

Keene	
● EXISTING STRUCTURE - NO WORK PROPOSED	▭ SUBSTATION
○ EXISTING STRUCTURE TO BE REPLACED	▭ DOT ROADS
● EXISTING STRUCTURE TO BE WRECKED OUT	▭ NHD FLOWLINE
▭ SHORELAND ZONE	▭ PRIMARY
▭ WORK PAD	▭ SECONDARY
▭ AOT DISTURBANCE	▭ 2 FT CONTOURS
▭ TEMPORARY WETLAND IMPACT	▭ STRAW WATTLE
▭ GATE	▭ WATER BAR
▭ ABUTTER PARCEL	▭ TOWN BOUNDARY
▭ EVERSOURCE OWNED PARCEL	▭ WELLHEAD PROTECTION
▭ STATE OWNED PARCEL	▭ WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)
▭ POTENTIAL VERNAL POOL	▭ WATER SUPPLY INTAKE PROTECTION
▭ EVERSOURCE TRANSMISSION LINE	▭ SURFACE WATERS WITH IMPAIRMENTS 2016 WITH QUARTER MILE BUFFER
▭ APPROXIMATE ROW	▭ OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)
▭ FENCE	▭ LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)
▭ STONE WALL	▭ WETLAND

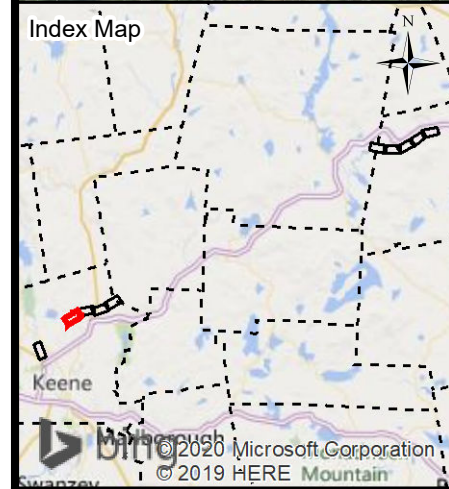
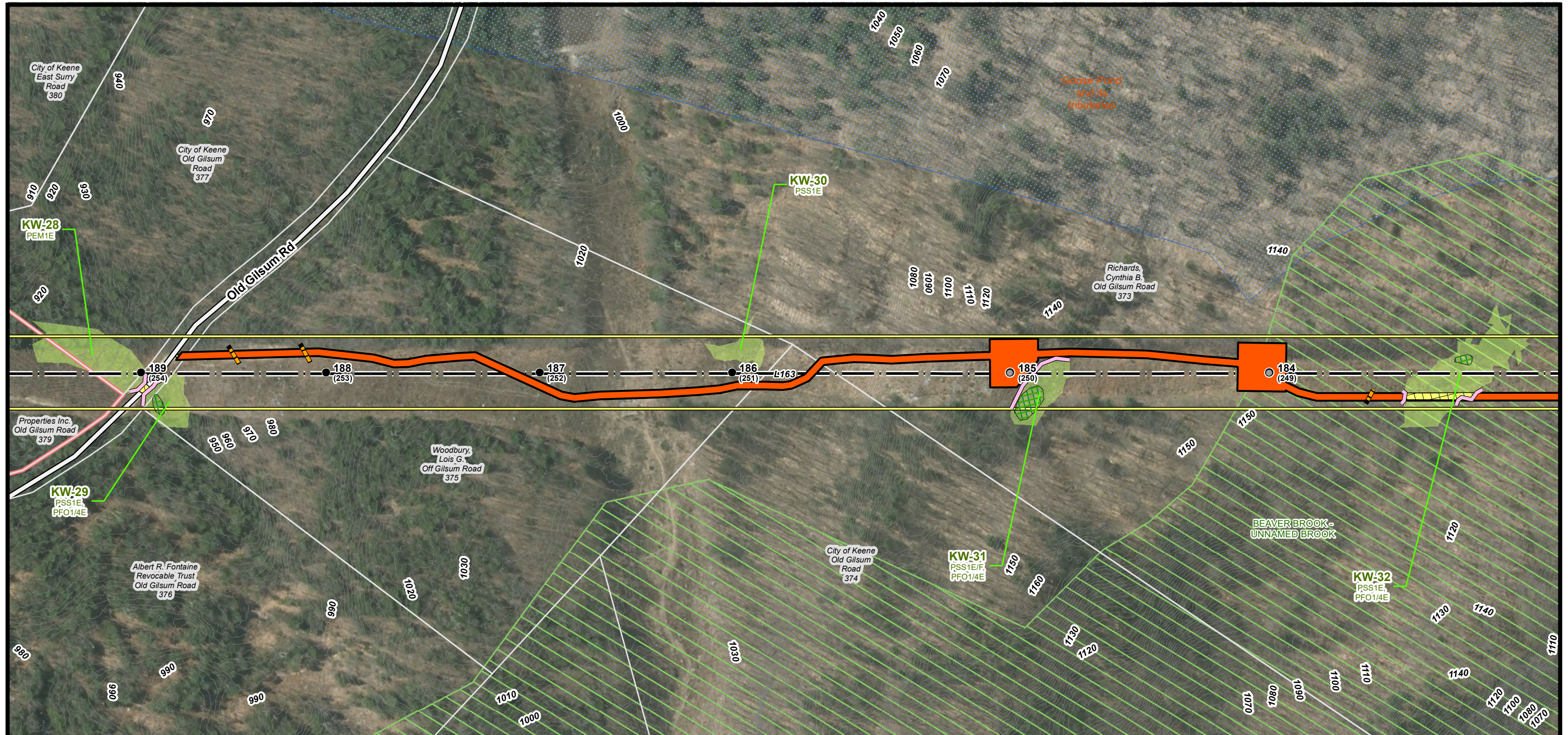
Current Town: Keene	
▭ LAKES WITH A QUARTER MILE BUFFER	▭ GROUNDWATER CLASSIFICATION AREAS GAA (NONE)
▭ GROUNDWATER CLASSIFICATION AREAS GA2	▭ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)
▭ DESIGNATED RIVERS QUARTERMILE BUFFER	▭ COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)
▭ ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)	▭ LOCAL POTENTIAL CONTAMINATION SOURCES
▭ FEMA FLOOD ZONE	

HILLSBOROUGH
 0 50 100 200 Feet
 NOTES:
 1. AERIAL IMAGERY WAS OBTAINED FROM UNH GRANIT AND DATED TO 2015.
 2. THE LAYERS TITLED "NHD FLOWLINE", "DOT ROADS", "PARCEL BOUNDARY," AND "TOWN BOUNDARY" WERE OBTAINED FROM UNH GRANIT.
 3. THE LAYER TITLED "WETLAND" WAS DELINEATED BY GZA, GEOENVIRONMENTAL, INC. IN 2016 AND SURVEYED BY DOUCET SURVEY, INC. IN 2016.
 4. L163 STRUCTURE DATA WAS PROVIDED BY EVERSOURCE ENERGY.
 5. PROPOSED ACCESS ROUTES AND WORK PAD LOCATIONS HAVE NOT BEEN FIELD VERIFIED.
 6. 2 FOOT GROUND SURFACE ELEVATION CONTOURS WERE OBTAINED FROM UNH GRANIT.
 7. AOT SCREENING LAYERS WERE PROVIDED BY NHDES.

L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT
 SURFACE WATER AND GROUNDWATER
 OVERLAY PLANS
 JANUARY 21, 2020
 KEENE, STODDARD & ANTRIM,
 NEW HAMPSHIRE
 PAGE 1 OF 11
 Project No.: 04.0190923.05
 1 inch = 200 Feet

EVERSOURCE ENERGY

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 Engineers and Scientists
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Keene		Current Town: Keene	
●	EXISTING STRUCTURE - NO WORK PROPOSED	□	SUBSTATION
○	EXISTING STRUCTURE TO BE REPLACED	—	DOT ROADS
●	EXISTING STRUCTURE TO BE WRECKED OUT	—	NHD FLOWLINE
—	SHORELAND ZONE	—	PRIMARY
□	WORK PAD	—	SECONDARY
□	AOT DISTURBANCE	—	2 FT CONTOURS
□	TEMPORARY WETLAND IMPACT	—	STRAW WATTLE
—	GATE	—	WATER BAR
□	ABUTTER PARCEL	—	TOWN BOUNDARY
□	EVERSOURCE OWNED PARCEL	—	WELLHEAD PROTECTION
□	STATE OWNED PARCEL	—	WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)
□	POTENTIAL VERNAL POOL	—	WATER SUPPLY INTAKE PROTECTION
—	EVERSOURCE TRANSMISSION LINE	—	SURFACE WATERS WITH IMPAIRMENTS 2016 WITH QUARTER MILE BUFFER
—	APPROXIMATE ROW	—	OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)
—	FENCE	—	LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)
○	STONE WALL	—	
—	WETLAND		

Hillsborough	
—	LAKES WITH A QUARTER MILE BUFFER
—	GROUNDWATER CLASSIFICATION AREAS GAA (NONE)
—	GROUNDWATER CLASSIFICATION AREAS GA2
—	GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)
—	DESIGNATED RIVERS QUARTERMILE BUFFER
—	COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)
—	ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)
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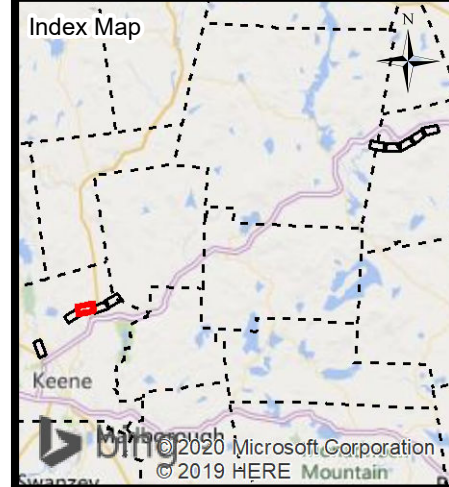
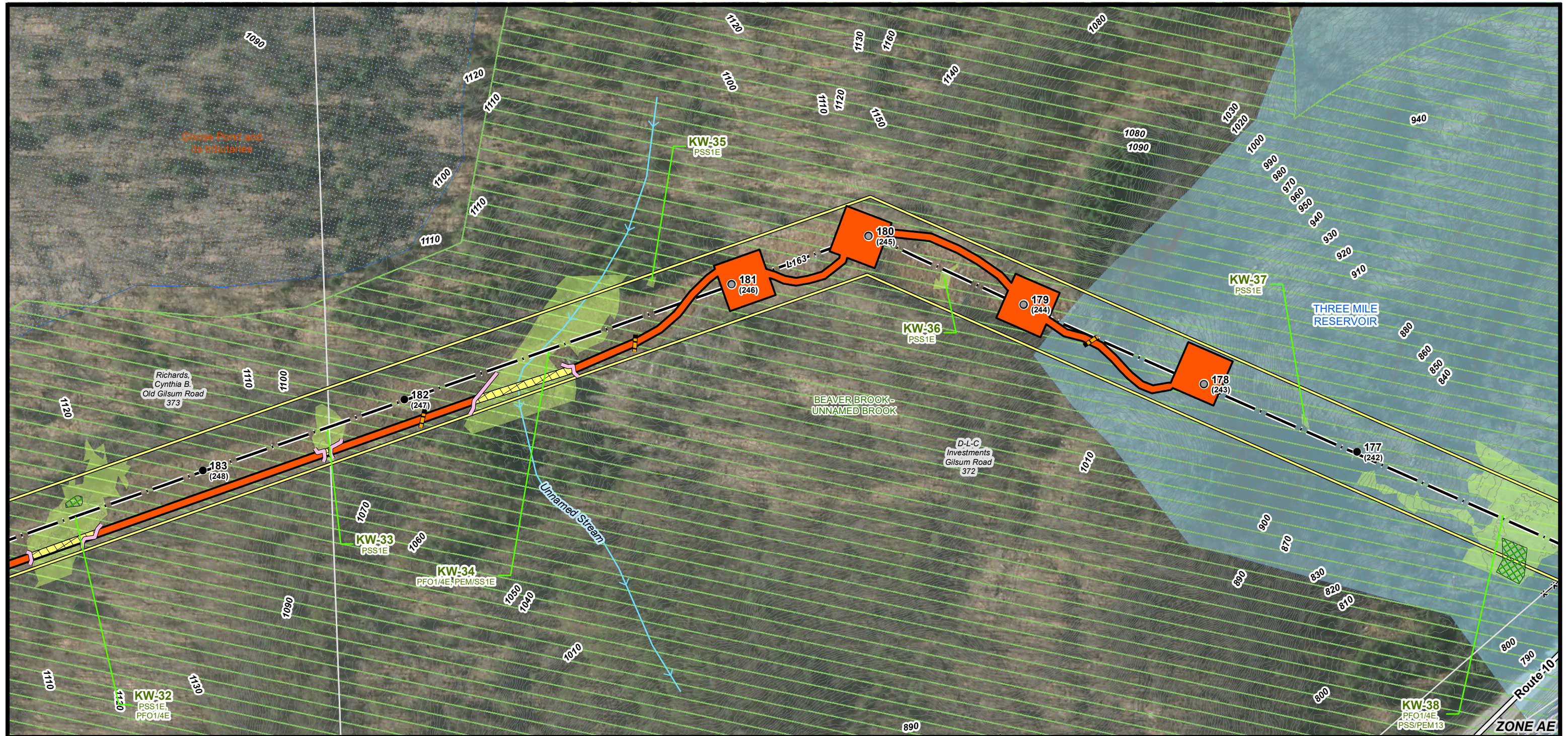
**SURFACE WATER AND GROUNDWATER
OVERLAY PLANS
JANUARY 21, 2020**

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 2 OF 11

Project No.: 04.0190923.05 1 inch = 200 Feet

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Keene		Current Town: Keene	
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●	EXISTING STRUCTURE TO BE WRECKED OUT	—	NHD FLOWLINE
—	SHORELAND ZONE	—	PRIMARY
□	WORK PAD	—	SECONDARY
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—	GATE	—	WATER BAR
—	ABUTTER PARCEL	—	TOWN BOUNDARY
—	EVERSOURCE OWNED PARCEL	—	WELLHEAD PROTECTION
—	STATE OWNED PARCEL	—	WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)
—	POTENTIAL VERNAL POOL	—	WATER SUPPLY INTAKE PROTECTION
—	EVERSOURCE TRANSMISSION LINE	—	SURFACE WATERS WITH IMPAIRMENTS 2016 WITH QUARTER MILE BUFFER
—	APPROXIMATE ROW	—	OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)
—	FENCE	—	LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)
—	STONE WALL	—	
—	WETLAND	—	

Hillsborough	
—	LAKES WITH A QUARTER MILE BUFFER
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2020 STRUCTURE
REPLACEMENT PROJECT**

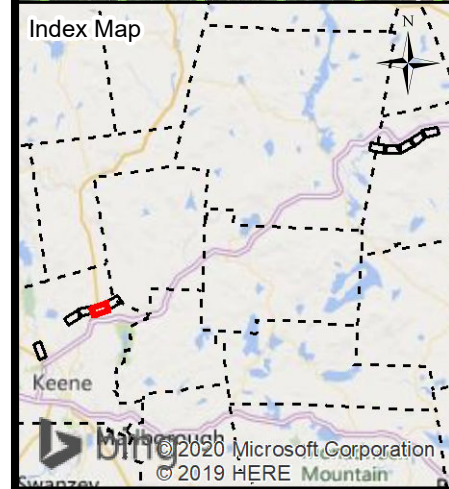
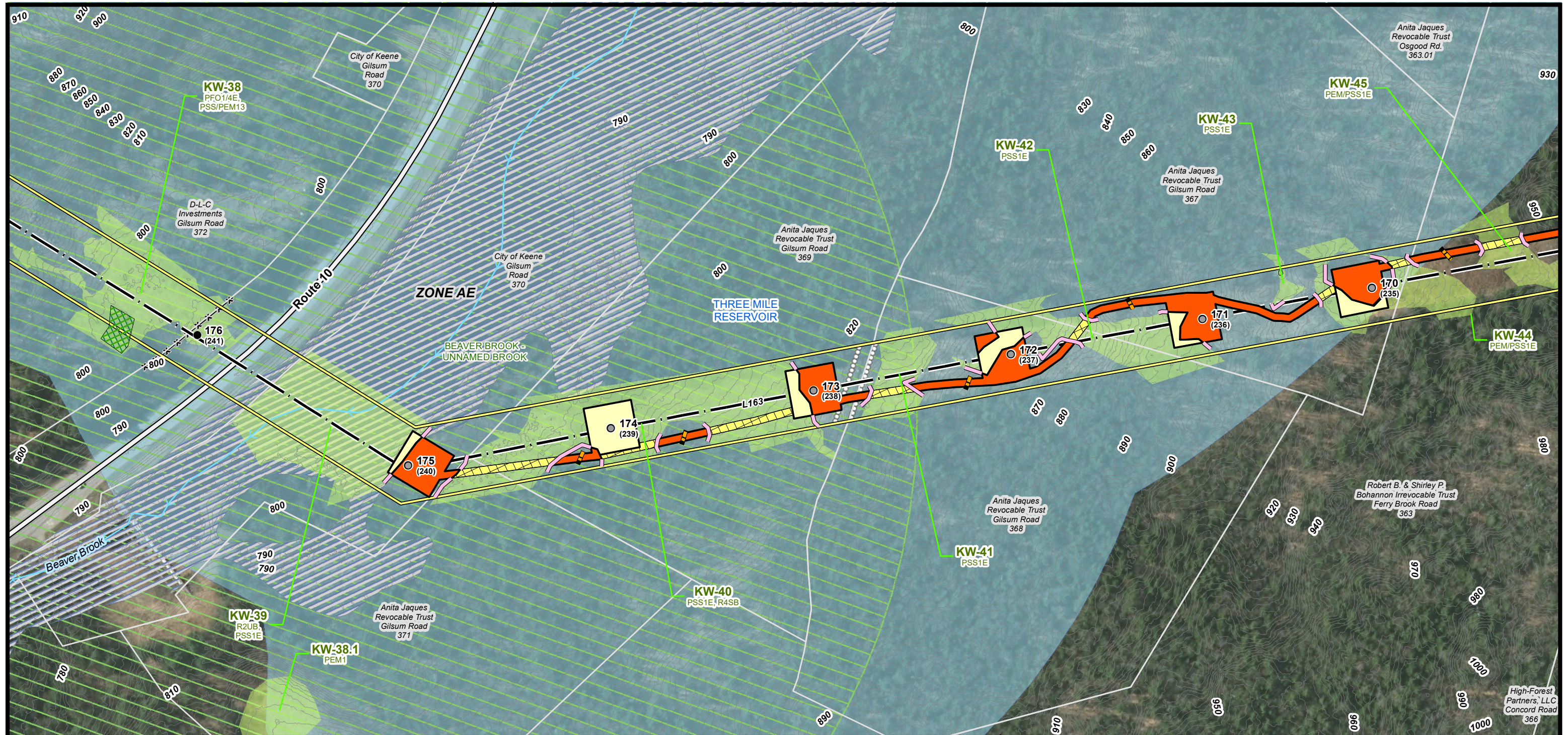
**SURFACE WATER AND GROUNDWATER
OVERLAY PLANS
JANUARY 21, 2020**

