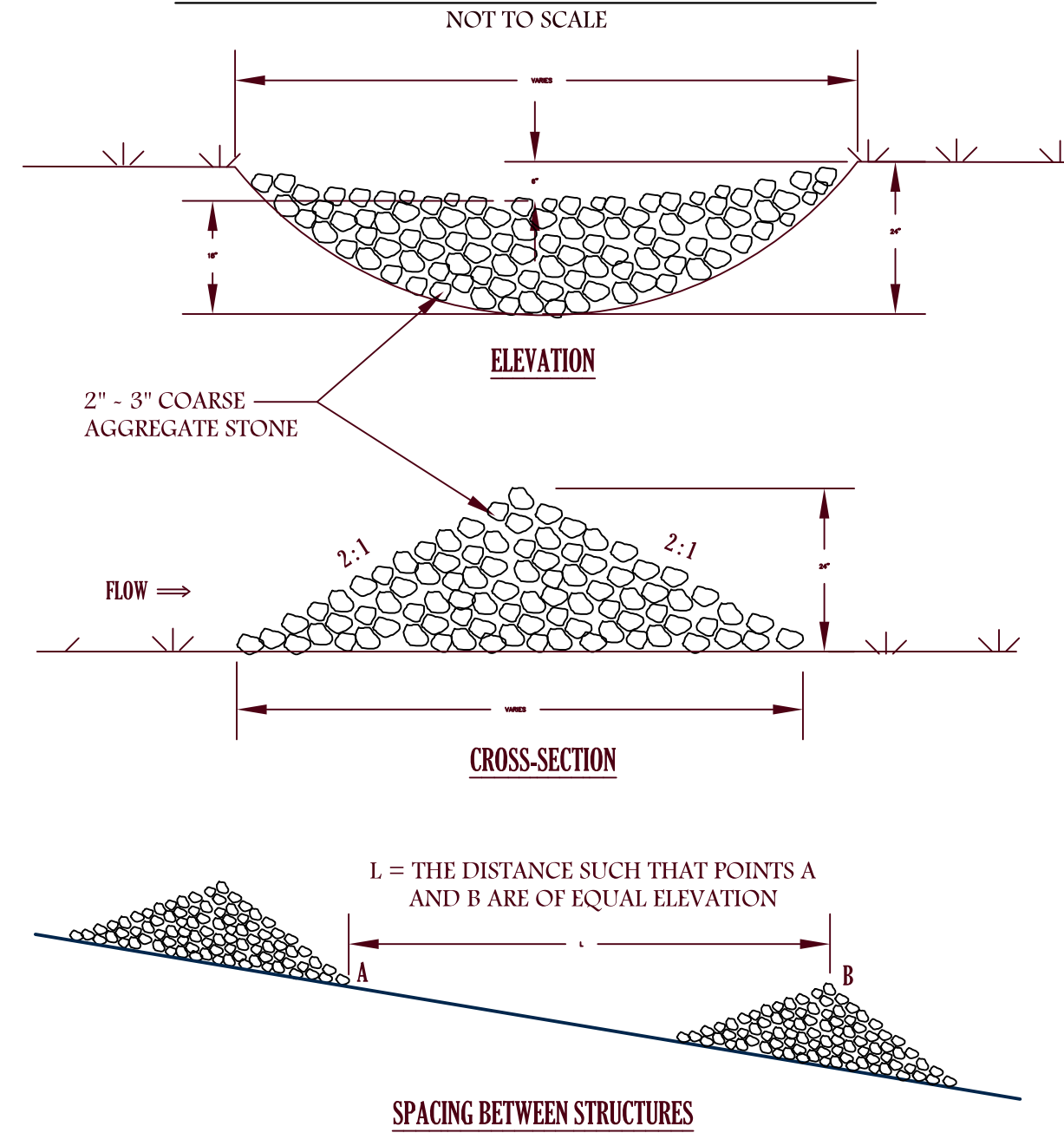
STORM PIPE TRENCH DETAIL



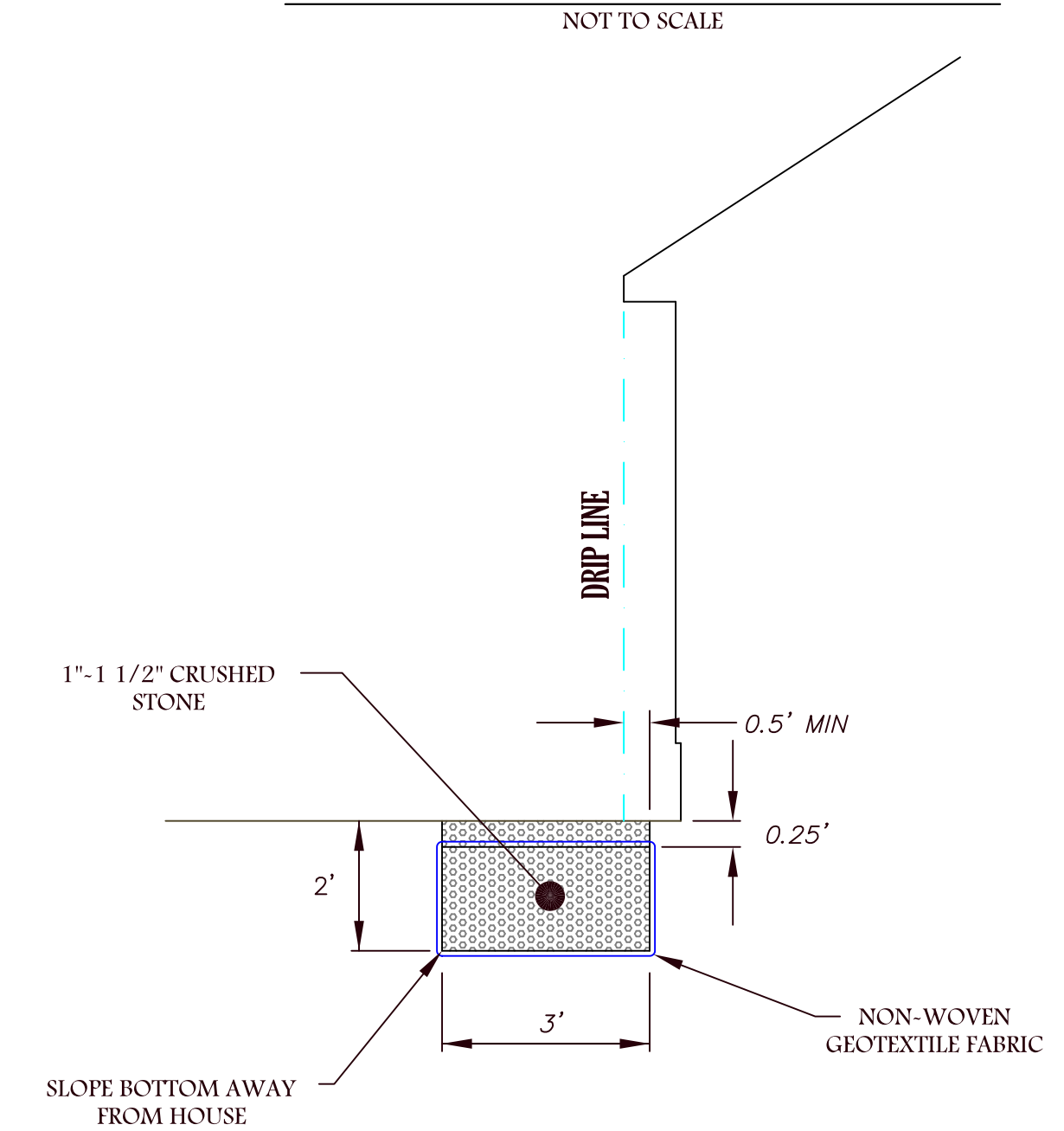
SPILLWAY DETAIL



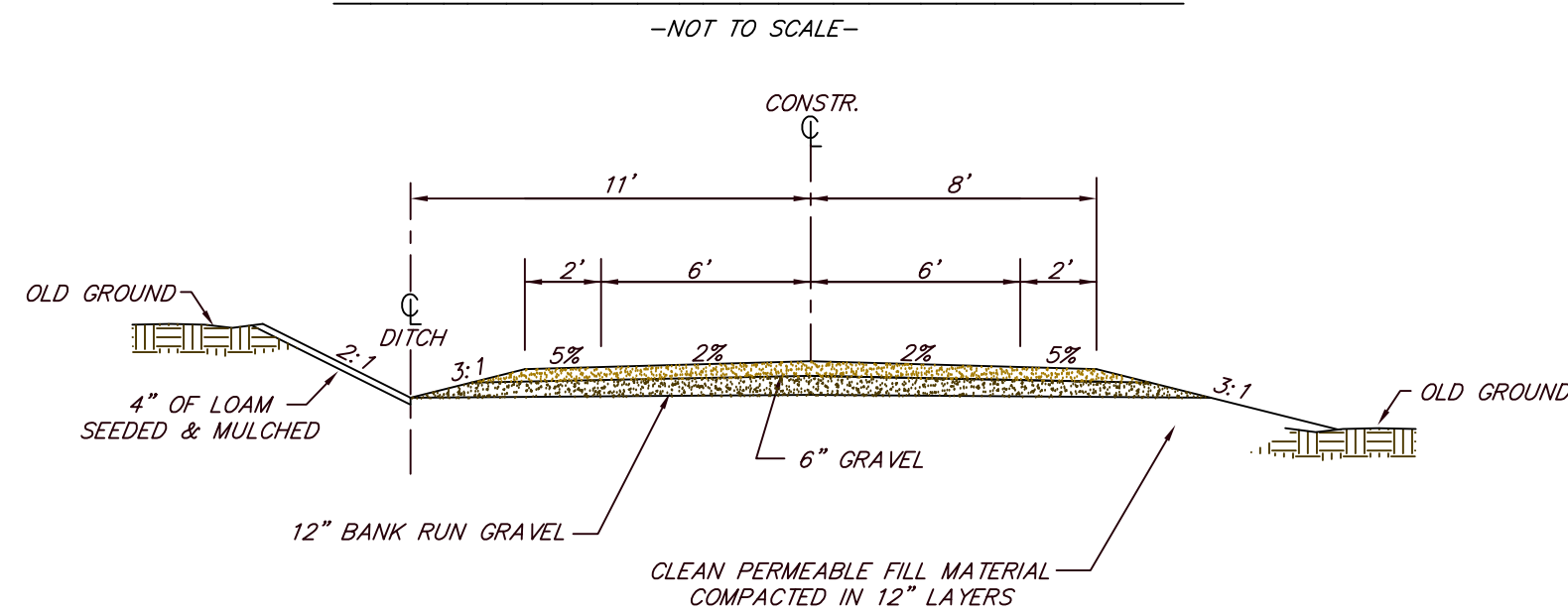
STONE CHECK DAM DETAIL



DRIP EDGE TRENCH DETAIL



TYPICAL DRIVEWAY SECTION



SECTION NOTES

- A. IN FILL AREAS: ORIGINAL GROUND TO BE "STRIPPED & GRUBBED" AND PROPERLY SHAPED. NON-ACCEPTABLE MATERIALS, I.E.: STUMPS, BRANCHES, LEAVES, ROOTS, MUCK, CLAY, ETC. SHALL BE REMOVED PRIOR TO PLACING FILL.
- B. IN CUT AREAS: SUB-GRADE SHALL BE SHAPED & GRADED PRIOR TO THE PLACING OF GRAVEL.



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CONSTRUCTION DETAILS
Gardent Property
Tax Map 3 / Lot 12
North River Road ~ Milford, N.H.

DATE: 1-21-21
DWG: 2014-BASE

TEMPORARY VEGETATION

CONSIDERATIONS

