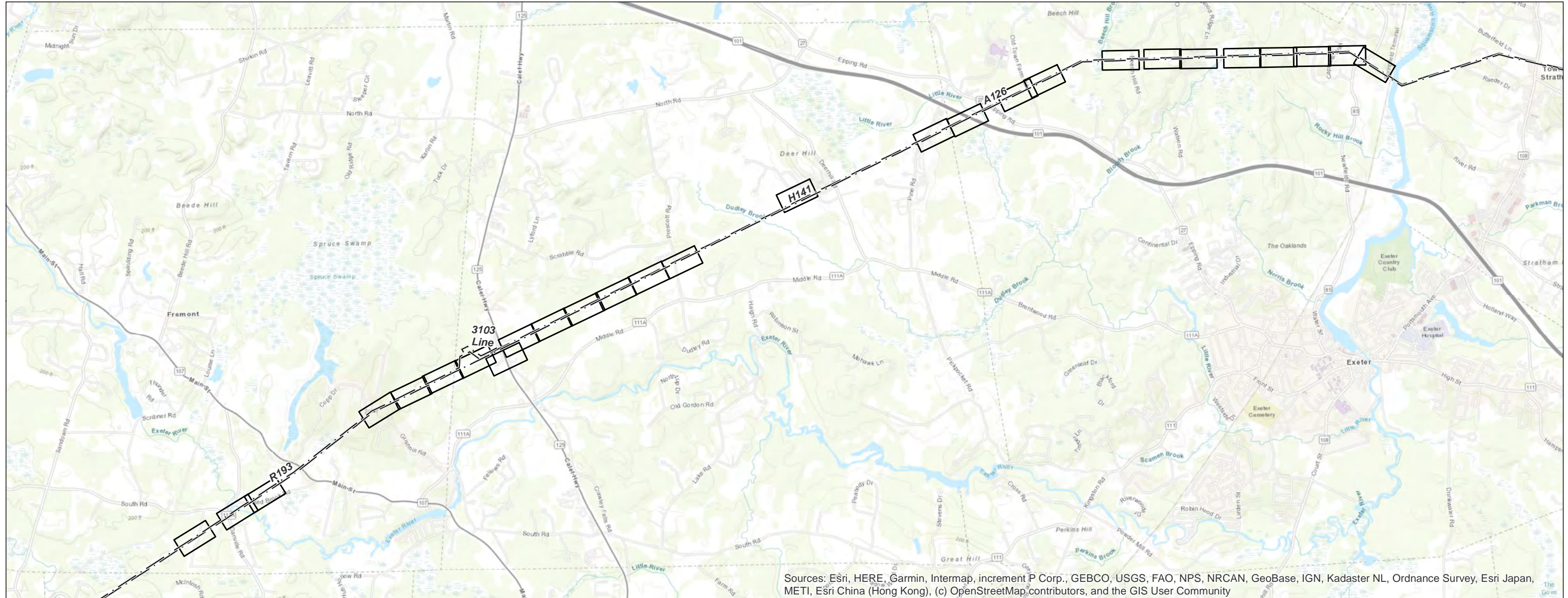


RASH - Structure Replacement Project

BRENTWOOD, EXETER AND
FREMONT, NEW HAMPSHIRE

Alteration of Terrain Plans

Date: June 16, 2023



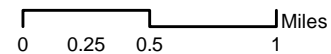
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

PREPARED FOR:
EVERSOURCE

107 Selden Street
Berlin, CT 06037



--- Transmission Lines



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NO.	DATE	REVISIONS

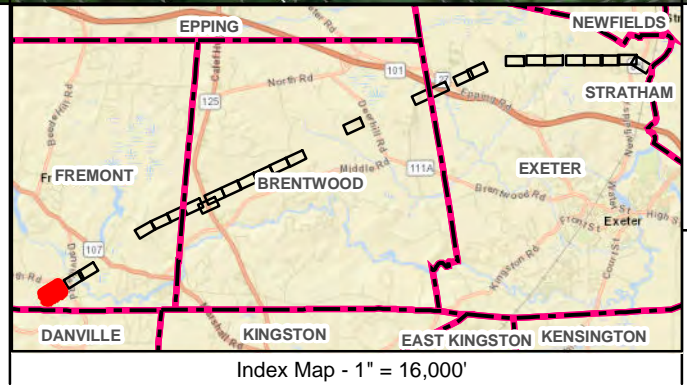
PREPARED BY:
 NORMANDEAU ASSOCIATES
ENVIRONMENTAL CONSULTANTS



<ul style="list-style-type: none"> Existing Access Proposed Gravel Access Upland Matting Wetland Matting Existing Structure Structure to be Removed Replacement Structure Guy Wire Exeter_Leachfield Proposed Access Road Existing Access Road 	<ul style="list-style-type: none"> Delineated Stream Centerline Erosion Control Transmission Lines 2 Foot Contours Vernal Pool Buffer Stream/River Channel Work Pad Delineated Vernal Pool Biological Monitoring Required No Work 4/15 to 10/15 	<ul style="list-style-type: none"> Right of Way Delineated Wetland Delineated Prime Wetland NRCS Soils Municipal Boundary Parcel Boundaries (Provided by Eversource) FEMA 100 Year Flood Zone Conservation Land
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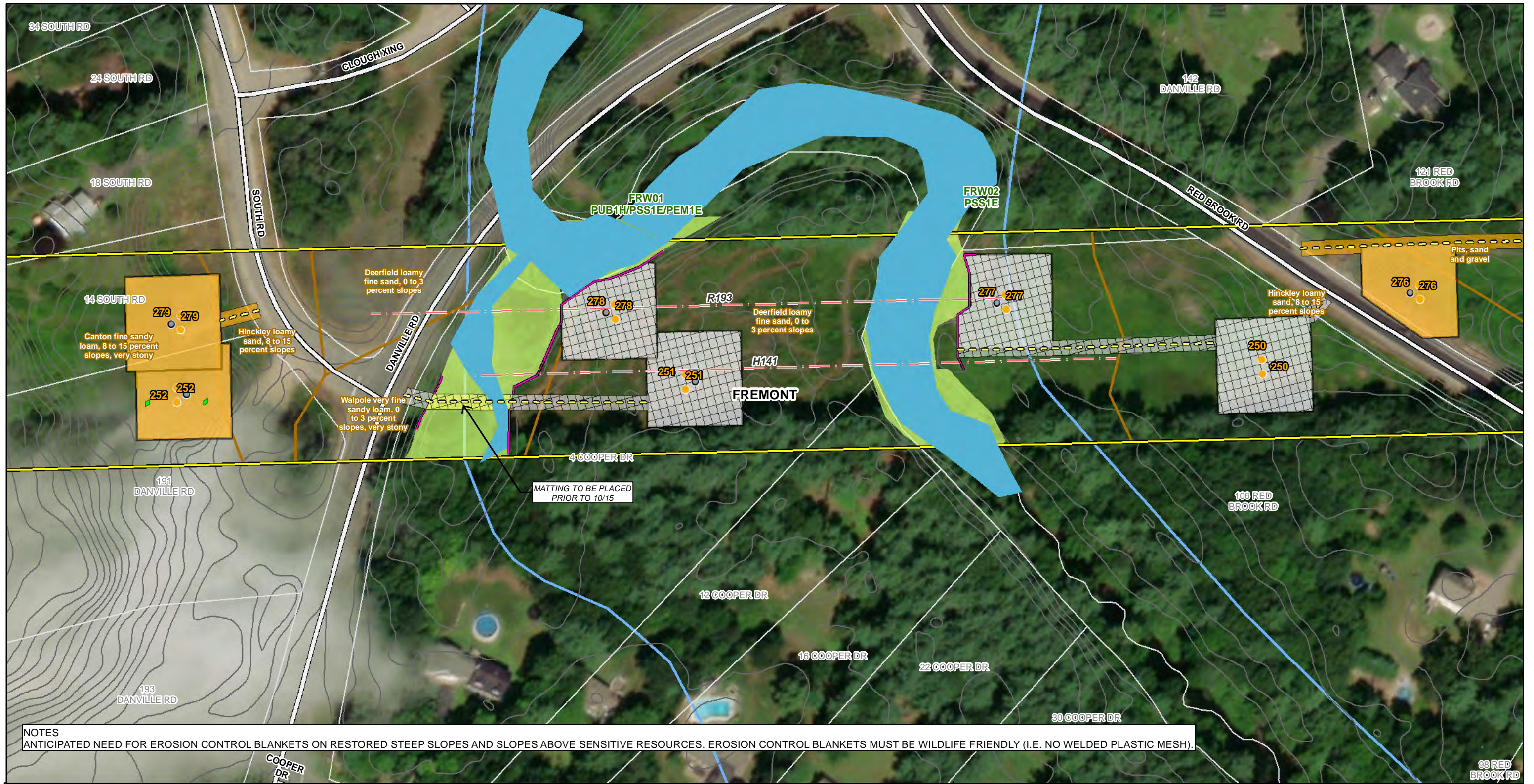
NHF&G BMPs

Municipality: Fremont



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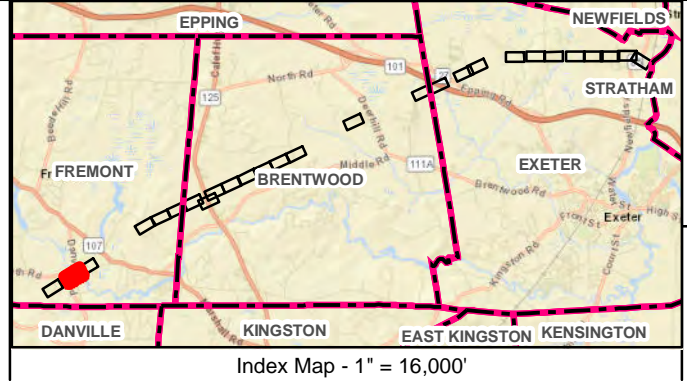
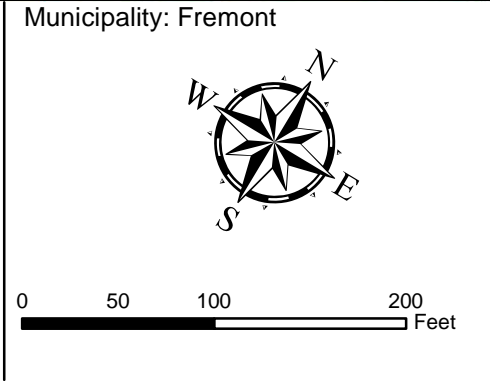
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NOTES
 ANTICIPATED NEED FOR EROSION CONTROL BLANKETS ON RESTORED STEEP SLOPES AND SLOPES ABOVE SENSITIVE RESOURCES. EROSION CONTROL BLANKETS MUST BE WILDLIFE FRIENDLY (I.E. NO WELDED PLASTIC MESH).

Existing Access	Delineated Stream Centerline	Right of Way
Proposed Gravel Access	Erosion Control	Delineated Wetland
Upland Matting	Transmission Lines	Delineated Prime Wetland
Wetland Matting	2 Foot Contours	NRCS Soils
Existing Structure	Vernal Pool Buffer	Municipal Boundary
Structure to be Removed	Stream/River Channel	Parcel Boundaries (Provided by Eversource)
Replacement Structure	Work Pad	FEMA 100 Year Flood Zone
Guy Wire	Delineated Vernal Pool	Conservation Land
Exeter_Leachfield	NHF&G BMPs	
Proposed Access Road	Biological Monitoring Required	
Existing Access Road	No Work 4/15 to 10/15	

* Existing Structures have two poles, like Replacement Structure; Replacements are in-kind



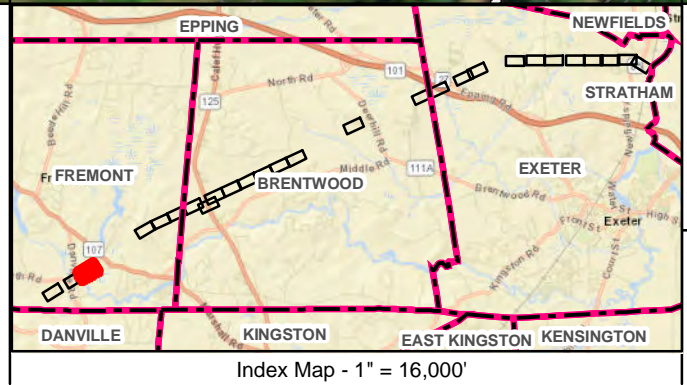
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Municipality: Fremont

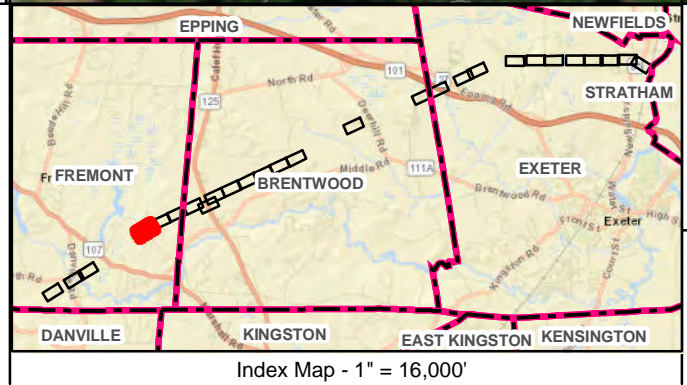
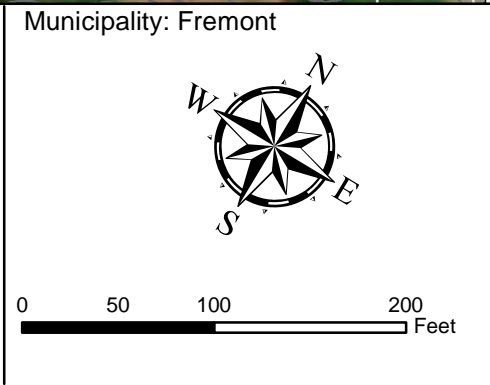