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 3 OF 11

Project No.: 04.0190923.05 1 inch = 200 Feet

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Keene

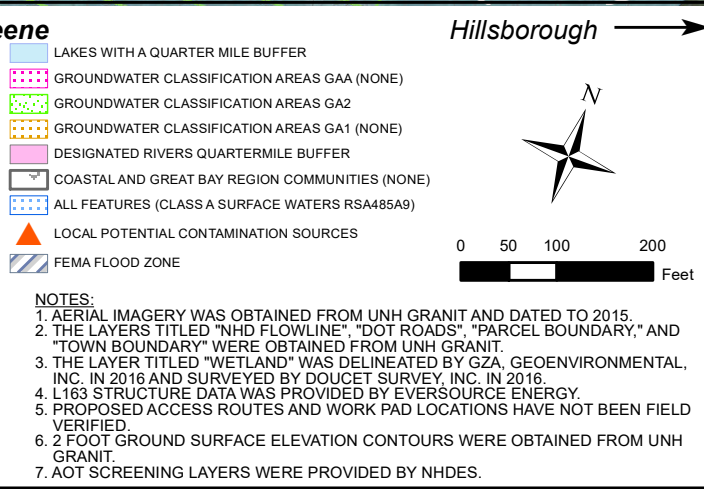
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○ EXISTING STRUCTURE TO BE REPLACED	— DOT ROADS
● EXISTING STRUCTURE TO BE WRECKED OUT	— NHD FLOWLINE
— SHORELAND ZONE	— PRIMARY
◻ WORK PAD	— SECONDARY
◻ AOT DISTURBANCE	— 2 FT CONTOURS
◻ TEMPORARY WETLAND IMPACT	— STRAW WATTLE
— GATE	— WATER BAR
— ABUTTER PARCEL	— TOWN BOUNDARY
— EVERSOURCE OWNED PARCEL	— WELLHEAD PROTECTION
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— FENCE	— LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)
— STONE WALL	
— WETLAND	

Current Town: Keene

— LAKES WITH A QUARTER MILE BUFFER
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**SURFACE WATER AND GROUNDWATER
OVERLAY PLANS
JANUARY 21, 2020**

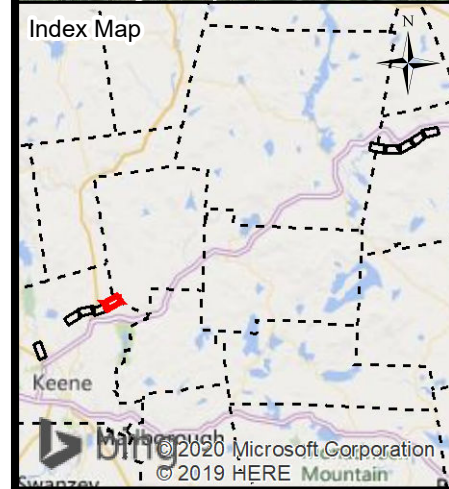
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE

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Project No.: 04.0190923.05 1 inch = 200 Feet

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Keene		Current Town: Keene/Sullivan	
● EXISTING STRUCTURE - NO WORK PROPOSED	▭ SUBSTATION	▭ LAKES WITH A QUARTER MILE BUFFER	▭ GROUNDWATER CLASSIFICATION AREAS GAA (NONE)
○ EXISTING STRUCTURE TO BE REPLACED	▭ DOT ROADS	▭ GROUNDWATER CLASSIFICATION AREAS GA2	▭ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)
● EXISTING STRUCTURE TO BE WRECKED OUT	▭ NHD FLOWLINE	▭ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)	▭ DESIGNATED RIVERS QUARTERMILE BUFFER
▭ SHORELAND ZONE	▭ PRIMARY	▭ COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)	▭ ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)
▭ WORK PAD	▭ SECONDARY	▭ LOCAL POTENTIAL CONTAMINATION SOURCES	▭ FEMA FLOOD ZONE
▭ AOT DISTURBANCE	▭ 2 FT CONTOURS		
▭ TEMPORARY WETLAND IMPACT	▭ STRAW WATTLE		
▭ GATE	▭ WATER BAR		
▭ ABUTTER PARCEL	▭ TOWN BOUNDARY		
▭ EVERSOURCE OWNED PARCEL	▭ WELLHEAD PROTECTION		
▭ STATE OWNED PARCEL	▭ WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)		
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▭ APPROXIMATE ROW	▭ OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)		
▭ FENCE	▭ LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)		
○ ○ ○ ○ ○ STONE WALL			
▭ WETLAND			

Hillsborough

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**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

**SURFACE WATER AND GROUNDWATER
OVERLAY PLANS
JANUARY 21, 2020**

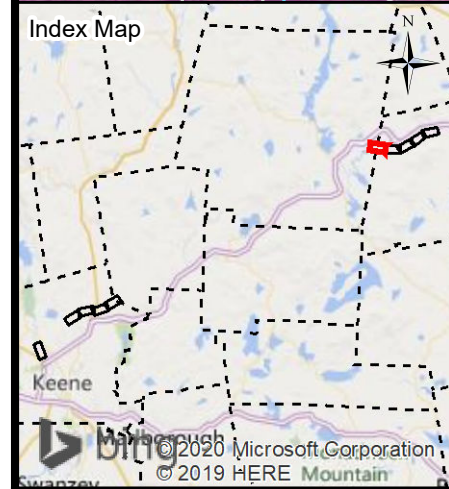
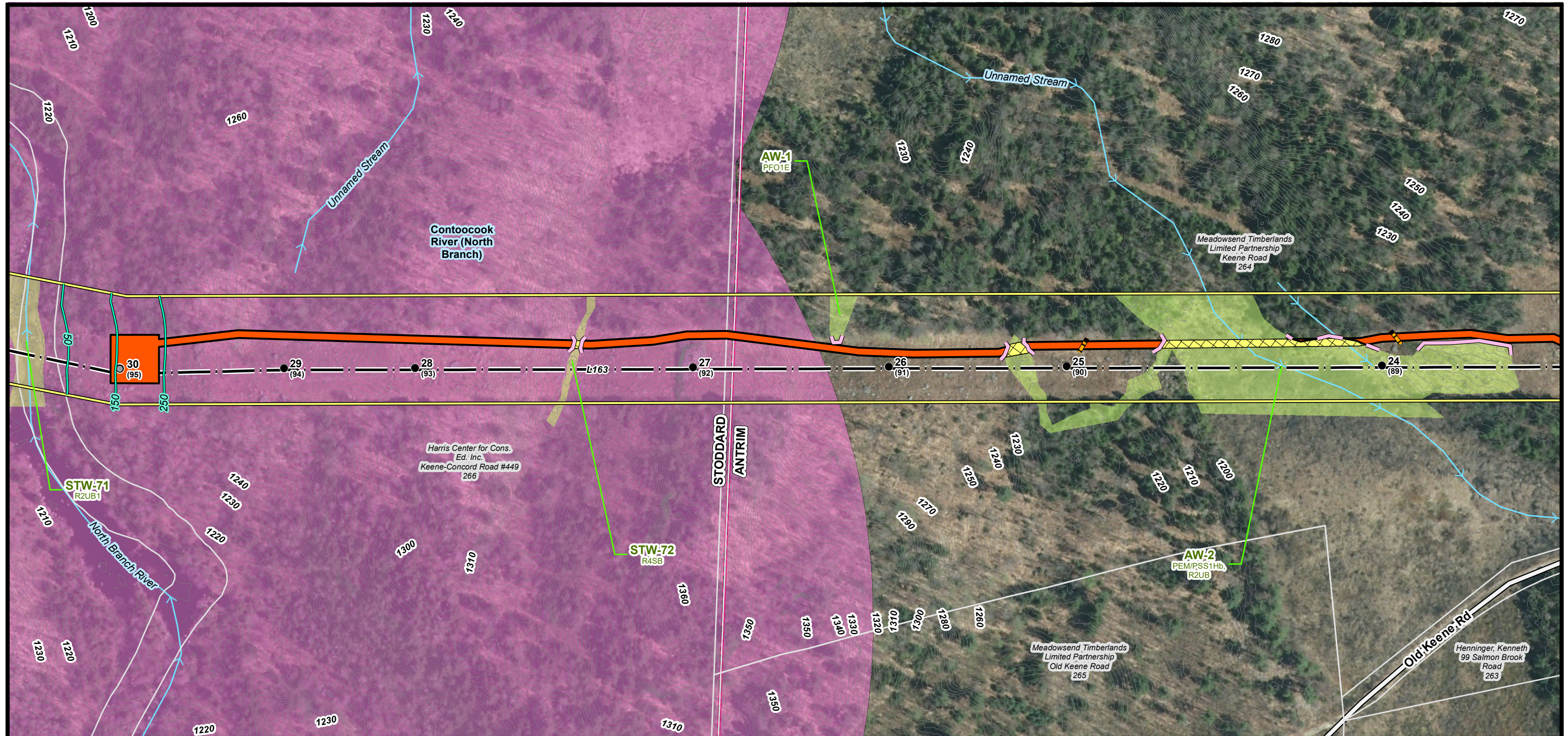
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE

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Project No.: 04.0190923.05 1 inch = 200 Feet

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Keene		Current Town: Stoddard/Antrim	
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● EXISTING STRUCTURE TO BE REPLACED	▭ DOT ROADS	▭ GROUNDWATER CLASSIFICATION AREAS GA2	▭ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)
● EXISTING STRUCTURE TO BE WRECKED OUT	▭ NHD FLOWLINE	▭ DESIGNATED RIVERS QUARTERMILE BUFFER	▭ COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)
▭ SHORELAND ZONE	▭ PRIMARY	▭ ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)	▭ LOCAL POTENTIAL CONTAMINATION SOURCES
▭ WORK PAD	▭ SECONDARY	▭ FEMA FLOOD ZONE	
▭ AOT DISTURBANCE	▭ 2 FT CONTOURS		
▭ TEMPORARY WETLAND IMPACT	▭ STRAW WATTLE		
▭ GATE	▭ WATER BAR		
▭ ABUTTER PARCEL	▭ TOWN BOUNDARY		
▭ EVERSOURCE OWNED PARCEL	▭ WELLHEAD PROTECTION		
▭ STATE OWNED PARCEL	▭ WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)		
▭ POTENTIAL VERNAL POOL	▭ WATER SUPPLY INTAKE PROTECTION		
▭ EVERSOURCE TRANSMISSION LINE	▭ SURFACE WATERS WITH IMPAIRMENTS 2016 WITH QUARTER MILE BUFFER		
▭ APPROXIMATE ROW	▭ OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)		
▭ FENCE	▭ LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)		
▭ STONE WALL			
▭ WETLAND			

Hillsborough →

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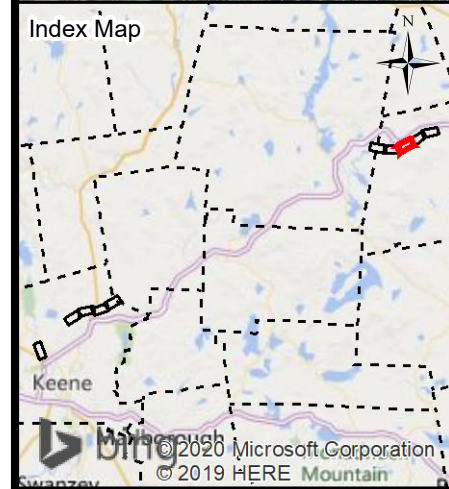
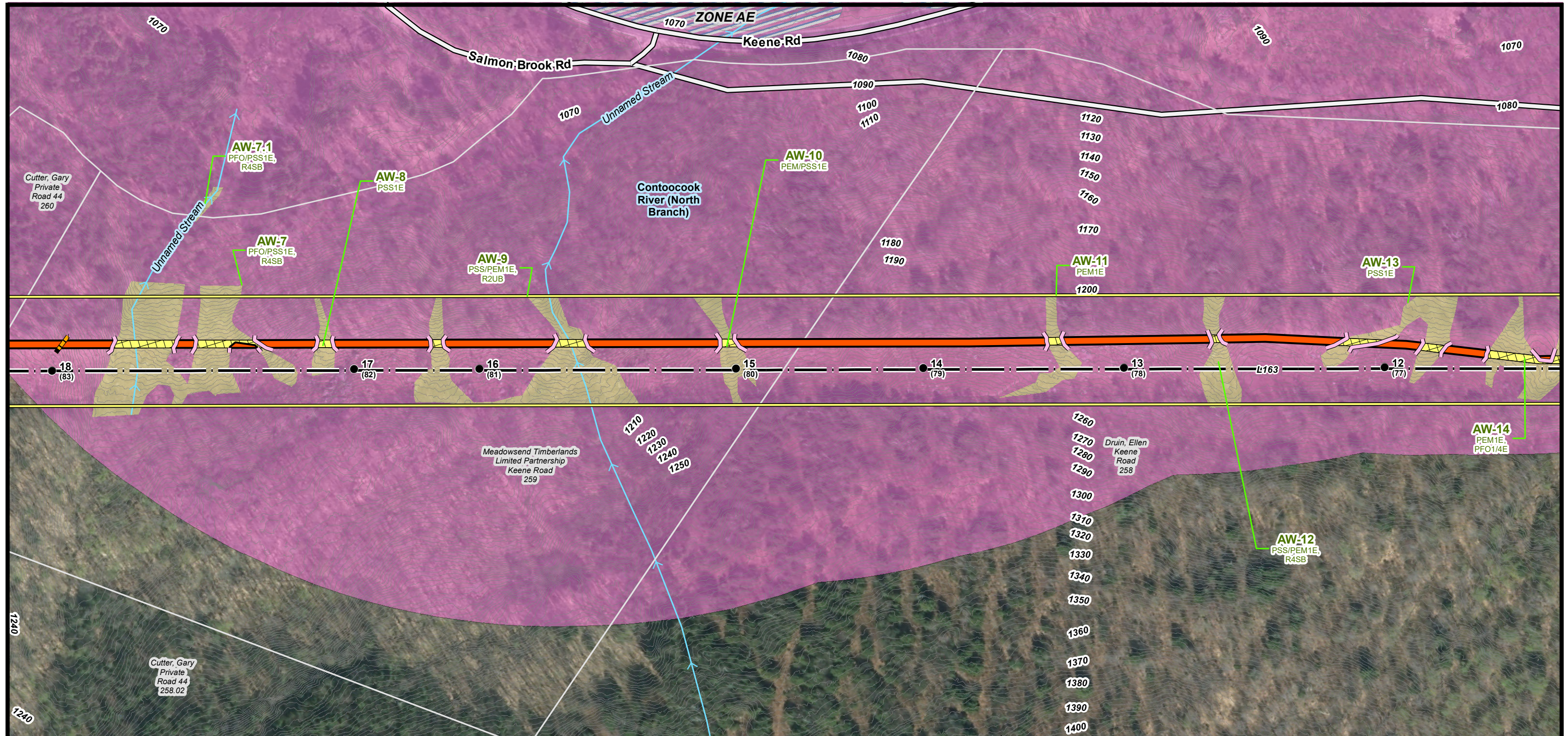
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KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 6 OF 11

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Keene	Current Town: Antrim	Hillsborough
● EXISTING STRUCTURE - NO WORK PROPOSED	■ LAKES WITH A QUARTER MILE BUFFER	→
● EXISTING STRUCTURE TO BE REPLACED	■ GROUNDWATER CLASSIFICATION AREAS GAA (NONE)	→
● EXISTING STRUCTURE TO BE WRECKED OUT	■ GROUNDWATER CLASSIFICATION AREAS GA2	→
■ SHORELAND ZONE	■ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)	→
■ WORK PAD	■ DESIGNATED RIVERS QUARTERMILE BUFFER	→
■ AOT DISTURBANCE	■ COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)	→
■ TEMPORARY WETLAND IMPACT	■ ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)	→
■ GATE	▲ LOCAL POTENTIAL CONTAMINATION SOURCES	→
■ ABUTTER PARCEL	■ FEMA FLOOD ZONE	→
■ EVERSOURCE OWNED PARCEL		→
■ STATE OWNED PARCEL		→
■ POTENTIAL VERNAL POOL		→
■ EVERSOURCE TRANSMISSION LINE		→
■ APPROXIMATE ROW		→
■ FENCE		→
○ ○ ○ ○ ○ STONE WALL		→
■ WETLAND		→
■ SUBSTATION		→
■ DOT ROADS		→
■ NHD FLOWLINE		→
■ PRIMARY		→
■ SECONDARY		→
■ 2 FT CONTOURS		→
■ STRAW WATTLE		→
■ WATER BAR		→
■ TOWN BOUNDARY		→
■ WELLHEAD PROTECTION		→
■ WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)		→
■ WATER SUPPLY INTAKE PROTECTION		→
■ SURFACE WATERS WITH IMPAIRMENTS 2016 WITH QUARTER MILE BUFFER		→
■ OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)		→
■ LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)		→

**L163 TRANSMISSION LINE
2020 STRUCTURE
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**SURFACE WATER AND GROUNDWATER
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KEENE, STODDARD & ANTRIM,
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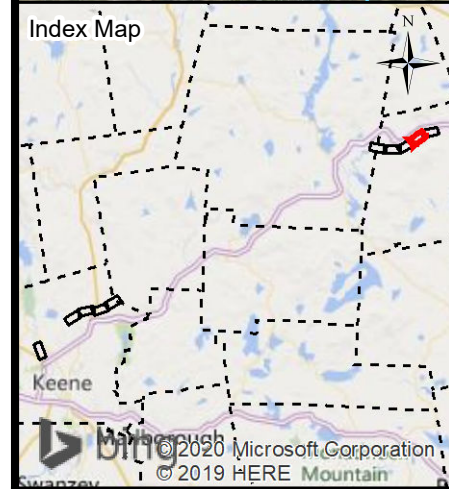
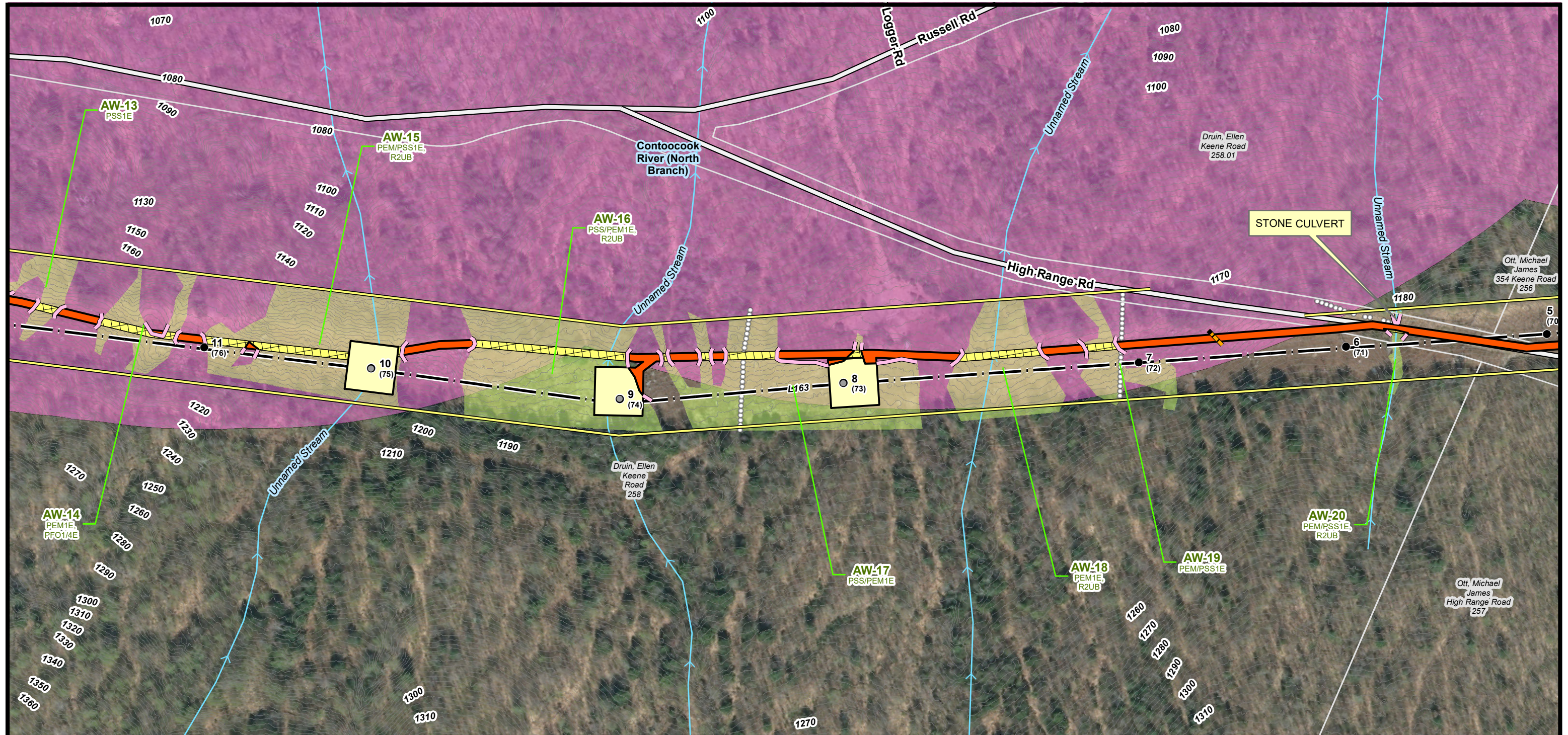
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○	EXISTING STRUCTURE TO BE REPLACED	—	DOT ROADS	■	GROUNDWATER CLASSIFICATION AREAS GAA (NONE)
●	EXISTING STRUCTURE TO BE WRECKED OUT	—	NHD FLOWLINE	■	GROUNDWATER CLASSIFICATION AREAS GA2
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■	AOT DISTURBANCE	—	2 FT CONTOURS	■	COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)
■	TEMPORARY WETLAND IMPACT	—	STRAW WATTLE	■	ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)
■	GATE	■	WATER BAR	▲	LOCAL POTENTIAL CONTAMINATION SOURCES
■	ABUTTER PARCEL	■	TOWN BOUNDARY	■	FEMA FLOOD ZONE
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○	STONE WALL				
■	WETLAND				

