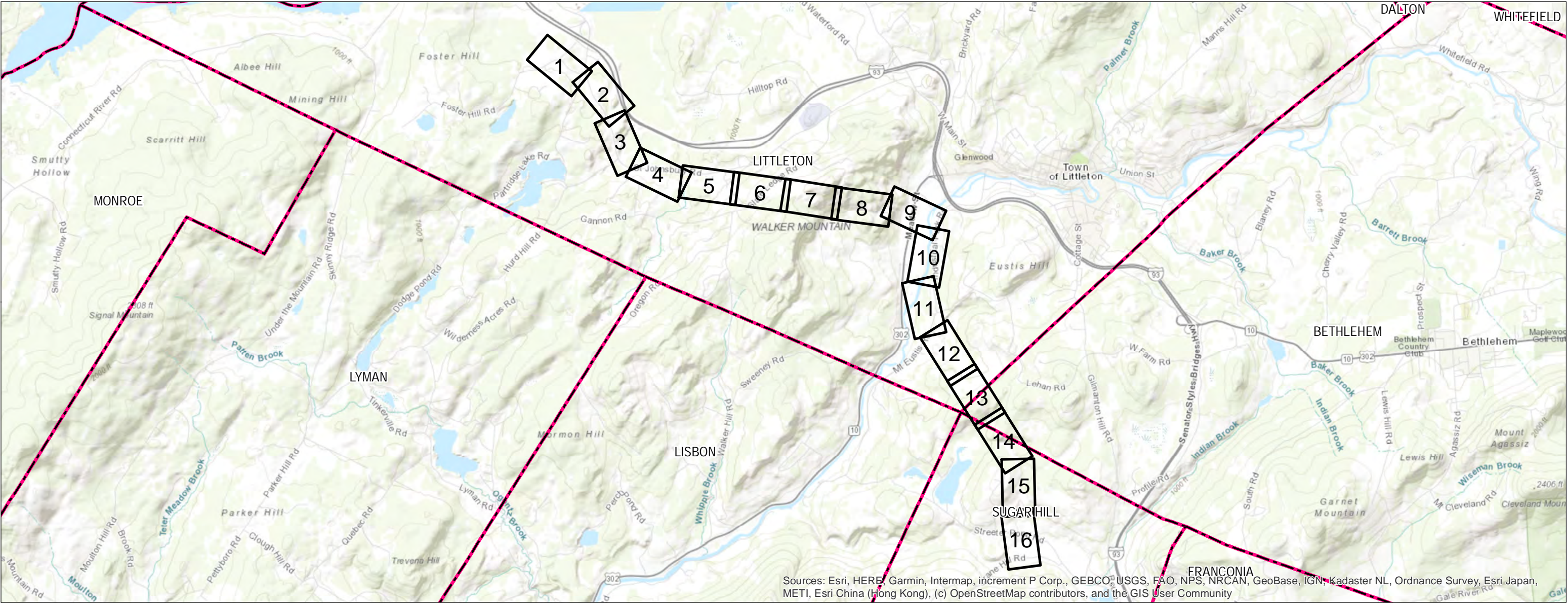


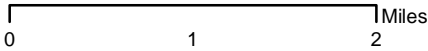
U199 Transmission Line Rebuild and OPGW Project
LITTLETON, BETHLEHEM, AND SUGAR HILL,
NEW HAMPSHIRE
Environmental Permitting Planset
Date: January 13, 2025



PREPARED FOR:



13 Legends Drive
Hooksett, NH 03106



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2	10/15/24	Off ROW access route updates on page 7, 10, & 13 Off ROW access updated to Hadlock Property on page 13
1	9/4/24	SDF Amendment
NO.	DATE	REVISIONS

PREPARED BY:



GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com



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1 inch = 200 feet

0 50 100 200 Feet

NO.

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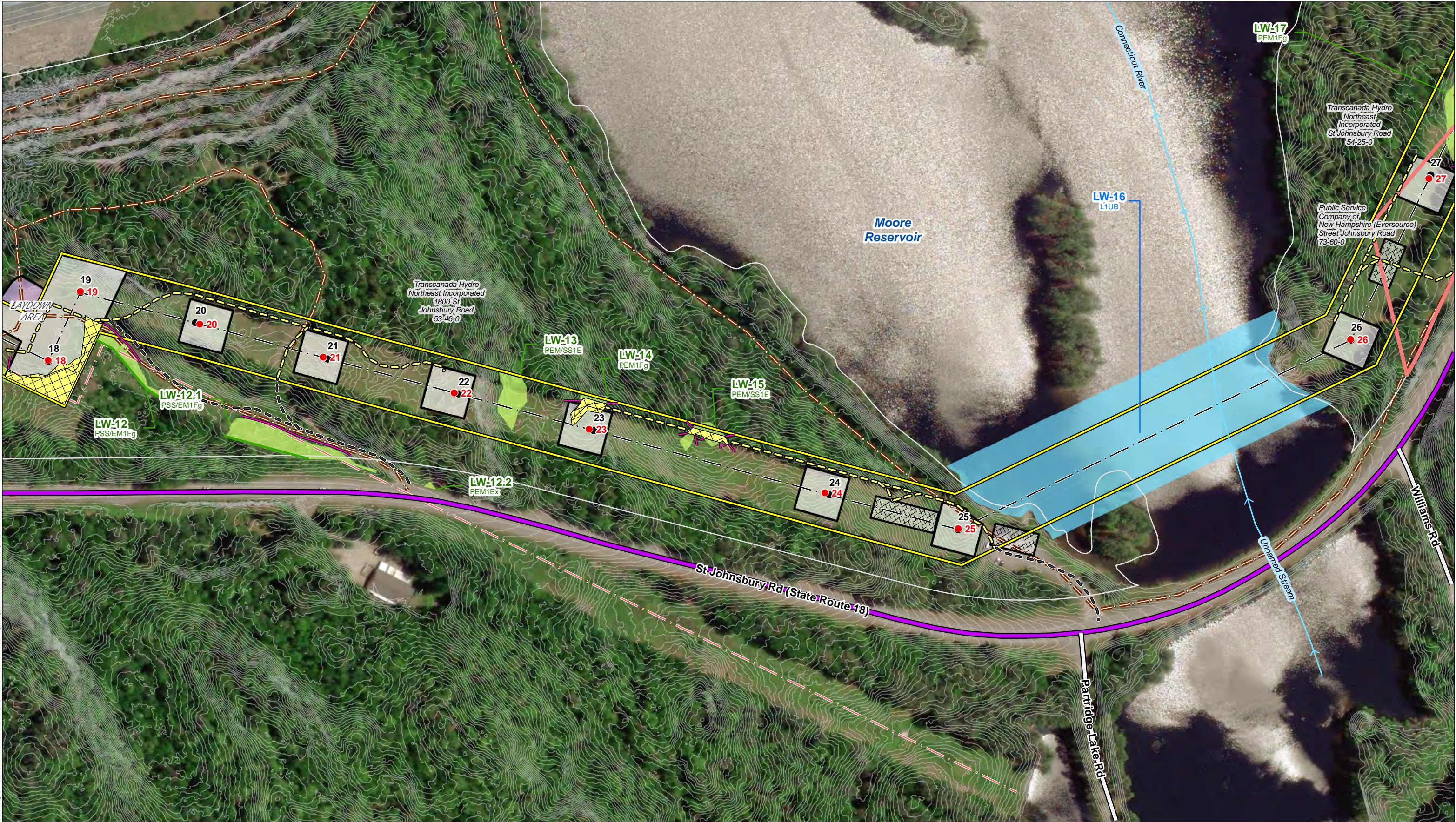
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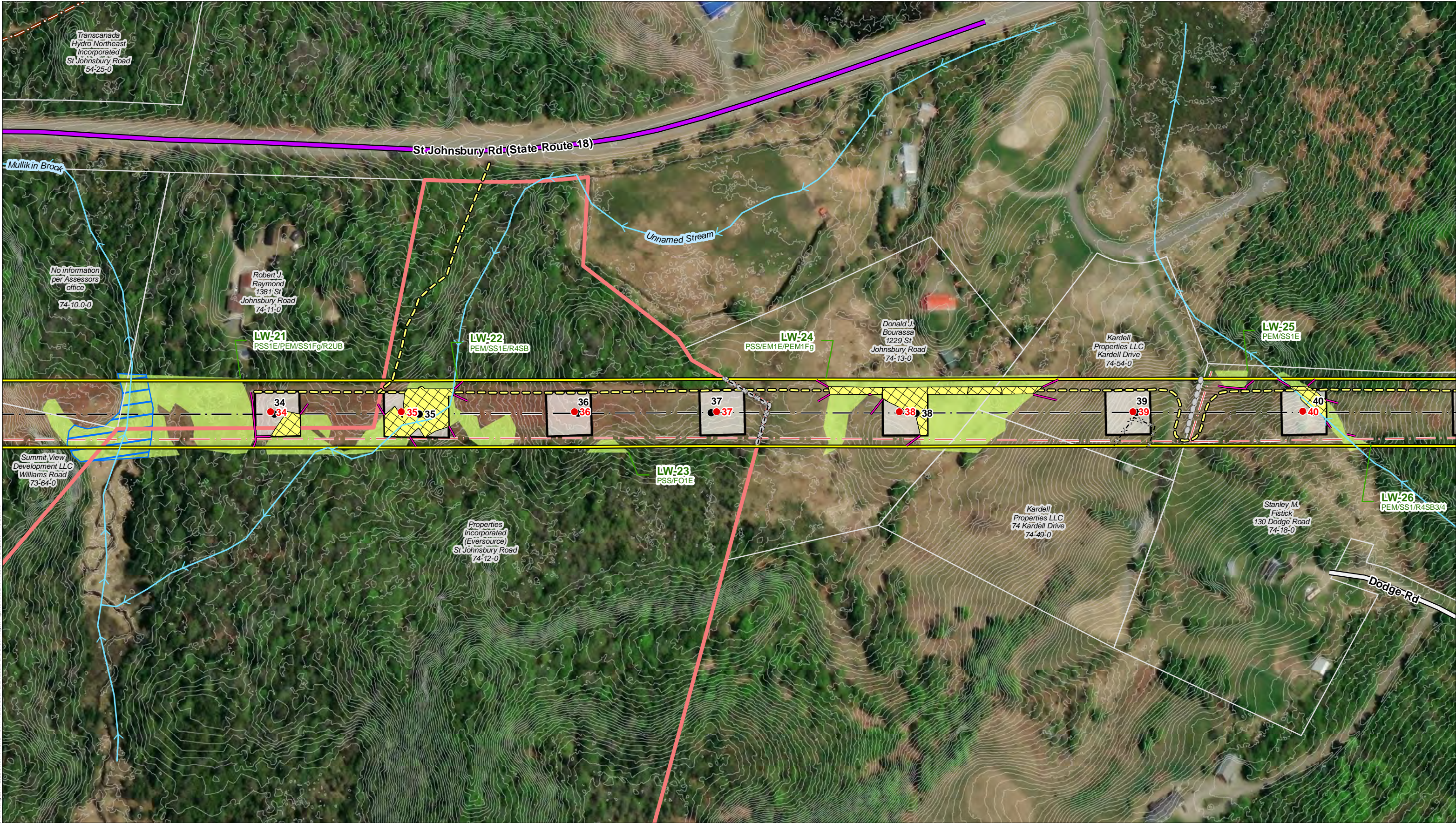
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100