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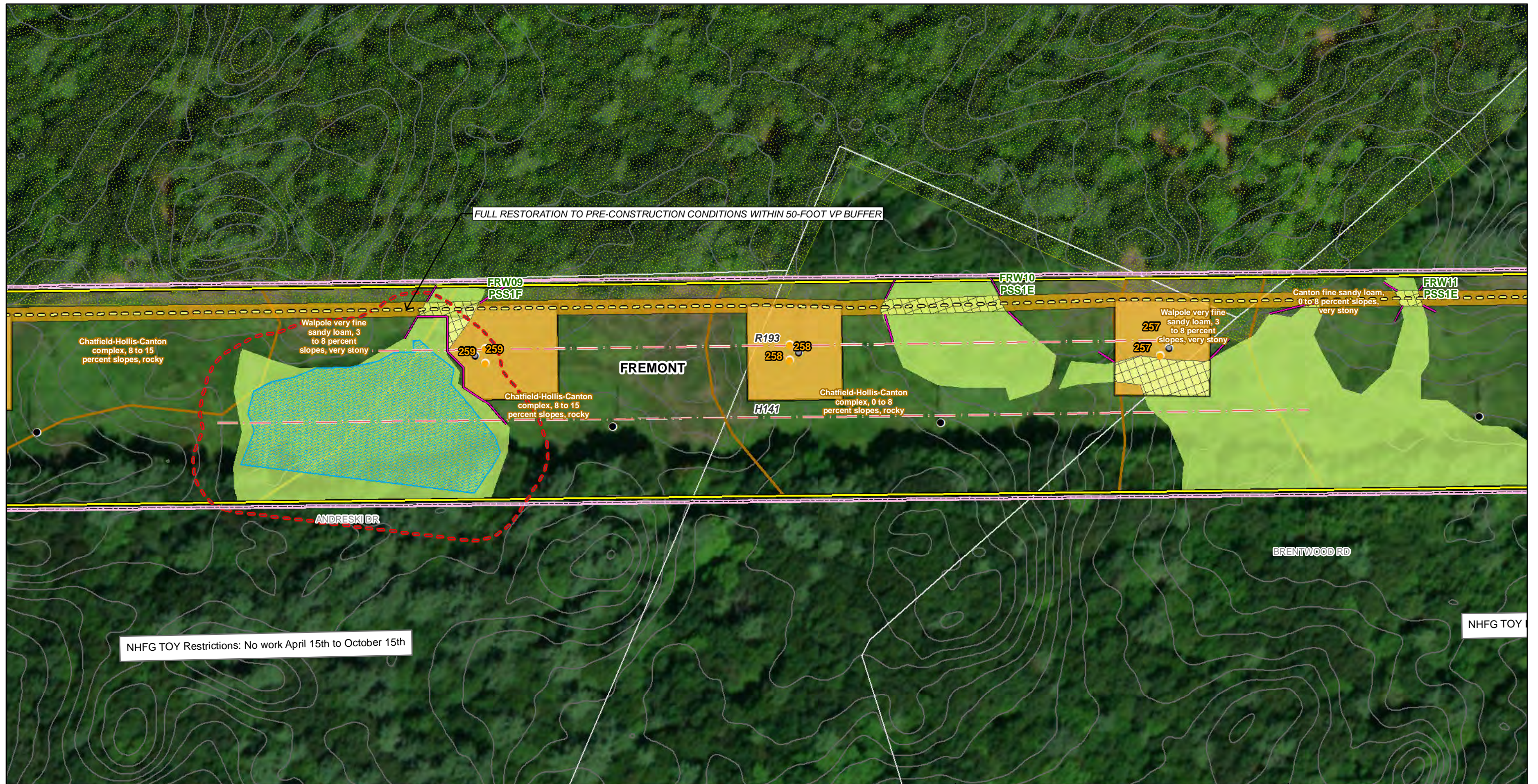
NHFG TOY Restrictions: No work April 15th to October 15th

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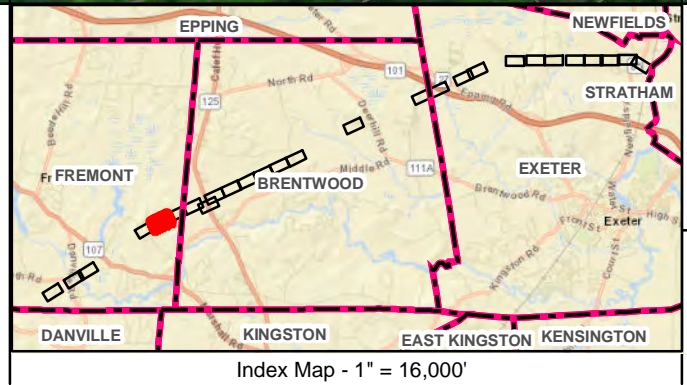
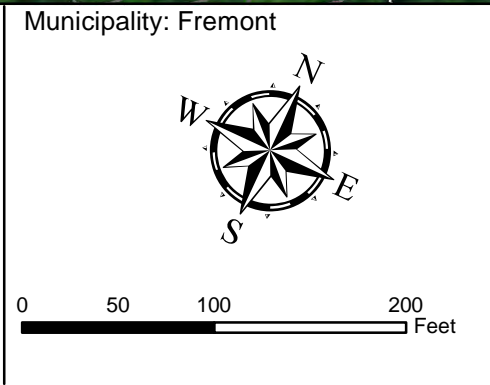
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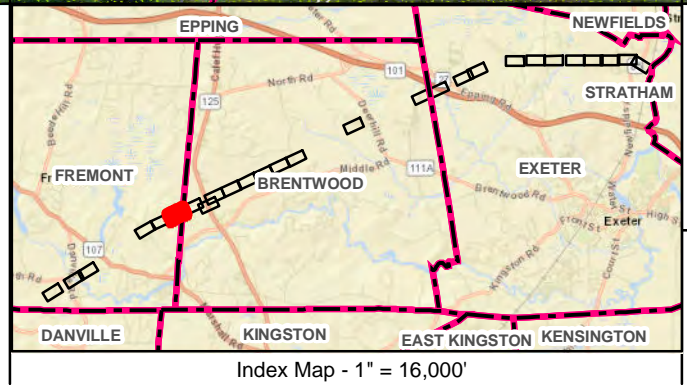
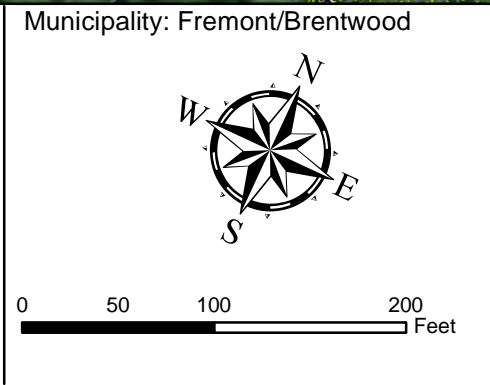


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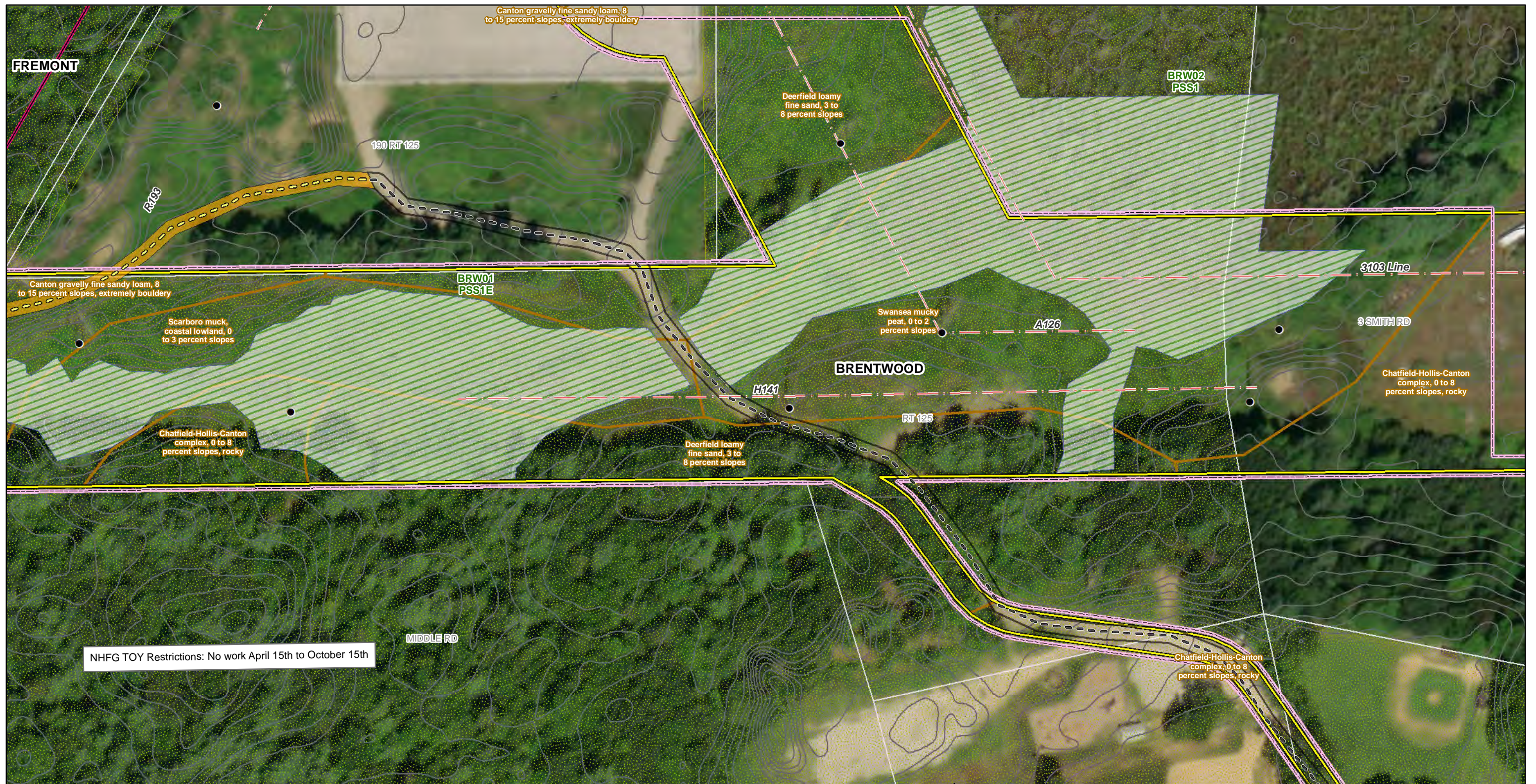


	NHF&G BMPs	

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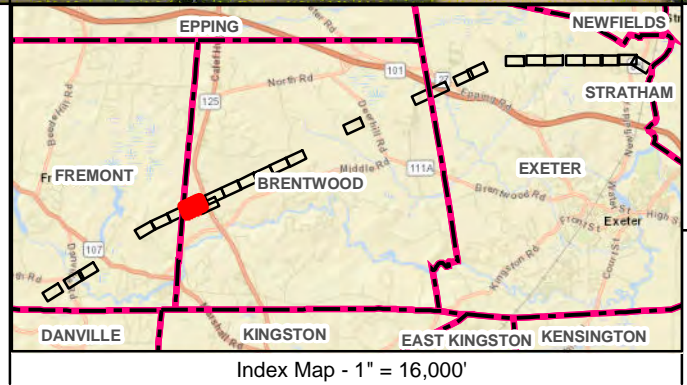
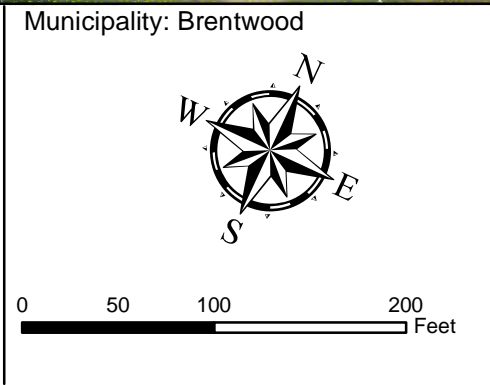
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NHF&G BMPs

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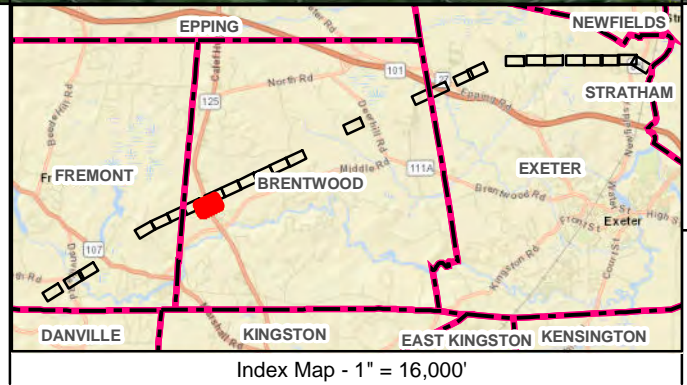


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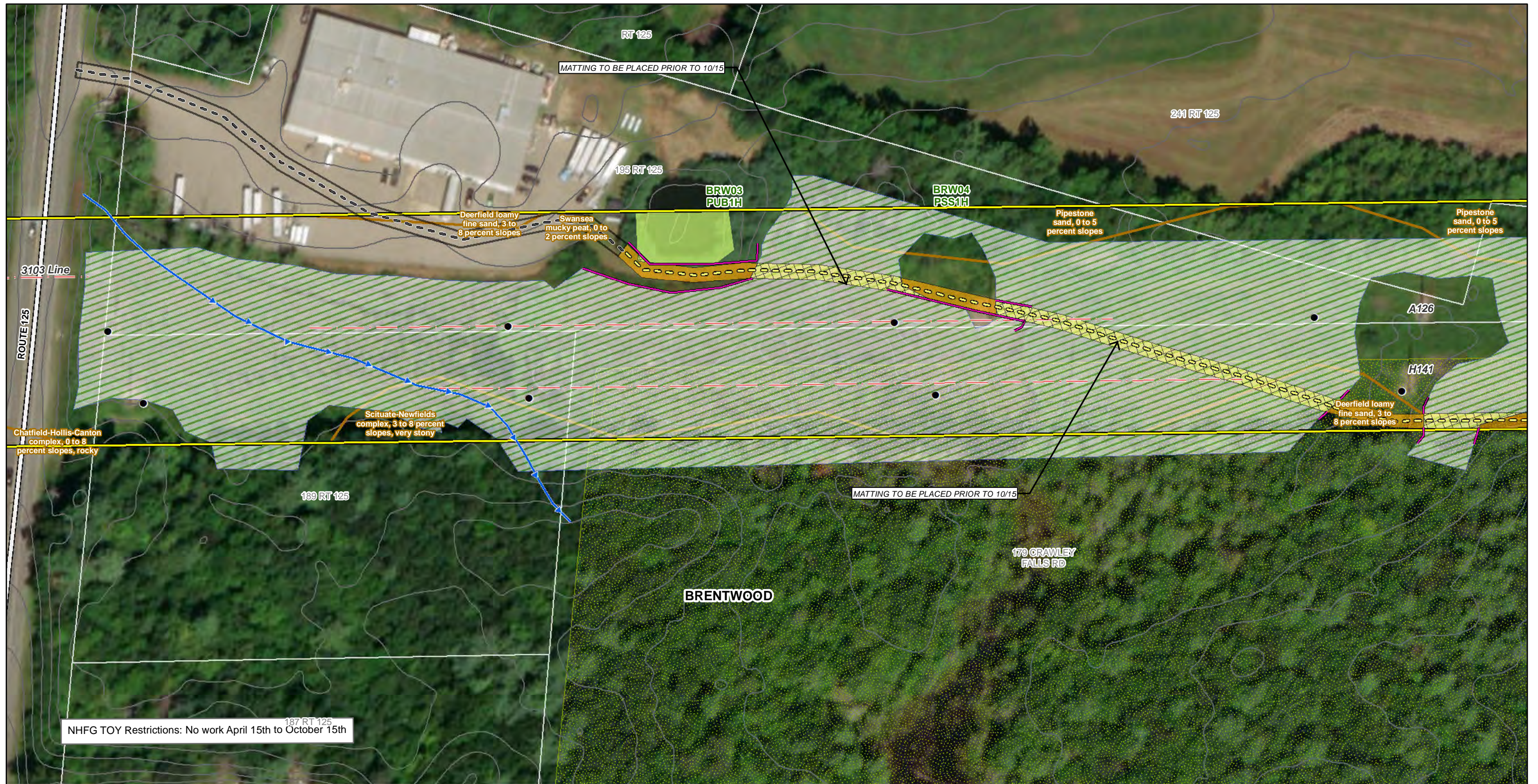
NHF&G BMPs