- PROPER SEEDBED PREPARATION AND THE USE OF QUALITY SEED ARE IMPORTANT IN THIS PRACTICE. FAILURE TO CAREFULLY FOLLOW SOUND AGRONOMIC RECOMMENDATIONS WILL OFTEN RESULT IN AN INADEQUATE STAND OF VEGETATION THAT PROVIDES LITTLE OR NO EROSION CONTROL.
- NUTRIENTS AND PESTICIDES USED TO ESTABLISH AND MAINTAIN VEGETATION MUST BE MANAGED TO PROTECT SURFACE WATER AND GROUNDWATER QUALITY.
- TEMPORARY SEEDING SHOULD BE USED EXTENSIVELY IN SENSITIVE AREAS (E.G., POND AND LAKE WATERSHEDS, STEEP SLOPES, STREAMBANKS).
- LATE FALL SEEDING MAY FAIL, RESULTING IN INADEQUATE OVERWINTER EROSION PROTECTION, AS WELL AS POTENTIAL SURFACE STABILITY PROBLEMS ASSOCIATED WITH SPRING THAW AND SPRING RUNOFF EVENTS. IF FULL STABILIZATION IS NOT ACHIEVED BY LATE FALL, OTHER STABILIZATION MEASURES SUCH AS MULCHING SHOULD BE IMPLEMENTED.