200

1 inch = 200 feet

Feet

0

50

100

200

NO.

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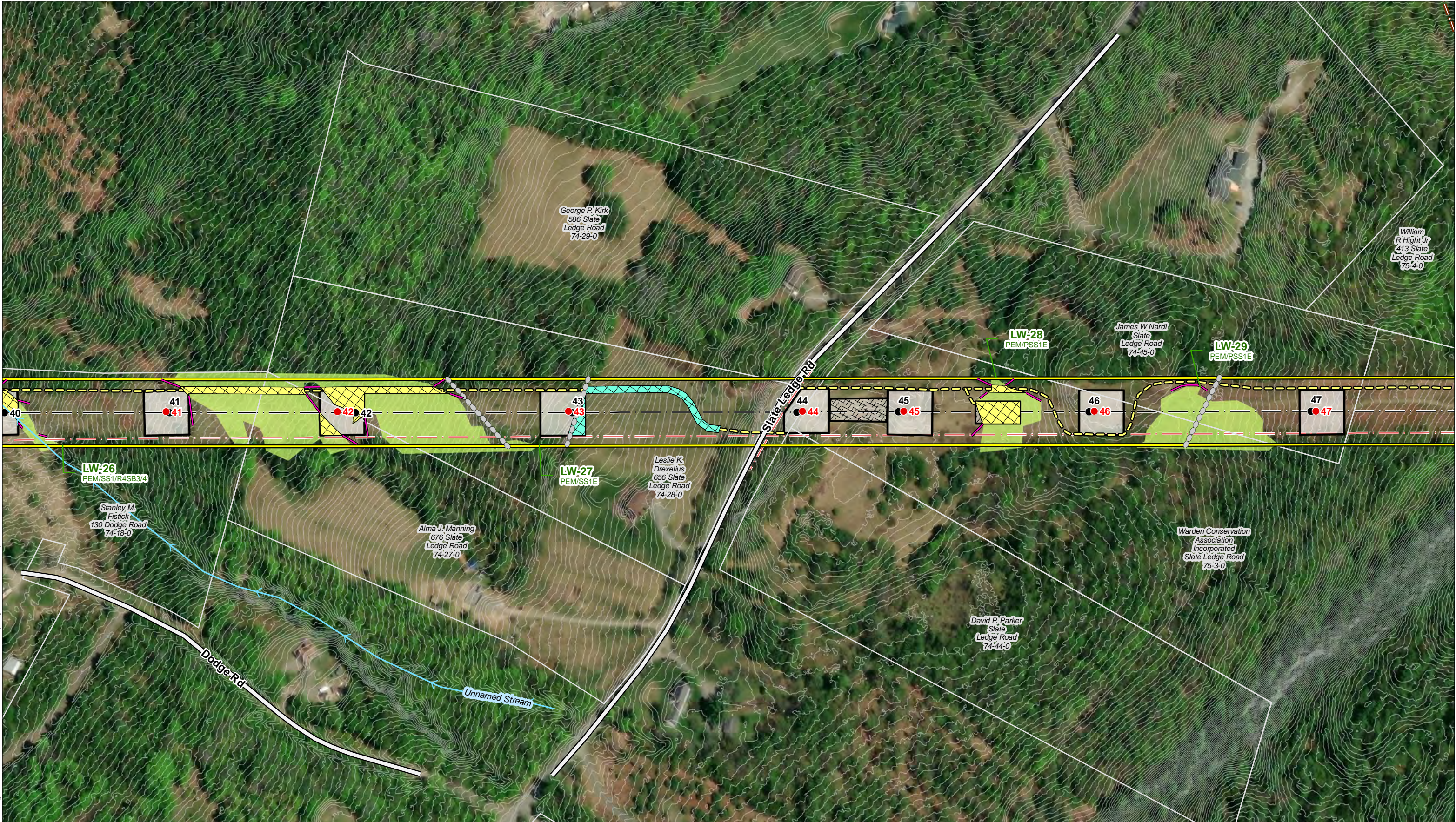
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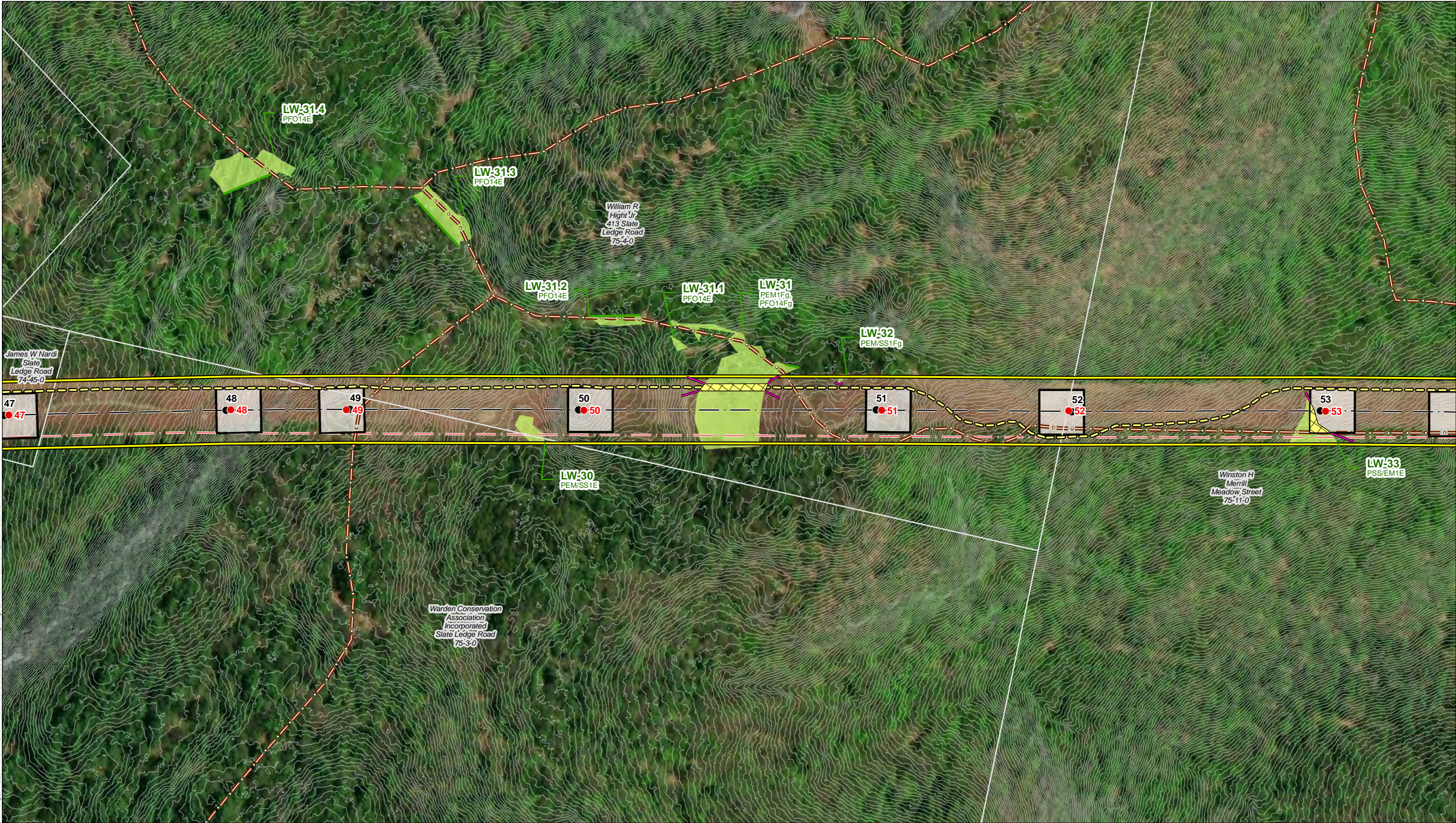
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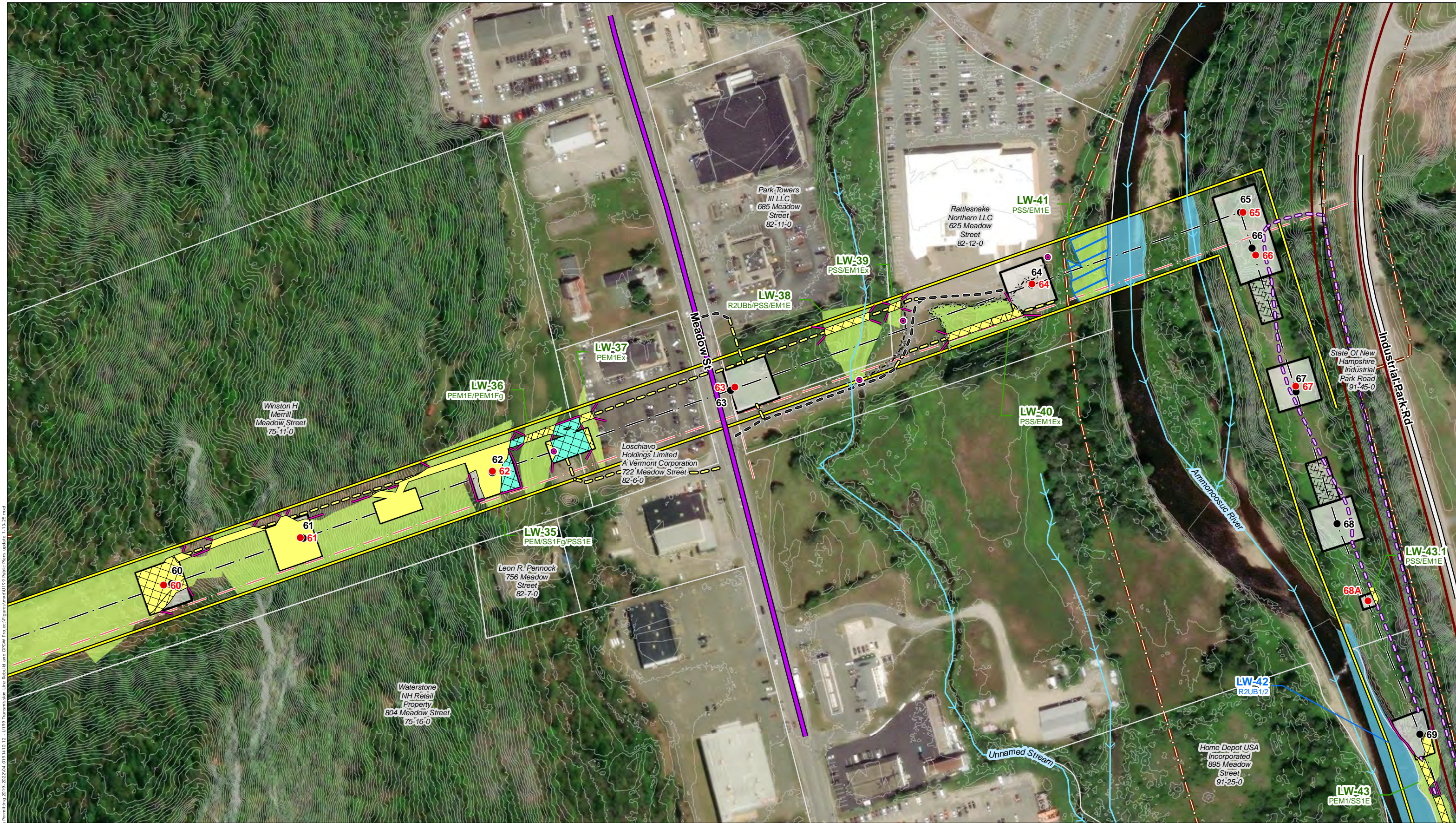
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1 inch = 200 feet