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3. THE LAYER TITLED "WETLAND" WAS DELINEATED BY GZA, GEOENVIRONMENTAL, INC. IN 2016 AND SURVEYED BY DOUCET SURVEY, INC. IN 2016.
4. L163 STRUCTURE DATA WAS PROVIDED BY EVERSOURCE ENERGY.
5. PROPOSED ACCESS ROUTES AND WORK PAD LOCATIONS HAVE NOT BEEN FIELD VERIFIED.
6. 2 FOOT GROUND SURFACE ELEVATION CONTOURS WERE OBTAINED FROM UNH GRANIT.
7. AOT SCREENING LAYERS WERE PROVIDED BY NHDES.

**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

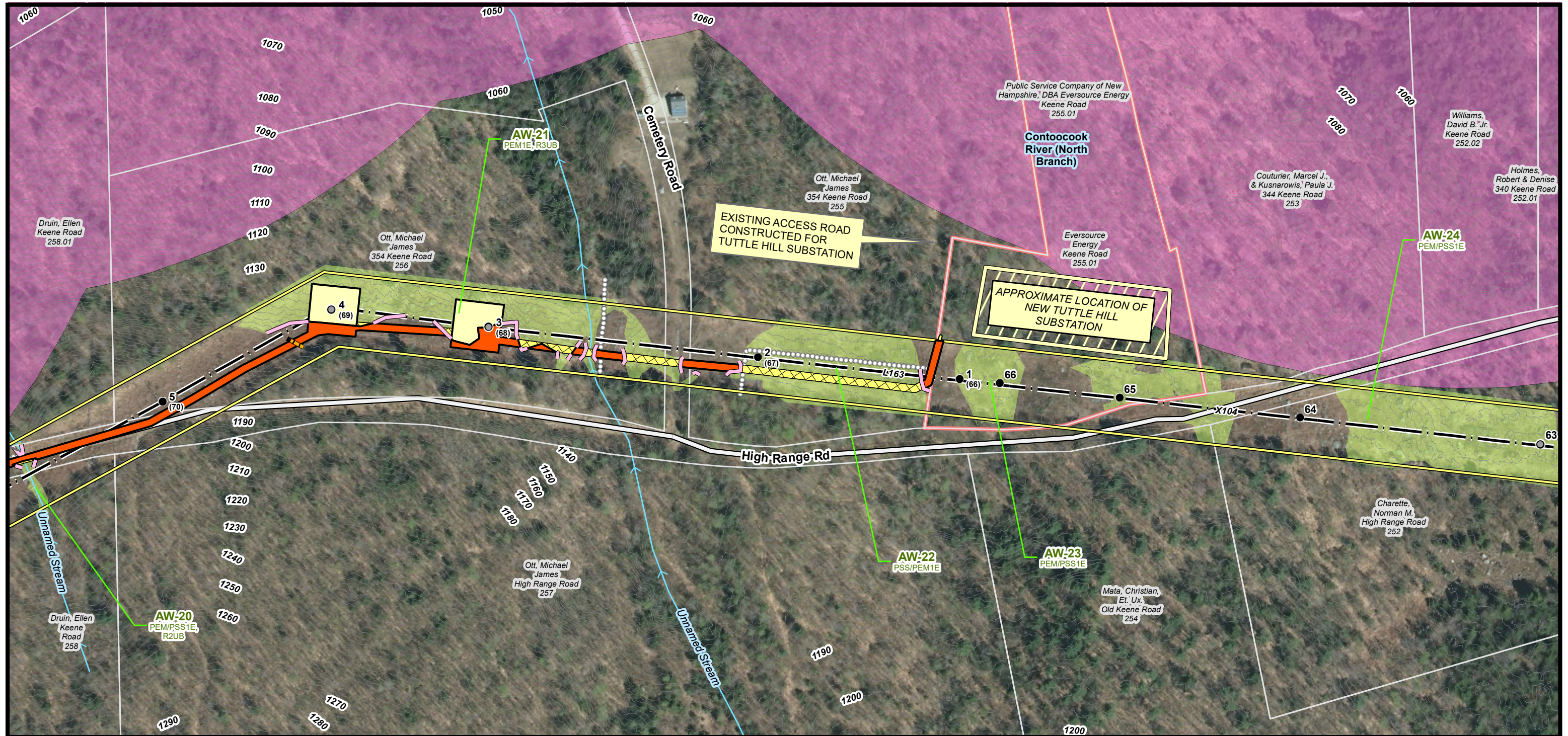
SURFACE WATER AND GROUNDWATER
OVERLAY PLANS
JANUARY 21, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 9 OF 11

Project No.: 04.0190923.05 1 inch = 200 Feet

EVERSOURCE ENERGY

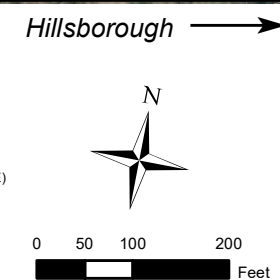
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Keene	
● EXISTING STRUCTURE - NO WORK PROPOSED	■ SUBSTATION
○ EXISTING STRUCTURE TO BE REPLACED	— DOT ROADS
● EXISTING STRUCTURE TO BE WRECKED OUT	— NHD FLOWLINE
— SHORELAND ZONE	— PRIMARY
■ WORK PAD	— SECONDARY
■ AOT DISTURBANCE	— 2 FT CONTOURS
■ TEMPORARY WETLAND IMPACT	— STRAW WATTLE
■ GATE	■ WATER BAR
■ ABUTTER PARCEL	■ TOWN BOUNDARY
■ EVERSOURCE OWNED PARCEL	■ WELLHEAD PROTECTION
■ STATE OWNED PARCEL	■ WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)
■ POTENTIAL VERNAL POOL	■ WATER SUPPLY INTAKE PROTECTION
— EVERSOURCE TRANSMISSION LINE	■ SURFACE WATERS WITH IMPAIRMENTS 2016 WITH QUARTER MILE BUFFER
— APPROXIMATE ROW	■ OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)
— FENCE	■ LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)
○ ○ ○ ○ ○ STONE WALL	■ WETLAND

Current Town: Antrim	
■ LAKES WITH A QUARTER MILE BUFFER	■ GROUNDWATER CLASSIFICATION AREAS GAA (NONE)
■ GROUNDWATER CLASSIFICATION AREAS GA2	■ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)
■ DESIGNATED RIVERS QUARTERMILE BUFFER	■ COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)
■ ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)	■ LOCAL POTENTIAL CONTAMINATION SOURCES
■ FEMA FLOOD ZONE	

NOTES:
 1. AERIAL IMAGERY WAS OBTAINED FROM UNH GRANIT AND DATED TO 2015.
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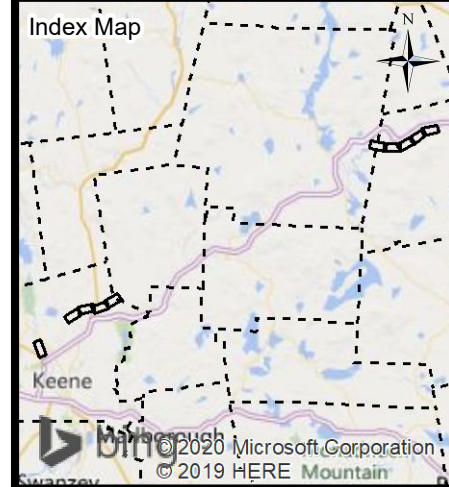
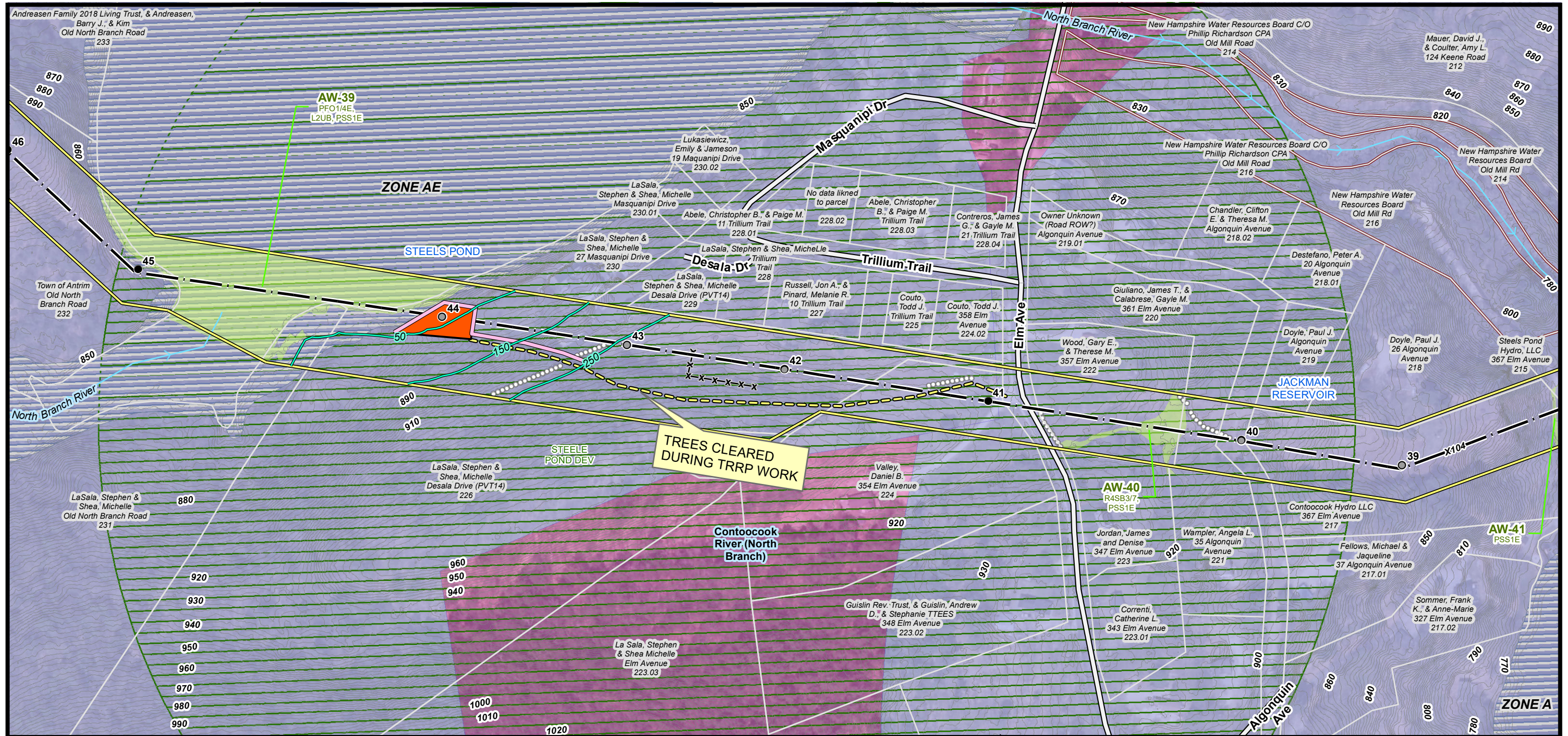
**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

**SURFACE WATER AND GROUNDWATER
OVERLAY PLANS
JANUARY 21, 2020**

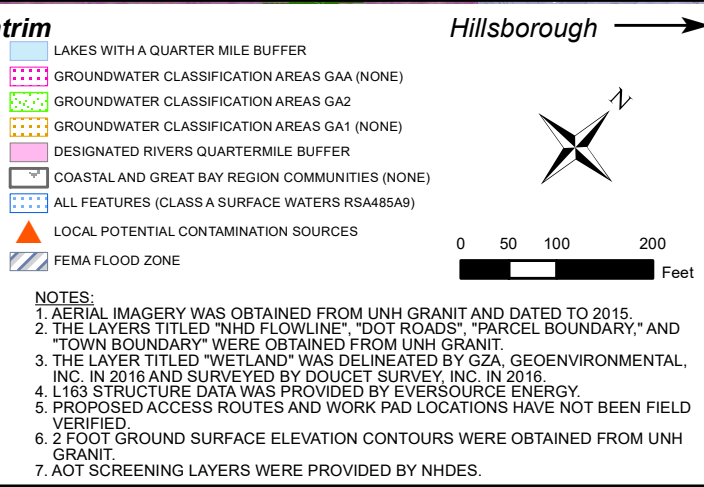
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 10 OF 11

Project No.: 04.0190923.05 1 inch = 200 Feet

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Keene		Current Town: Antrim	
● EXISTING STRUCTURE - NO WORK PROPOSED	▭ SUBSTATION	▭ LAKES WITH A QUARTER MILE BUFFER	▭ GROUNDWATER CLASSIFICATION AREAS GAA (NONE)
○ EXISTING STRUCTURE TO BE REPLACED	▭ DOT ROADS	▭ GROUNDWATER CLASSIFICATION AREAS GA2	▭ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)
● EXISTING STRUCTURE TO BE WRECKED OUT	▭ NHD FLOWLINE	▭ GROUNDWATER CLASSIFICATION AREAS GA1 (NONE)	▭ DESIGNATED RIVERS QUARTERMILE BUFFER
▭ SHORELAND ZONE	▭ PRIMARY	▭ COASTAL AND GREAT BAY REGION COMMUNITIES (NONE)	▭ ALL FEATURES (CLASS A SURFACE WATERS RSA485A9)
▭ WORK PAD	▭ SECONDARY	▭ LOCAL POTENTIAL CONTAMINATION SOURCES	▭ FEMA FLOOD ZONE
▭ AOT DISTURBANCE	▭ 2 FT CONTOURS		
▭ TEMPORARY WETLAND IMPACT	▭ STRAW WATTLE		
▭ GATE	▭ WATER BAR		
▭ ABUTTER PARCEL	▭ TOWN BOUNDARY		
▭ EVERSOURCE OWNED PARCEL	▭ WELLHEAD PROTECTION		
▭ STATE OWNED PARCEL	▭ WATERSHEDS WITH CHLORIDE IMPAIRMENTS 2016 (NONE)		
▭ POTENTIAL VERNAL POOL	▭ WATER SUPPLY INTAKE PROTECTION		
▭ EVERSOURCE TRANSMISSION LINE	▭ SURFACE WATERS WITH IMPAIRMENTS 2016 WITH QUARTER MILE BUFFER		
▭ APPROXIMATE ROW	▭ OUTSTANDING RESOURCE WATER WATERSHEDS (NONE)		
▭ FENCE	▭ LAKES WITH A QUARTER MILE BUFFER (CLASS A SURFACE WATERS RSA485A9) (NONE)		
○ ○ ○ ○ ○ STONE WALL			
▭ WETLAND			



**L163 TRANSMISSION LINE
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KEENE, STODDARD & ANTRIM,
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Project No.: 04.0190923.05 1 inch = 200 Feet

EVSOURCE ENERGY

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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.
3. 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.
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 WITH COMPLETE REHABILITATION OF THE AFFECTED AREA.
6. ACCESS ROUTES HAVE BEEN SELECTED TO PREVENT DEGRADATION OF THE RIGHT-OF-WAY AND MINIMIZE ENVIRONMENTAL IMPACT. ALL OPERATIONS SHALL BE CONFINED TO THE SPECIFIED ACCESS ROUTES WITHIN THE PROPOSED WETLAND IMPACT AREA. ALL 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 SWAMP MATS WHERE REQUIRED.
8. ALL 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.
9. SWAMP MATS WILL BE USED ALONG ALL ACCESS ROUTES 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 SWAMP 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. IF SWAMP 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.
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. 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.
13. 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.
14. INSTALL NEW POLES IN THE LOCATIONS DESIGNATED ON THE PERMITTING PLANS.
15. 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.
16. 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.
17. ALL SWAMP MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.
18. 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.
19. 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.
20. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.

WINTER CONSTRUCTION NOTES

1. ALL 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. 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 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).

GENERAL NOTES:

OWNER: EVERSOURCE ENERGY
13 LEGENDS DRIVE
HOOKSETT, NH 03106

1. BASE PLAN PROVIDED BY EVERSOURCE ENERGY. EVERSOURCE ENERGY PROVIDED THE WETLAND DATA. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.
2. JURISDICTIONAL WETLANDS WERE DELINEATED BY TIGHE AND BOND IN 2018, 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 WERE REVIEWED BY GZA GEOENVIRONMENTAL, INC. IN JANUARY AND FEBRUARY 2019.
3. GZA EVALUATED WETLANDS AS POTENTIAL VERNAL POOLS ON FEBRUARY 6, 12, AND 15, 2019 IN ACCORDANCE WITH "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE," 1997, NEW HAMPSHIRE FISH AND GAME DEPARTMENT, NONGAME AND ANDANGERED WILDLIFE PROGRAM.
4. GZA PERFORMED A WETLANDS FUNCTION AND VALUES ASSESSMENT IN ACCORDANCE WITH THE ACOE'S "HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT," SEPTEMBER 1999, IN THE TOWN OF STRAFFORD.
5. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
6. THE PROJECT WILL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
7. IN ACCORANCE 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.
8. ALL AREAS SHALL BE STABILIZED WITH 45 DAYS OF INITIAL DISTURBANCE.