MAINTENANCE REQUIREMENTS

- TEMPORARY SEEDING SHOULD BE INSPECTED WEEKLY AND AFTER ANY RAINFALL EXCEEDING 1/2 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHOULD ALSO BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER THE WINTER PERIOD.
- BASED ON INSPECTION, AREAS SHOULD BE RESEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHOULD BE IMPLEMENTED
- AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.
- IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEDED, WITH OTHER TEMPORARY MEASURES (E.G., MULCH) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

SPECIFICATIONS

SITE PREPARATION:

- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
- GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.
- ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

- STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
- WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
- APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER(1) (N-P2O5-K2O) OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET).
- FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE(2) NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF A SURFACE WATER BODY. THESE LIMITATIONS ARE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:

- SELECT SEED FROM RECOMMENDATIONS IN TABLE 4-1.
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING.
- TEMPORARY SEEDING SHOULD TYPICALLY OCCUR PRIOR TO SEPTEMBER 15TH.
- AREAS SEEDDED BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
- VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

- (1) LOW PHOSPHATE FERTILIZER IS DEFINED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT AS LESS THAN 2% PHOSPHORUS. THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION HAS FOUND THROUGH SOIL TESTS THAT NHS SOILS HAVE AMPLE PHOSPHORUS AND RECOMMEND LOW PHOSPHORUS FERTILIZERS WITH 0% - 1% PHOSPHORUS SUCH AS 3:1:3 OR 10:0:10 N:P:K. THEY DISCOURAGE THE USE OF IMBALANCED FERTILIZERS.
- (2) SLOW RELEASE FERTILIZERS MUST BE AT LEAST 50% SLOW RELEASE NITROGEN COMPONENTS, WHICH MEANS THAT HALF OF THE NITROGEN WILL NOT BE IMMEDIATELY AVAILABLE. TYPICALLY, IT TAKES 2-24 WEEKS FOR ALL SLOW-RELEASE NITROGEN TO BECOME AVAILABLE. SLOW-RELEASE FERTILIZERS DO NOT NECESSARILY REDUCE NITROGEN LOADING. NITROGEN FERTILIZERS ARE NECESSARY FOR GRASS LAWNS, HOWEVER, ACCORDING TO THE UNH COOPERATIVE EXTENSION, NITROGEN FERTILIZERS FOR LAWNS THAT CONSIST OF LEGUME AND CLOVER ARE NOT NECESSARY.

SEED MIXTURE SELECTION BASED ON SOILS					
USE	SEED MIXTURE SHEETABLE	SOIL DRAINAGE			
		DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS & FILLS, BORROWS & DISPOSAL AREAS	A B C D E	FAIR POOR FAIR FAIR FAIR	GOOD GOOD GOOD FAIR EXCELLENT	GOOD FAIR EXCELLENT GOOD EXCELLENT	FAIR FAIR GOOD EXCELLENT POOR
WATERWAYS, EMERGENCY SPILLWAYS & OTHER CHANNELS WITH FLOWING WATER	A B C	GOOD GOOD GOOD	GOOD EXCELLENT EXCELLENT	GOOD EXCELLENT EXCELLENT	FAIR FAIR FAIR
LIGHTLY USED PARKING LOTS, OLD AREAS, UNUSED LAND, & LOW INTENSITY USE RECREATIONAL SITES	A B C D	GOOD GOOD GOOD FAIR	GOOD GOOD EXCELLENT GOOD	GOOD FAIR EXCELLENT GOOD	FAIR POOR FAIR EXCELLENT
PLAY AREAS & ATHLETIC FIELDS (TOPSOIL ESSENTIAL FOR GOOD TURF)	B D	FAIR FAIR	EXCELLENT EXCELLENT	EXCELLENT EXCELLENT	SEE NOTE 2 SEE NOTE 2
GRAVEL PTT	SEE SOURCE DOCUMENT FOR RECOMMENDATIONS, OR CONSULT WITH USDA NATURAL RESOURCE CONSERVATION SERVICE				

SEED MIXTURES FOR PERMANENT VEGETATION			
MIXTURE	SPECIES	LBS/AC	LBS/1000SF
A	TALL FESCUE	20	0.45
	CREeping RED FESCUE	20	0.45
	REDTOP	2	0.05
	TOTAL	42	0.95
B(3)	TALL FESCUE	15	0.35
	CREeping RED FESCUE	10	0.25
	CROWN FETCH	15	0.35
	OR FLATPEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35	
C(3)	TALL FESCUE	20	0.45
	CREeping RED FESCUE	20	0.45
	BIRDSFOOT TREFOLI	8	0.20
	TOTAL	48	1.10
D(3)	REMOVED		
E	TALL FESCUE	20	0.45
	FLATPEA	30	0.75
	TOTAL	50	1.20
F	CREeping RED FESCUE(2)	50	1.15
	KENTUCKY BLUEGRASS	50	1.15
	TOTAL	100	2.30
G	TALL FESCUE(2)	150	3.60

NOTES:

1. REED CANARY GRASS IS ON THE INVASIVE SPECIES WATCH LIST DUE TO ITS RAPID, AGGRESSIVE GROWTH AND ITS ABILITY TO MOVE INTO WETLANDS AND OUT COMPETE OTHER DESIRABLE WETLAND PLANTS. DO NOT USE ANY SEED MIXTURE THAT CONTAINS REED CANARY GRASS.
2. FOR HEAVY USE ATHLETIC FIELDS, CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.
3. THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION RECOMMENDS RED CLOVER TO SUBSTITUTE FOR CROWN VETCH OR BIRDSFOOT TREFOLI IF THEY ARE GOING TO BE MOWED TO A HEIGHT OF 4 INCHES OR LESS. RED CLOVER (ALSIKE VARIETY) SHOULD BE SEEDDED AT A RATE OF 20 POUNDS PER ACRE.

PERMANENT VEGETATION

CONSIDERATIONS

- PROPER SEEDBED PREPARATION AND THE USE OF QUALITY SEED ARE IMPORTANT IN THIS PRACTICE. FAILURE TO CAREFULLY FOLLOW SOUND AGRONOMIC RECOMMENDATIONS WILL OFTEN RESULT IN AN INADEQUATE STAND OF VEGETATION THAT PROVIDES LITTLE OR NO EROSION CONTROL.
- NUTRIENTS AND PESTICIDES USED TO ESTABLISH AND MAINTAIN VEGETATION MUST BE MANAGED TO PROTECT SURFACE WATER AND GROUNDWATER QUALITY.

MAINTENANCE REQUIREMENTS

- PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTIONS, MAINTENANCE, AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
- SEEDDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION, WITH MOWING HEIGHT AND FREQUENCY DEPENDENT ON TYPE OF GRASS COVER.
- BASED ON INSPECTION, AREAS SHOULD BE RESEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
- AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.
- IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEDED, WITH OTHER TEMPORARY MEASURES (E.G., MULCH) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

SPECIFICATIONS

SITE PREPARATION:

- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
- GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.
- ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

- WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
- REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE, CLOUDS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
- INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
- APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER(1) (N-P2O5-K2O) OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET).
- FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE(2) NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER. THESE LIMITATIONS ARE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:

- SELECT A SEED MIXTURE IN TABLE 4-2 THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. SELECT SEED FROM RECOMMENDATIONS IN TABLE 4-3.
 - INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE AND AMOUNT OF INOCULANT.
 - APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING OPERATIONS SHOULD BE ON THE CONTOUR.
 - WHERE FEASIBLE, EXCEPT WHERE EITHER A CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER OR LIGHT DRAG.
 - SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDDED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING PRACTICE," AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
 - TEMPORARY SEEDING SHOULD TYPICALLY OCCUR PRIOR TO SEPTEMBER 15TH.
 - AREAS SEEDDED BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
 - VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION, AND COMPLETE PERMANENT SEED STABILIZATION DURING THE NEXT GROWING SEASON.
- HYDROSEEDING:**
- WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND TO REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
 - SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY).
 - LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.
 - SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING.