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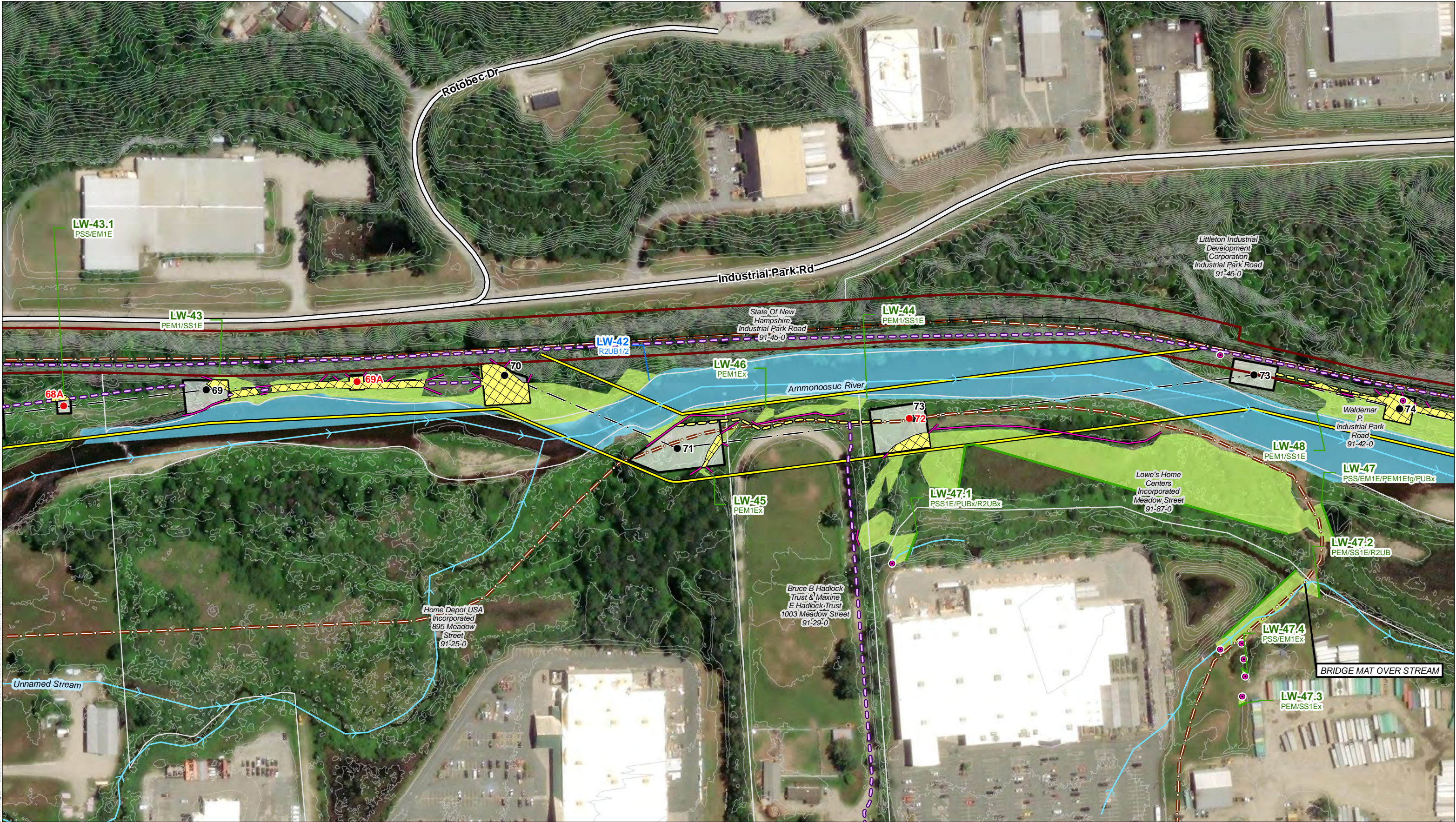
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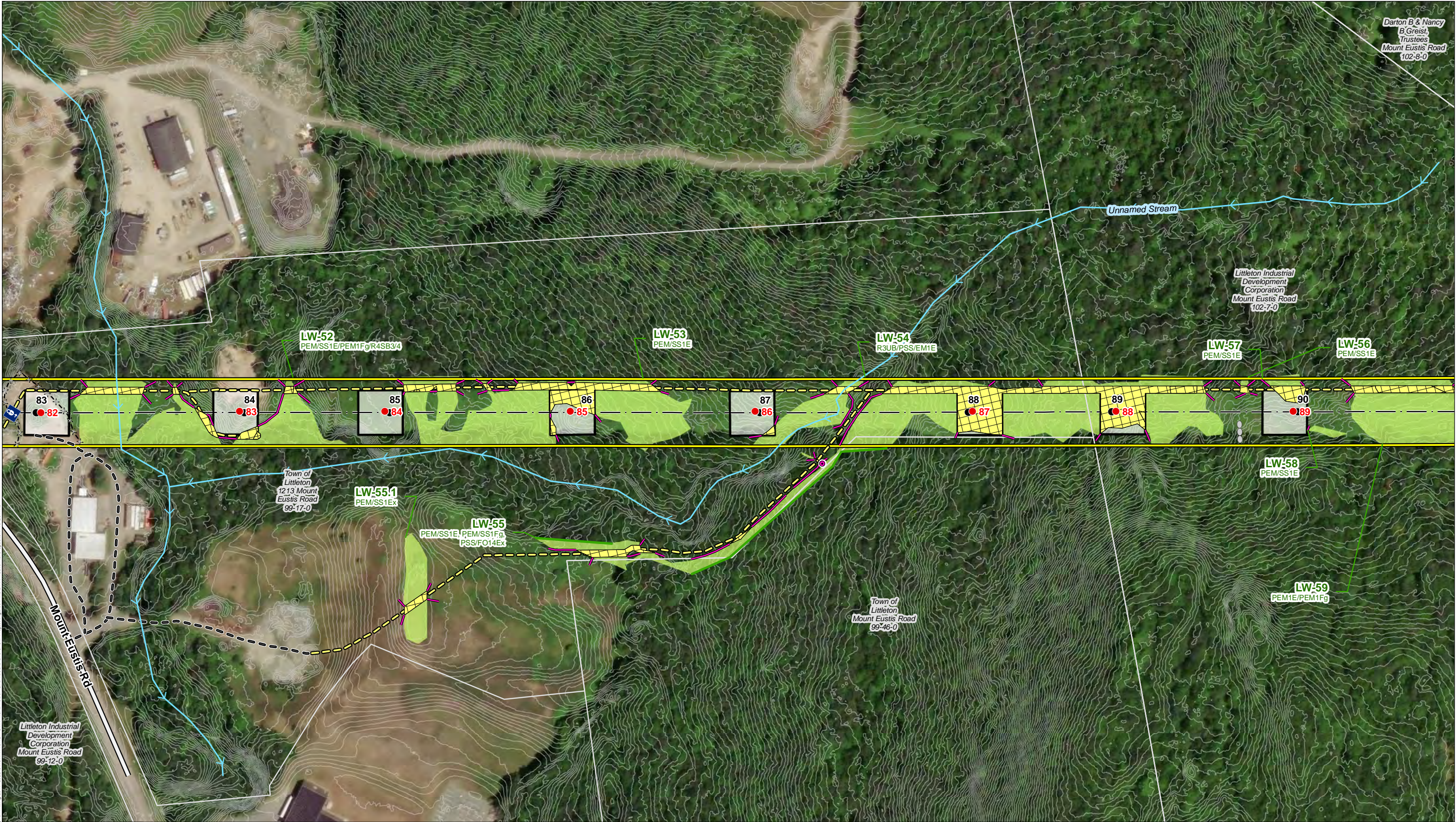
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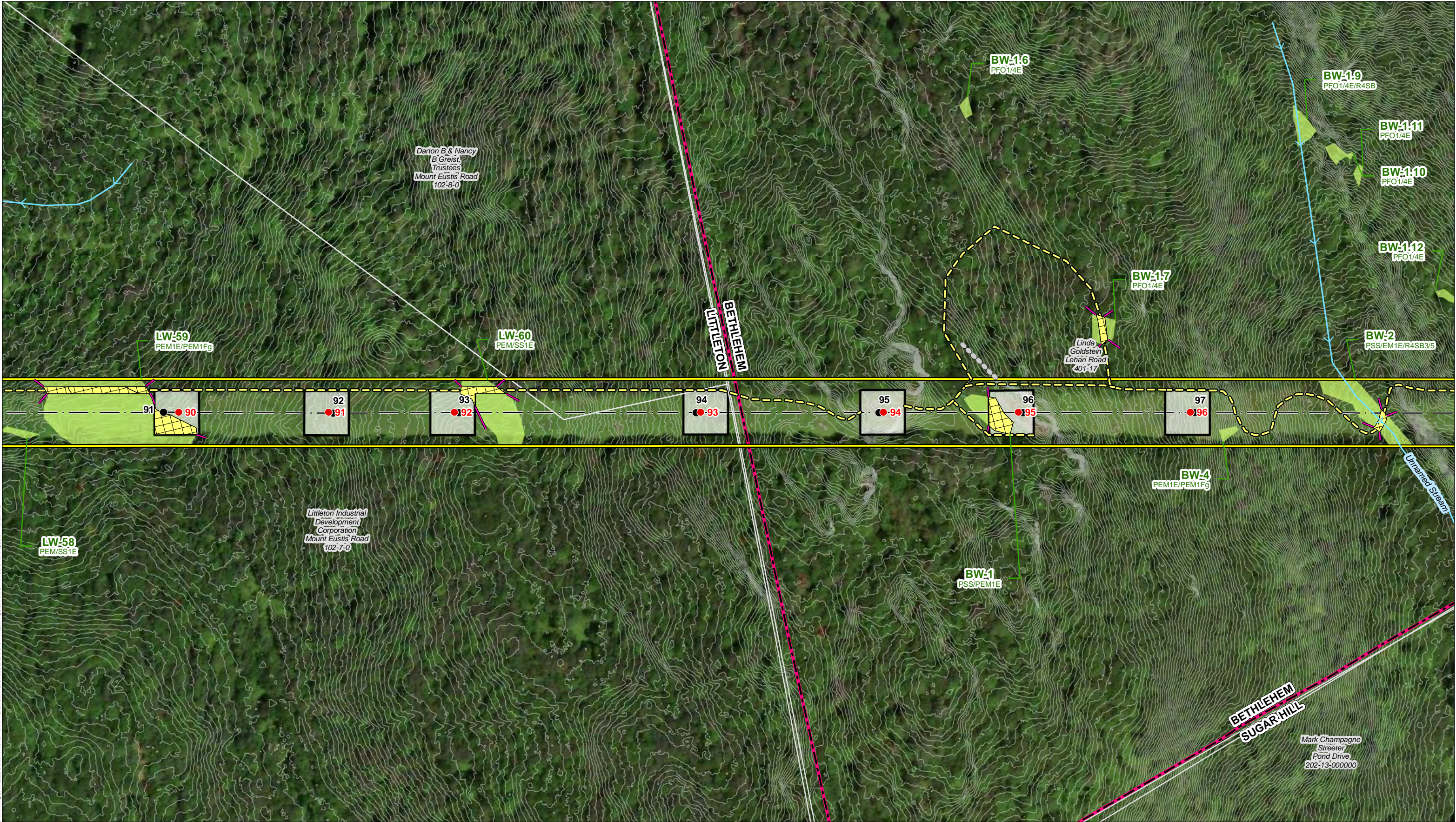