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Municipality: Brentwood



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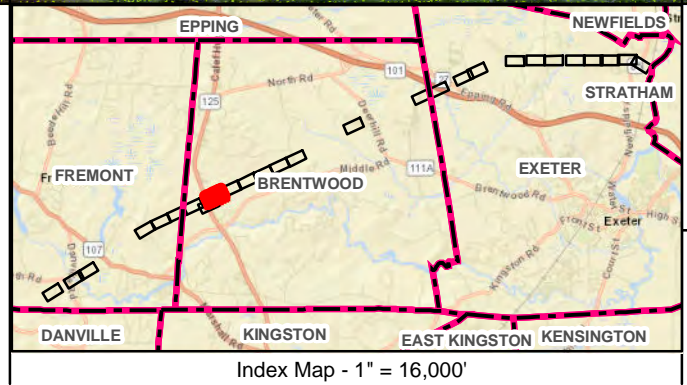
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NHF&G BMPs

- Biological Monitoring Required
- No Work 4/15 to 10/15

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Municipality: Brentwood

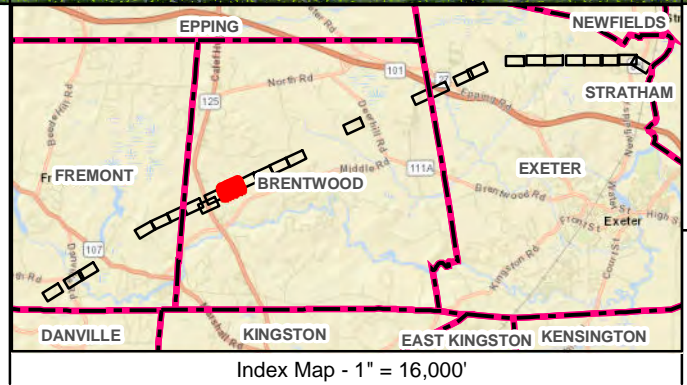
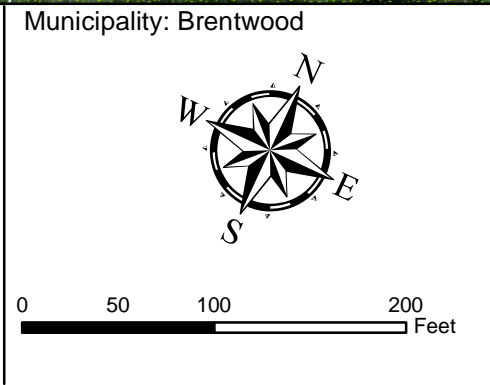


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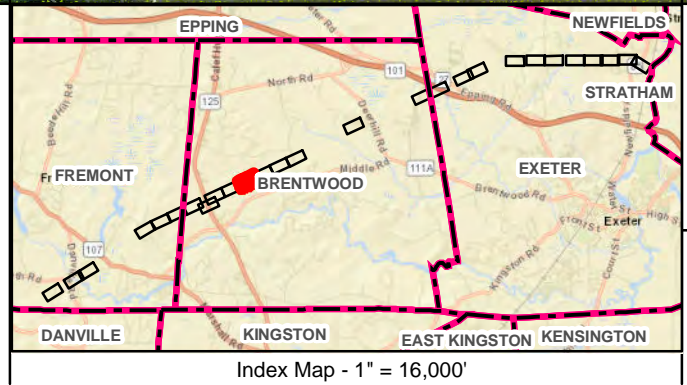
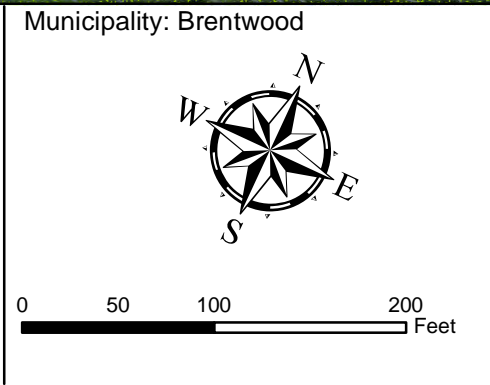
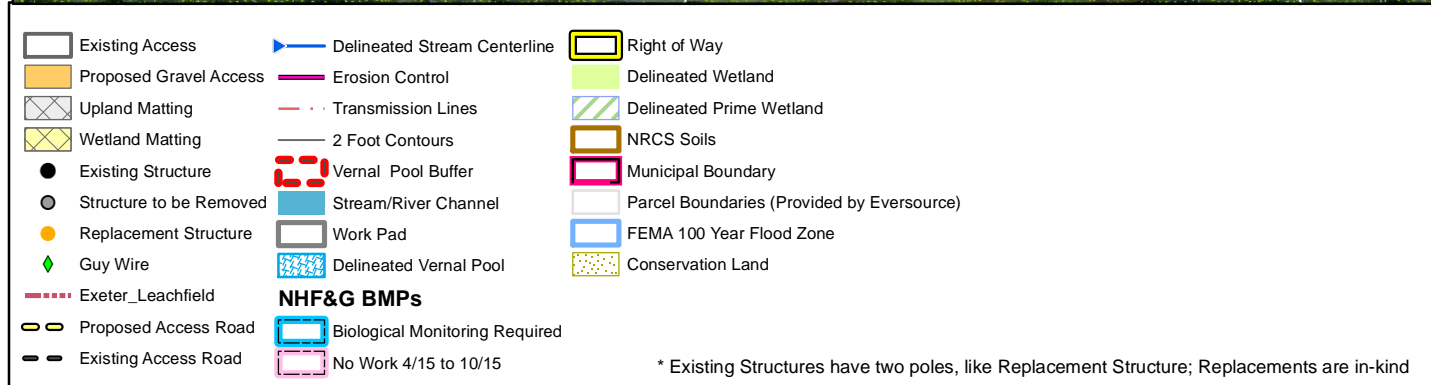
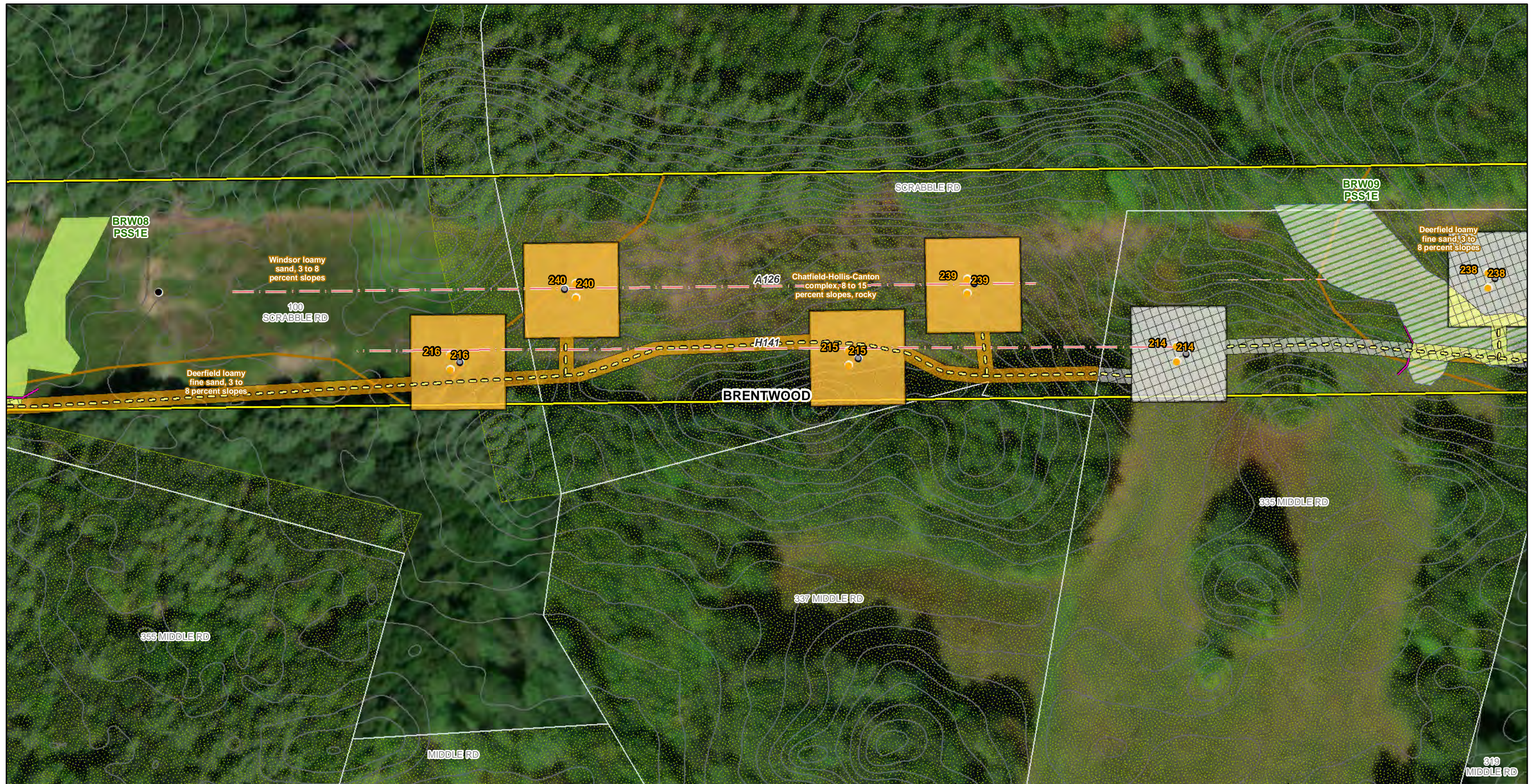


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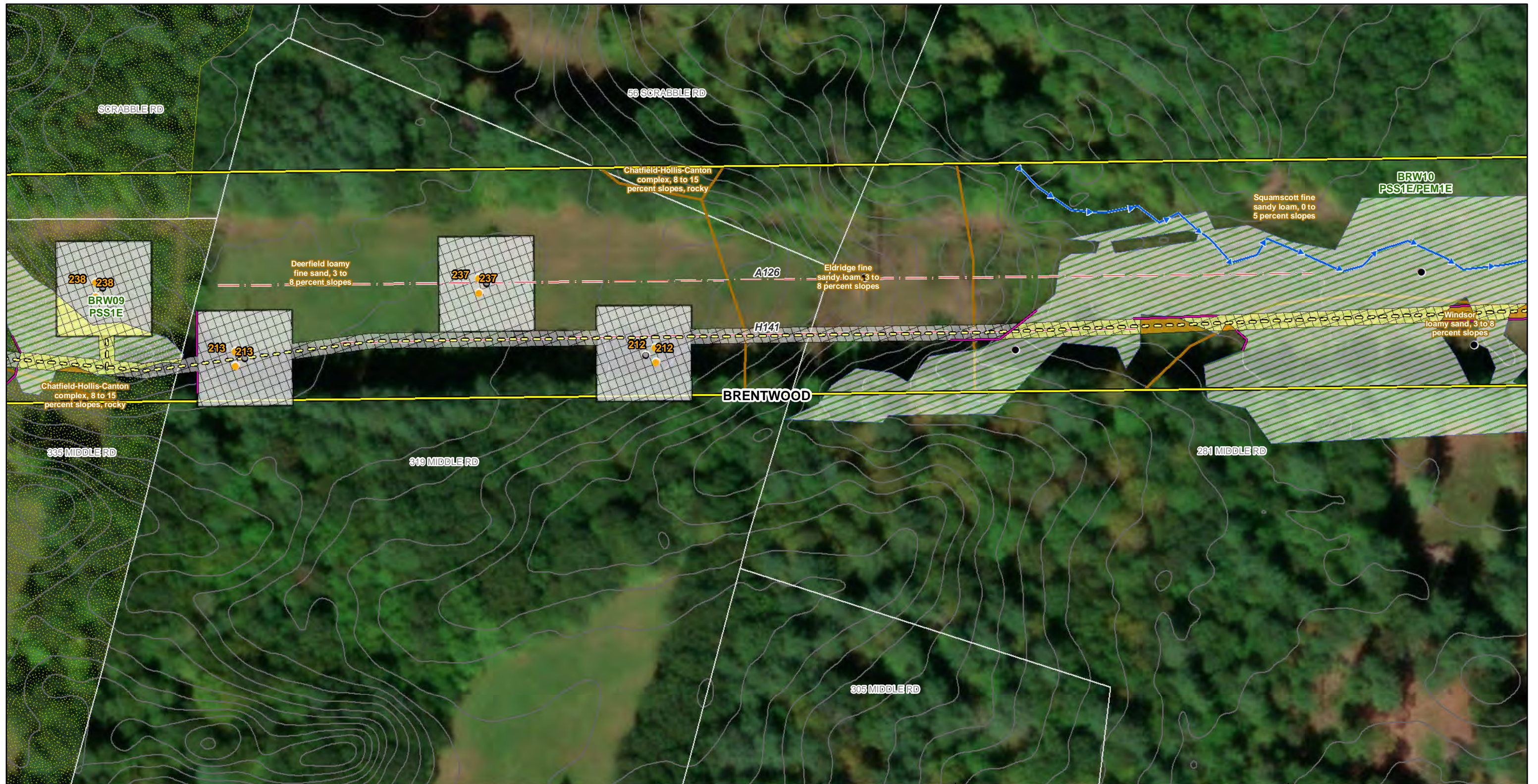
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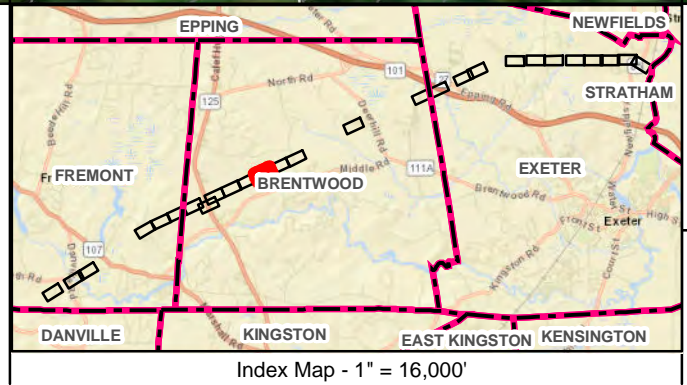
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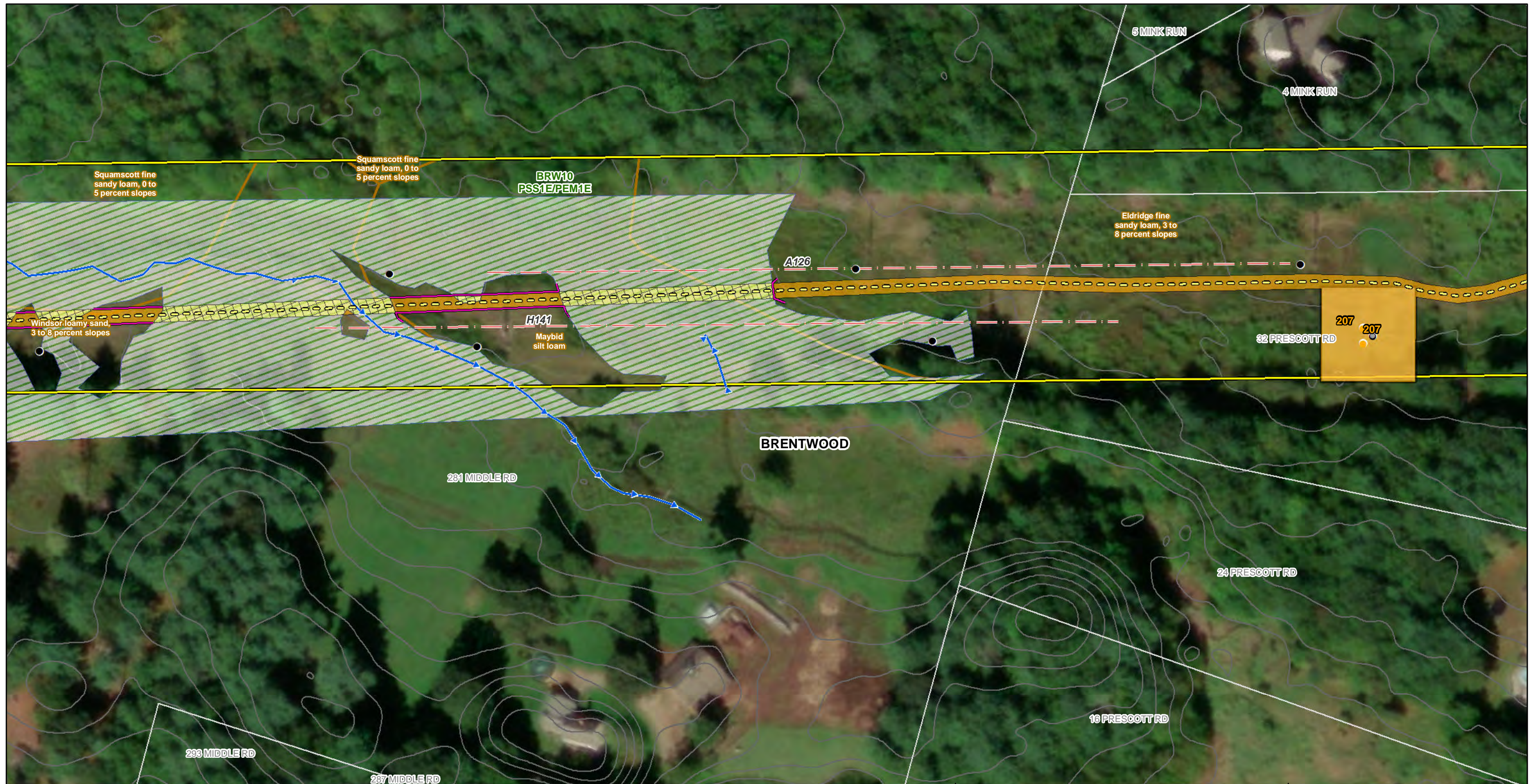
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Municipality: Brentwood