- (1) LOW PHOSPHATE FERTILIZER IS DEFINED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT AS LESS THAN 2% PHOSPHORUS. THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION HAS FOUND THROUGH SOIL TESTS THAT NHS SOILS HAVE AMPLE PHOSPHORUS AND RECOMMEND LOW PHOSPHORUS FERTILIZERS WITH 0% - 1% PHOSPHORUS SUCH AS 3:1:3 OR 10:0:10 N:P:K. THEY DISCOURAGE THE USE OF IMBALANCED FERTILIZERS.
- (2) SLOW RELEASE FERTILIZERS MUST BE AT LEAST 50% SLOW RELEASE NITROGEN COMPONENTS, WHICH MEANS THAT HALF OF THE NITROGEN WILL NOT BE IMMEDIATELY AVAILABLE. TYPICALLY, IT TAKES 2-24 WEEKS FOR ALL SLOW-RELEASE NITROGEN TO BECOME AVAILABLE. SLOW-RELEASE FERTILIZERS DO NOT NECESSARILY REDUCE NITROGEN LOADING. NITROGEN FERTILIZERS ARE NECESSARY FOR GRASS LAWNS, HOWEVER, ACCORDING TO THE UNH COOPERATIVE EXTENSION, NITROGEN FERTILIZERS FOR LAWNS THAT CONSIST OF LEGUME AND CLOVER ARE NOT NECESSARY.

TEMPORARY & PERMANENT MULCHING

CONSIDERATIONS

- WITHIN 100 FEET OF STREAMS, WETLANDS AND IN LAKE WATERSHEDS, TEMPORARY MULCH SHOULD BE APPLIED WITHIN 7 DAYS OF EXPOSING SOIL OR PRIOR TO ANY STORM EVENT.
- AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING.
- AREAS THAT CANNOT BE SEEDDED WITHIN THE GROWING SEASON SHOULD BE MULCHED FOR OVER-WINTER PROTECTION. THE AREA SHOULD BE SEEDDED AT THE BEGINNING OF THE NEXT GROWING SEASON.
- MULCH ANCHORING SHOULD BE USED ON SLOPES WITH GRADIENTS GREATER THAN 5% IN LATE FALL (PAST SEPTEMBER 15), AND OVER-WINTER (SEPTEMBER 15 - MAY 15).
- PERMANENT MULCH CAN BE USED IN CONJUNCTION WITH TREE, SHRUB, VINE, AND GROUND COVER PLANTINGS.

MAINTENANCE REQUIREMENTS

- ALL TEMPORARY MULCHES MUST BE INSPECTED PERIODICALLY AND IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHOULD BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGES OCCUR, REPAIR ANY DAMAGE TO THE SLOPE AND RE-INSTALL OR REPLACE NETTING AS NECESSARY. INSPECTIONS SHOULD TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED (85% SOIL SURFACE UNIFORMLY COVERED WITH HEALTHY STAND OF GRASS).
- EROSION CONTROL MIX MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.
- WHERE PERMANENT MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED. PERMANENT MULCHED AREAS SHOULD BE INSPECTED AT LEAST ANNUALLY, AND AFTER EACH LARGE RAINFALL (2.5 INCHES OR MORE IN A 24-HOUR PERIOD). ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY. WHERE EROSION CONTROL MIX HAS BEEN USED, PLACE ADDITIONAL MIX ON TOP OF THE MULCH TO MAINTAIN THE RECOMMENDED THICKNESS. WHEN THE MULCH IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE REPLACED OR REPAIRED.
- IF THE MULCH NEEDS TO BE REMOVED, SPREAD IT OUT INTO THE LANDSCAPE.

SPECIFICATIONS

GENERAL:

- APPLY MULCH PRIOR TO A STORM EVENT. THIS IS APPLICABLE IN EXTREMELY SENSITIVE AREAS SUCH AS WITHIN 100 FEET OF LAKES, PONDS, RIVERS, STREAMS, AND WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
- MULCHING SHOULD BE COMPLETED WITHIN THE FOLLOWING SPECIFIED TIME PERIODS FROM ORIGINAL SOIL EXPOSURE:
 - WITHIN 100 FEET OF RIVERS AND STREAMS, WETLANDS, AND IN OOLAKE AND POND WATERSHEDS, THE TIME PERIOD SHOULD BE NO GREATER THAN 7 DAYS. THIS 7-DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
 - IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS, THE LENGTH OF TIME VARYING WITH SITE CONDITIONS (SOIL FERTILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS. OTHER STATE OR LOCAL RESTRICTIONS MAY ALSO APPLY.
- THE CHOICE OF MATERIALS FOR MULCHING SHOULD BE BASED ON SITE CONDITIONS, SOILS, SLOPE, FLOW CONDITIONS, AND TIME OF YEAR.

HAY OR STRAW MULCHES:

- ORGANIC MULCHES INCLUDING HAY AND STRAW SHOULD BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS.
- APPLICATION RATE SHOULD BE 2 BALES (70-90 POUNDS) PER 1000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.
- HAY OR STRAW MULCH SHOULD BE ANCHORED TO PREVENT DISPLACEMENT BY WIND OR FLOWING WATER, USING ONE OF THE FOLLOWING METHODS:
 - NETTING: INSTALL JUTE, WOOD FIBER, OR BIODEGRADABLE PLASTIC NETTING OVER HAY OR STRAW TO ANCHOR IT TO THE SOIL SURFACE. INSTALL NETTING MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATION. NETTING SHOULD BE USED JUDICIOUSLY, AS WILDLIFE CAN BECOME ENTANGLED IN THE MATERIALS.
 - TACKIFIER: APPLY POLYMER OR ORGANIC TACKIFIER TO ANCHOR HAY OR STRAW MULCH. APPLICATION RATES VARY BY MANUFACTURER: TYPICALLY 40-60 LBS/ACRE FOR POLYMER MATERIAL, AND 80-120 LBS/ACRE FOR ORGANIC MATERIAL. LIQUID MULCH BINDERS ARE ALSO TYPICALLY APPLIED HEAVIER AT EDGES, IN VALLEYS, AND AT CRESTS THAN OTHER AREAS.
- WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON), IT SHOULD BE APPLIED TO A DEPTH OF FOUR INCHES (150-200 POUNDS OF HAY OR STRAW PER 1000 SQUARE FEET OR DOUBLE STANDARD APPLICATION RATE). SEEDING CANNOT GENERALLY BE EXPECTED TO GROW UP THROUGH THIS DEPTH OF MULCH AND WILL BE SMOTHERED. IF VEGETATION IS DESIRED, THE MULCH WILL NEED TO BE REMOVED IN THE SPRINGTIME AND THE AREA SEEDDED AND MULCHED.