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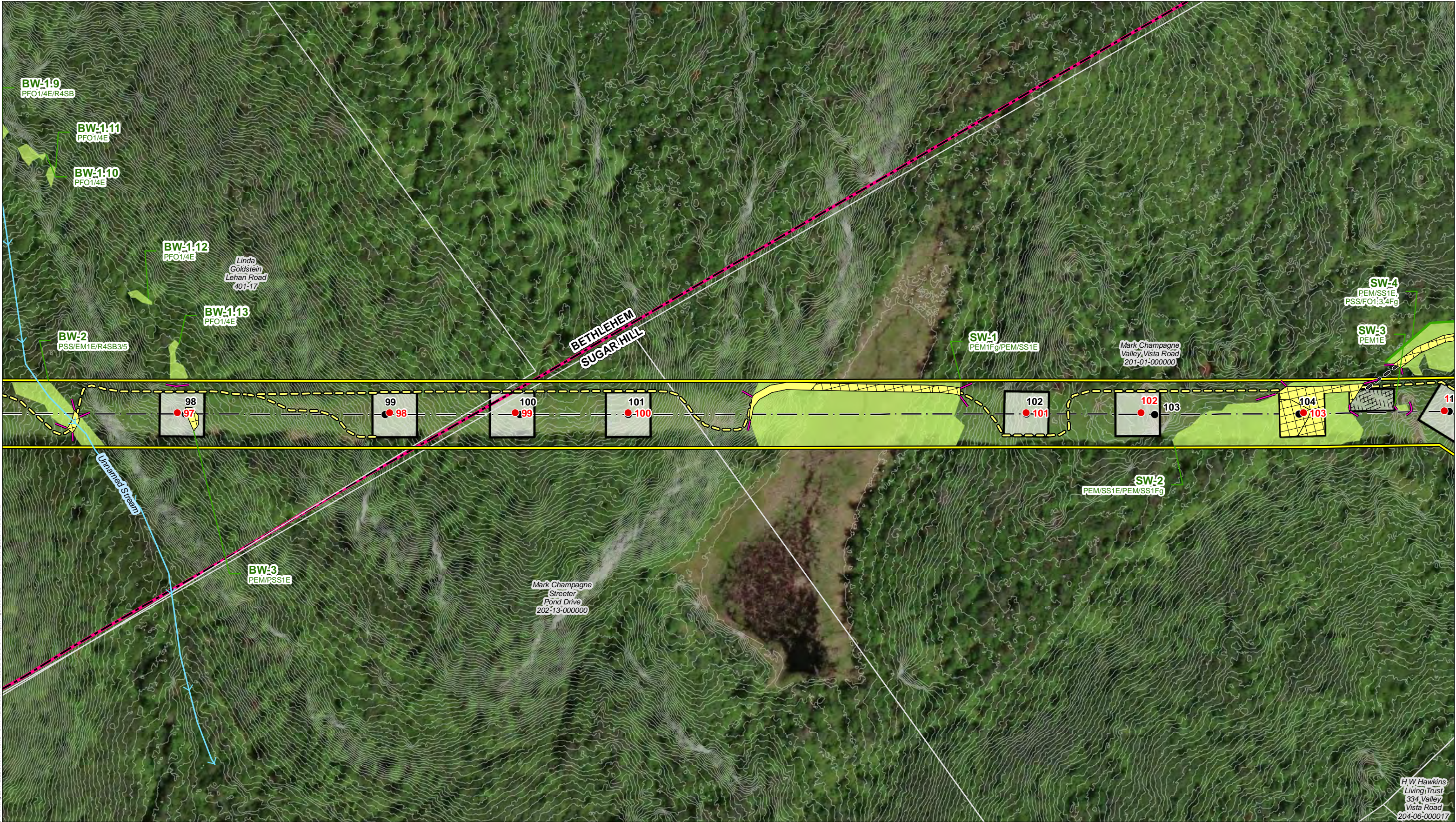
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				Date: 1/13/2025	16 OF 16
				04.0191410.12	
NO.	DATE	REVISIONS			