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. 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 AGAINST EROSION, AS NECESSARY.
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 ANNUAL RYEGRASS PRIOR TO OCTOBER 15TH.
6. EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

L163 TRANSMISSION LINE STRUCTURE REPLACEMENT PROJECT

KEENE, STODDARD, AND ANTRIM
NEW HAMPSHIRE

NOTES

PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: EVSOURCE ENERGY	
PROJ MGR: AJD	REVIEWED BY: LEW	CHECKED BY: DMZ	SHEET 1 1 OF 3
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 01/16/2020	PROJECT NO: 04.0190923.05	REVISION NO:	

© 2020 - GZA GeoEnvironmental, Inc. P:\04\jobs\01909023\04_0190923_05 - L163 Transmission Line - Structure Replmt Proj\Figures\GIS 2019_2020\MXD\L163 AOT NOTESHEET 2 - BMPs.mxd, 1/16/2020, 10:58:12 AM, matthew.deane

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:

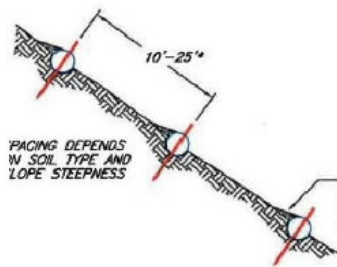
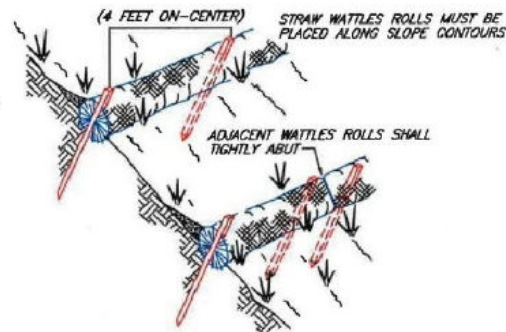
- * Along erodible or unstabilized slopes
- * Spread overland waterflow
- * Trap sediment
- * Around storm drain inlets to slow water and settle out sediment
- * Overlap ends approximately 6 inches

Installation:

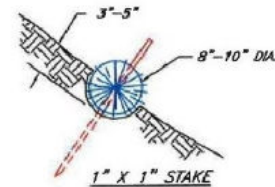
Straw wattles are installed parallel to slope contours and perpendicular to sheet flow.

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

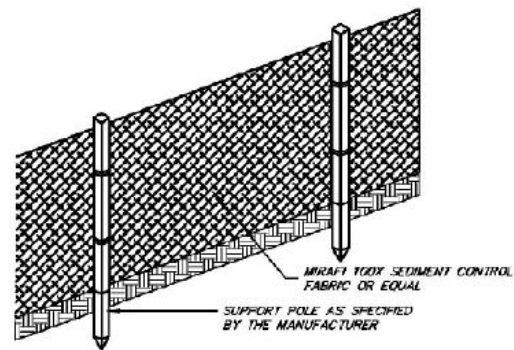
Trenching - 2"-5" inch trench
Stacking - at each end and four foot on center (i.e. 25 foot wattle uses 6 stacks)



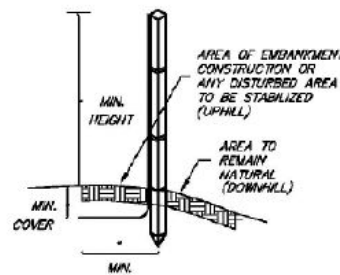
SEDIMENT, ORGANIC MATTER, AND NATIVE SEEDS ARE CAPTURED BEHIND THE WATTLE ROWS.



NOT TO SCALE



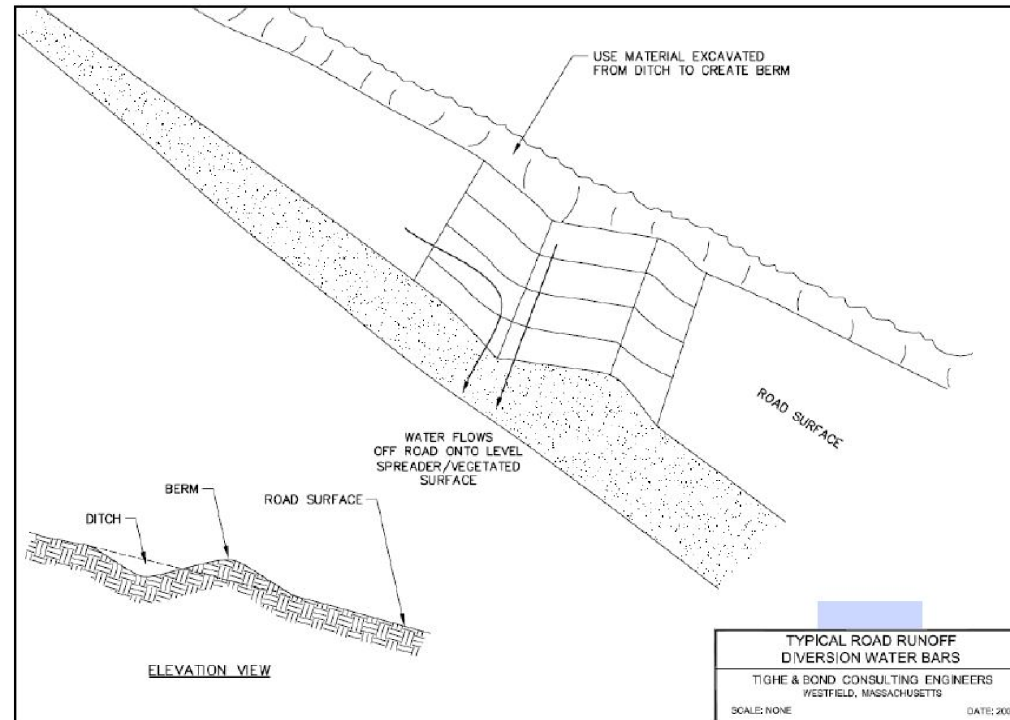
FRONT VIEW



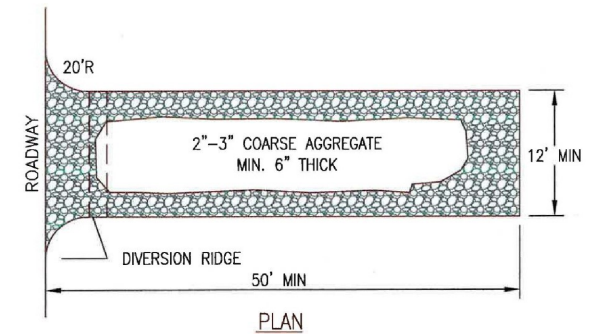
SIDE VIEW

NOTES (SILT FENCE)

1. THE HEIGHT OF THE BARRIER SHALL NOT EXCEED 36 INCHES.
2. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED. SEE MANUFACTURER'S RECOMMENDATIONS.
3. 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). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL BE AS MANUFACTURER RECOMMENDS.
4. 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
5. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE, AND WILL EXTEND A MINIMUM OF 8 INCHES INTO THE TRENCH. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
7. FABRIC BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
8. 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.
9. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
10. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
11. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.



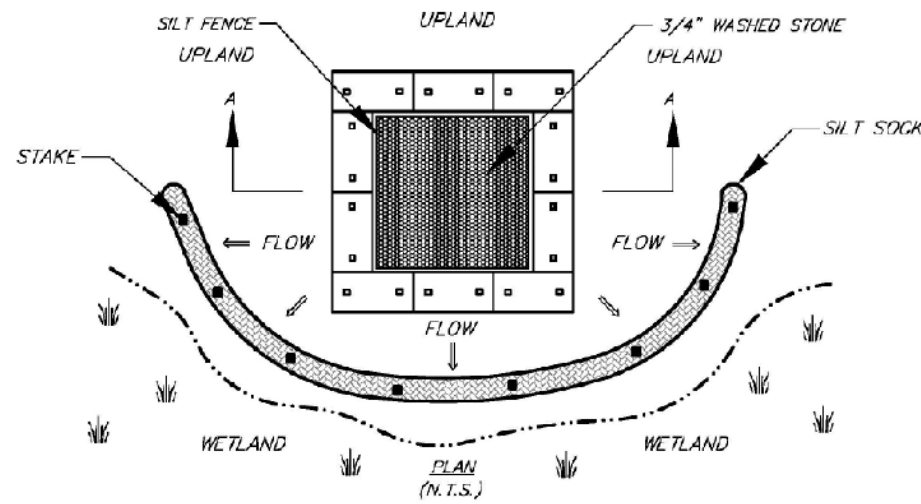
TYPICAL ROAD RUNOFF DIVERSION WATER BARS
TIGHE & BOND CONSULTING ENGINEERS
WESTFIELD, MASSACHUSETTS
SCALE: NONE DATE: 2007



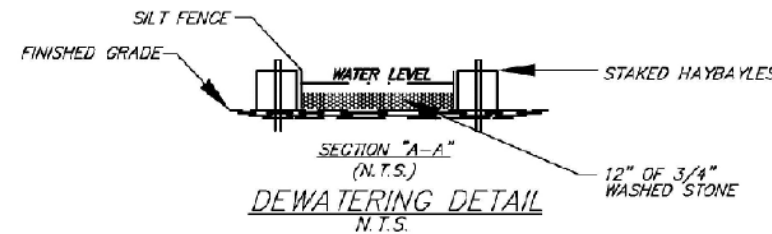
- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

CONSTRUCTION ENTRANCE

NOT TO SCALE



PLAN (N.T.S.)



SECTION "A-A" (N.T.S.)
DEWATERING DETAIL
N.T.S.

Figure 5

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L163 TRANSMISSION LINE STRUCTURE REPLACEMENT PROJECT

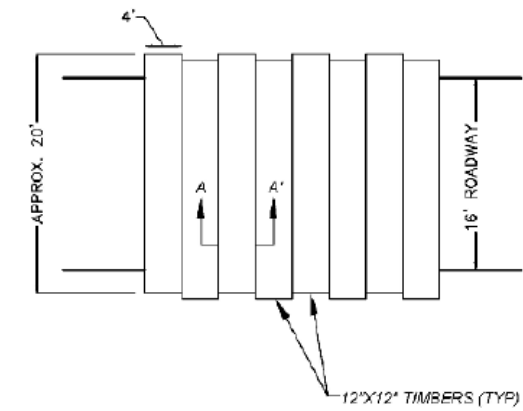
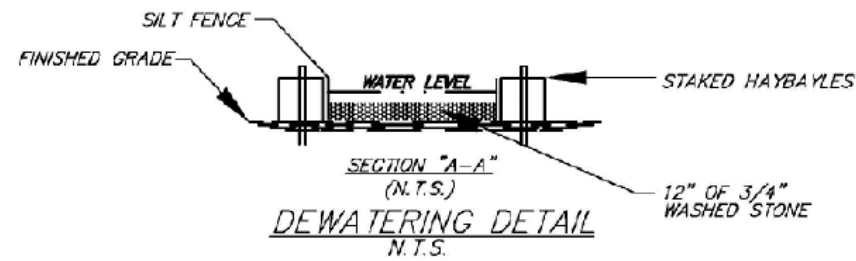
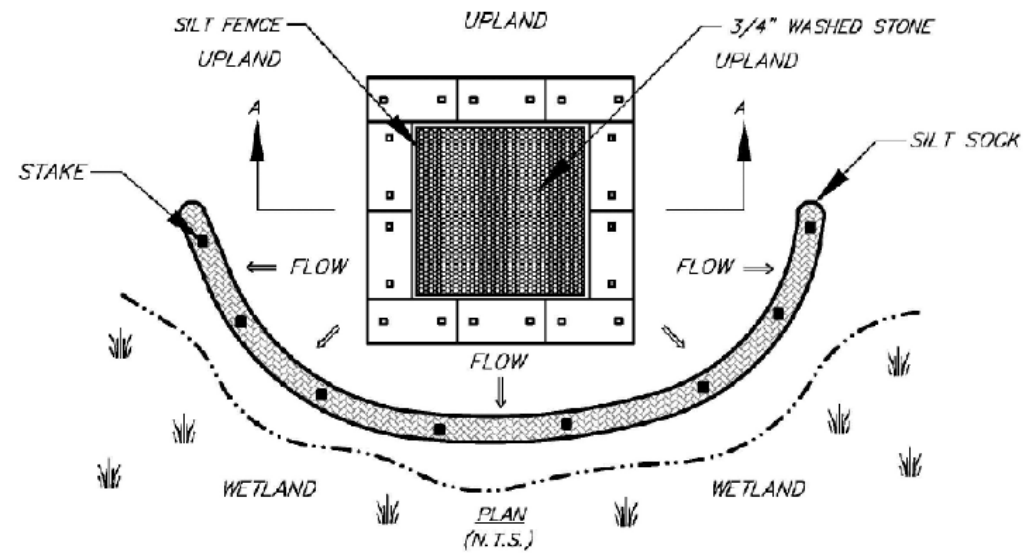
KEENE, STODDARD, AND ANTRIM
NEW HAMPSHIRE

BMP DETAILS

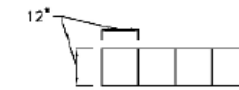
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
EVERSOURCE
ENERGY

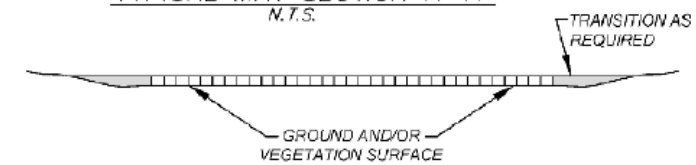
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DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 01/16/2020	PROJECT NO: 04.0190923.05	REVISION NO:	



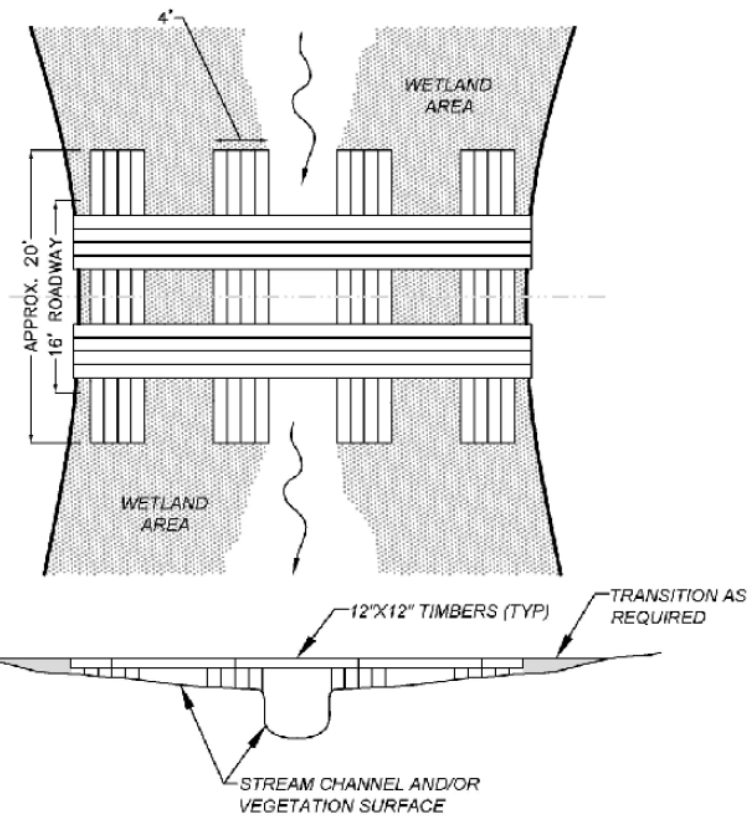
TYPICAL SWAMP MAT PLAN VIEW
N.T.S.



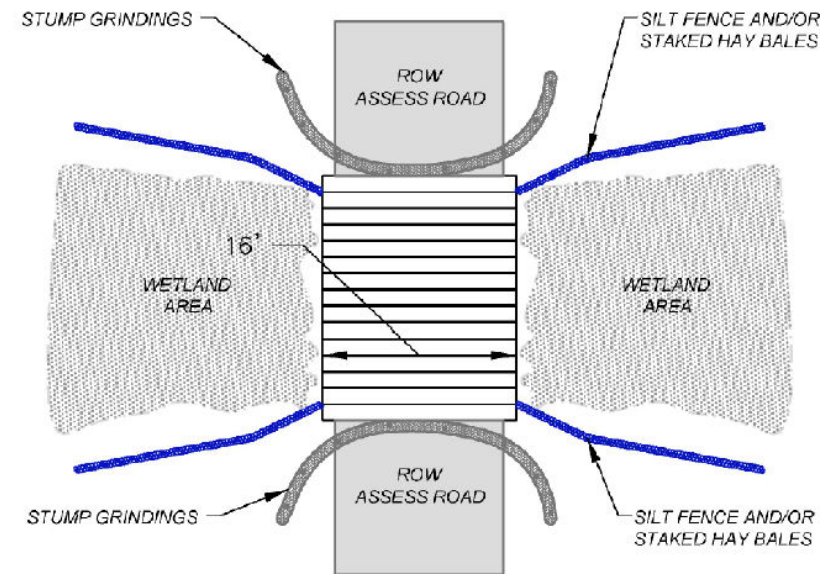
TYPICAL MAT SECTION A-A
N.T.S.



TYPICAL SWAMP MAT SECTION DETAIL
N.T.S.



TYPICAL STREAM CROSSING
N.T.S.



TYPICAL WETLAND CROSSING
N.T.S.