WOOD CHIPS OR BARK:

- WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED TO A THICKNESS OF 2 TO 6 INCHES.
- WOOD CHIPS OR GROUND BARK SHOULD BE APPLIED AT A RATE OF 10 TO 20 TONS PER ACRE OR 460 TO 920 POUNDS PER 1,000 SQUARE FEET.

EROSION CONTROL MIX:

- EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
- COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS:
 - EROSION CONTROL MIX SHOULD CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHOULD MEET THE FOLLOWING STANDARDS:
 - THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25 AND 65%, DRY WEIGHT BASIS.
 - PARTICLE SIZE BY WEIGHT SHOULD BE 100% PASSING A 3" SCREEN, 90% TO 100% PASSING A 1-INCH SCREEN, 70% TO 100% PASSING A 0.75-INCH SCREEN, AND A MAXIMUM OF 30% TO 75% PASSING A 0.25-INCH SCREEN.
 - THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
 - THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR FINE SANDS.
 - SOLUBLE SALTS CONTENT SHOULD BE < 4.0 MMHOS/CM.
 - THE PH SHOULD BE BETWEEN 5.0 AND 8.0.
 - THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.

EROSION CONTROL BLANKETS AND MATS:

- MATS ARE MANUFACTURED COMBINATIONS OF MULCH AND NETTING DESIGNED TO PROTECT AGAINST EROSION, AND ALSO TO RETAIN SOIL MOISTURE AND MODIFY SOIL TEMPERATURE. SEE FURTHER SPECIFICATIONS UNDER "TEMPORARY EROSION BLANKETS."



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NO.	DATE	DESCRIPTION	BY

OWNER:
Andrew Gardent &
Krista Vincent
10 Edwards Street
Wilton, N.H. 03086
Book 9209 / Page 1674

EROSION CONTROLS 1
Gardent Property
Tax Map 3 / Lot 12
North River Road - Milford, N.H.

DATE:
1-21-21

DWG:
2014-BASE

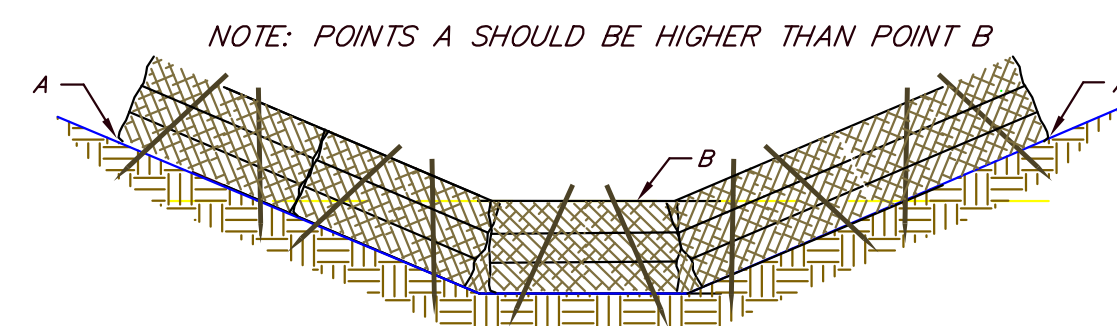
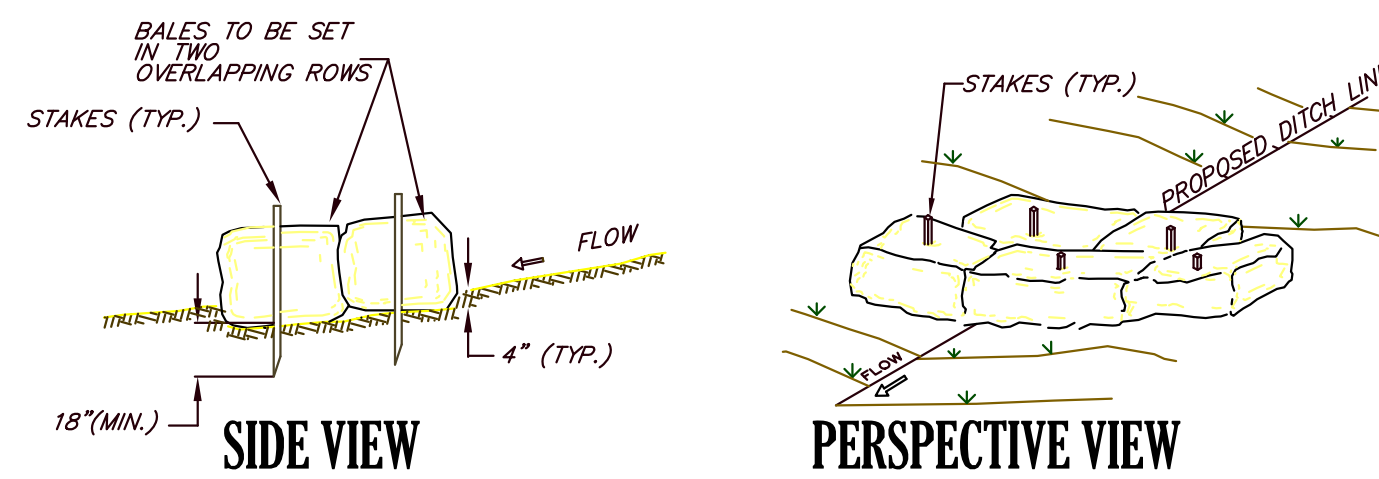
BALE INSTALLATION

SHEET FLOW APPLICATIONS

- EXCAVATE A 4 INCH DEEP TRENCH THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER. THE BARRIER SHOULD FOLLOW THE SLOPE CONTOUR. IF THE BARRIER IS AT THE TOE OF A SLOPE, PLACE IT 5 TO 6 FEET AWAY FROM THE SLOPE, IF POSSIBLE. THIS PLACEMENT WILL PROVIDE ACCESS FOR MAINTENANCE AND ALLOW COARSE SEDIMENT TO DROP OUT OF SUSPENSION BEFORE IT REACHES THE BARRIER.
- PLACE BALES IN THE TRENCH WITH THEIR ENDS TIGHTLY ABUTTING. CORNER ABUTMENT IS NOT ACCEPTABLE. A TIGHT FIT IS IMPORTANT TO PREVENT SEDIMENT FROM ESCAPING THROUGH THE SPACES BETWEEN THE BALES.
- ALL BALES MUST BE EITHER WIRE-BOUND OR STRING-TIED. INSTALL BALES SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. IF THE BINDING IS PLACED IN CONTACT WITH THE SOIL, IT WILL SOON DISINTEGRATE AND CAUSE THE BALE TO FALL APART. NOTE: STRAW BALES SHOULD BE USED, NOT HAY BALES.
- SECURELY ANCHOR EACH BALE BY DRIVING AT LEAST TWO STAKES THROUGH THE BALE. DRIVE THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DRIVE THE STAKES AT LEAST 1 1/2 FEET INTO THE GROUND. WOOD STAKES, 2 BY 2 INCHES BY 4 FEET ARE BEST. REBAR CAN ALSO BE USED AS STAKES, BUT ARE NOT RECOMMENDED BECAUSE THEY CAN POSE HAZARD TO EQUIPMENT WHEN THE BALES DISINTEGRATE.
- FILL ANY GAPS BETWEEN BALES BY WEDGING LOOSE STRAW BETWEEN THE BALES. LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY, AS IT IS PICKED UP BY RUNOFF AND TRANSPORTED TO HOLES IN THE BARRIER, WHICH IT TENDS TO SEAL.
- BACKFILL THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT IT. THE BACKFILL SOIL SHOULD CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE OF THE BARRIER AND SHOULD BE BUILT UP TO 4 INCHES ABOVE THE GROUND ON THE UPHILL SIDE OF THE BALES.
- INSPECT AND REPAIR OR REPLACE DAMAGED BALES PROMPTLY. STRAW BALES TYPICALLY DETERIORATE WITHIN THREE MONTHS WHEN WET. REMOVE THE STRAW BALES WHEN THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