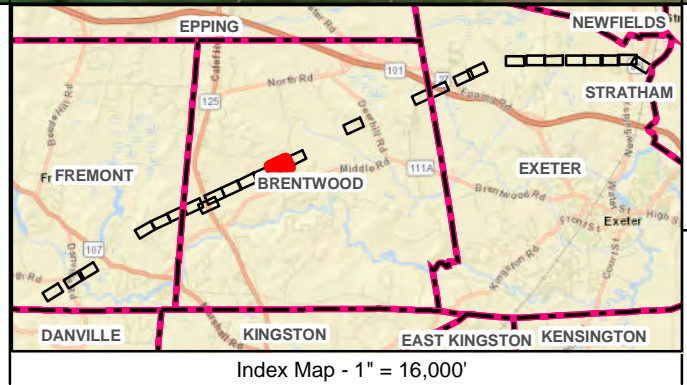
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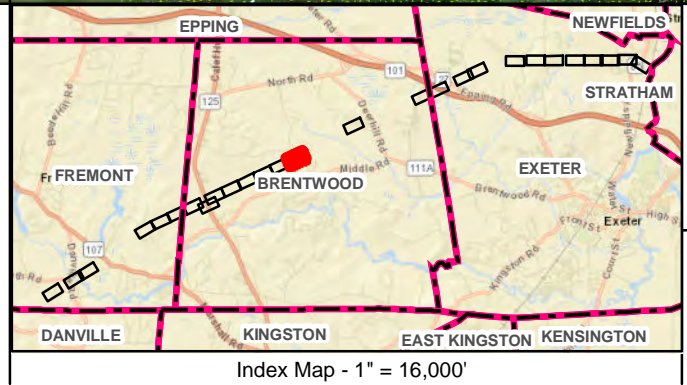
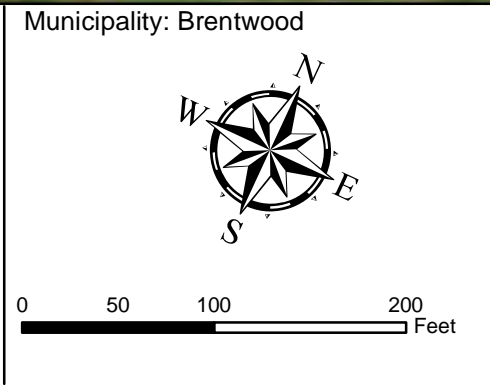
Municipality: Brentwood



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Existing Access	Delineated Stream Centerline	Right of Way
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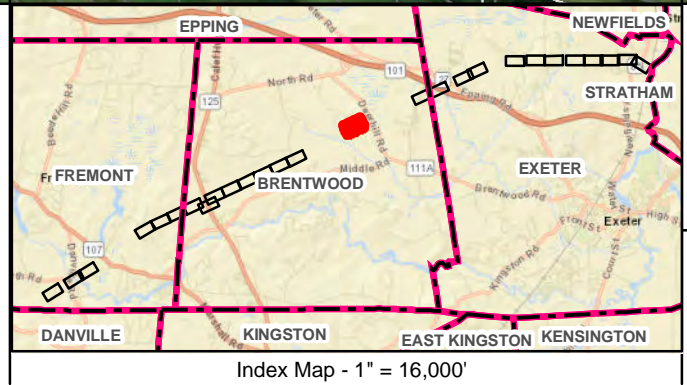
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NHF&G BMPs

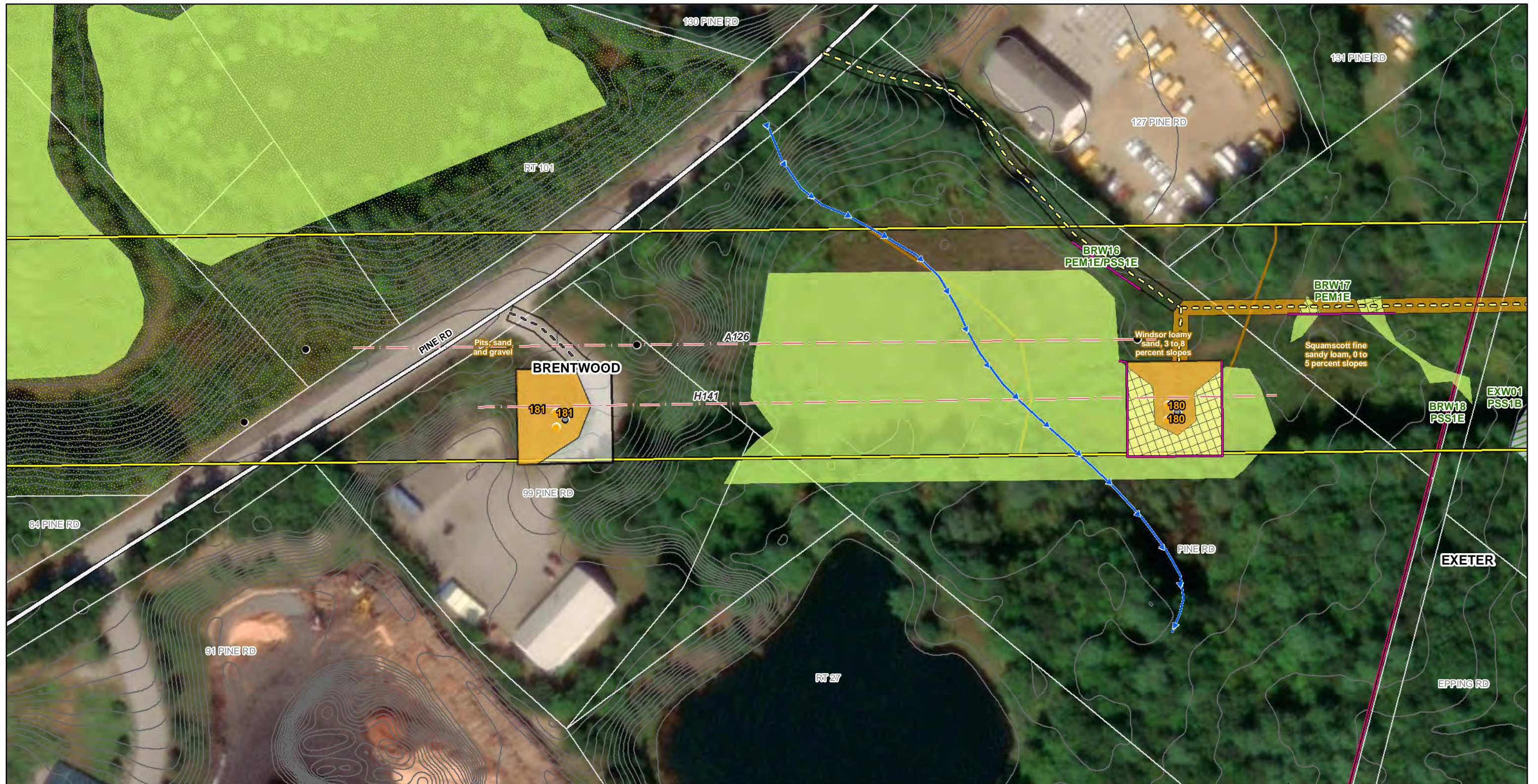
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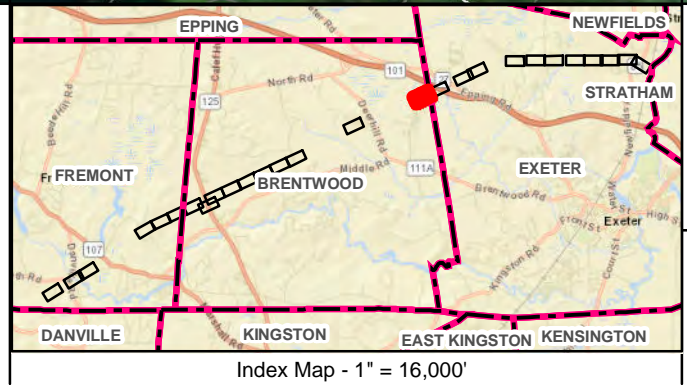
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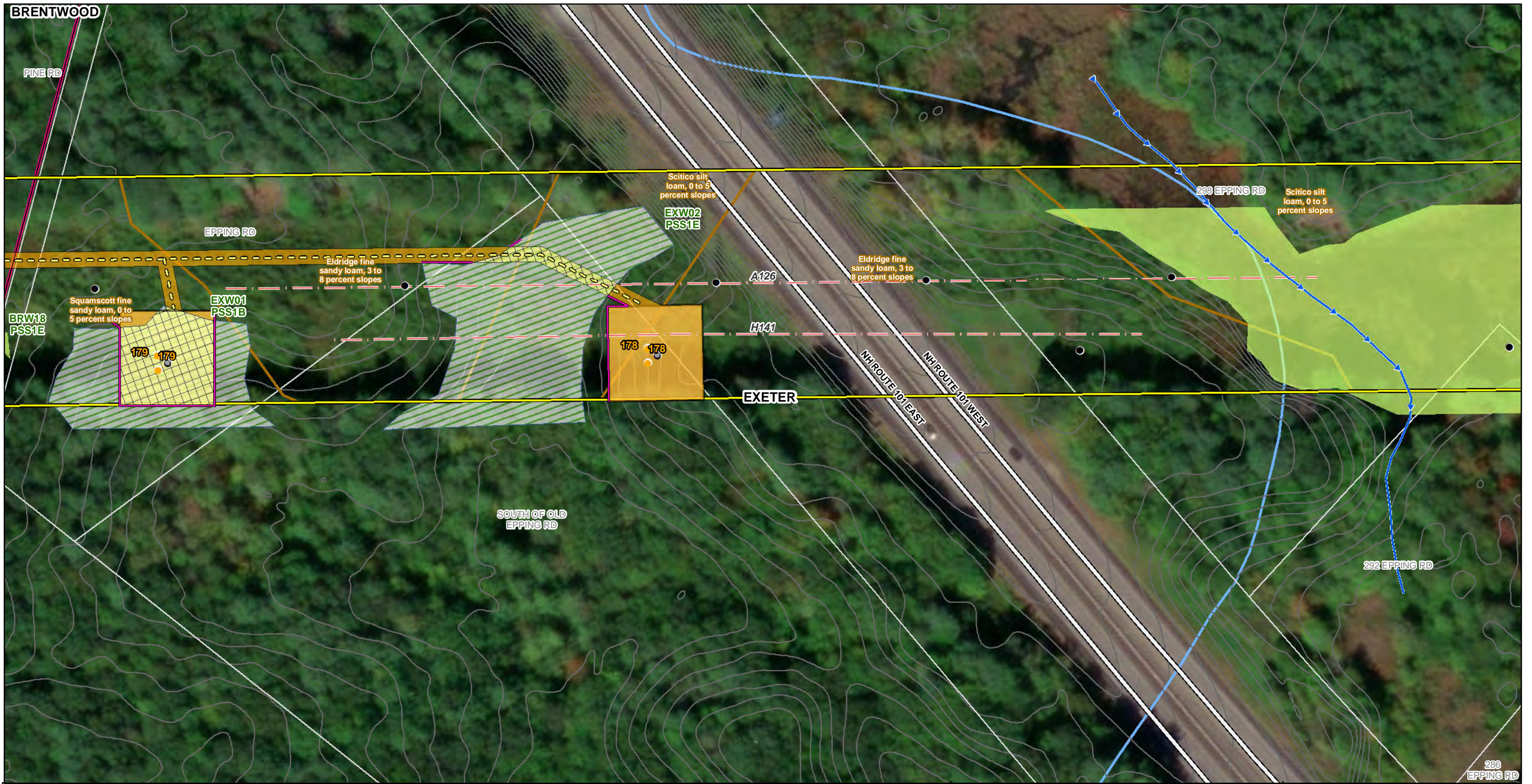
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Municipality: Brentwood