Path: P:\0406\01914010\04.0191410.00 - EE Siting Permitting 2019 - 2025\04.0191410.12 - U199 Transmission Line Rebuild and OPGW Project\Figures\Map\U199 Public Plans update 1-13-25.mxd

CONSTRUCTION SEQUENCE:

1. WETLAND BOUNDARIES TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.
2. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED, AS NECESSARY, AND CONSISTENT WITH THE NHDES MARCH 2019 BMP MANUAL FOR UTILITY MAINTENANCE.
3. WETLAND IMPACTS ASSOCIATED WITH WETLAND CROSSINGS ARE REQUIRED FOR ACCESS BETWEEN STRUCTURES WITHIN THE RIGHT OF WAY. LOOK FOR FIELD FLAGGING AND REFER TO PROJECT PLANS FOR THESE LOCATIONS.
4. 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.
5. REMOVE COMPLETELY ALL CONTAMINATION FROM ANY SPILLAGE OF CHEMICALS OR PETROLEUM PRODUCT AND COMPLETE REHABILITATION OF THE AFFECTED AREA.
6. 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.
7. IMPACT TO VEGETATION WITHIN WETLANDS WILL BE LIMITED TO THE EXTENT NECESSARY TO PLACE THE TIMBER MATS WHERE REQUIRED.
8. LOW GROWING VARIETIES OF VEGETATION ADJACENT TO WETLANDS SHALL BE PRESERVED TO THE EXTENT POSSIBLE. STUMPS SHALL NOT BE REMOVED, AND THERE SHALL BE NO EXCAVATIONS, FILLS OR GRADING DONE ADJACENT TO WETLANDS, UNLESS MINOR EXCAVATIONS OR GRADING IS NEEDED FOR ACCESS OR WORK PADS AND THEN ONLY WITHIN LIMITS SHOWN ON PROJECT PLANS.
9. TIMBER MATS AND PERIMETER CONTROLS WILL BE USED ALONG ACCESS ROUTES AND WORK PADS WITHIN 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.
10. IN UPLANDS, ADDITIONAL BMP'S MAY INCLUDE THE PLACEMENT OF GEOTEXTILE FABRIC, 3"-4" STONE, AND GRAVEL TO PROVIDE A SUITABLE ROAD BED. MATTING SHALL BE INSTALLED IN A MANNER TO BRIDGE STREAM CHANNELS. TEMPORARY CULVERTS MAY BE REQUIRED IN AREAS OF HIGH FLOW TO MAINTAIN HYDROLOGIC CONNECTIVITY. ALL MATERIAL WILL BE REMOVED FROM JURISDICTIONAL AREAS AFTER CONSTRUCTION COMPLETION.
11. 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.
12. BIOLOGICAL MONITORING OF PROJECT SPECIES MAY REQUIRE THAT WORK AREAS ARE CLEARED PRIOR TO WORK OR PLACEMENT OF MATERIALS.
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. DISCHARGE OF DEWATERING WATER SHOULD NOT BE DIRECTED TOWARDS SURFCE WATERS IDENTIFIED BY NHDES AS TIER 2, TIER 2.5, OR TIER 3 WITHOUT PRIOR AUTHORIZATION FROM EVERSOURCE. SUCH ACTIVITIES TRIGGER TURBIDITY MONITORING AND REPORTING REQUIREMENTS AS OUTLINED IN SECTION 3.3 OF THE 2022 EPA CONSTRUCTION GENERAL PERMIT. TIER 2, TIER 2.5, AND TIER 3 SURFACE WATERS ARE CONSIDERED ALL SURFACE WATERS INCLUDING LAKES, PONDS, MARCHES, AND TIDAL WATERS AS DEFINED BY ENV-WT 104.33. DEWATERING WATER SHOULD BE DIRECTED AWAY FROM SURFACE WATERS, OR BE DISCHARGED TO A VAC TRUCK, POLY TANK, OR UPLAND BASIN, AS APPROVED BY EVERSOURCE. OTHERWISE, TURBIDITY MONITORING DURING DEWATERING ACTIVITIES WILL BE REQUIRED.
15. 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.
16. INSTALL NEW POLES IN THE LOCATIONS DESIGNATED ON THE PERMITTING PLANS.
17. WIRE 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.
18. REMOVAL OF THE OLD POLE WILL OCCUR ONCE THE WIRE 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.
19. ALL TIMBER MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.
20. UNLESS APPROVED AS PERMANENT IMPACT, TIMBER MATS MUST ONLY BE INSTALLED FOR ONE GROWING SEASON. TIMBER MATS INSTALLED DURING THE ACTIVE GROWING SEASON (MAY 1 TO OCTOBER 1) MUST BE REMOVED PRIOR TO THE START OF THE FOLLOWING GROWING SEASON (BY APRIL 30 LATEST).
21. 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. DISTURBED UPLANDS SHALL BE SEEDED WITH A GRASS MIX.
22. TEMPORARY WETLAND IMPACTS WILL BE RE-GRADED TO ORIGINAL CONTOURS TO THE GREATEST EXTENT PRACTICABLE FOLLOWING CONSTRUCTION. EROSION CONTROL/RESTORATION SEED MIX WILL BE APPLIED AS NECESSARY IF THE SURROUNDING NATIVE SEED BANK DOES NOT RESULT IN ADEQUATE VEGETATIVE COVER.
23. MULCH USED FOR STABILIZATION SHALL CONSIST OF SEEDLESS STRAW.
24. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.
25. UNLESS OTHERWISE REQUESTED BY UNDERLYING PROPERTY OWNERS AND APPROVED BY EVERSOURCE, COMMERCIAL LOAM WILL NOT BE USED AS PART OF RESTORATION. ONLY IN-SITU TOPSOIL WILL BE USED TO RESTORE DISTURBED AREAS.
26. RESTORATION REQUIREMENTS MAY INLCUDE A PERCENT COVER GOAL AND EXTEND BEYOND THE FINAL CONSTRUCTION ACTIVITIES.

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 (NHDOT 304.3).
4. PROJECTS IN WHICH THERE IS AN ACTIVE NOI AND CONSTRUCTION IS COMPLETED BETWEEN OCTOBER 15 AND APRIL 31 MUST BE MONITORED FOR A MINIMUM OF 70% VEGETATIVE GROWTH IN ORDER TO SUBMIT A NOT THROUGH THE EPA.

GENERAL NOTES:

OWNER: EVERSOURCE ENERGY
13 LEGENDS DRIVE
HOOKSETT, NH 03106

1. BASE PLAN PROVIDED BY EVERSOURCE ENERGY. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.
2. JURISDICTIONAL WETLANDS WERE DELINEATED BY GZA GEOENVIRONMENTAL, INC. IN 2020, IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS' "WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1," AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION," JANUARY 2012. WETLANDS WILL BE REVIEWED BY GZA GEOENVIRONMENTAL, INC. PRIOR TO START OF WORK.
3. GZA EVALUATED WETLANDS AS POTENTIAL VERNAL POOLS IN 2020 IN ACCORDANCE WITH "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE," 2016, NEW HAMPSHIRE FISH AND GAME DEPARTMENT, NONGAME AND ANDANGERED WILDLIFE PROGRAM.
4. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
5. THE PROJECT WILL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800, AS WELL AS SECTION 2.10 OF THE NHDES BEST MANAGEMENT PRACTICES MANUAL FOR UTILITY MAINTENANCE IN AND ADJACENT TO WETLANDS AND WATERBODIES IN NEW HAMPSHIRE RELATIVE TO INVASIVE SPECIES.
6. IN ACCORDANCE WITH ENV-WQ 1505.02, THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A MINIMUM 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL HAS BEEN INSTALLED
 - OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

EROSION CONTROL/RESTORATION 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. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER .25" OR GREATER RAINFALL EVENTS.
2. AS REQUIRED, CONSTRUCT TEMPORARY BERMS, SILTATION FENCES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION & SEDIMENTATION OF WETLANDS.
3. 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.
4. ANY STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED WITH BMPS.
5. 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 SUITABLE GRASS MIX PRIOR TO OCTOBER 15TH.
6. EROSION CONTROL MATTING, IF REQUIRED, WILL CONSIST OF JUTE MATTING. MATTING WITH WELDED PLASTIC OR 'BIODEGRADABLE PLASTIC' NETTING OR THREAD IS NOT PERMITTED.
7. PER ENV-WT 307.03(C)(6), WATER QUALITY CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL DISTURBED SURFACES ARE STABILIZED TO A CONDITION IN WHICH SOILS ON THE SITE WILL NOT EXPERIENCE ACCELERATED OR UNNATURAL EROSION, SUCH AS ACHIEVING 85% OF GREATER VEGETATIVE COVER USIN AN EROSION CONTROL SEED MIX.