CHANNEL FLOW APPLICATIONS

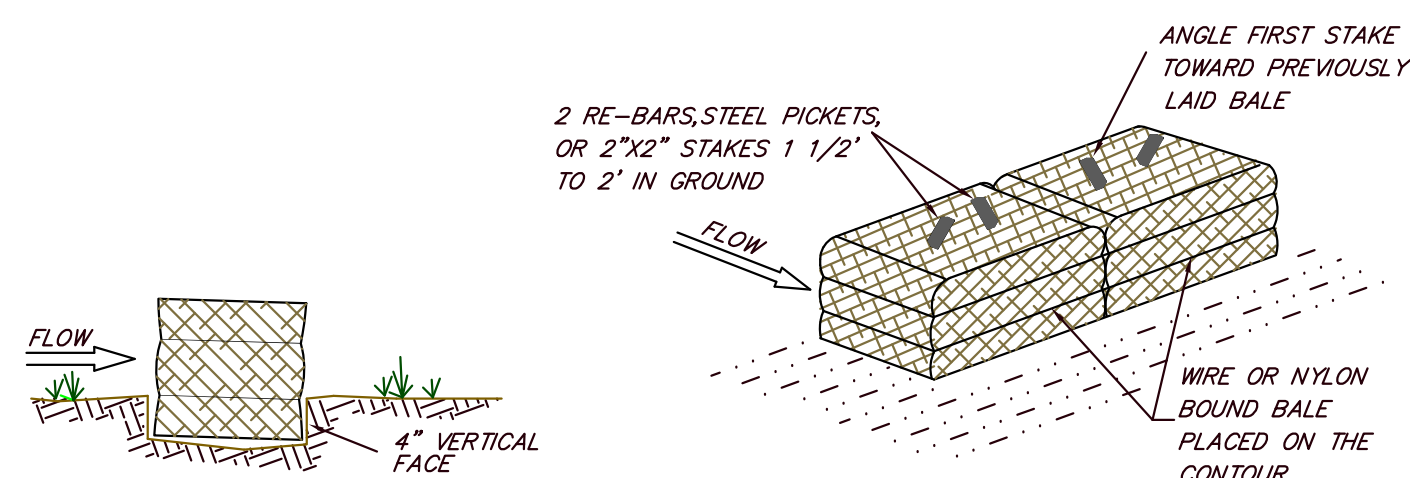
- EXCAVATE A 4 INCH DEEP TRENCH THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER. PLACE BALES IN A SINGLE ROW, LENGTHWISE, ORIENTED PERPENDICULAR TO THE FLOW, AND WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.
- PLACE BALES IN THE TRENCH WITH THEIR ENDS TIGHTLY ABUTTING. CORNER ABUTMENT IS NOT ACCEPTABLE. A TIGHT FIT IS IMPORTANT TO PREVENT SEDIMENT FROM ESCAPING THROUGH THE SPACES BETWEEN THE BALES. EXTEND THE BARRIER TO SUCH A LENGTH THAT THE BOTTOM OF THE END BALES ARE AT A HIGHER ELEVATION THAN THE TOP OF THE LOWEST MIDDLE BALE TO ASSURE THAT SEDIMENT-LADEN RUN-OFF WILL FLOW EITHER THROUGH OR OVER THE BARRIER BUT NOT AROUND IT. ROCK PLACED BELOW THE MIDDLE BALE WILL DISSIPATE THE ENERGY OF THE FALLING WATER AND REDUCE DOWNSTREAM EROSION.
- ALL BALES MUST BE EITHER WIRE-BOUND OR STRING-TIED. INSTALL BALES SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. IF THE BINDING IS PLACED IN CONTACT WITH THE SOIL, IT WILL SOON DISINTEGRATE AND CAUSE THE BALE TO FALL APART. NOTE: STRAW BALES SHOULD BE USED, NOT HAY BALES.
- SECURELY ANCHOR EACH BALE BY DRIVING AT LEAST TWO STAKES THROUGH THE BALE. DRIVE THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DRIVE THE STAKES AT LEAST 1 1/2 FEET INTO THE GROUND. WOOD STAKES, 2 BY 2 INCHES BY 4 FEET ARE BEST. REBARS CAN ALSO BE USED AS STAKES, BUT ARE NOT RECOMMENDED BECAUSE THEY CAN POSE HAZARD TO EQUIPMENT WHEN THE BALES DISINTEGRATE.
- FILL ANY GAPS BETWEEN BALES BY WEDGING LOOSE STRAW BETWEEN THE BALES. LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY, IT IS PICKED UP BY RUNOFF AND TRANSPORTED TO HOLES IN THE BARRIER, WHICH IT TENDS TO SEAL.
- BACKFILL THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT IT. THE BACKFILL SOIL SHOULD CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE OF THE BARRIER AND SHOULD BE BUILT UP TO 4 INCHES ABOVE THE GROUND ON THE UPHILL SIDE OF THE BALES. ROCK PLACED BELOW THE MIDDLE BALE WILL DISSIPATE THE ENERGY OF THE FALLING WATER AND REDUCE DOWNSTREAM EROSION.
- INSPECT AND REPAIR OR REPLACE DAMAGED BALES PROMPTLY. STRAW BALES TYPICALLY DETERIORATE WITHIN THREE MONTHS WHEN WET. REMOVE THE STRAW BALES WHEN THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.