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L163 TRANSMISSION LINE STRUCTURE REPLACEMENT PROJECT

KEENE, STODDARD, AND ANTRIM
NEW HAMPSHIRE

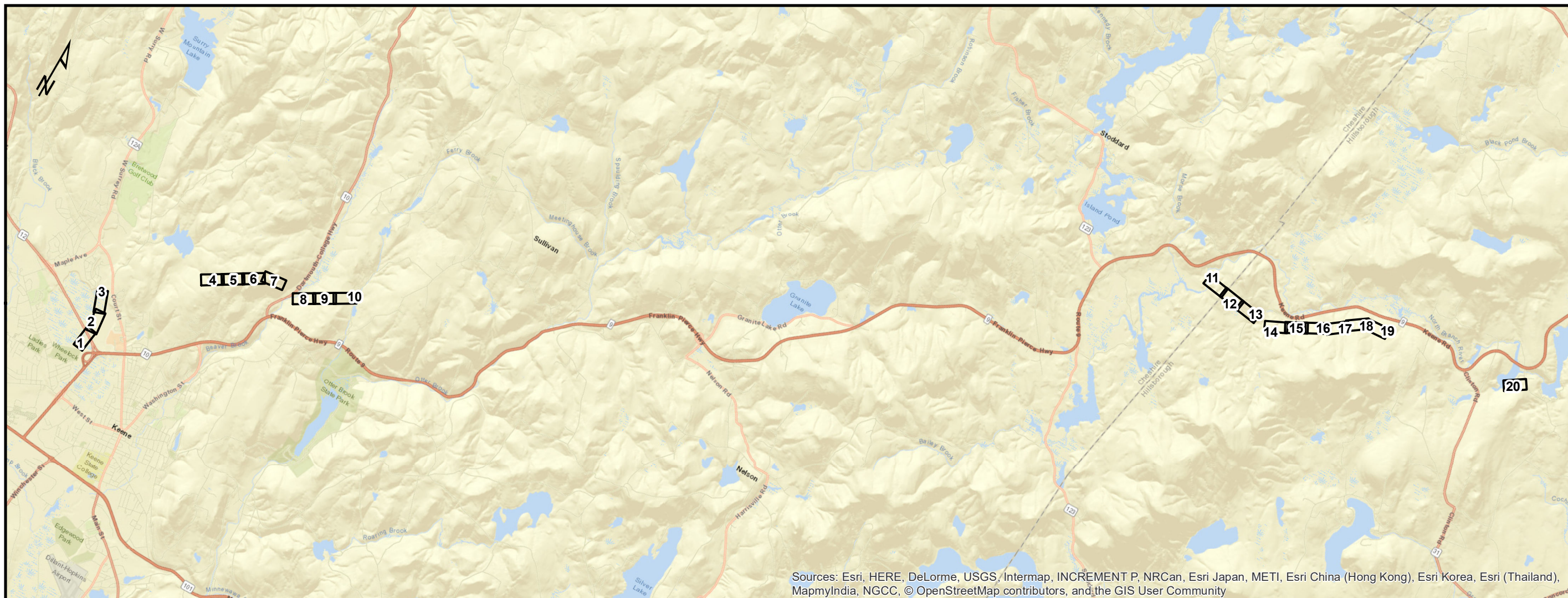
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L163 TRANSMISSION LINE
2020 STRUCTURE REPLACEMENT PROJECT
KEENE, STODDARD, AND ANTRIM
NEW HAMPSHIRE
4/3/2020



PREPARED FOR



INDEX OF FIGURES

1 inch = 7,500 feet

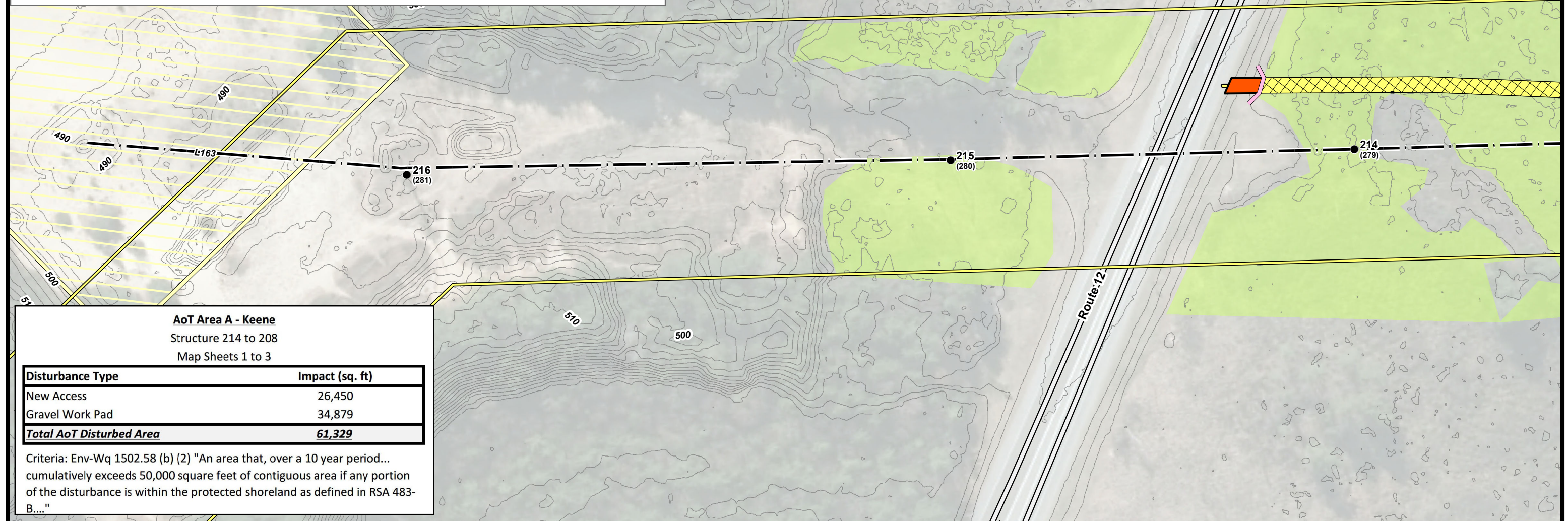
- T1: TITLE SHEET
- 1-20: MAP SHEETS
- S1: NOTES
- S2: DETAILS
- S3: DETAILS (CONT.)

PREPARED BY



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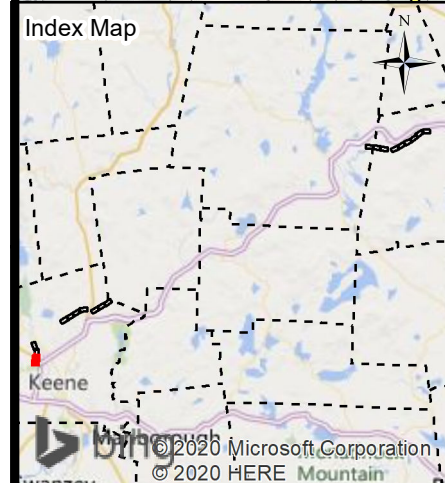
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AoT Area A - Keene
Structure 214 to 208
Map Sheets 1 to 3

Disturbance Type	Impact (sq. ft)
New Access	26,450
Gravel Work Pad	34,879
Total AoT Disturbed Area	61,329

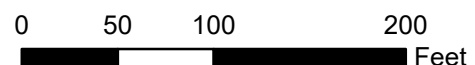
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← Keene Current Town: Keene Hillsborough →

- EXISTING STRUCTURE - NO WORK PROPOSED
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- EXISTING STRUCTURE TO BE WRECKED OUT
- WORK PAD
- AOT DISTURBANCE AREA
- TEMPORARY WETLAND IMPACT
- GATE
- POTENTIAL VERNAL POOL
- EVERSOURCE TRANSMISSION LINE
- APPROXIMATE ROW
- FENCE
- STONE WALL
- WETLAND
- SUBSTATION
- DOT ROADS
- NHD FLOWLINE
- PRIMARY ACCESS
- SECONDARY ACCESS
- 2 FT CONTOURS
- STRAW WATTLE
- WATER BAR
- TOWN BOUNDARY

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**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

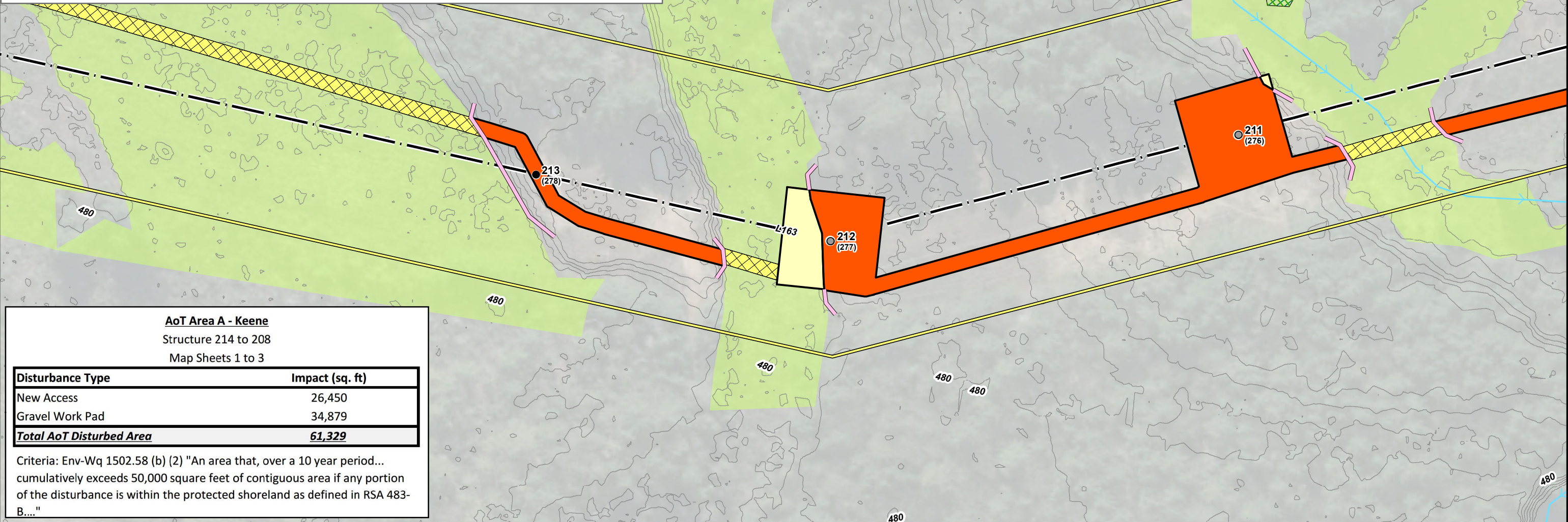
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 1 OF 20

Project No.: 04.0190923.05

1 inch = 100 Feet



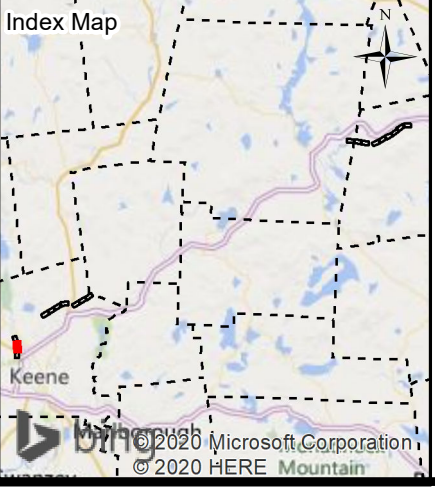
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AoT Area A - Keene
Structure 214 to 208
Map Sheets 1 to 3

Disturbance Type	Impact (sq. ft)
New Access	26,450
Gravel Work Pad	34,879
Total AoT Disturbed Area	61,329

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period... cumulatively exceeds 50,000 square feet of contiguous area if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B...."



← Keene Current Town: Keene Hillsborough →

● EXISTING STRUCTURE - NO WORK PROPOSED	○○○○○ STONE WALL
● EXISTING STRUCTURE TO BE REPLACED	■ WETLAND
● EXISTING STRUCTURE TO BE WRECKED OUT	□ SUBSTATION
■ WORK PAD	— DOT ROADS
■ AOT DISTURBANCE AREA	— NHD FLOWLINE
■ TEMPORARY WETLAND IMPACT	— PRIMARY ACCESS
■ GATE	— SECONDARY ACCESS
■ POTENTIAL VERNAL POOL	— 2 FT CONTOURS
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0 50 100 200 Feet

**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 2 OF 20

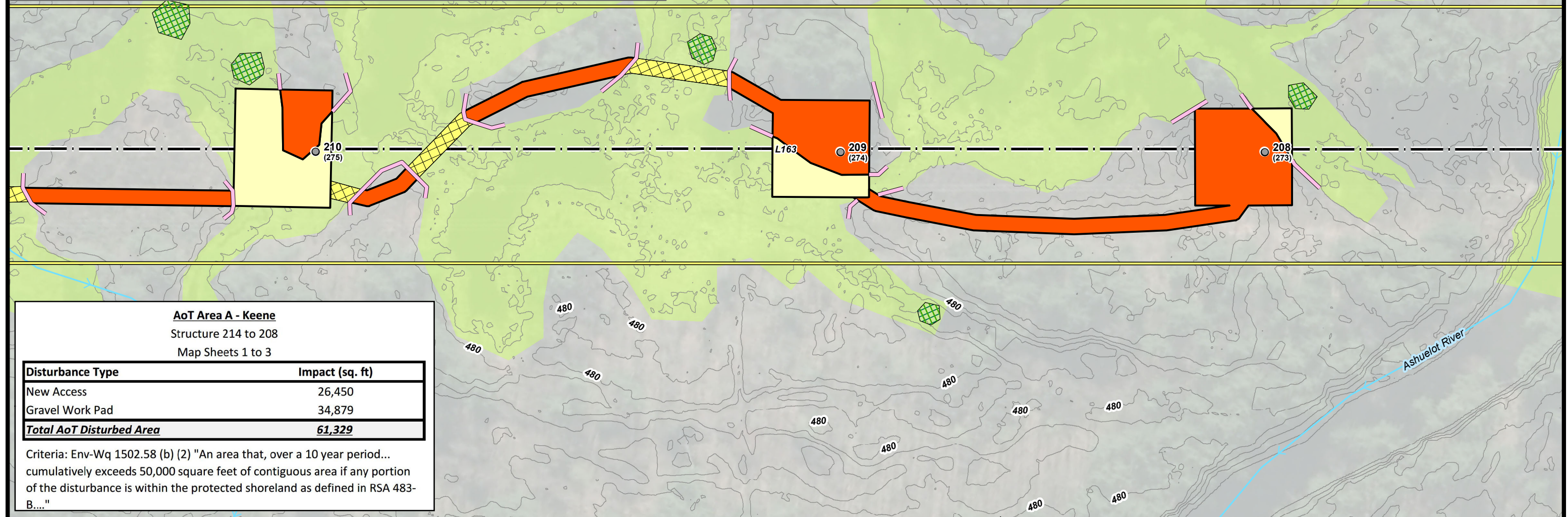
Project No.: 04.0190923.05 1 inch = 100 Feet

EVERSOURCE ENERGY

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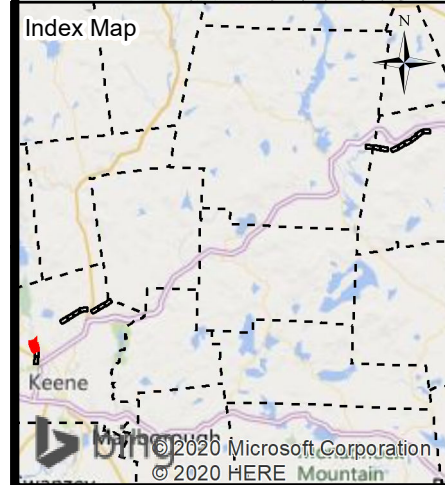
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AoT Area A - Keene
Structure 214 to 208
Map Sheets 1 to 3

Disturbance Type	Impact (sq. ft)
New Access	26,450
Gravel Work Pad	34,879
Total AoT Disturbed Area	61,329

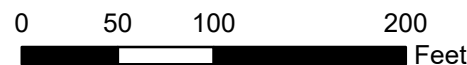
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**L163 TRANSMISSION LINE
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ALTERATION OF TERRAIN
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APRIL 03, 2020

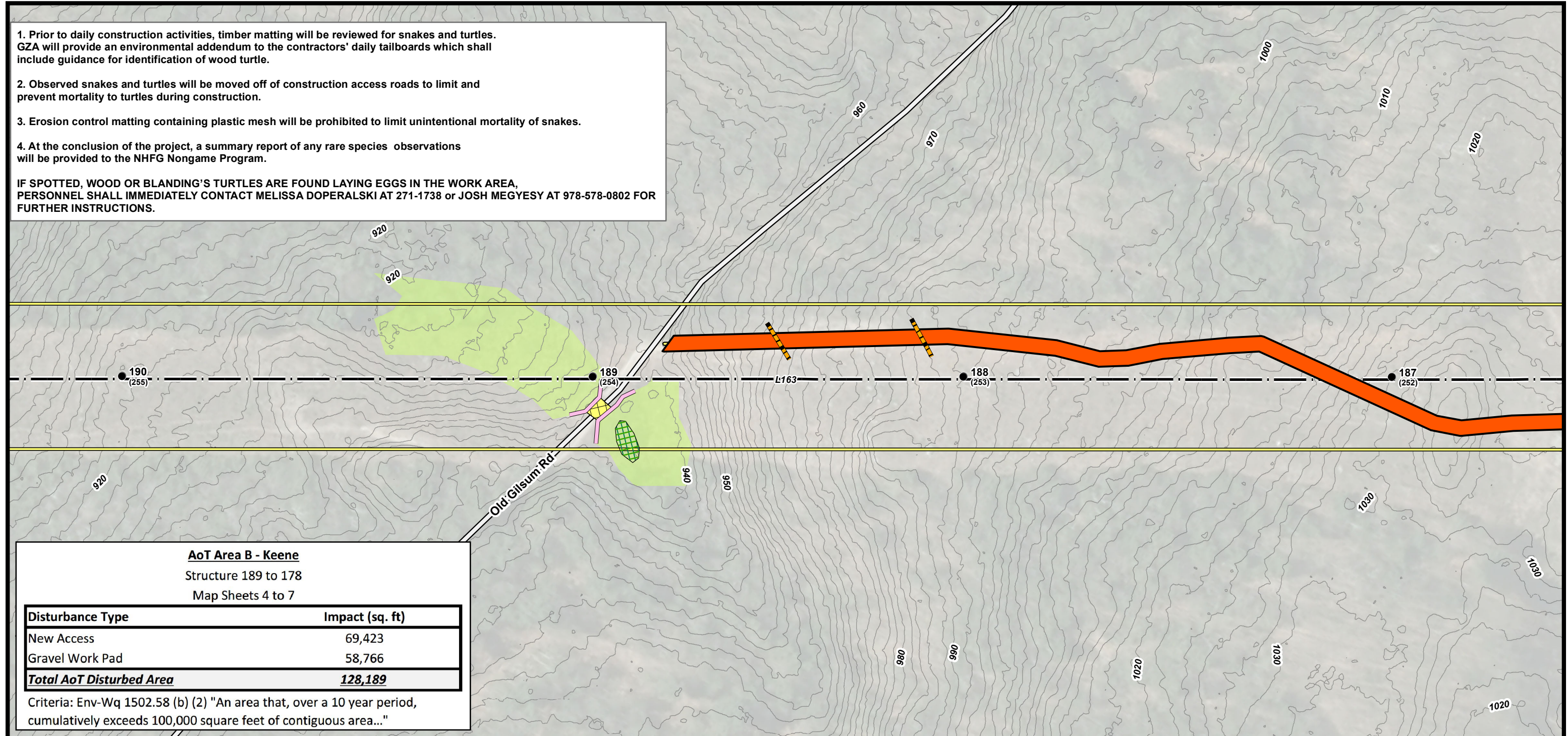
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 3 OF 20

Project No.: 04.0190923.05

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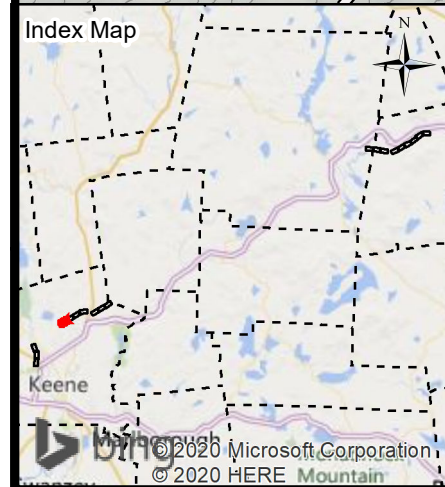
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AoT Area B - Keene
Structure 189 to 178
Map Sheets 4 to 7

Disturbance Type	Impact (sq. ft)
New Access	69,423
Gravel Work Pad	58,766
Total AoT Disturbed Area	128,189

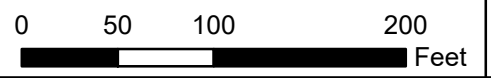
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APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 4 OF 20

Project No.: 04.0190923.05

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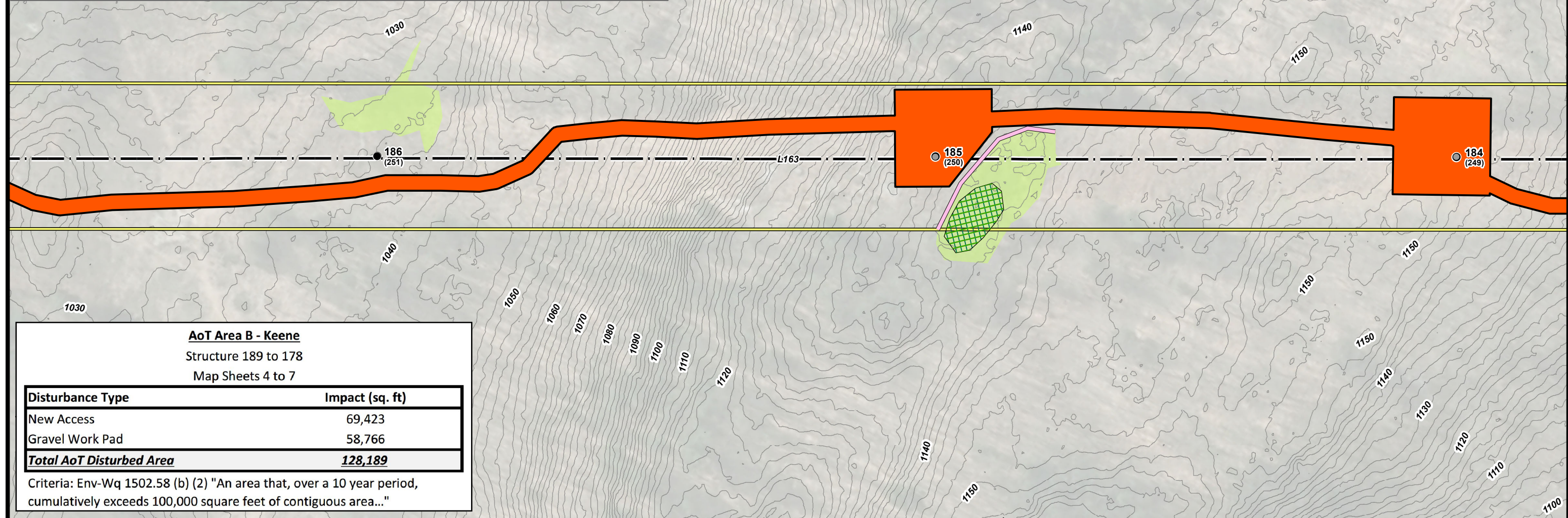
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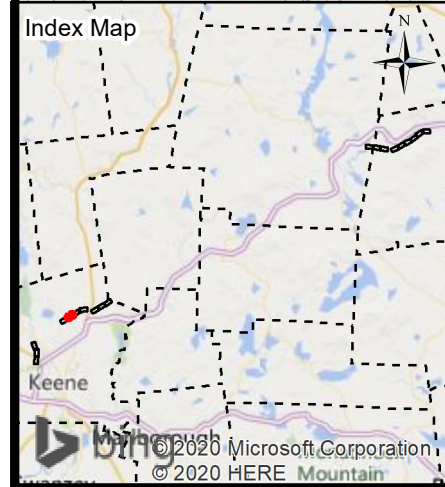
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AoT Area B - Keene
Structure 189 to 178
Map Sheets 4 to 7

Disturbance Type	Impact (sq. ft)
New Access	69,423
Gravel Work Pad	58,766
Total AoT Disturbed Area	128,189

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area..."