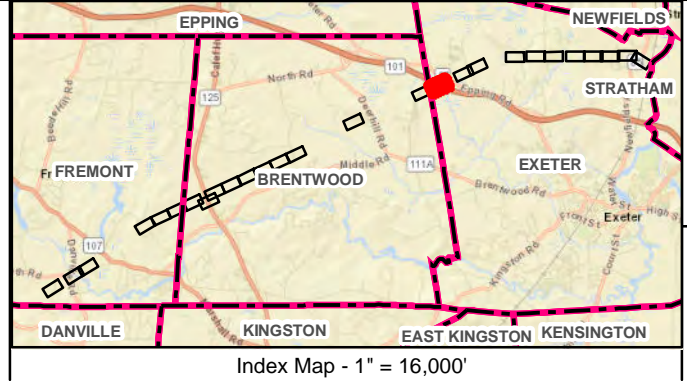
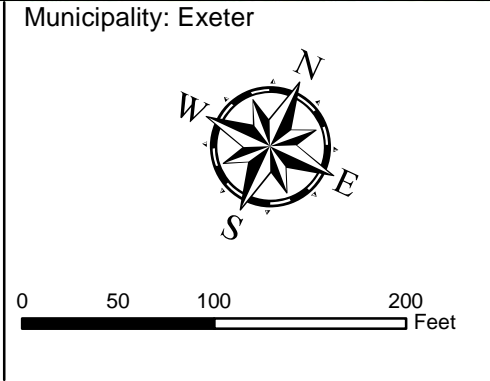


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Existing Access	Delineated Stream Centerline	Right of Way
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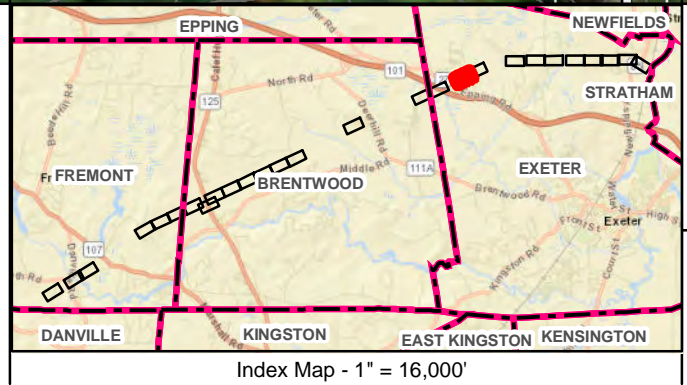
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Municipality: Exeter



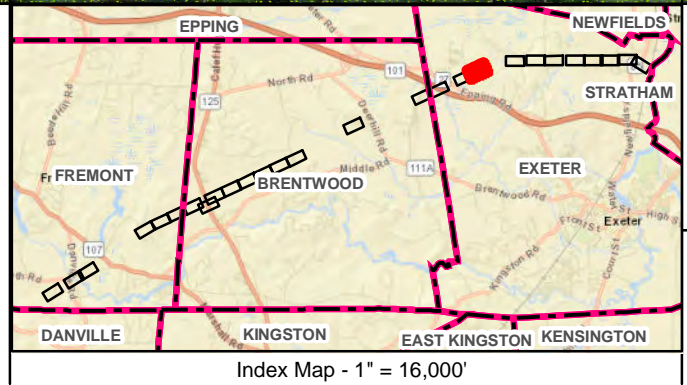
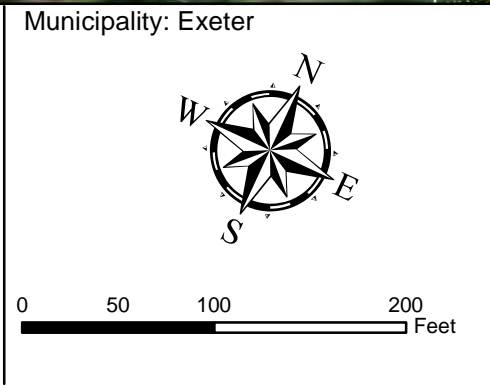
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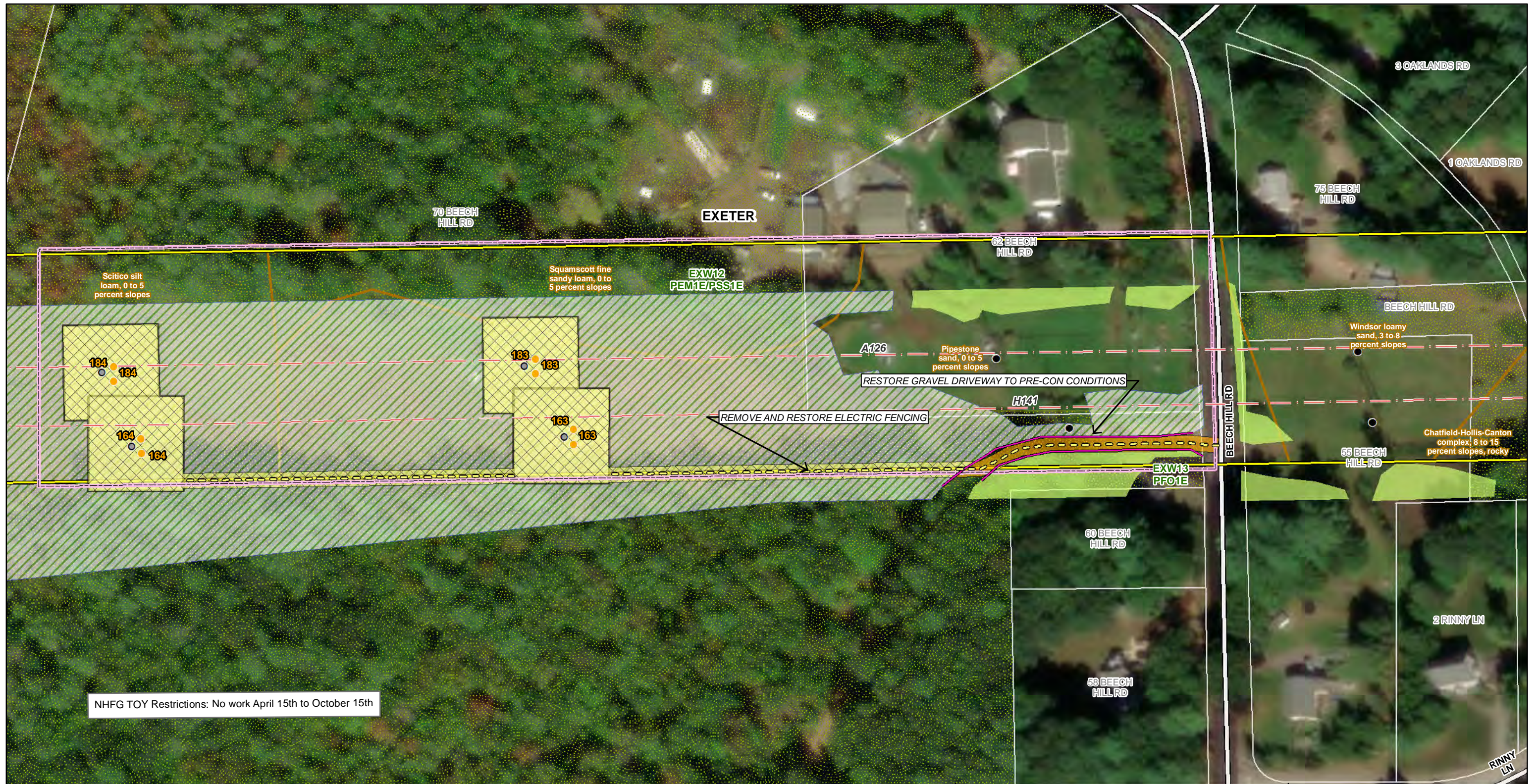
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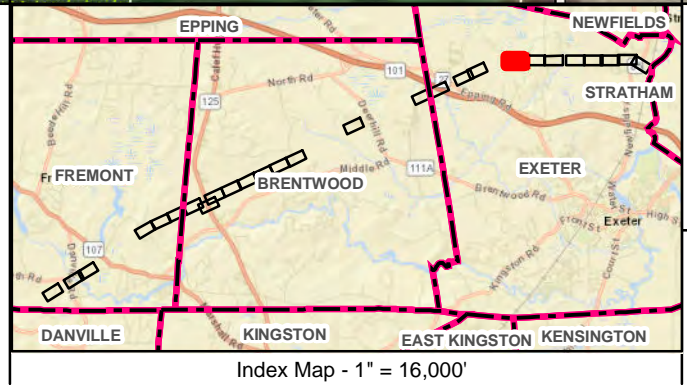


NHFG TOY Restrictions: No work April 15th to October 15th

<ul style="list-style-type: none"> Existing Access Proposed Gravel Access Upland Matting Wetland Matting Existing Structure Structure to be Removed Replacement Structure Guy Wire Exeter_Leachfield Proposed Access Road Existing Access Road 	<ul style="list-style-type: none"> Delineated Stream Centerline Erosion Control Transmission Lines 2 Foot Contours Vernal Pool Buffer Stream/River Channel Work Pad Delineated Vernal Pool Biological Monitoring Required No Work 4/15 to 10/15 	<ul style="list-style-type: none"> Right of Way Delineated Wetland Delineated Prime Wetland NRCS Soils Municipal Boundary Parcel Boundaries (Provided by Eversource) FEMA 100 Year Flood Zone Conservation Land
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* Existing Structures have two poles, like Replacement Structure; Replacements are in-kind

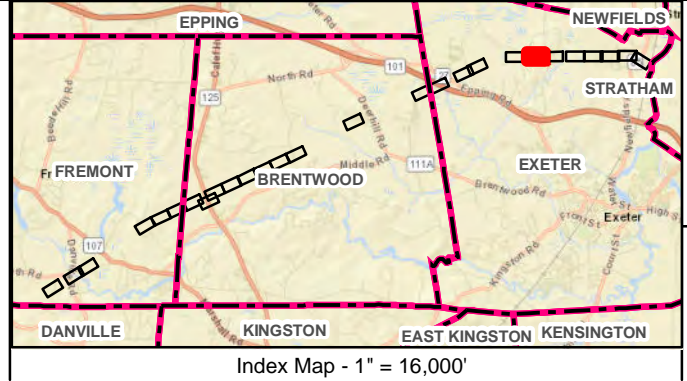
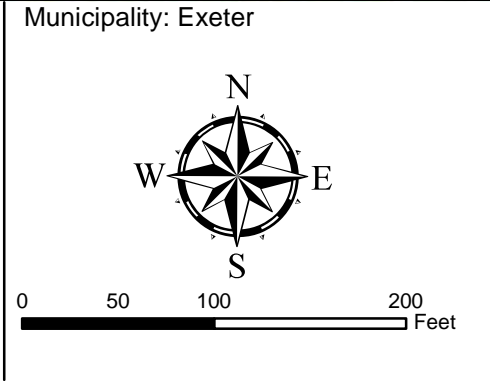
Municipality: Exeter



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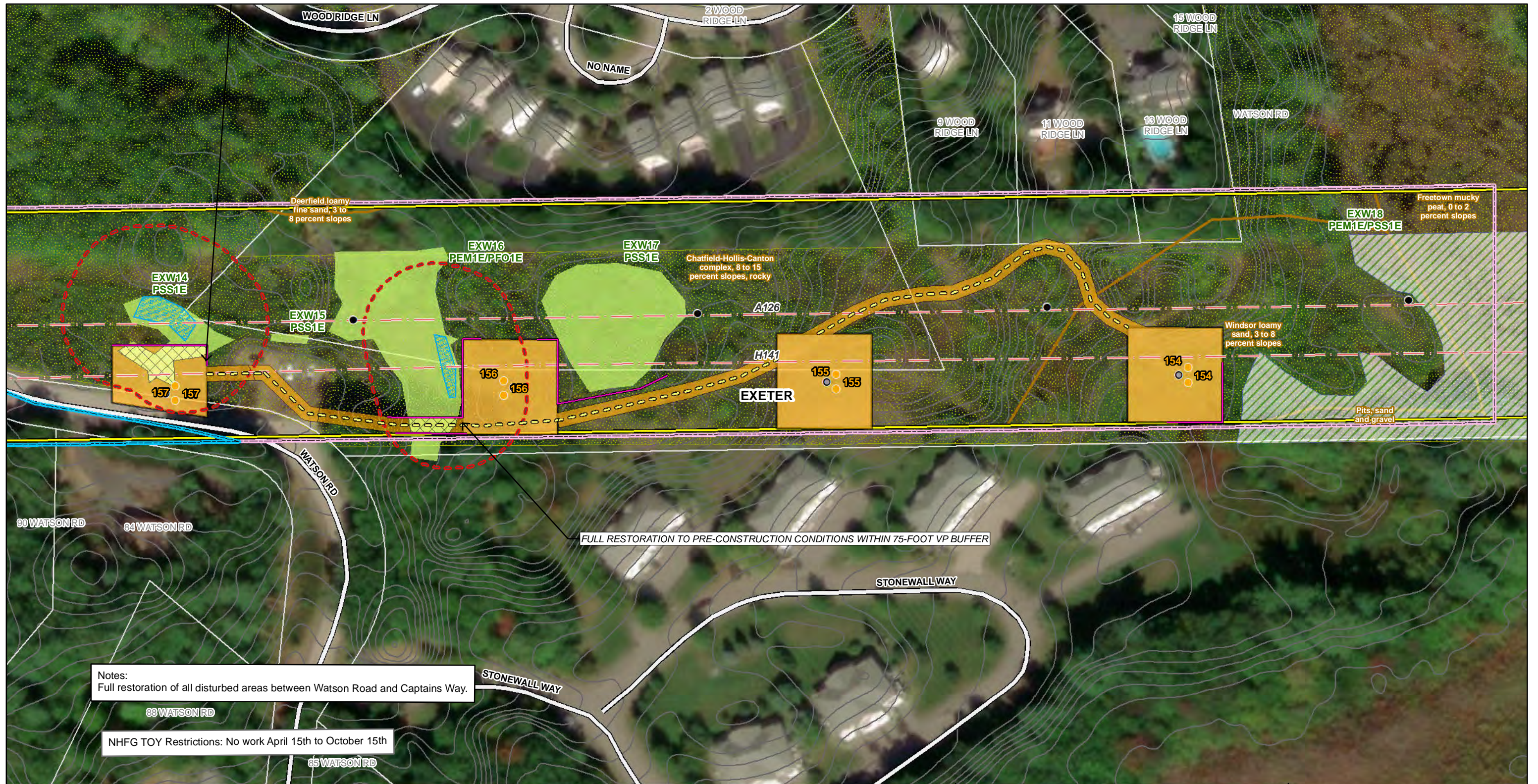