PLACE HAYBALES EVERY 150' IN ROADSIDE DITCHES AND EVERY 100' IN DRAINAGE OUTLET DITCHES

DETAIL OF BALE CHANNEL BARRIER

NOT TO SCALE



EMBEDDING DETAIL

NOT TO SCALE

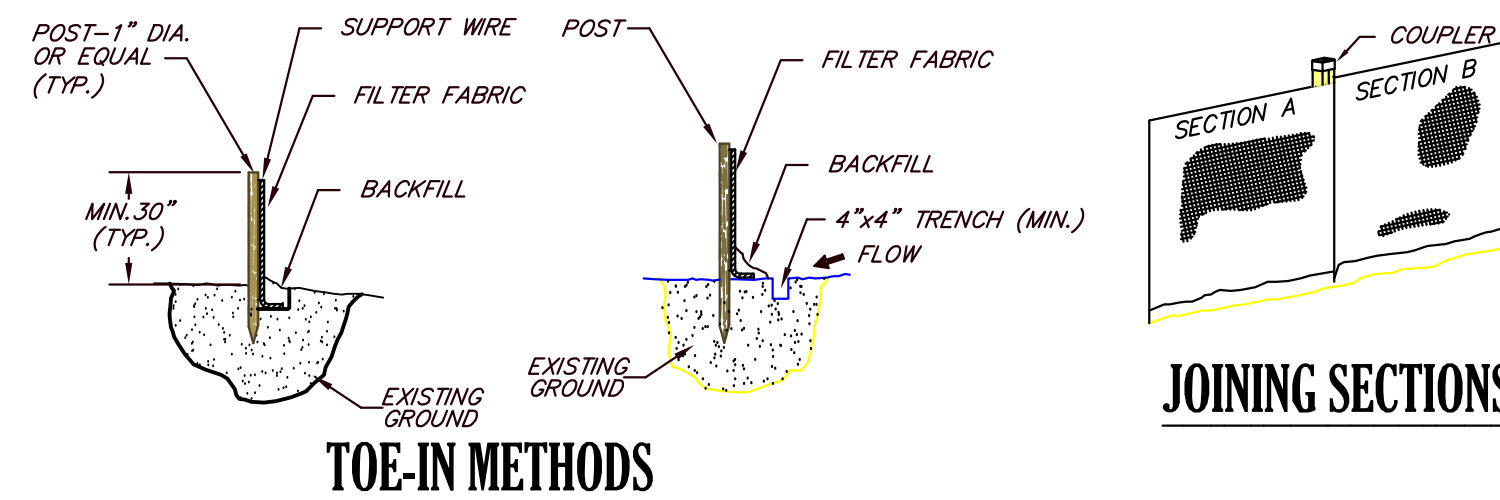
HAY BALE BARRIER ANCHORING DETAIL

SILT FENCE CONSTRUCTION SPECIFICATIONS

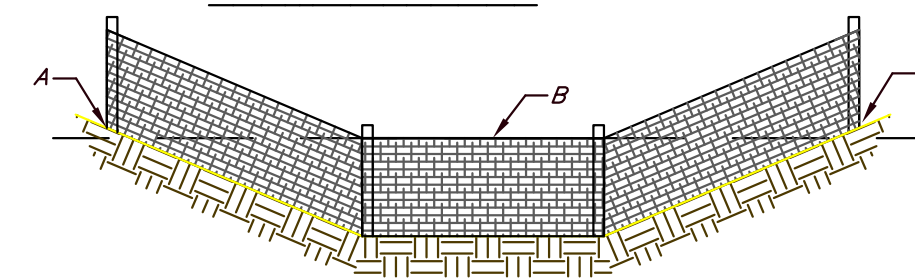
- THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
- THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
- WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID SECTION AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVELAPPED BY 6 INCHES, FOLDED, AND STAPLED.
- FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

MAINTENANCE

- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
- IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.



JOINING SECTIONS



SILT FENCE DETAILS

NOT TO SCALE

STONE FILL SPECIFICATIONS

- THIS WORK SHALL CONSIST OF FURNISHING AND PLACING A DENSE STONE FILL AT THE LOCATIONS SHOWN THE PLANS OR ORDERED.
- STONE FOR STONE FILL SHALL BE APPROVED QUARRY STONE, OR BROKEN OF A HARD, SOUND, & DURABLE QUALITY. THE STONES & SPALLS SHALL BE SO GRADED AS TO PRODUCE A DENSE FILL WITH A MINIMUM OF VOIDS.
- CLASS A STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 12 CF, APPROXIMATELY 30% OF THE MASS RANGING BETWEEN 3 & 12 CF, APPROXIMATELY 10% OF THE MASS RANGING BETWEEN 1 & 3 CF, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.
- CLASS B STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 3 CF, APPROXIMATELY 40% OF THE MASS RANGING BETWEEN 1 & 3 CF, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.
- CLASS C STONE SHALL CONSIST OF CLEAN, DURABLE FRAGMENTS OF LEDGE ROCK OF UNIFORM QUALITY, REASONABLY FREE FROM THIN OR ELONGATED PIECES. THE STONE SHALL BE MADE FROM ROCK WHICH IS FREE FROM TOPSOIL AND OTHER ORGANIC MATERIAL. THE STONES SHALL BE GRADED AS FOLLOWS:

SIEVE SIZE	% PASSING BY WEIGHT
12 INCH	100
4 INCH	50-90
1-1/2 INCH	0-30
3/4 INCH	0-10
- CLASS D STONE SHALL CONFORM TO 520.2.2.3, TABLE 3 - COARSE AGGREGATE, STANDARD STONE SIZE NO. 467.
- SPALLS FOR FILLING VOIDS SHALL BE STONES OR BROKEN ROCK RANGING FROM A MAXIMUM SIZE OF 1 CF.
- GRAVEL BLANKET MATERIAL SHALL CONFORM TO 209.2.1.2.
- GEOTEXTILE SHALL CONFORM TO 593.
- STONES AND SPALLS FOR STONE FILL SHALL BE DEPOSITED AND GRADED TO ELIMINATE VOIDS AND OBTAIN A DENSE MASS THROUGHOUT THE COURSE. THE SPALLS SHALL BE TAMPED INTO PLACE USING AN EQUIPMENT BUCKET OR OTHER APPROVED METHOD.
- WHEN STONE FILL IS PLACED ON A SLOPE, THE STONES SHALL BE DEPOSITED IN SUCH A MANNER AS TO NOT UNNECESSARILY DISLODGE THE UNDERLYING MATERIAL.
- WHEN GRAVEL BLANKET IS SHOWN, THE GRAVEL SHALL BE PLACED IN LAYERS NOT EXCEEDING 12" IN DEPTH UNLESS OTHERWISE ORDERED.
- THE COMPLETED SURFACE SHALL APPROXIMATE THE LINES AND GRADES SHOWN OR ORDERED. WHEN ORDERED, STONE PLACED OVER 1 FT OUTSIDE OR ABOVE SUCH LINES AND GRADES SHALL BE REMOVED.