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0 50 100 200 Feet

**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

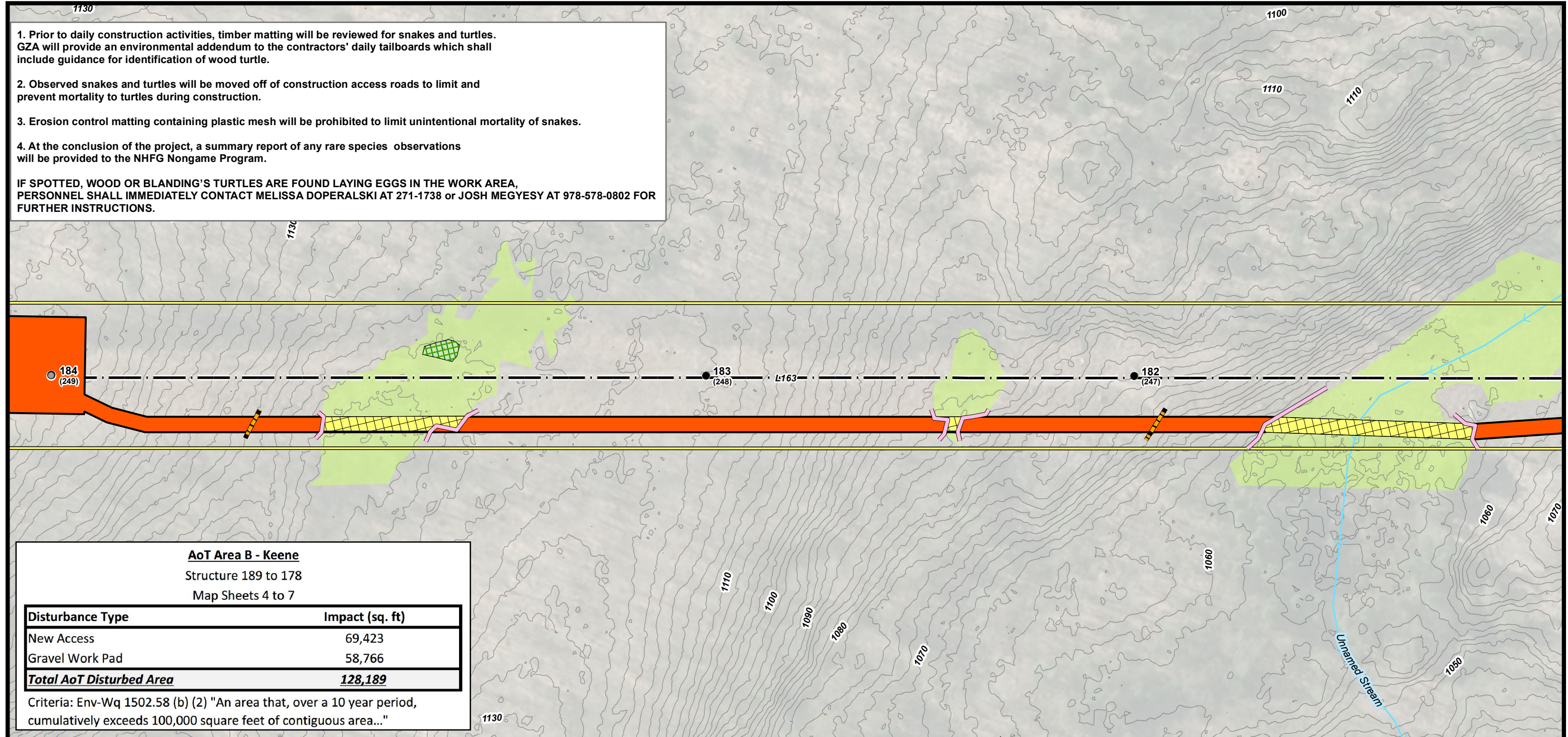
KEENE, STODDARD & ANTRIM,
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Project No.: 04.0190923.05 1 inch = 100 Feet

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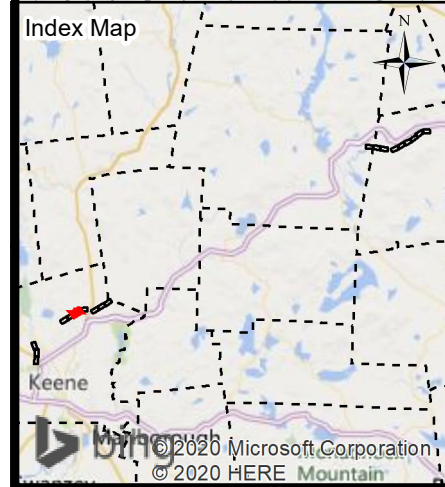
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AoT Area B - Keene
Structure 189 to 178
Map Sheets 4 to 7

Disturbance Type	Impact (sq. ft)
New Access	69,423
Gravel Work Pad	58,766
Total AoT Disturbed Area	128,189

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0 50 100 200 Feet

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2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

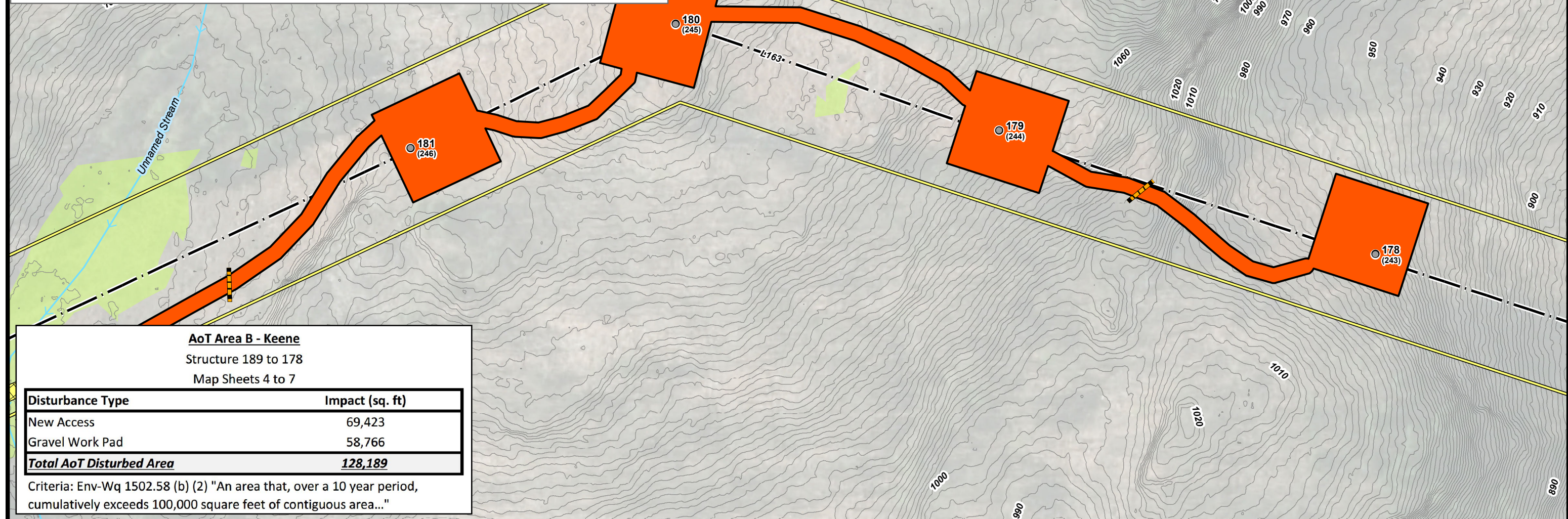
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 6 OF 20

Project No.: 04.0190923.05 1 inch = 100 Feet

EVERSOURCE ENERGY

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

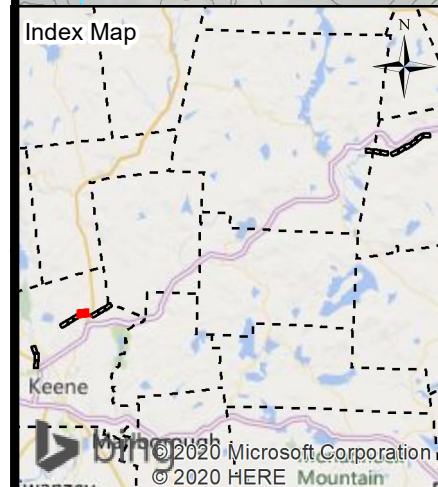
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AoT Area B - Keene
Structure 189 to 178
Map Sheets 4 to 7

Disturbance Type	Impact (sq. ft)
New Access	69,423
Gravel Work Pad	58,766
Total AoT Disturbed Area	128,189

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area..."



← Keene Current Town: Keene Hillsborough →

● EXISTING STRUCTURE - NO WORK PROPOSED	○○○○○ STONE WALL
○ EXISTING STRUCTURE TO BE REPLACED	■ WETLAND
● EXISTING STRUCTURE TO BE WRECKED OUT	□ SUBSTATION
■ WORK PAD	— DOT ROADS
■ AOT DISTURBANCE AREA	→ NHD FLOWLINE
■ TEMPORARY WETLAND IMPACT	→ PRIMARY ACCESS
■ GATE	→ SECONDARY ACCESS
■ POTENTIAL VERNAL POOL	— 2 FT CONTOURS
— EVERSOURCE TRANSMISSION LINE	— STRAW WATTLE
— APPROXIMATE ROW	■ WATER BAR
— FENCE	■ TOWN BOUNDARY

NOTES:
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0 50 100 200 Feet

**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 7 OF 20

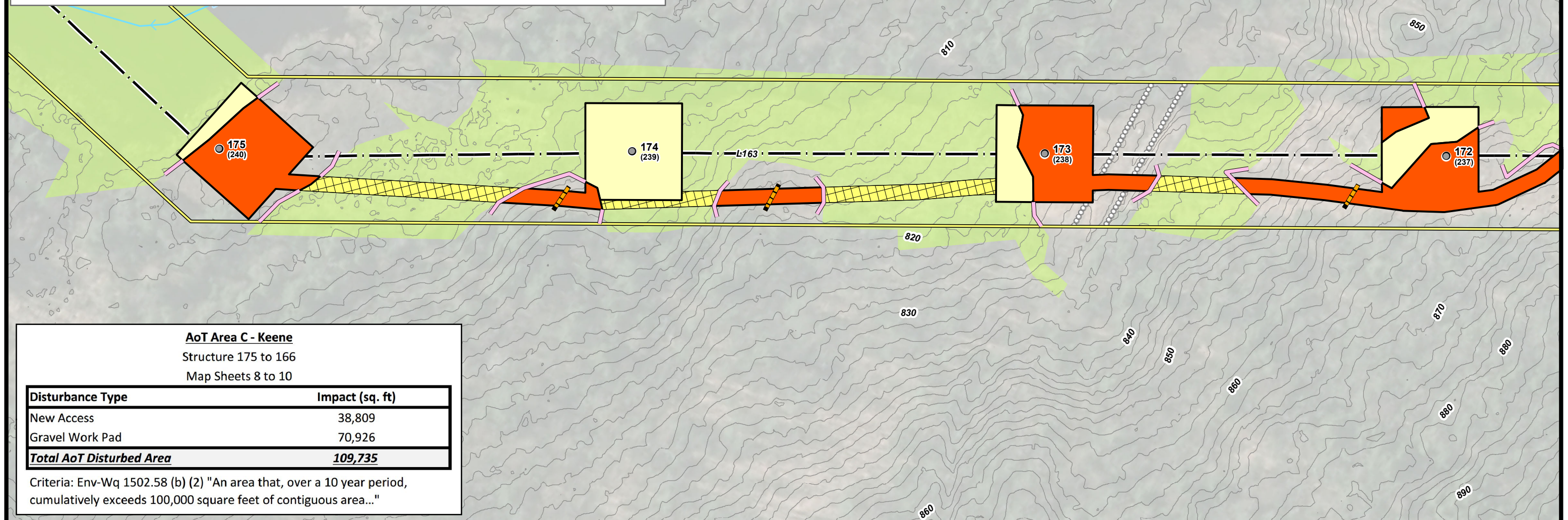
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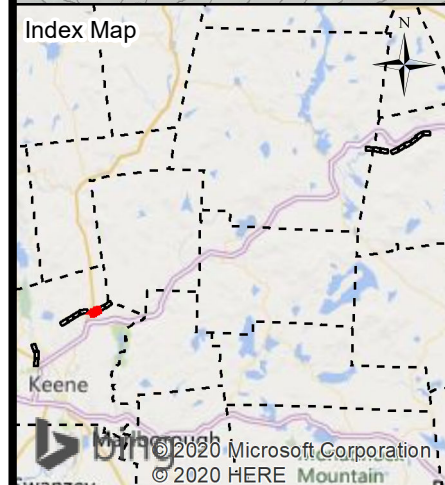


AoT Area C - Keene

Structure 175 to 166
Map Sheets 8 to 10

Disturbance Type	Impact (sq. ft)
New Access	38,809
Gravel Work Pad	70,926
Total AoT Disturbed Area	109,735

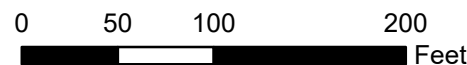
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- TEMPORARY WETLAND IMPACT
- GATE
- POTENTIAL VERNAL POOL
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ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 8 OF 20

Project No.: 04.0190923.05

1 inch = 100 Feet



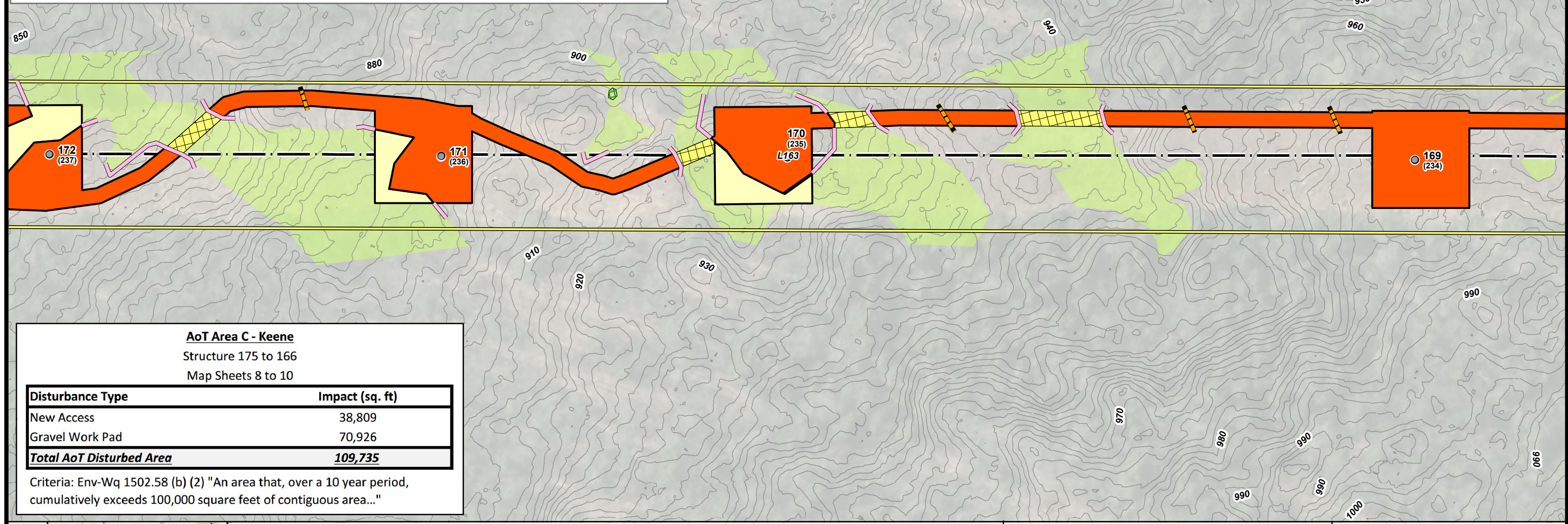
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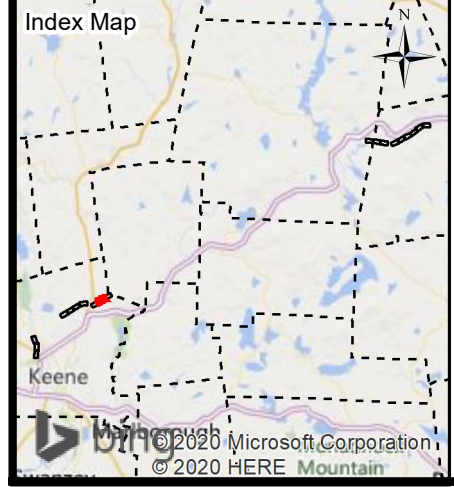
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AoT Area C - Keene
Structure 175 to 166
Map Sheets 8 to 10

Disturbance Type	Impact (sq. ft)
New Access	38,809
Gravel Work Pad	70,926
Total AoT Disturbed Area	109,735

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area..."