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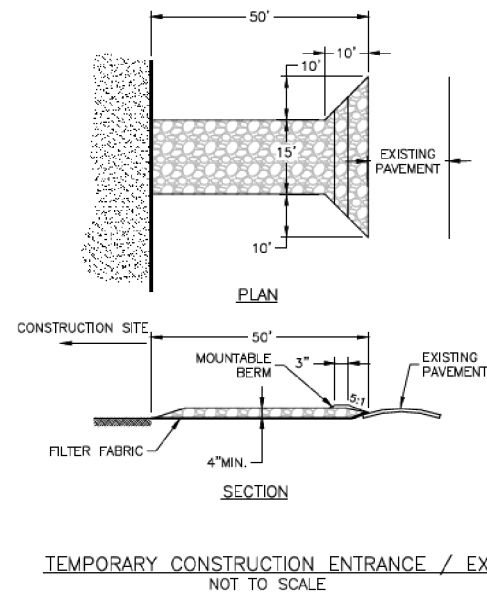
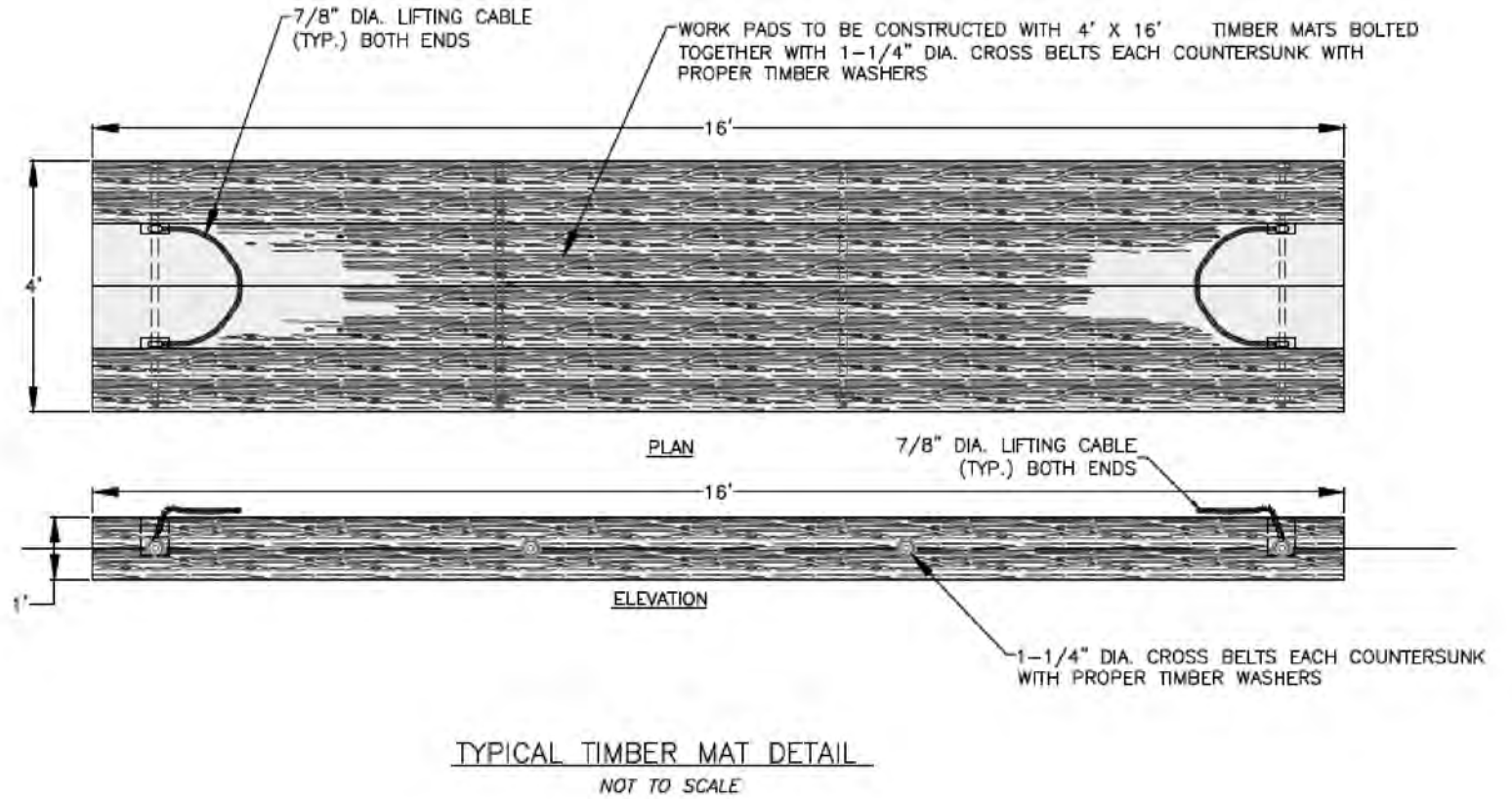
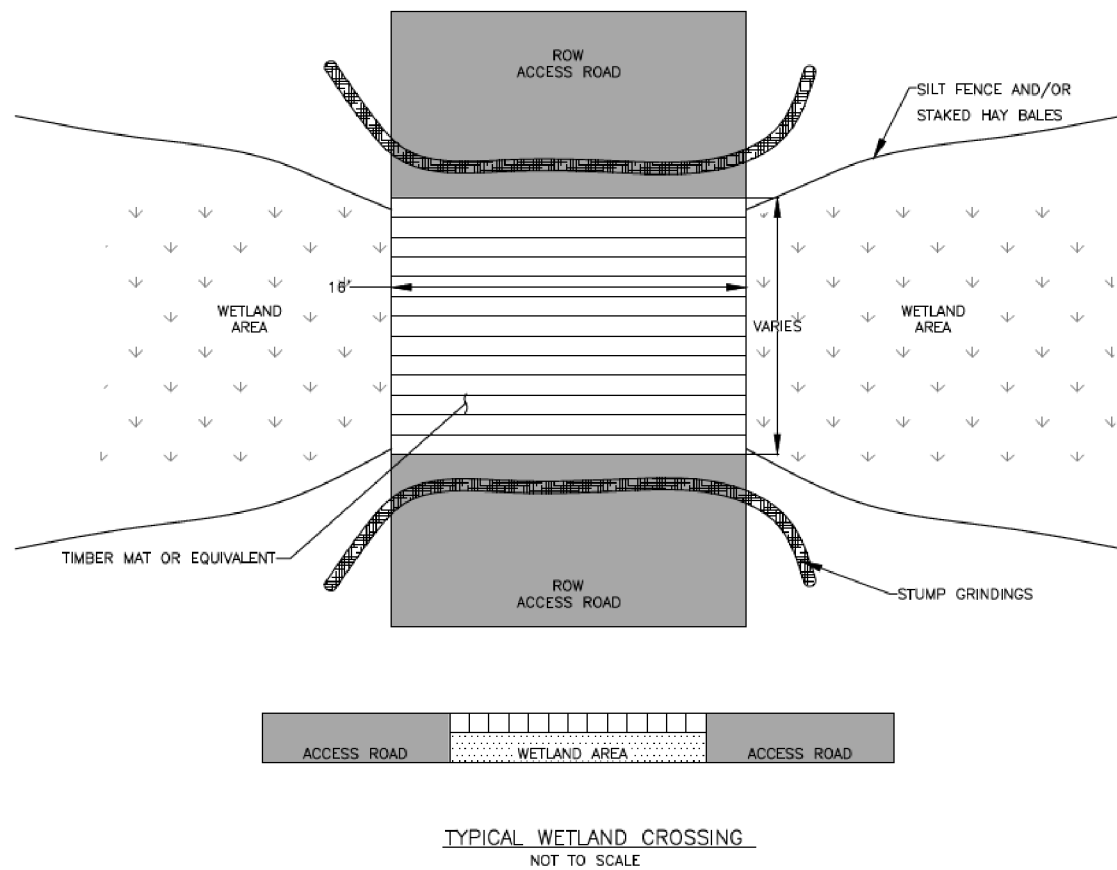
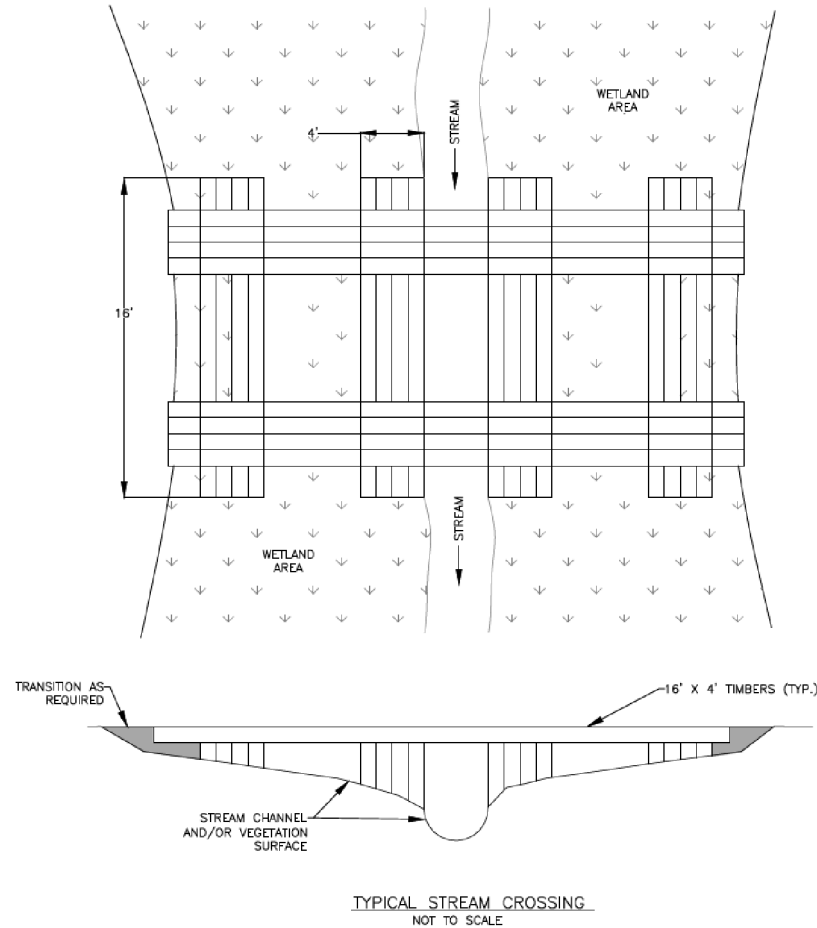
U199 TRANSMISSION LINE STRUCTURE REPLACEMENT
AND OPGW PROJECT

LITTLETON, BETHLEHEM, AND SUGAR HILL, NEW HAMPSHIRE

NOTES

PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: 	
PROJ MGR: LEW	REVIEWED BY: TLT	CHECKED BY: DMZ	SHEET S1
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 12/29/2023	PROJECT NO. 04.0191410.12	REVISION NO.	