Existing Access	Delineated Stream Centerline	Right of Way
Proposed Gravel Access	Erosion Control	Delineated Wetland
Upland Matting	Transmission Lines	Delineated Prime Wetland
Wetland Matting	2 Foot Contours	NRCS Soils
Existing Structure	Vernal Pool Buffer	Municipal Boundary
Structure to be Removed	Stream/River Channel	Parcel Boundaries (Provided by Eversource)
Replacement Structure	Work Pad	FEMA 100 Year Flood Zone
Guy Wire	Delineated Vernal Pool	Conservation Land
Exeter_Leachfield	NHF&G BMPs	
Proposed Access Road	Biological Monitoring Required	
Existing Access Road	No Work 4/15 to 10/15	

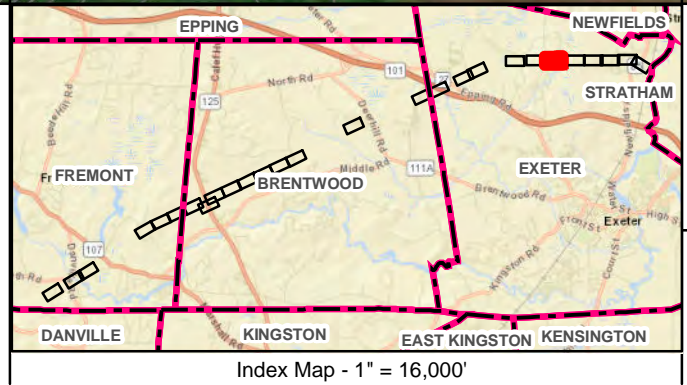
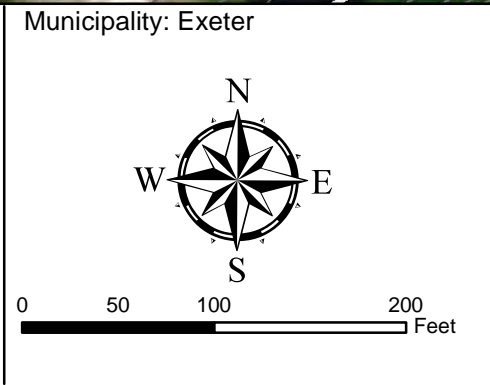


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* Existing Structures have two poles, like Replacement Structure; Replacements are in-kind



	NHF&G BMPs	



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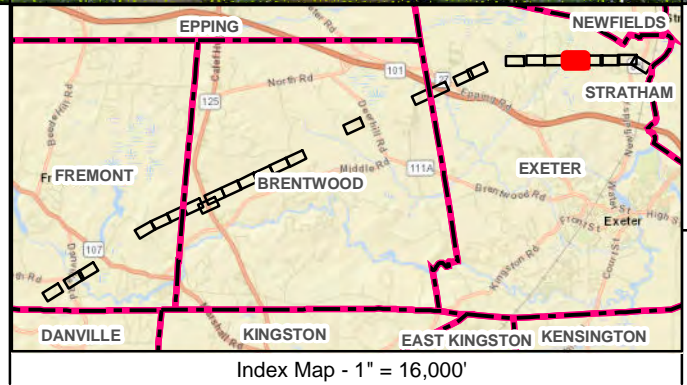
Notes:
Full restoration of all disturbed areas between Watson Road and Captains Way.

NHFG TOY Restrictions: No work April 15th to October 15th

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Municipality: Exeter



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Notes:
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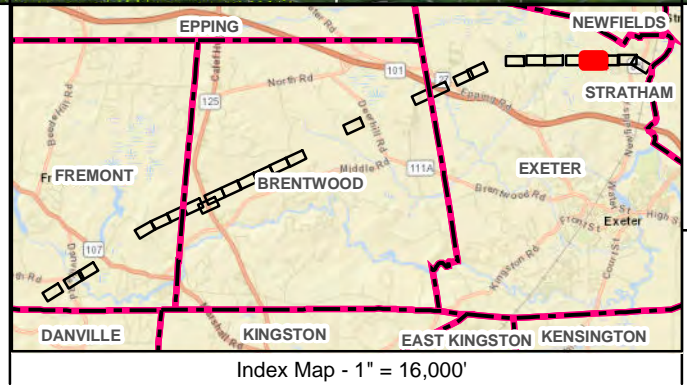
NHFG TOY Restrictions: No work April 15th to October 15th

NHFG TOY

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Municipality: Exeter



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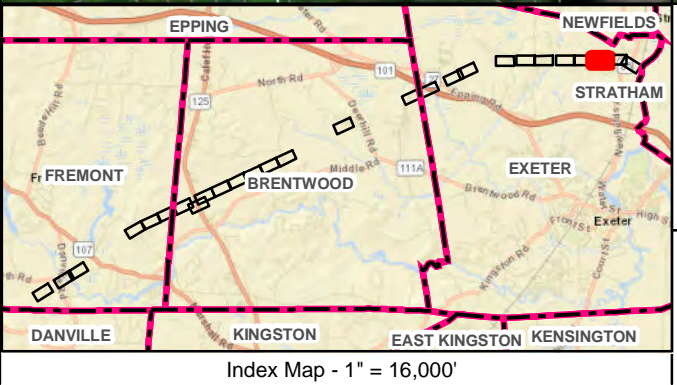
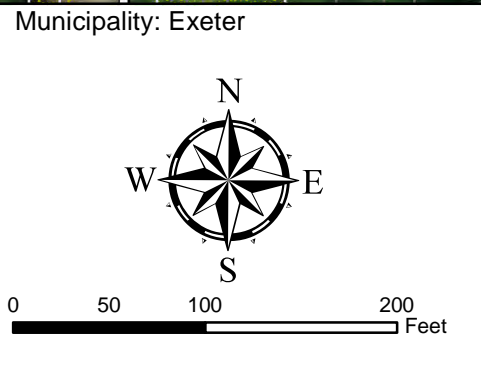


Notes:
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NHFG TOY Restrictions: No work April 15th to October 15th

	NHF&G BMPs	

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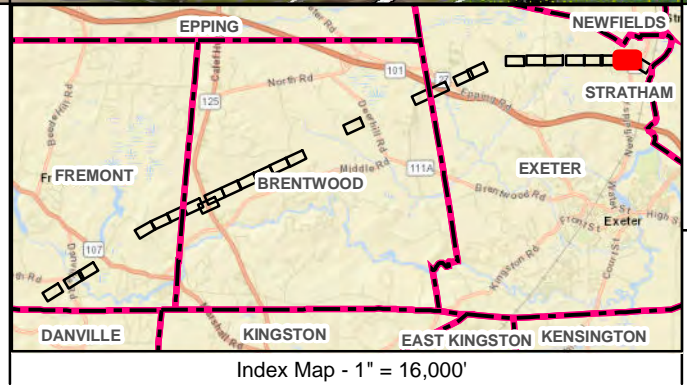
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<ul style="list-style-type: none"> Existing Access Proposed Gravel Access Upland Matting Wetland Matting Existing Structure Structure to be Removed Replacement Structure Guy Wire Exeter_Leachfield Proposed Access Road Existing Access Road 	<ul style="list-style-type: none"> Delineated Stream Centerline Erosion Control Transmission Lines 2 Foot Contours Vernal Pool Buffer Stream/River Channel Work Pad Delineated Vernal Pool Biological Monitoring Required No Work 4/15 to 10/15 	<ul style="list-style-type: none"> Right of Way Delineated Wetland Delineated Prime Wetland NRCS Soils Municipal Boundary Parcel Boundaries (Provided by Eversource) FEMA 100 Year Flood Zone Conservation Land
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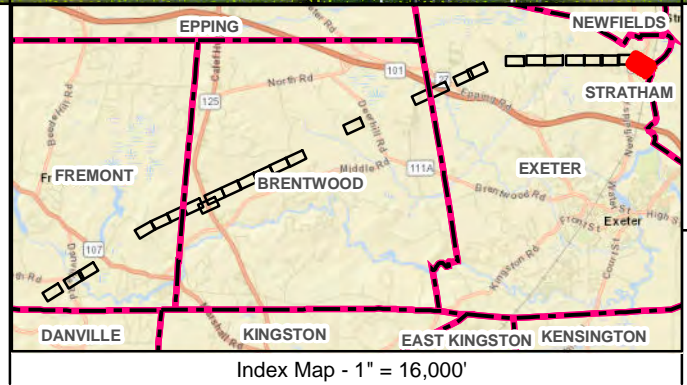
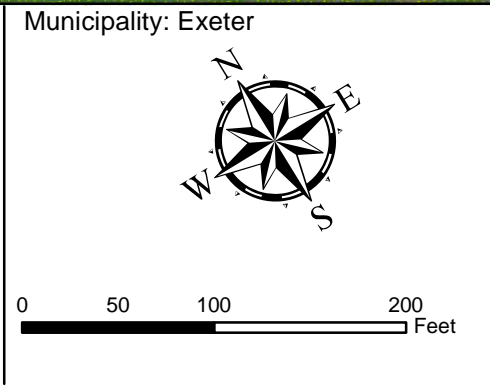
Municipality: Exeter



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	NHF&G BMPs	



* Existing Structures have two poles, like Replacement Structure; Replacements are in-kind

Transmission Line RASH Structure Replacement (2023)

Rev. June 14, 2023

Construction Sequence:

1. Wetland boundaries to be clearly marked prior to the start of construction; Wetlands were reviewed/delineated by Normandeau Associates, Inc. April/May 2023. The wetland delineations were completed in accordance with the criteria described in the U.S. Army Corps of Engineers Wetland Delineation Manual Technical Report Y-87-1 (January,1987) and the Regional Supplement for the Northcentral and Northeast Region (January, 2012) and meet the criteria for wetland delineation in accordance with the NH DES administrative rules Env-W t 301.01.
2. MODIFICATIONS IN ACCESS ROUTES, WORK PAD LOCATIONS OR OTHER WETLANDS IMPACT AREAS MUST BE APPROVED BY EVERSOURCE AND IN COMPLIANCE WITH NHDES WETLANDS RULES FOR MINIMUM IMPACT:
ENV-WT 307 - GENERAL REQUIREMENTS
ENV-WT 313.03 - AVOIDANCE AND MINIMIZATION
ENV-WT 521 - UTILITY PROJECT SPECIFIC CONDITIONS
3. Sediment and erosion control measures shall be installed in accordance with the plans and detail provided, as necessary.
4. Wetland impacts associated with wetland crossings are required for access between structures within the right of way. Construction activities shall occur during periods of low flow.
5. Adequate precaution shall be exercised to avoid spillage of fuel oils, chemicals, or similar substances; no fuels, lubricants, chemicals or similar substances shall be stored beneath trees or in the vicinity of any wetlands, river, stream or other body of water; or in the vicinity of natural or man-made channels leading thereto. No power equipment shall be stored, maintained, or fueled in any area adjacent to a wetland, river, stream or other body of water.
6. Remove completely all contamination from any spillage of chemicals or petroleum product with complete rehabilitation of the affected area.
7. Access routes have been selected to prevent degradation of the right-of-way and minimize environmental impact. Operations shall be confined to the specified access routes within the proposed wetland impact area. Access routes shall not exceed a 16 foot-width.
8. Impact to vegetation within wetlands will be limited to the extent necessary to place the timber mats where required.
9. Low growing varieties of vegetation adjacent to wetlands shall be preserved to the extent possible. Stumps and rocks shall not be removed, and there shall be no excavations, fills or grading done adjacent to wetlands, unless minor excavations is needed for access.
10. Timber mats will be used along access routes within and adjacent to wetland areas. These mats are constructed of heavy timbers or composite material, bolted together, and are placed end-to-end in the wetland to support heavy equipment. All timber mats shall be placed and removed so as not to cause any ruts, channels or depressions, or otherwise cause any undue disturbance to wetlands.
11. If timber mat BMP is not sufficient due to high water, additional bmp's may include the placement of geotextile fabric, 3"-4" stone, and gravel to provide a suitable road bed. A temporary culvert may be required in areas of high flow to maintain hydrologic connectivity. All material will be removed from jurisdictional areas after construction completion.
12. No material shall be placed in any location or in any manner so as to impair surface water flow into, through or out of any wetland area. No installation shall create an impoundment that will impede the flow of water or cause flooding.
13. No material shall be taken from the wetlands area except that which must necessarily be removed for the structure or foundation placement or stabilization. All excess material taken from the wetland will be removed from the site.
14. Any proposed support fills shall be clean gravel and stone, free of waste metal products, organic materials and similar debris and shall not exceed the amount permitted. This allowable fill is the only fill that may remain in the wetland after construction. All cut and fills slopes shall be seeded/loamed within 72 hours of achieving finished grade; sooner if heavy rains forecasted.

15. Install new poles in the locations designated on the permitting plans.
16. Cable installation will be performed in a manner so as to avoid, or limit to the maximum extent possible, traversing wetlands with heavy equipment. In some cases, a helicopter may be used during the installation to minimize impacts.
17. Removal of the old pole will occur once the cable has been installed on the new structure. The old structures will be removed from the site. Poles will be cut at the ground surface. Footings will be abandoned in place to minimize impacts.
18. All swamp mats, material, and debris will be removed from the work area upon the completion of construction.
19. Upland disturbed areas shall be restored and stabilized upon completion of construction. Work pad restoration should include reducing the work pad to a 30 by 60 foot area, and reducing slopes to a maximum of 25%. Stockpiled material should be spread to reduce any unnecessary slopes. Gravel work pads and slopes should be scarified to a minimum of 3" before spreading topsoil/loam.
20. All temporary wetland impacts will be re-graded to original contours following construction. New England erosion control/ restoration mix, available through New England wetland plants, Inc., 820 West Street, Amherst, MA 01002, 413-548-8000, or equivalent seed mix shall be applied in wetland areas that are not inundated, as necessary.
21. Sediment and erosion control measures will be evaluated and removed if necessary upon the completion of construction.

Winter Construction Notes:

1. Proposed 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. Stabilization methods shall include seeding and mulch, and installation of 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 installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or frozen ground and shall be completed in advance of thaw or spring melt events.
2. 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 temporarily stabilized with stone or erosion control blankets appropriate for the design flow conditions.
3. After November 15th, incomplete road or parking surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel (NH DOT 304.3).

Erosion Control Notes:

1. Installation of erosion control grindings and/or silt fences shall be complete prior to the start of work in any given area. Erosion controls shall be used during construction and removed when all slopes have a healthy stand of vegetation cover.
2. All areas shall be stabilized within 45 days of initial disturbance
3. An area shall be considered stable if one of the following has occurred: 1) Base course gravels have been installed in areas to be paved, 2) A minimum of 85 percent vegetated growth has been established, 3) A minimum of 3 inches of non-erosive material such stone or riprap has been installed, or 4) erosion control blankets have been properly installed
4. Note that all cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade
5. As required, construct temporary berms, siltation fences, sediment traps, etc. to prevent erosion & sedimentation of wetlands.
6. The work area shall be graded and otherwise shaped in such a manner as to minimize soil erosion, siltation of drainage channels, damage to existing vegetation, and damage to property outside limits of the work area. Erosion control grindings will be necessary to accomplish this end.
7. Any stripped topsoil shall be stockpiled, without compaction, and stabilized with BMPs.