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- AOT DISTURBANCE AREA
- TEMPORARY WETLAND IMPACT
- GATE
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- EVERSOURCE TRANSMISSION LINE
- APPROXIMATE ROW
- X-X-X FENCE
- STONE WALL
- WETLAND
- SUBSTATION
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0 50 100 200 Feet

**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

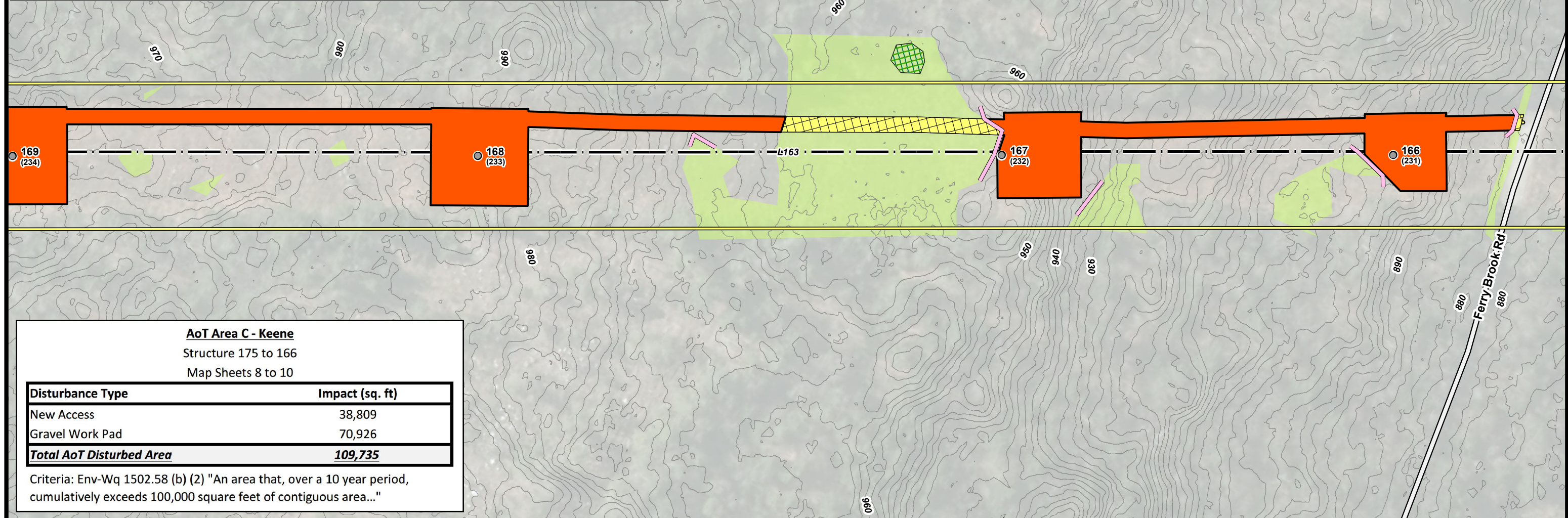
KEENE, STODDARD & ANTRIM,
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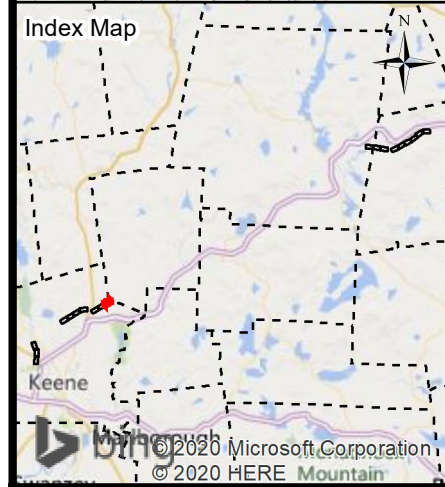
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AoT Area C - Keene
Structure 175 to 166
Map Sheets 8 to 10

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New Access	38,809
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■ AOT DISTURBANCE AREA	— NHD FLOWLINE
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**L163 TRANSMISSION LINE
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REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
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KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 10 OF 20

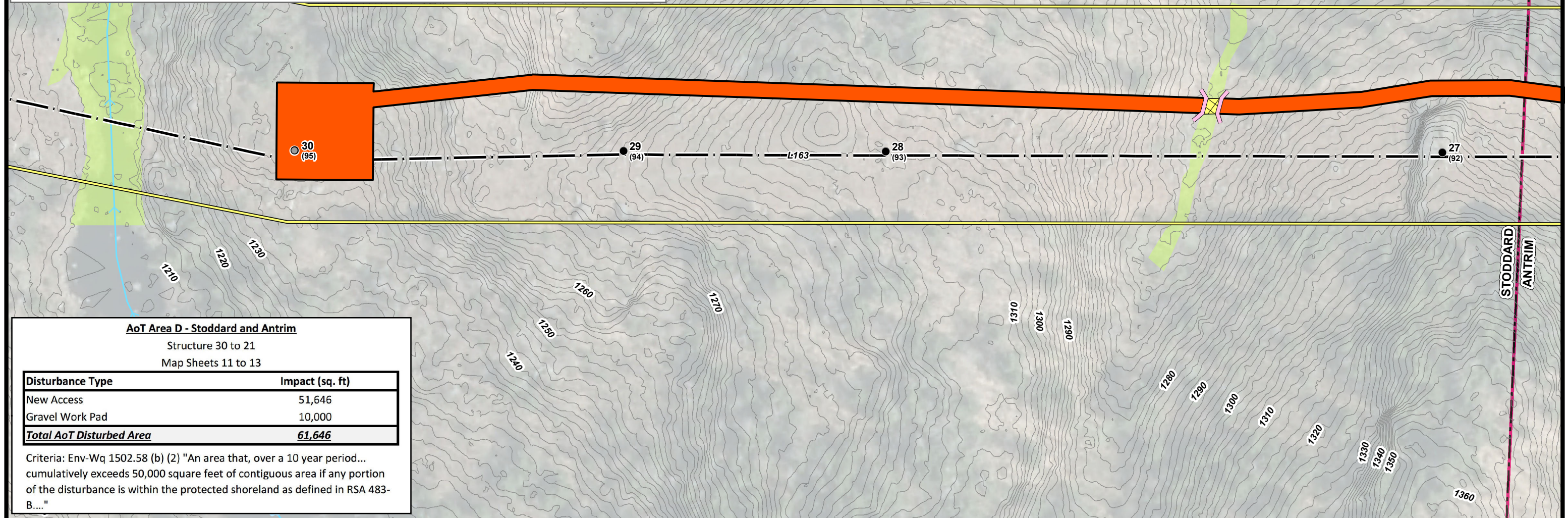
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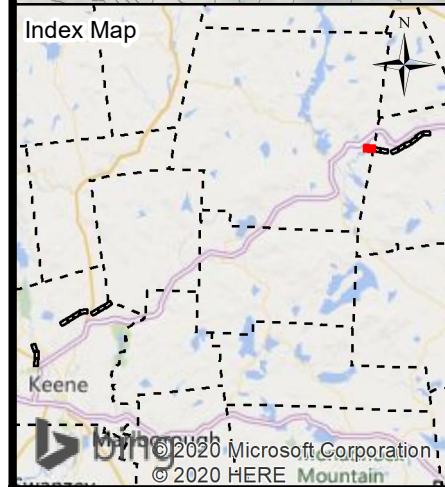


AoT Area D - Stoddard and Antrim

Structure 30 to 21
Map Sheets 11 to 13

Disturbance Type	Impact (sq. ft)
New Access	51,646
Gravel Work Pad	10,000
Total AoT Disturbed Area	61,646

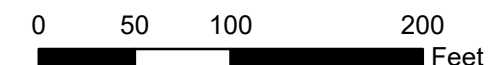
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- WORK PAD
- AOT DISTURBANCE AREA
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- APPROXIMATE ROW
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- ○ ○ ○ ○ STONE WALL
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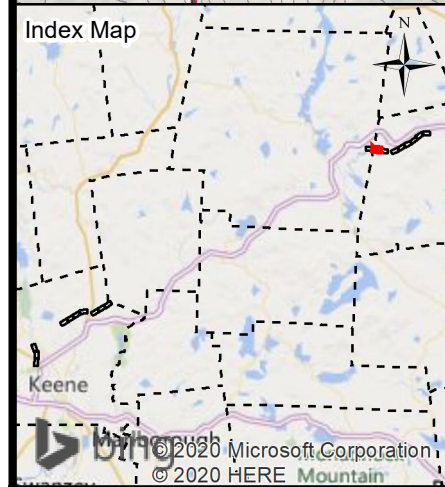
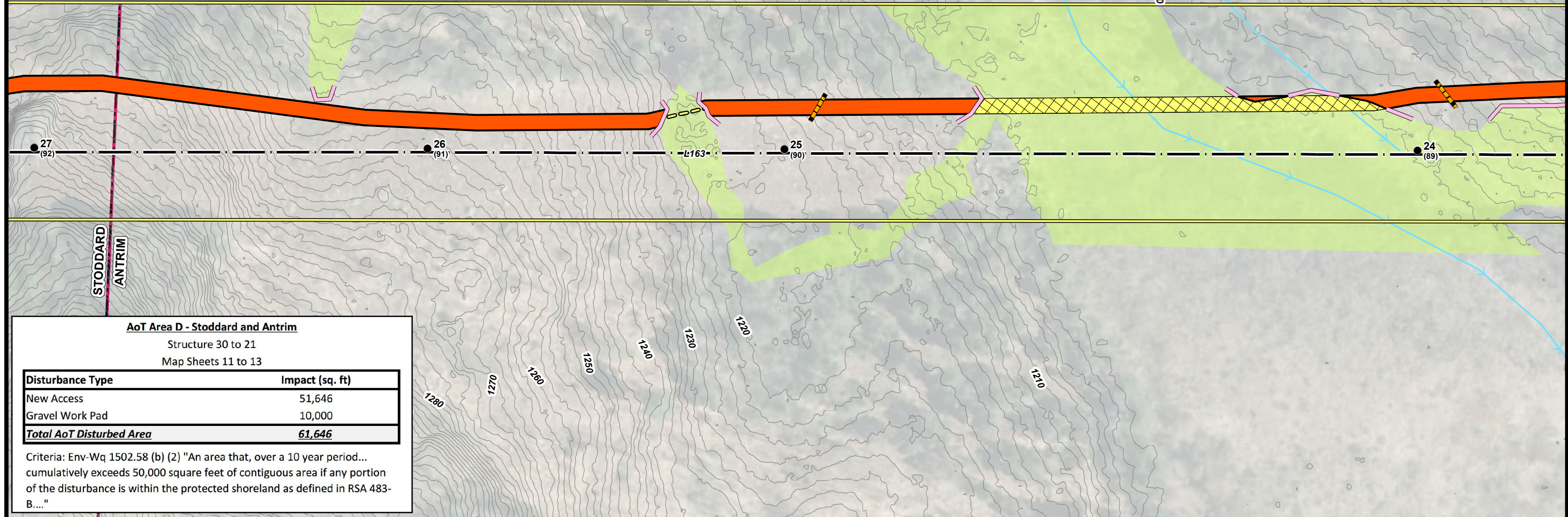
**L163 TRANSMISSION LINE
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ALTERATION OF TERRAIN
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APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
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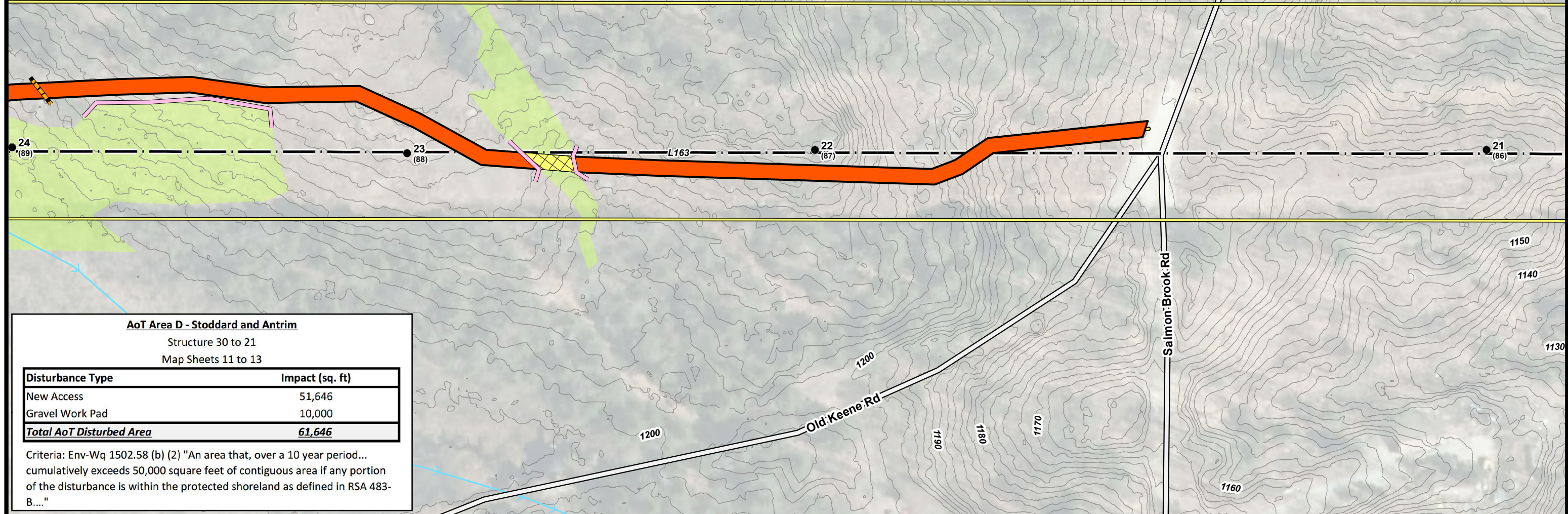
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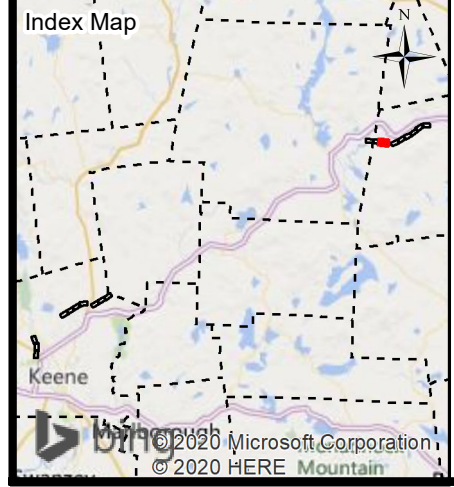
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AoT Area D - Stoddard and Antrim
Structure 30 to 21
Map Sheets 11 to 13

Disturbance Type	Impact (sq. ft)
New Access	51,646
Gravel Work Pad	10,000
Total AoT Disturbed Area	61,646

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period... cumulatively exceeds 50,000 square feet of contiguous area if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B...."

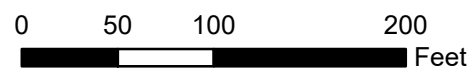


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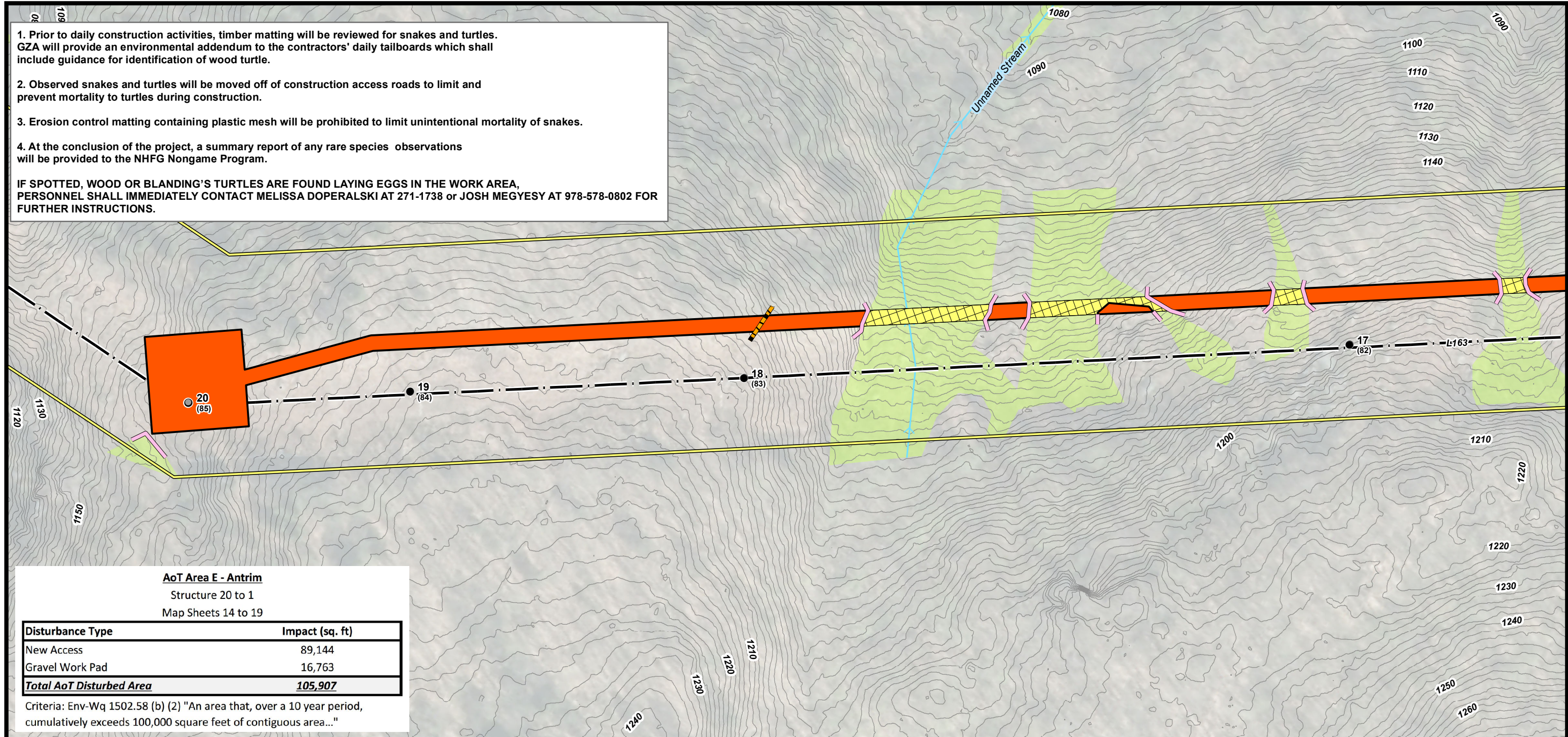
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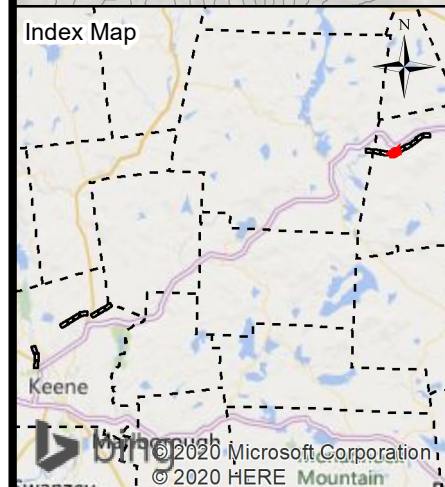
AoT Area E - Antrim

Structure 20 to 1

Map Sheets 14 to 19

Disturbance Type	Impact (sq. ft)
New Access	89,144
Gravel Work Pad	16,763
Total AoT Disturbed Area	105,907

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area..."