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NOTES

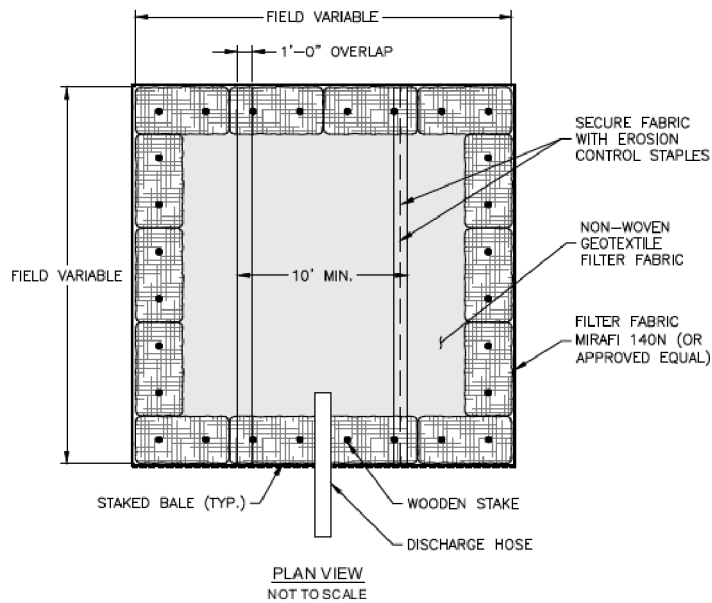
1. STONE SIZE - USE 2" STONE (MINIMUM) TO 6" STONE (MAXIMUM).
2. LENGTH - GREATER THAN OR EQUAL TO 50 FEET WITH THICKNESS OF 4".
3. WIDTH - FIFTEEN (15) FOOT TYP., BUT NOT LESS THAN FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
4. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS ENTRANCE. IF PIPING IS IMPRACTICAL, MOUNTABLE BERM SHALL BE PERMITTED.
5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING AND ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
6. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.
7. THE CLEAN STONE SHOULD BE INSTALLED OVER A GEOTEXTILE FABRIC. GEOTEXTILE FABRIC MAY BE OMITTED FOR PERMANENT CONSTRUCTION ENTRANCES-EXITS ON A CASE-BY-CASE BASIS WITH THE APPROVAL OF THE NATIONAL GRID ENVIRONMENTAL.
8. FOLLOWING CONSTRUCTION, THE CONSTRUCTION ENTRANCE / EXIT SHALL BE REMOVED AND THE AREA GRADED, SEEDED, AND MULCHED AS NEEDED. ENTRANCE / EXITS MAY REMAIN DEPENDING UPON FUTURE ACCESS NEEDS AND / OR PROJECT-SPECIFIC APPROVALS BUT REQUIRES APPROVALS FROM THE NATIONAL GRID ENVIRONMENTAL AND PROPERTY LEGAL.

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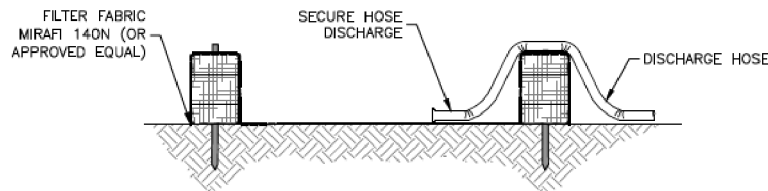
U199 TRANSMISSION LINE REBUILD
AND OPGW PROJECT
LITTLETON, BETHLEHEM, AND SUGAR HILL, NEW HAMPSHIRE

BMP DETAILS

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: EVERSOURCE ENERGY	
PROJ MGR: CEM	REVIEWED BY: TLT	CHECKED BY: DMZ	SHEET S2
DESIGNED BY: HP	DRAWN BY: LEW	SCALE:	
DATE: 12/05/2023	PROJECT NO. 04.0191410.12	REVISION NO.	

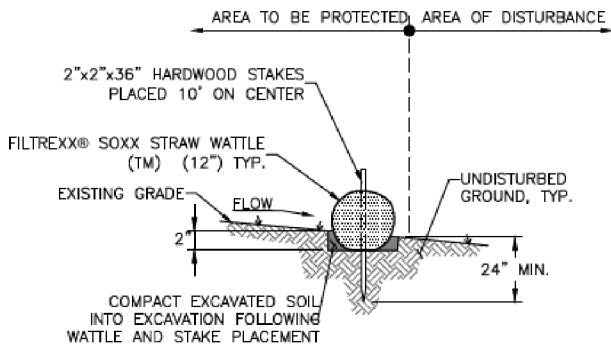


PLAN VIEW
NOT TO SCALE

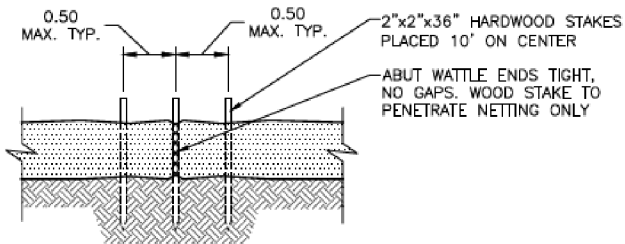


CROSS-SECTION
NOT TO SCALE

DEWATERING BASIN DETAIL



STRAW WATTLE DETAIL
NOT TO SCALE



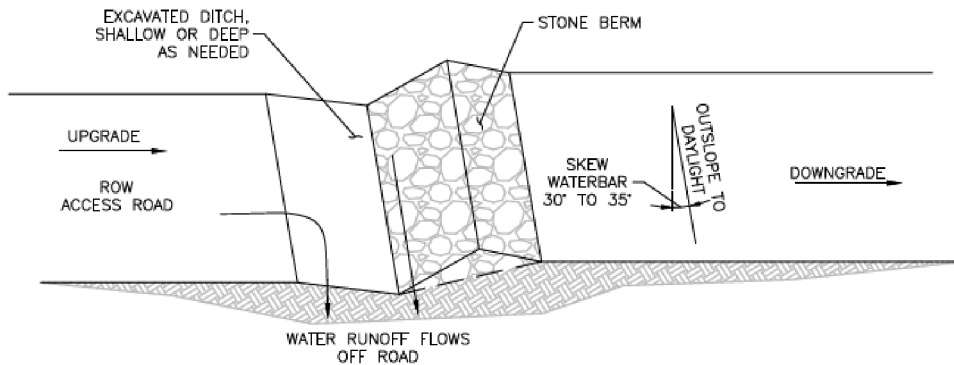
STRAW WATTLE OVERLAP
NOT TO SCALE

NOTES:

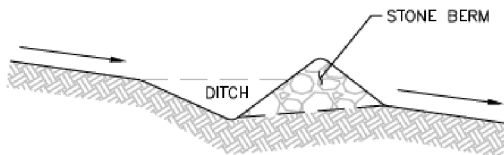
1. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, WITH THE EXCEPTION OF TURF REINFORCEMENTS MATS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN PLASTIC, OR MULTIFILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN $\frac{1}{8}$ INCHES.

NOTES:

1. DITCHES CAN BE DUG/CONSTRUCTED ALONG SIDE OF ACCESS ROAD, PER ENGINEERS DESIGN.
2. WATER BAR OUTLET SHOULD DRAIN AT A 3% OUT-SLOPE ONTO LEVEL SPREADER, UNDISTURBED LITTER OR VEGETATION.



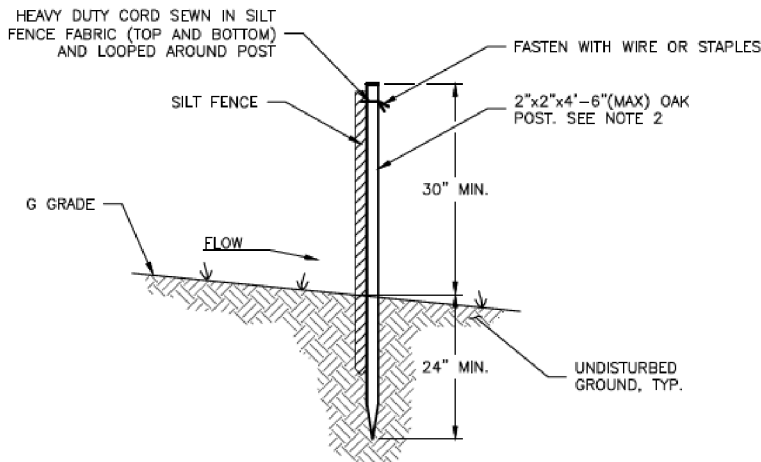
PLAN



SECTION

TYPICAL WATER BAR DETAIL

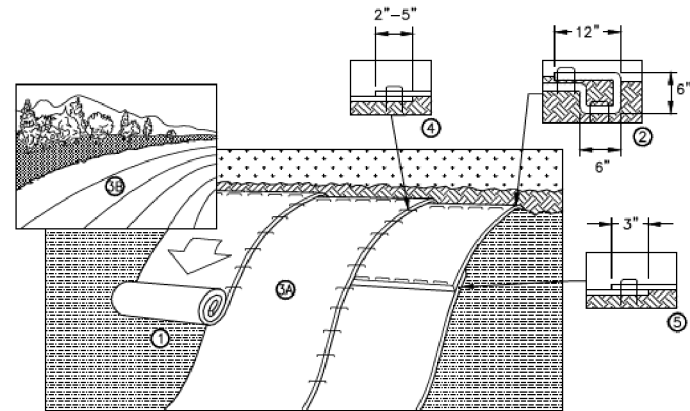
NOT TO SCALE



SILT FENCE DETAIL
NOT TO SCALE

NOTES:

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH NEW HAMPSHIRE ENV-WQ 1506 STANDARDS.
2. SILT FENCE SHOULD BE INSTALLED "TIGHT" AGAINST SILT FENCE. THOROUGHLY COMPACT EXCAVATED SOILS BACK INTO TRENCH AFTER INSTALLATION OF EROSION CONTROL DEVICE. SILT FENCE FABRIC SHALL NOT BE SLIT. STANDARD 9.1.0 POST SHALL BE DRIVEN THROUGH SILT FENCE FABRIC. 2"x2"x4'-6" (MAX) O.C. IN WETLAND AREAS AND 4'-0" (MAX) O.C. IN WETLAND RAVINE GULLY OR DROP OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x 4'-6" (MIN) POSTS PERMITTED FOR PREFABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



SLOPE INSTALLATION DETAIL OF EROSION CONTROL BLANKET
NOT TO SCALE

NOTES:

1. EROSION CONTROL BLANKET SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.
2. STAKES/STAPLES SHOULD BE PLACED NO MORE THAN 3 FT. APART VERTICALLY AND 1 FT. APART HORIZONTALLY.
3. SLOPE SURFACES SHOULD BE FREE OF DEBRIS, INCLUDING STICKS, ROCKS AND OTHER OBSTRUCTIONS.
4. BLANKETS SHOULD BE ROLLED OUT LOOSELY AND STAKED/STAPLED TO MAINTAIN DIRECT SOIL CONTACT. DO NOT STRETCH THE BLANKETS.
5. DESIGNER/ENGINEER SHALL CHOOSE THE TYPE OF BLANKET OR MATTING DEPENDING ON SPECIFIC OBJECTIVES AND SITE CONDITIONS.