Construction Notes

8. Permanent or temporary cover must be in place before the growing season ends. When seeded areas are not mulched, plantings should be made from early spring to May 20 or from August 15 to September 15. No disturbed area shall be left exposed during winter months, plant annual ryegrass prior to October 15th.
9. Erosion controls shall be inspected weekly with the timing of weekly visits adjusted if heavy rains/snow melt are forecasted or have occurred.
10. Timber mats must be removed after one growing season.
11. Any erosion control matting used shall be wildlife friendly. No welded plastic webbing, netting, or other similar form shall be used in erosion/siltation controls to avoid entrapment of snakes and other wildlife within the project area.
12. Unless otherwise authorized by NHDES, the Applicant shall keep a sufficient quantity of erosion control supplies on the site at all times during construction to facilitate an expeditious (i.e., within 24 hour) response to any construction related erosion issues on the site.
13. Discharge from dewatering of work areas shall be to sediment basins that are: a) located in uplands; b) lined with hay bales or other acceptable sediment trapping liners; and c) set back as far as possible from wetlands and surface waters.
14. Mulch used within any wetland/stream bank restoration areas shall be natural straw or equivalent non-toxic, non-seed-bearing organic material.
15. When using an erosion control mix berm, the berm must be a minimum of 12" high, as measured on the uphill side of the barrier, and a minimum of two feet wide at the base.

Plant Protection – General Avoidance and Minimization Measures

1. Limit removal of vegetation to that necessary for construction of the project. Limit tree clearing to the minimum required width to meet safety clearances, leave root systems in place, except over underground installations or where other earthwork must be conducted. Leave herbaceous and shrub vegetation intact wherever practicable.
2. Precautions shall be taken to prevent import or transport of soil or seed stock containing nuisance or invasive species such as Purple Loosestrife, Knotweed, or *Phragmites*. The contractor responsible for work shall appropriately address invasive species in accordance with the NH DOT "Best Management Practices for Roadside Invasive Plants (2008)".
3. To prevent the introduction of invasive plant species to the site, the Applicant's contractor(s) shall clean all soils and vegetation from construction equipment and matting before such equipment is moved to the site.

Wildlife Protection – General Avoidance and Minimization Measures

1. Limit the removal of vegetation to that necessary for construction of the project; this will leave associated wildlife habitat as intact as possible.
2. *All erosion control materials used will be wildlife-friendly.* No welded plastic webbing, netting, or other similar form with openings greater than 1/8-inch shall be used in erosion/siltation controls to avoid entrapment of snakes and other wildlife within the project area.
3. Timber matting will be used in all wetland areas and will remain in place for the shortest duration possible; if possible, passageways will remain open at the wetland crossing to allow for reptiles to cross under the mat-bridge/pathway; matting will remain up to several weeks
4. Timber matting will be used in upland areas at the far eastern portion of the work area near the best habitat for the listed turtles and where NHB22-1136 indicates the most observations of these species; this will limit ground disturbance
5. Daily sweeps by contractors for all turtle and snake species will be performed when work will occur;

6. Any observations of listed species will be reported and no wildlife will be harmed; contact numbers and fliers will be included on the environmental plans
7. Wildlife friendly erosion controls will be used; no welded plastic netting will be used;
8. Erosion controls will be installed, monitored and maintained to protect adjacent upland and wetland areas from sedimentation and degradation; disturbed areas will be temporarily and permanently stabilized and seeded with a native seed mix; the applicable utility maintenance BMPs will be followed

SPECIFIC WILDLIFE BMPS

New Hampshire Fish and Game AoT Permit Conditions in Accordance with Env-Wq 1504.18 – Wildlife Protection Notes (Received 6/9/23):

1. **No work shall occur between April 15th and October 15th in the following areas in order to minimize impacts to rare turtles:**
 - a. **Between Route 107 in Fremont through to Route 125 in Brentwood**
 - b. **Between Route 27 and Beech Hill Road in Exeter**
 - c. **Between Watson Road and the western part of Captain’s Way in Exeter**
 - d. **If timing restrictions conflict with recommendation 11 regarding matting placement, contact NHFG for further coordination.**
2. At least one qualified biological monitor shall be on-site at all times at all active work areas (including work pads, staging areas, access roads, vegetation removal/maintenance, etc.) for the following areas:
 - i. Between Beech Hill Road and Watson Road in Exeter
 - ii. Between the western part of Captain’s Way and the Squamscott River in Exeter
 - b. A qualified biological monitor shall be someone with training and experience in turtle and reptile identification and handling techniques and shall operate under the guidance of a qualified herpetologist. A qualified herpetologist shall be a wildlife biologist well versed on and with extensive experience in turtle identification, life history, habitat preference, handling, and documentation, i.e. activity, sexing, aging, etc. Provide qualifications of both to NHFG.
 - c. The qualified herpetologist shall be responsible for:
 - i. Searching for, identifying, documenting, reporting and relocating any state-listed herpetofauna within the work areas.
 - ii. Instructing and guiding biological monitor on matters pertaining to herpetofauna.
 - iii. Ensuring proper documentation and handling techniques are abided to by the construction personnel and the biological monitor.
 - iv. At the end of the project, the qualified herpetologist shall provide Eversource Licensing and Permitting staff a report, which includes a summary of observations, reporting logs documenting any documented state-listed species, and mapping and .shp files showing the location of any observed state-listed species. The report shall be reviewed and provided to NHFG for their records.
 - d. The biological monitor shall:
 - i. Inspect all work areas for S&E controls, the presence of state-listed species, to ensure compliance with environmental regulations and permit conditions.
 - ii. Maintain regular contact with the project’s qualified herpetologist on all matters pertaining to herpetofauna protection and surveys.
 - iii. Report observations of state-listed species immediately to EL&P staff who shall in turn report those observations immediately to NHFG.

- iv. Document field activities and observations daily.
3. Blanding’s turtle (state endangered), spotted turtle (state threatened), wood turtle (state species of special concern), Eastern box turtle (state endangered), and Northern black racer (state threatened) occur within the vicinity of the project area. All operators and personnel working on or entering the site shall be made aware of the potential presence of these species and shall be provided flyers that help to identify these species, along with NHFG contact information. See Plan Sheet 4 and 5 in Notes, below.
4. Rare species information (e.g. identification, observation and reporting of observations, when to contact NHFG immediately and NHFG contact information) shall be posted on site at all times and communicated during morning tailgate meetings prior to work commencement.
5. All personnel on site shall be trained by a qualified biologist/herpetologist on Eastern box turtle identification and habitat. Biologist qualifications shall be provided to NHFG.
6. All observations of Eastern box turtle at any time shall be immediately reported to the NHFG Department (Melissa Winters (603-479-1129 cell) or Josh Megyesy (978-578-0802 cell)) for further instructions. Please attempt to photograph this species to send to us for verification. Immediate reporting of observations is critical as NHFG biologists will need to collect data on the individual.
7. Turtles and snakes may be attracted to disturbed ground during nesting season. Turtle nesting season occurs approximately May 15th – June 30th. Nesting areas may include work pads and access roads that are not hard pack gravel and other sandy/gravel work areas. All turtle species nests are protected by NH laws. Be aware of the potential to encounter nesting wildlife in these areas.
8. If a nest is observed or suspected, operators shall contact Melissa Winters (603-479-1129) or Josh Megyesy (978-578-0802) at NHFG immediately for further consultation. The nest or suspected nest shall be marked (surrounding roped off or cone buffer) and avoided; this shall be communicated to all personnel onsite. Site activities shall not occur in the area surrounding the nest or suspected nest until further guidance is provided by NHFG.
9. Observations of Northern black racers in the months of April-May and September-October may indicate the potential for a den site on or near the project site. Observations of this species during this timeframe shall be reported immediately to the New Hampshire Fish and Game Department Nongame and Endangered Wildlife Environmental Review Program, and work should cease until further coordination with NHFG. Please contact Melissa Winters (603-479-1129) or Brendan Clifford (603-944-0885). Observations of this species outside of this timeframe can follow general reporting guidance. Please include photograph with text if feasible.
10. Vernal pools and potential vernal pools shall be flagged prior to work, and impacts shall be avoided. Provide location of vernal pools on plan sheets to NHFG.
 - a. No disturb vernal pool buffers of 50’ shall be maintained wherever possible. The following areas have been identified as having impacts to vernal pool buffers:
 - i. Vernal pool buffer at R193 structure 259
 - ii. Vernal pool buffer west of Prescott Road in Brentwood
 - iii. Vernal pool buffer at H141 structures 156 and 157
 - iv. Vernal pool buffer between H141 structures 151 and 152
 - b. Areas of disturbance to vernal pool buffers shall be restored following work.
 - c. If additional areas of vernal pool buffer disturbance are identified, notify NHFG for further coordination.
11. All matting which will be placed in waterbodies deemed suitable for hibernating rare turtles will be placed prior to the start of the inactive season (October 16-March 31) so as to prevent accidental placement atop hibernating turtles. Immediately prior to matting placement in these wetlands, the area shall be swept by a qualified biologist or herpetologist. They shall watch for signs that turtles are being disturbed in the area (ex. Heads coming above water, animals moving in water). Contact NHFG if

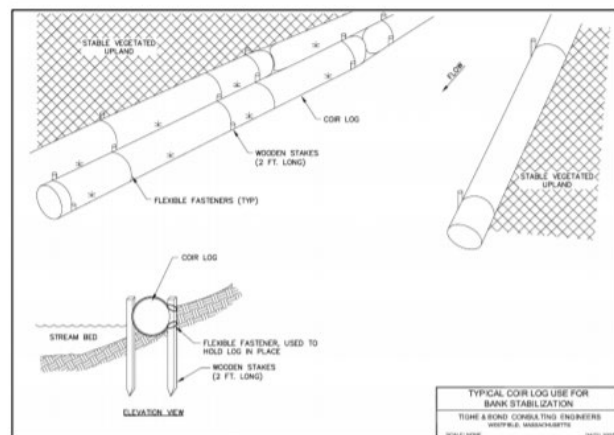
biologist/herpetologist sees or suspects turtles in matting areas. Areas identified as suitable hibernation habitat shall be identified on plan sheets and provided to NHFG at least two weeks prior to beginning work. Biologist qualifications shall be provided to NHFG.

12. Immediately prior to the placement of matting in wetlands not deemed suitable for hibernating rare turtles during the active season (April 1-October 15), the areas shall be cleared by a trained individual. A trained individual shall be defined as any contractor who has gone through project-species protection education conducted by the qualified biologist on rare wildlife species at the site.
13. For all work pads, staging areas, matting, and access roads, searches and sweeps shall be conducted by trained individuals immediately before the start of work and movement of equipment in order to minimize the chance of animals entering an area between the sweep and work. A trained individual shall be defined as any contractor who has gone through project-species protection education conducted by the qualified biologist on rare wildlife species at the site.
14. All work activities shall be restricted to the defined roads, construction areas, and staging areas, with no equipment or materials staged or stored outside of the defined areas as shown on plan sheets.
15. Work, pull pads, and access shall be minimized to the greatest extent possible.
16. Works pads shall be reduced post-construction to 30’ x 60’ and restored with a native vegetation seed mix.
17. All manufactured erosion and sediment control products, with the exception of turf reinforcement mats, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, inlet protection, check dams, and sediment traps shall not contain plastic, or multifilament or monofilament polypropylene netting or mesh with an opening size of greater than 1/8 inches;
18. All observations of threatened or endangered species on the project site shall be reported immediately to the NHFG nongame and endangered wildlife environmental review program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov, with the email subject line containing the NHB DataCheck tool results letter assigned number, the project name, and the term Wildlife Species Observation;
19. Photographs of the observed species and nearby elements of habitat or areas of land disturbance shall be provided to NHFG in digital format at the above email address for verification, as feasible;
20. In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
 - a. Site operators shall be allowed to relocate wildlife encountered if discovered within the active work zone and if in direct harm from project activities. Wildlife shall be relocated in close proximity to the capture location but outside of the work zone and in the direction the individual was heading. NHFG shall be contacted immediately if this action occurs.
21. The NHFG, including its employees and authorized agents, shall have access to the property during the term of the permit.

Additional Recommendations:

- There are known records of pied-billed grebe (state threatened) between Deer Hill Road and Route 101 in Brentwood. If birds are observed to display nesting behavior (for example: calling, swooping, agitated/territorial behavior), contact the Wildlife Division at 603-271-2461 or NHFGreview@wildlife.nh.gov. Provide NHB number and Project name. Migratory bird nests are protected under NH and federal laws.

Best Management Practice 4: Coir Logs



Description:

Coir logs, straw wattles, fiber rolls, or SiltSoxx™ consist of compressed weed-free straw fiber or other natural material, placed within a photodegradable mesh cylindrical sock.

Applications:

- Streambank, wetland, and slope protection
 - Check dam applications
 - Perimeter and stockpile containment
 - Slope stabilization by shortening slope length, reducing runoff velocity, and trapping mobile soil particles
 - Provides substrate for plant growth upon decay of fiber roll and protects new vegetation growth

Installation:

- For slope stabilization, it is critical that coir logs are installed perpendicular to soil movement and parallel to the slope contour.
- If additional length is needed for application, ends should be overlapping at least 6 inches.
- If used in slope stabilization, construct trenches half the diameter of the log in which to place the roll. Lay the coir log along the trench, snugly fitting it against the soil. Ensure no gaps exist between the soil and the fiber roll.
- Install stakes at least every three feet apart along the length of the roll. Additional stakes may be driven on the downslope side of the trenches on highly erosive or very steep slopes.

Best Management Practice 5: Silt Fence



Description:

Silt fence is a temporary sediment barrier consisting of filter fabric attached to supporting posts and entrenched into the soil. This barrier is installed across or at the toe of a slope to intercept and retain small amounts of sediment from disturbed or unprotected areas.

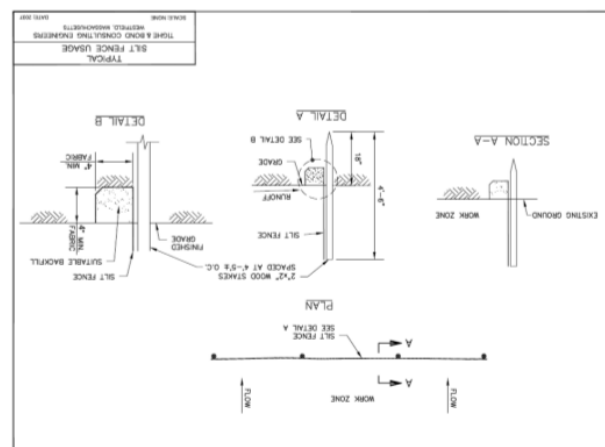
Applications:

- Consider using silt fence barriers where:
- Flow to the silt fence from a distributed area occurs as overland sheet flow
 - Sedimentation can pollute or degrade adjacent wetlands or watercourses
 - Sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas.
 - **Silt fence should not be used in areas of**

concentrated flows or across streams, channels, swales, ditches or other drainage ways.