WINTER CONSTRUCTION NOTES

- ALL PROPOSED POST DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGHOUT THE WINTER SEASON, SHALL BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

CONSTRUCTION PHASING

CONSIDERATIONS

- CONSTRUCTION PHASING OF LAND GRADING ACTIVITIES MUST BE CAREFULLY PLANNED AND CARRIED OUT TO PREVENT EROSION AND SEDIMENTATION.
- PLAN EARTH DISTURBANCE AND GRADING ACTIVITIES TO MINIMIZE THE AREA OF SOIL EXPOSED AT ONE TIME, AS WELL AS THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING.
- PROTECT EXISTING VEGETATION AND NATURAL FOREST COVER, DESIGNATED TO REMAIN ON THE SITE.
- PRESERVE AND MAINTAIN BUFFER STRIPS OF UNDISTURBED VEGETATION BETWEEN CONSTRUCTION AREAS AND ENVIRONMENTALLY VULNERABLE AREAS SUCH AS WATERCOURSES, PONDS, AND WETLANDS.
- DIVERT CLEAN WATER AWAY FROM THE IMMEDIATE CONSTRUCTION AREA TO REDUCE THE THREAT OF EROSION.
- DISPERSE CLEAN STORMWATER TO UNDISTURBED, VEGETATED, FLAT OR MODERATE-SLOPED, SURFACES WHEREVER POSSIBLE, RATHER THAN CONCENTRATE IT INTO CHANNELS.
- FALL AND WINTER EROSION CONTROL MEASURES MUST BE UPGRADED AND REFINED TO PROTECT THE SITE FROM SPRING RUNOFF AND SNOWMELT.

MAINTENANCE REQUIREMENTS

- ANY SIGN OF RILL OR GULLY EROSION SHOULD BE IMMEDIATELY INVESTIGATED AND REPAIRED AS NEEDED.
- TEMPORARY STABILIZATION MEASURES SHOULD BE INSPECTED AT LEAST ONCE PER WEEK DURING THE CONSTRUCTION PERIOD, OR AS STIPULATED BY THE APPLICABLE PERMITS, UNTIL ALL EXPOSED SOILS HAVE BEEN PERMANENTLY STABILIZED.
- IN ADDITION TO REGULAR INSPECTIONS, THE PROJECT SITE SHOULD BE INSPECTED DURING OR WITHIN 24 HOURS OF ANY RAIN EVENT IN WHICH 1/2 INCH OF PRECIPITATION OR MORE FALLS WITHIN A 24-HOUR PERIOD.
- INSPECTIONS SHOULD BE DOCUMENTED IN A REPORT.

SPECIFICATIONS

- TEMPORARY STABILIZATION:** ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES, THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT, OR AN INDEPENDENT MONITOR.
- PERMANENT STABILIZATION:** ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.
- MAXIMUM AREA OF DISTURBANCE:** THE AREA OF UNSTABILIZED SOIL SHOULD NOT EXCEED 5 ACRES AT ANY TIME UNLESS PROJECT PERMITS SPECIFICALLY PROVIDE FOR A GREATER AREA OF DISTURBANCE. ANY SUCH GREATER AREA OF DISTURBANCE REQUIRES, AS PART OF THE PERMITTING PROCESS:
 - DOCUMENTATION THAT THE REQUIRED AREAS OF EARTH CUTS AND FILLS ARE SUCH THAT AN AREA OF DISTURBANCE OF 5 ACRES OR LESS WOULD UNREASONABLY LIMIT THE CONSTRUCTION SCHEDULE;
 - AN APPROVED CONSTRUCTION SEQUENCE PLAN, DEVELOPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW HAMPSHIRE OR A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL AS CERTIFIED BY THE CPESC COUNCIL OF ENVIROCERT INTERNATIONAL, INC.; AND
 - EMPLOYMENT OR RETAINMENT OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW HAMPSHIRE OR A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL AS CERTIFIED BY THE CPESC COUNCIL OF ENVIROCERT INTERNATIONAL, INC. TO SERVE AS AN ENVIRONMENTAL MONITOR DURING CONSTRUCTION.
- ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION. FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED. EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.
- ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHOULD BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH AN APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND PROTECTED FROM EROSION.
- STOCKPILES, BORROW AREAS AND SPOILS SHOULD BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES."
- SLOPES SHOULD NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGES.
- AREAS TO BE FILLED SHOULD BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS.
- AREAS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHOULD BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SEED.
- ALL FILLS SHOULD BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS, AND OTHER FACILITIES, SHOULD BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- IN GENERAL, FILLS SHOULD BE PLACED AND COMPACTED IN LAYERS RANGING FROM 6 TO 24 INCHES IN THICKNESS. THE CONTRACTOR SHOULD REVIEW THE PROJECT GEOTECHNICAL REPORT FOR SPECIFIC GUIDANCE. FILL MATERIAL SHOULD BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, FROZEN MATERIAL AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.
- FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS ARE SUSCEPTIBLE TO ACCELERATED SETTLEMENT AND POTENTIAL ACCELERATED EROSION. WORK IN THESE MATERIALS SHOULD BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.
- THE OUTER FACE OF THE FILL SLOPE SHOULD BE ALLOWED TO STAY LOOSE, NOT ROLLED, COMPACTED, OR BLADED SMOOTH. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE "SURFACE ROUGHENING."
- ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION, AND FACILITATE VEGETATION ESTABLISHMENT.
- USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE, TO REDUCE THE LENGTH OF CUT-AND-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHOULD BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHOULD BE EVALUATED BY A PROFESSIONAL ENGINEER TO DETERMINE IF THE PROPOSED DESIGN SHOULD BE REVISED TO PROPERLY MANAGE THE CONDITION.
- STABILIZE ALL GRADED AREAS WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETED OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.
- ALL GRADED AREAS SHOULD BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

CONSTRUCTION SEQUENCE

- CUT AND CLEAR TREES ONLY TO LIMITS OF CUT/FILL SLOPES.
- CONSTRUCT TEMPORARY SEDIMENT AND EROSION CONTROL FACILITIES. PERIMETER SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS. REMOVE AND STOCKPILE LOAM ON-SITE FOR RE-USE ON-SITE. SEED AND MULCH STOCKPILE. SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUN OFF INTO THEM.
- CLEAR, CUT AND DISPOSE OF DEBRIS, DISPOSAL OF DEBRIS SHALL MEET LOCAL, STATE AND FEDERAL REQUIREMENTS.
- CONSTRUCT PONDS, SWALES AND DRAINAGE SYSTEMS.
- CONSTRUCT BUILDING PAD AND PARKING AREAS. ROAD AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
- BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE LOAMED, SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
- CONSTRUCT TEMPORARY DIVERSION CHANNELS, AS REQUIRED.
- DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DITCHES, SILT FENCES SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION MEASURES WEEKLY AND WITHIN 24 HOURS OF 0.5" OF RAINFALL.
- COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- REMOVE TEMPORARY EROSION CONTROL MEASURES.

- * NO UNDISTURBED AREAS ARE TO BE LEFT UNSTABILIZED FOR LONGER THAN 21 DAYS
- * ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE
- * THE MAXIMUM AREA THAT MAY BE DISTURBED AND UNSTABILIZED IS 5 ACRES
- * AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

**THE PROJECT SHALL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.



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43 Bear Hill Road
East Washington, N.H. 03280

NO.	DATE	DESCRIPTION	BY

OWNER:
Andrew Gardent &
Krista Vincent
10 Edwards Street
Wilton, N.H. 03086
Book 9209 / Page 1674

EROSION CONTROLS 1
Gardent Property
Tax Map 3 / Lot 12
North River Road ~ Milford, N.H.

DATE:

1-21-21

DWG:

2014-BASE