INSTALLATION NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's). INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15cm) DEEP x 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE(tm). WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm - 12.5cm) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE RECP's WIDTH.

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U199 TRANSMISSION LINE REBUILD
AND OPGW PROJECT
LITTLETON, BETHLEHEM, AND SUGAR HILL, NEW HAMPSHIRE

BMP DETAILS

PREPARED BY:



GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:



PROJ MGR: LEW

REVIEWED BY: TLT

CHECKED BY: DMZ

SHEET

DESIGNED BY: HP

DRAWN BY: LEW

SCALE:

REVISION NO.

DATE: 11/30/2023

PROJECT NO. 04.0191410.12

REVISION NO.

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ENV-WQ 1504.17 WILDLIFE PROTECTION NOTES.

(A) IN ADDITION TO THE REQUIREMENTS OF ENV-WQ 1504.06, THE PLANS SHALL ALSO CONTAIN THE FOLLOWING WILDLIFE PROTECTION NOTES:

- (1) ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES ON THE PROJECT SITE SHALL BE REPORTED IMMEDIATELY TO THE NHF&G 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;
- (2) PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION, AS FEASIBLE;
- (3) 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 NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04; AND
- (4) THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.


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U199 TRANSMISSION LINE
REBUILD AND OPGW PROJECT

LITTLETON, BETHLEHEM, AND SUGAR HILL, NEW HAMPSHIRE

NOTES


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RESTORATION SEQUENCE AND POST CONSTRUCTION MONITORING PLAN FOR VERY POORLY DRAINED AND POORLY DRAINED SOILS:

TEMPORARY WETLAND MATTING WILL BE REMOVED AND WILL TYPICALLY NOT BE IN PLACE FOR MORE THAN ONE GROWING SEASON.

PHOTOGRAPHS WILL BE TAKEN DURING THE WEEKLY ENVIRONMENTAL MONITORING VISITS DOCUMENTING THE INITIAL PLACEMENT AND REMOVAL OF MATS IN WETLANDS WITH VERY POORLY DRAINED SOILS (HISTISOLS AND HISTIC EPIPEDONS). IF RUTTING, COMPACTION, OR OTHER DISTURBANCES TO THE WETLAND SURFACES ARE OBSERVED DURING MAT REMOVAL. RESTORATION WILL BE SIMULTANEOUS WITH THE REMOVAL OF MATTING, SO THAT AS MATTING IS REMOVED, STABILIZATION AND RESTORATION TECHNIQUES ARE IMPLEMENTED.

THE RESTORATION PLAN WILL INCLUDE EFFORTS TO RESTORE MATTED WETLAND SURFACES TO CLOSELY MATCH PRE-CONSTRUCTION CONDITIONS, STABILIZE DISTURBANCES IMMEDIATELY, AND PROVIDE POST-CONSTRUCTION MONITORING OF THE PREVIOUSLY MATTED WETLANDS:


- 1) UPON COMPLETION OF POLE REPLACEMENT AND WIRE PULLING ACTIVITIES, TEMPORARY TIMBER MATTING WILL BE REMOVED FROM WETLANDS.
- 2) TEMPORARY WETLAND IMPACTS WILL BE RE-GRADED TO ORIGINAL CONTOURS TO THE GREATEST EXTENT PRACTICABLE FOLLOWING CONSTRUCTION. RE-GRADING OF THE WETLAND SURFACE, EITHER WITH HAND TOOLS OR LIGHTLY WITH MECHANIZED EQUIPMENT, TO MATCH THE SURROUNDING UNDISTURBED AREAS. THIS WILL OCCUR CONCURRENT WITH MAT REMOVAL ACTIVITIES, IF DISTURBANCES ARE OBSERVED. MATTING WILL BE REMOVED FROM THE INTERIOR PORTIONS OF THE WETLAND TOWARD TO WETLAND EDGE SO THAT THE RESTORATION AREAS CAN BE REACHED FROM OTHER MATTING AS RESTORATION PROGRESSES OUTWARD FROM THE INTERIOR PORTIONS OF WETLANDS.
- 3)TEMPORARY DISTURBANCES TO WETLAND VEGETATION FROM MATTING MAY OCCUR, AS MATS BLOCK SUNLIGHT AND CAN DAMAGE PLANTS.
 - A) IF LITTLE TO NO GROUND DISTURBANCE (RUTTING, SOIL DISPLACEMENT OR COMPACTION) OCCURS FROM MATTING, IT IS EXPECTED THAT THE VEGETATION WILL NOT BE SIGNIFICANTLY DISTURBED AND SHOULD REGENERATE WITH NO FURTHER ACTION.
 - B) IF LIVING VEGETATION IS NOT PRESENT, SEED AND MULCH MAY BE NEEDED TO STABILIZE THE AREA. STABILIZATION WITH A WEED-FREE STRAW MULCH WILL OCCUR TO PREVENT EROSION AND SEDIMENTATION WITHIN THE WETLAND. THE CONTRACTORS PERFORMING THE MAT REMOVAL WILL HAVE WEED-FREE STRAW BALES IMMEDIATELY AVAILABLE DURING THE MAT REMOVAL PROCESS TO SPREAD AS EXPOSED SOILS ARE CREATED AND/OR ENCOUNTERED.
 - C) IT IS EXPECTED THAT THE WETLAND SOILS CONTAIN A SEED BANK THAT WILL REGENERATE NATURALLY, BUT SUPPLEMENTAL SEEDING MAY BE NECESSARY TO EXPEDITE STABILIZATION. IF SEEDING IS DETERMINED TO BE NECESSARY, A NATIVE SEED MIX APPROVED FOR WETLAND CONDITIONS WILL BE SPREAD ON THE DISTURBED SOILS, WETMIX (NEW ENGLAND WETLAND PLANTS, INC.), OR EQUIVALENT.
- 4) ONCE THE STRUCTURE REPLACEMENT PROJECT IS COMPLETE, TEMPORARY WETLAND MATTING HAS BEEN REMOVED, AND ANY NECESSARY RESTORATION IS COMPLETE, THE OBSERVATIONS AND INFORMATION COLLECTED WILL BE USED TO COMPILE A POST-CONSTRUCTION MONITORING REPORT. THE REPORT WILL BE PREPARED BY A NEW HAMPSHIRE CERTIFIED WETLAND SCIENTIST AND PROVIDED TO NHDES WITHIN 90 DAYS FOLLOWING COMPLETION OF THE PROJECT. THE REPORT WILL INCLUDE:
 - A) A FINAL MAT TRACKING TABLE SHOWING THE DATES OF MAT INSTALLATION AND REMOVAL AT EACH WETLAND.
 - B) A DESCRIPTION OF HOW THE PROJECT FOLLOWED THE DESCRIBED RESTORATION PLAN AND ANY NOTABLE OBSERVATIONS OF SIGNIFICANT WETLAND DISTURBANCE AND THE METHODS USED TO RESTORE THOSE DISTURBANCES.
 - C) PHOTOGRAPHS OF MATTED WETLAND AREAS FOLLOWING COMPLETION OF MAT REMOVAL AND RESTORATION WITH COMPARISON TO BEFORE AND DURING CONSTRUCTION PHOTOGRAPHS AS APPROPRIATE.
 - D) RECOMMENDATIONS REGARDING ADDITIONAL REMEDIAL RESTORATION ACTIONS (ADDITIONAL SEEDING, STABILIZATION, ETC.) OR ADDITIONAL MONITORING EFFORTS, IF NECESSARY.
- 5) CONCURRENT AND IN ADDITION TO THE ENVIRONMENTAL MONITORING, AN ENVIRONMENTAL MONITOR WILL CONDUCT PERIODIC SITE INSPECTIONS OF PREVIOUSLY MATTED WETLAND AREAS FOR THE FIRST TWO GROWING SEASONS (UP TO 2 CALENDAR YEARS) AFTER THE COMPLETION OF ALL MAT REMOVAL ON THE PROJECT. A REPORT SUMMARIZING THE OBSERVATIONS MADE DURING THE INSPECTIONS AND PHOTOGRAPHS WILL BE PROVIDED TO NHDES ON AN ANNUAL BASIS. SUBJECT TO REVIEW BY NHDES, SHOULD 75% SUCCESSFUL ESTABLISHMENT OF WETLANDS VEGETATION BE MET AFTER THE FIRST FULL GROWING SEASON, EVERSOURCE MAY REQUEST TO CLOSE OUT RESTORATION MONITORING AFTER THE FIRST FULL GROWING SEASON.
- 6) PER ENV-WT 307.12(F), IF ANY TEMPORARILY IMPACTED AREA DOES NOT HAVE AT LEAST 75% SUCCESSFUL ESTABLISHMENT OF WETLANDS VEGETATION AFTER 2 GROWING SEASONS SHALL BE RESEEDD OR REPLANTED, AS NECESSARY. SUBJECT TO REVIEW BY NHDES, SHOULD 75% SUCCESSFUL ESTABLISHMENT OF WETLANDS VEGETATION BE MET AFTER THE FIRST FULL GROWING SEASON, EVERSOURCE MAY REQUEST TO CLOSE OUT RESTORATION MONITORING AFTER THE FIRST FULL GROWING SEASON.
- 7) PER ENV-WT 307.12(G), IF A TEMPORARILY IMPACTED AREA IS RESTORED BY SEEDING OR PLANTINGS, THEN:
 - A) THE WORK SHALL NOT BE DEEMED SUCCCESSFUL IF THE AREA IS INVADED BY INVASIVE SPECIES DURING THE FIRST FULL GROWING SEASON FOLLOWING COMPLETION OF CONSTRUCTION; AND
 - B) EVERSOURCE SHALL SUBMIT A REMEDIATION PLAN TO THE DEPARTMENT THAT PROPOSES MEASURES TO BE TAKEN TO ERADICATE INVASIVE SPECIES DURING THIS SAME PERIOD.

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RESTORATION SEQUENCE & POST-
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