Installation:

- Install silt fence following the contour of the land as closely as possible.
- The height of the barrier shall not exceed 36 inches.
- Posts shall be placed at a maximum of 10 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches).
- A trench shall be excavated approximately 6 inches wide and 6 inches deep along the line of posts and upslope of the barrier in accordance with recommendations
- The filter fabric will extend a minimum of 8 inches into the trench which shall be backfilled and the soil compacted over the filter fabric.
- Fabric barriers shall be removed after the upslope area has been permanently stabilized.
- Filter barriers shall be inspected immediately after each rainfall and at least once daily during prolonged rainfall and any required repairs shall be made immediately.
- Sediment deposits should be removed when they reach approximately one-half the height of the barrier.



Best Management Practice 16: Temporary or Permanent Mulch



Description:

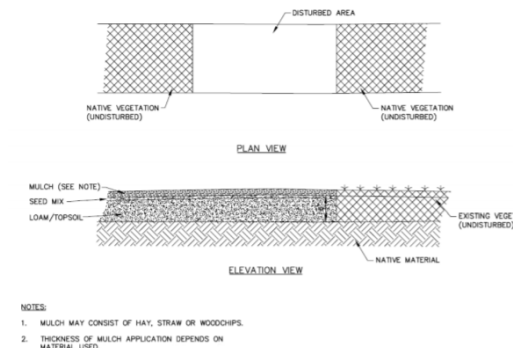
Temporary mulching is the application of plant residues or other suitable materials to the soil surface. Permanent mulching consists of the application of long-term surface cover such as bark, woodchips or erosion control mix. Permanent mulch can be used as a permanent ground cover, an overwinter stabilization mulch or left to naturalize.

Mulching reduces erosion

potential by protecting the exposed soil surface from direct impact by rainfall.

Considerations:

- Apply temporary mulch within 100 feet of streams, wetlands and in lake watersheds within seven days of exposing soil or prior to any storm event.
- Immediately mulch areas that have been temporarily or permanently seeded, following seeding.
- For areas that cannot be seeded within the growing season, mulch for over-winter protection. Seed the area at the beginning of the next growing season.
- Mulch anchoring should be used on slopes with gradients greater than 5% in fall (past September 15), and over-winter (October 15 – May 1).



Installation:

Hay or Straw Mulches:

- Use air-dried organic mulches including weed-free hay and straw free of undesirable seeds and coarse materials.
- Application rate should be two bales (70-90 pounds) per 1,000 square feet or 1.5-2 tons (90-100 bales) per acre to cover 75-90% of the ground surface.
- Anchor hay or straw mulch to prevent displacement by wind or flowing water using jute or biodegradable plastic netting or in some cases, organic tackifier.
- When mulch is applied to provide protection over winter (past the growing season), apply it to a depth of four inches (150-200 pounds of hay or straw per 1,000 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, remove mulch in the springtime and seed and re-mulch the area.

Northern Black Racer

(New Hampshire state threatened species)

Emerge from hibernacula in April, Basking April - August,

Hatchlings emerge August - September, Return to hibernacula mid-September - mid-October



- Solid black with a white throat and chin
- Slender with glossy scales, 3-6 ft. long
- Hatchlings are very small and patterned



Immediately report sightings to NH Fish and Game

Melissa Winters (603-479-1129) or

Brendan Clifford (603-944-0885)

Please report promptly, noting specific location and date

Photographs strongly encouraged



Fis 1401.03 (a) No person shall take or possess a black racer (*Coluber constrictor*)...or any egg or part thereof.

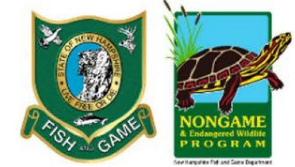


PLEASE REPORT RARE TURTLES

The NH Fish & Game Department is requesting observations of three turtle species that could be encountered onsite.

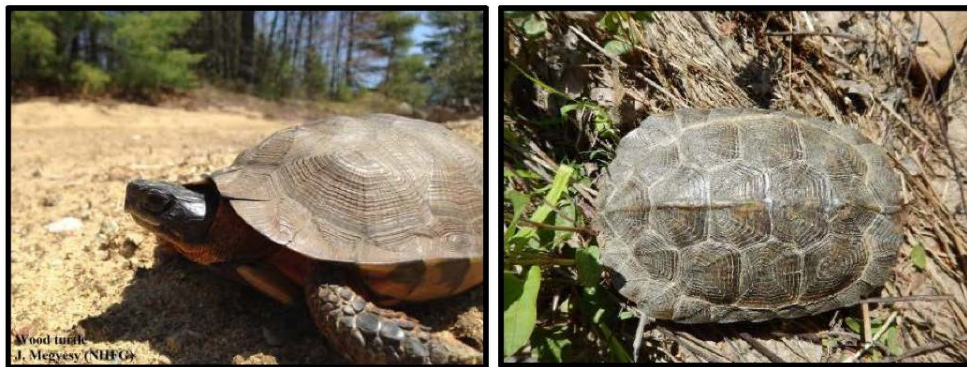
Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to NHFG Wildlife Biologist Melissa Winters 603-479-1129 (cell) anytime.

Please report promptly, noting specific location and date -- Photographs strongly encouraged



Blanding's turtle (state endangered)

- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land



Wood turtle (special concern)

- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land



Spotted turtle (state threatened)

- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle



REPORT OBSERVATIONS

EASTERN BOX TURTLE (state endangered)

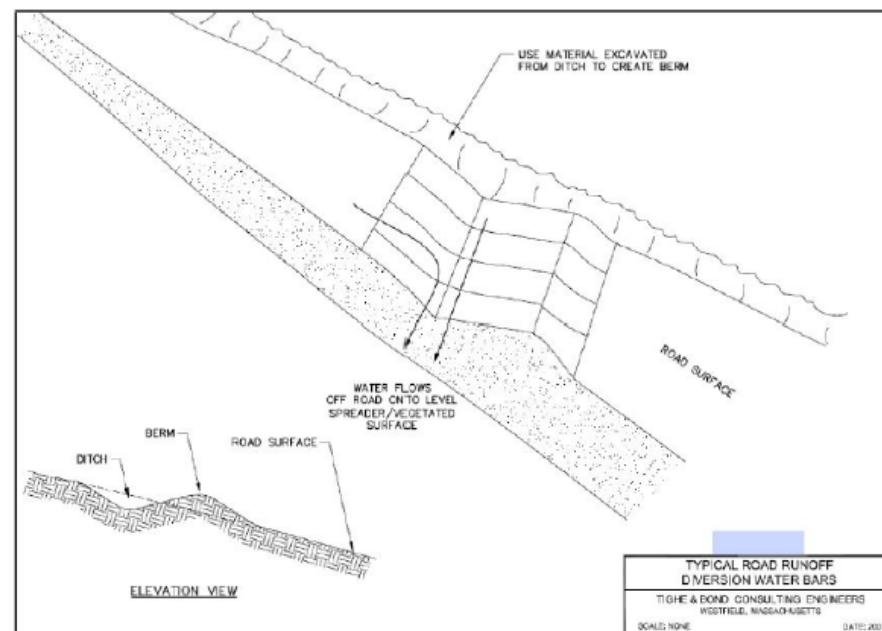
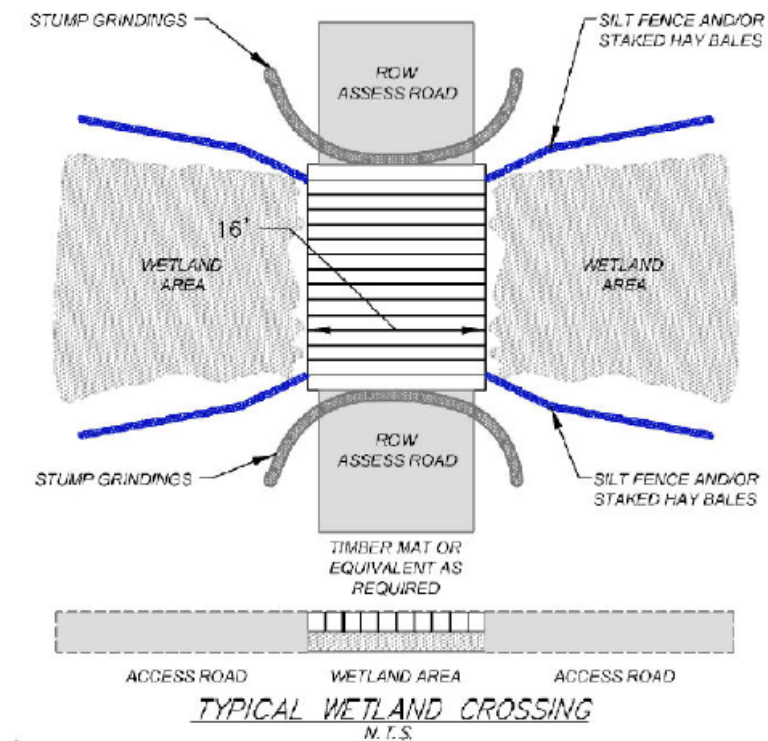
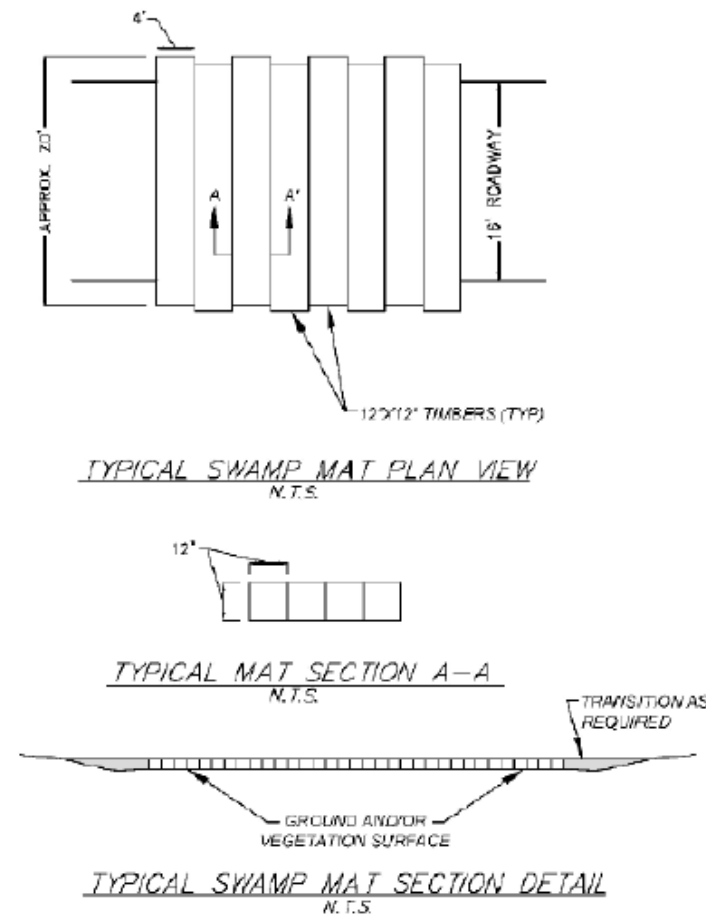
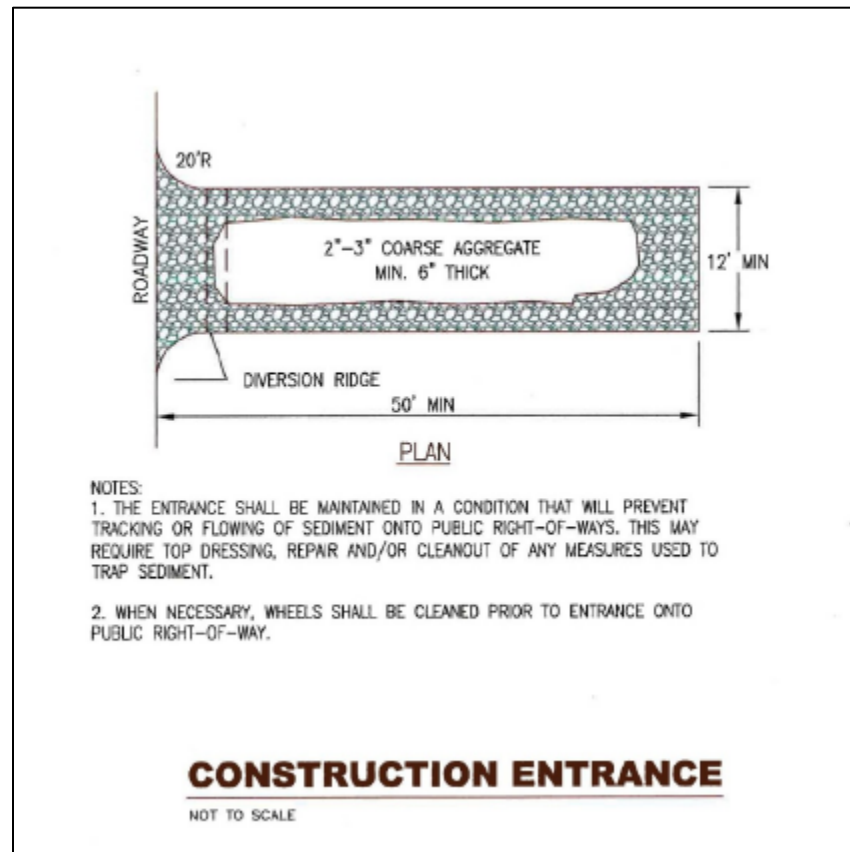
Report sightings immediately to NHFG Wildlife Division to New Hampshire Fish and Game:

Wildlife Biologist Melissa Winters 603-479-1129 (call or text) anytime
Wildlife Biologist Josh Megyesy at 978-578-0802 (call or text), or
If you are unable to reach a biologist you may also contact the Wildlife Administrator at: 603-271-2461 (M-F 8-4)

*Please report promptly, noting specific location and date –
Photographs strongly encouraged*

- Smaller turtle about 4.5-7 inches long (adult ones).
- Highly domed shell with variable patterning.
- Shell color patterns vary greatly from irregular yellow or orange markings with dark brown or black base.
- Skin is uniformly dark with yellow or orange markings.
- During warm months (May – June) nests in loose, sandy or loamy soil
- Eastern box turtles nests are protected under state law.





Best Management Practices (BMP's) for Straw wattles

Definition and purpose:
Straw wattles are burlap rolls filled with straw that trap sediment and interrupt water flow by reducing slope lengths.

- Applications:**
- Along erodible or unstabilized slopes
 - Spread overland waterflow
 - Trap sediment
 - Around storm drain inlets to slow water and settle out sediment
 - Overlap ends approximately 6 inches

Installation:
Straw wattles are installed parallel to slope contours and perpendicular to sheet flow.

Spacing* - Dependent on slope length, soil steepness and soil type (general range 10 - 25').

Trenching - 2"-5" inch trench
Stacking - at each end and four foot on center (i.e. 25 foot wattle uses 6 stacks)