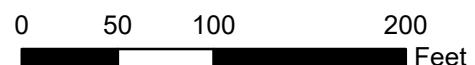


← Keene Current Town: Antrim Hillsborough →

- EXISTING STRUCTURE - NO WORK PROPOSED
- EXISTING STRUCTURE TO BE REPLACED
- EXISTING STRUCTURE TO BE WRECKED OUT
- WORK PAD
- AOT DISTURBANCE AREA
- TEMPORARY WETLAND IMPACT
- GATE
- POTENTIAL VERNAL POOL
- EVERSOURCE TRANSMISSION LINE
- APPROXIMATE ROW
- X-X-X FENCE
- STONE WALL
- WETLAND
- SUBSTATION
- DOT ROADS
- NHD FLOWLINE
- PRIMARY ACCESS
- SECONDARY ACCESS
- 2 FT CONTOURS
- STRAW WATTLE
- WATER BAR
- TOWN BOUNDARY

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**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 14 OF 20

Project No.: 04.0190923.05

1 inch = 100 Feet



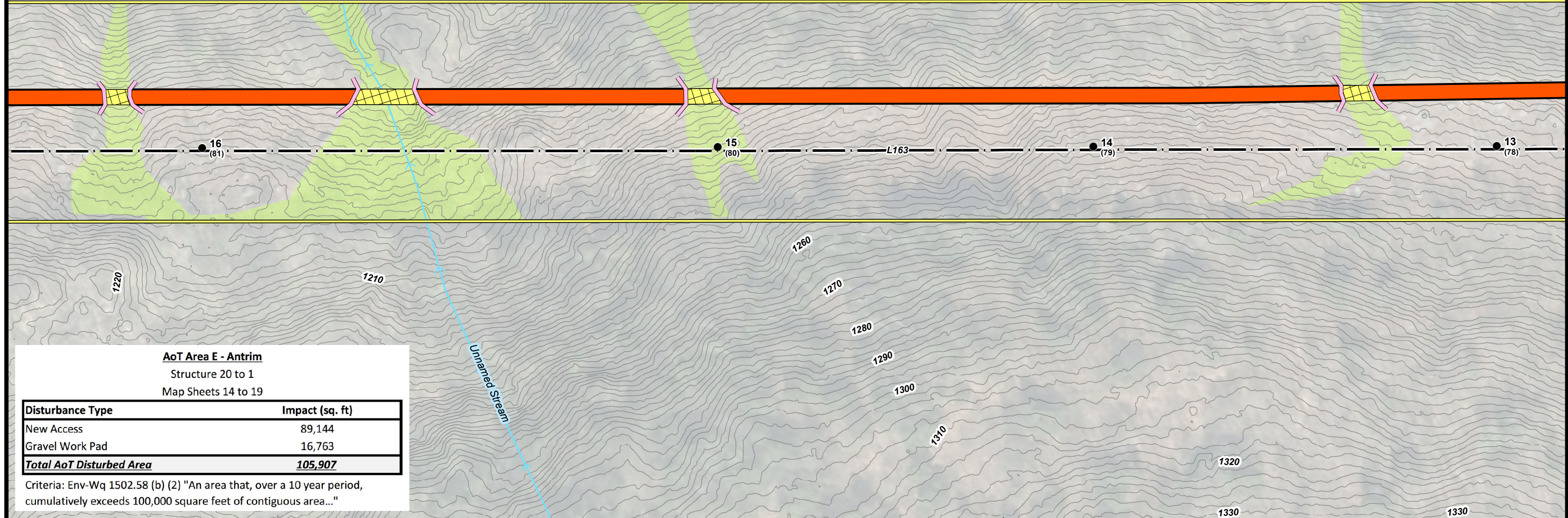
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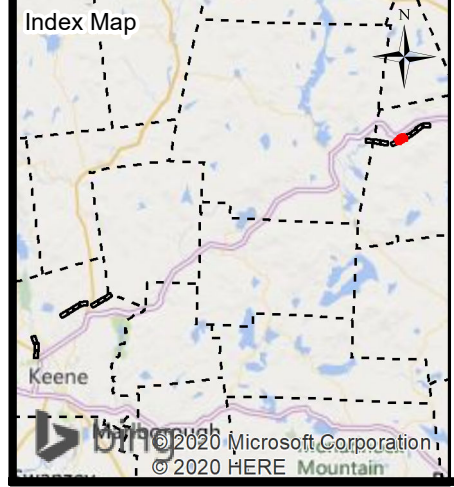
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AoT Area E - Antrim
 Structure 20 to 1
 Map Sheets 14 to 19

Disturbance Type	Impact (sq. ft)
New Access	89,144
Gravel Work Pad	16,763
Total AoT Disturbed Area	105,907

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area..."



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- AOT DISTURBANCE AREA
- TEMPORARY WETLAND IMPACT
- GATE
- POTENTIAL VERNAL POOL
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0 50 100 200 Feet

**L163 TRANSMISSION LINE
 2020 STRUCTURE
 REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
 PERMITTING PLANS
 APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
 NEW HAMPSHIRE
 PAGE 15 OF 20

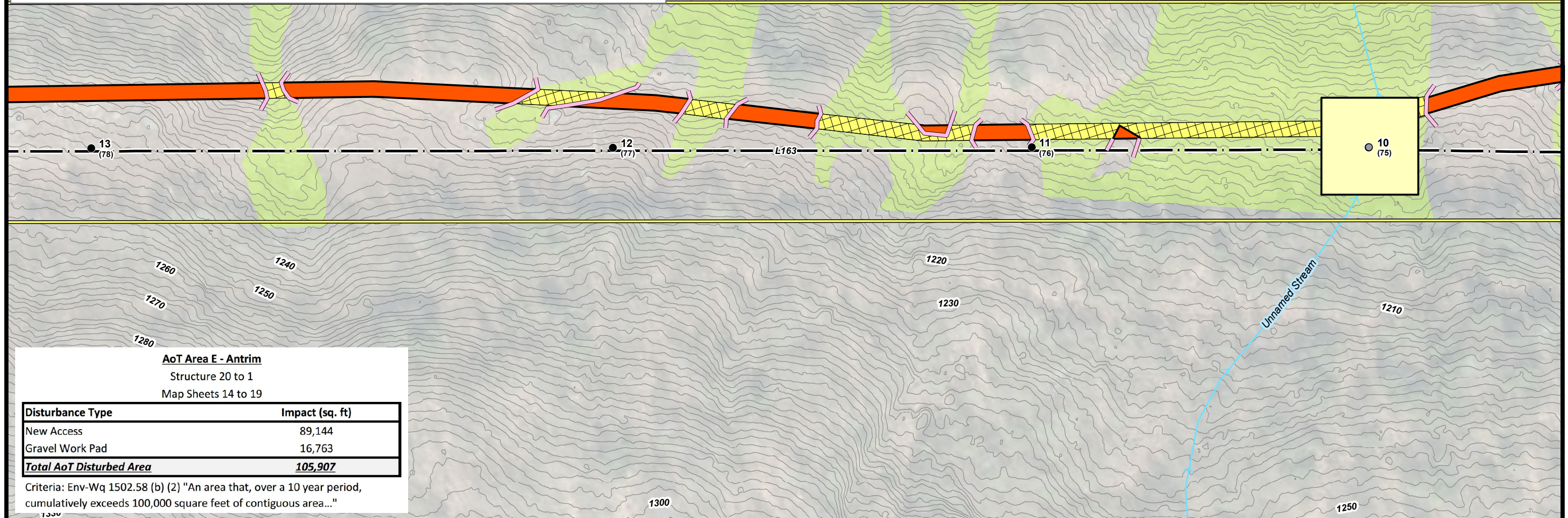
Project No.: 04.0190923.05 1 inch = 100 Feet

EVERSOURCE ENERGY

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

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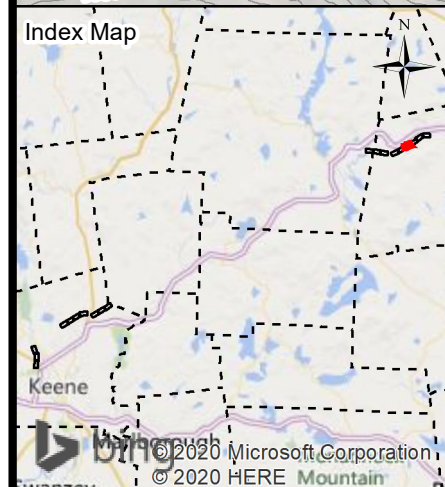
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AoT Area E - Antrim
Structure 20 to 1
Map Sheets 14 to 19

Disturbance Type	Impact (sq. ft)
New Access	89,144
Gravel Work Pad	16,763
Total AoT Disturbed Area	105,907

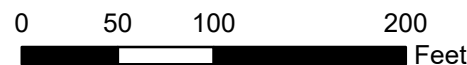
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**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

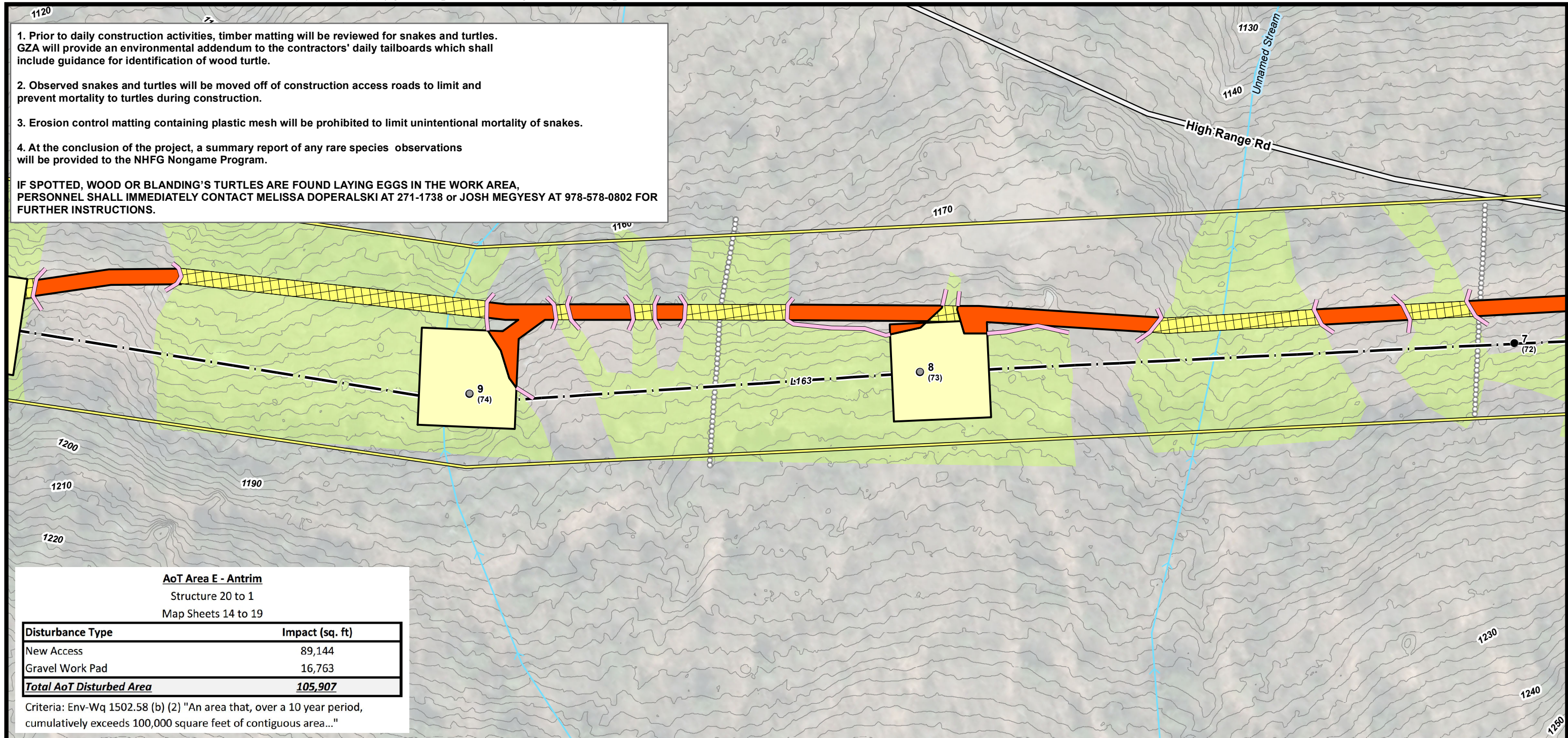
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 16 OF 20

Project No.: 04.0190923.05

1 inch = 100 Feet



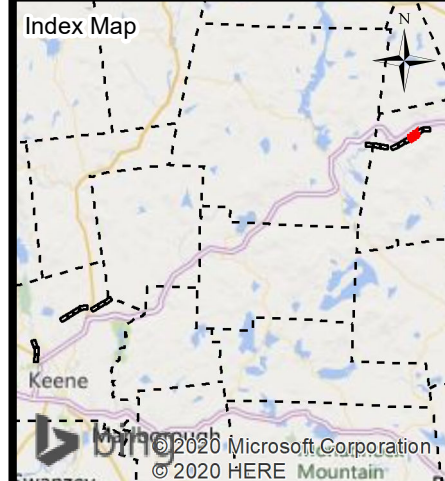
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AoT Area E - Antrim
Structure 20 to 1
Map Sheets 14 to 19

Disturbance Type	Impact (sq. ft)
New Access	89,144
Gravel Work Pad	16,763
Total AoT Disturbed Area	105,907

Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area..."



- | | |
|---|---|
| <ul style="list-style-type: none"> ● EXISTING STRUCTURE - NO WORK PROPOSED ● EXISTING STRUCTURE TO BE REPLACED ● EXISTING STRUCTURE TO BE WRECKED OUT ■ WORK PAD ■ AOT DISTURBANCE AREA ■ TEMPORARY WETLAND IMPACT ■ GATE ■ POTENTIAL VERNAL POOL — EVERSOURCE TRANSMISSION LINE — APPROXIMATE ROW — FENCE | <p>Current Town: Antrim</p> <ul style="list-style-type: none"> ○ STONE WALL ■ WETLAND ■ SUBSTATION — DOT ROADS — NHD FLOWLINE — PRIMARY ACCESS — SECONDARY ACCESS — 2 FT CONTOURS — STRAW WATTLE — WATER BAR — TOWN BOUNDARY |
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- 0 50 100 200 Feet

**L163 TRANSMISSION LINE
2020 STRUCTURE
REPLACEMENT PROJECT**

ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

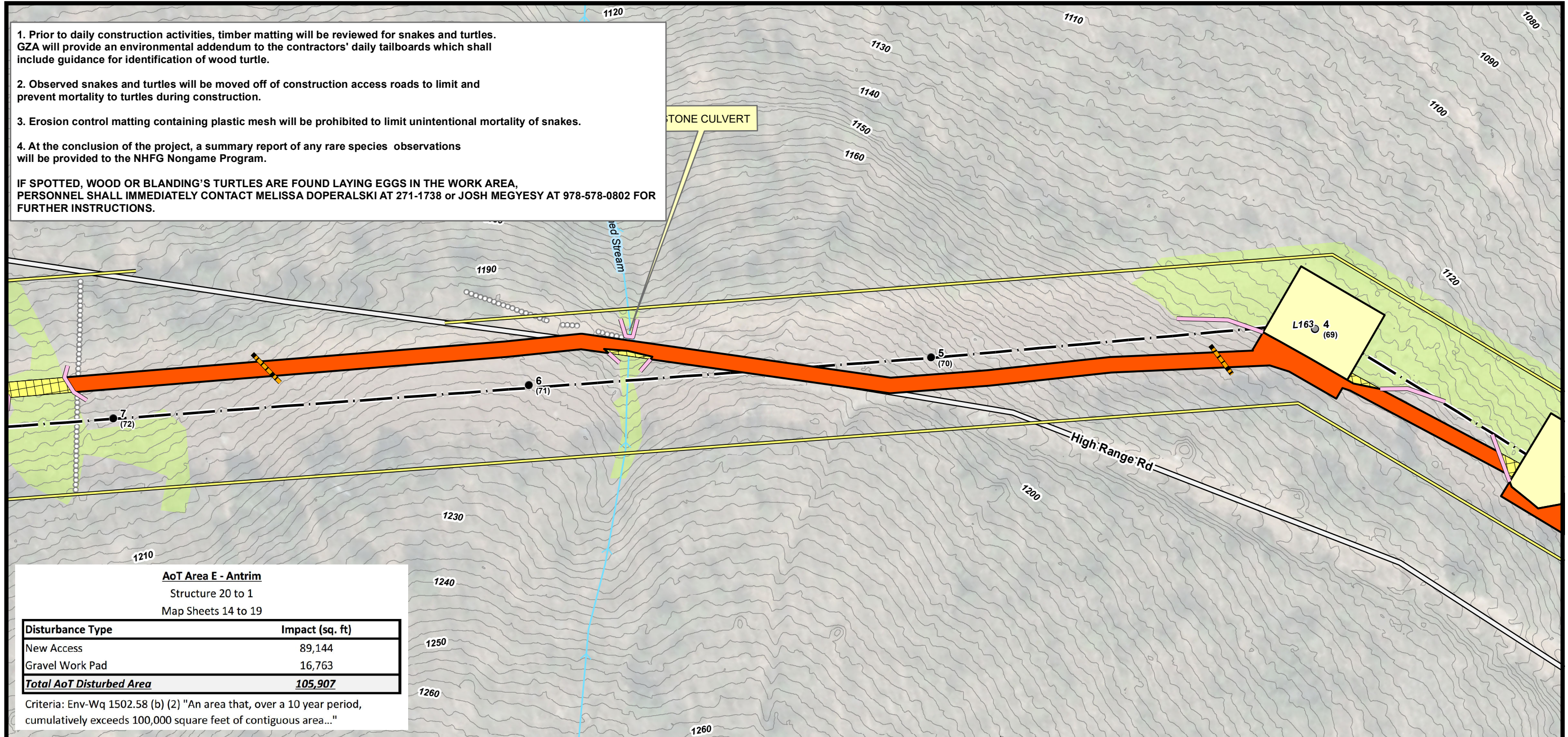
KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 17 OF 20

Project No.: 04.0190923.05



1 inch = 100 Feet

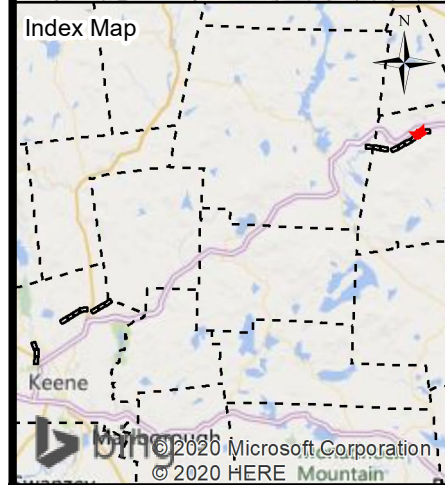
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AoT Area E - Antrim
Structure 20 to 1
Map Sheets 14 to 19

Disturbance Type	Impact (sq. ft)
New Access	89,144
Gravel Work Pad	16,763
Total AoT Disturbed Area	105,907

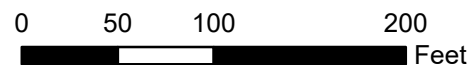
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■ WORK PAD	— DOT ROADS
■ AOT DISTURBANCE AREA	→ NHD FLOWLINE
■ TEMPORARY WETLAND IMPACT	→ PRIMARY ACCESS
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ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 18 OF 20

Project No.: 04.0190923.05

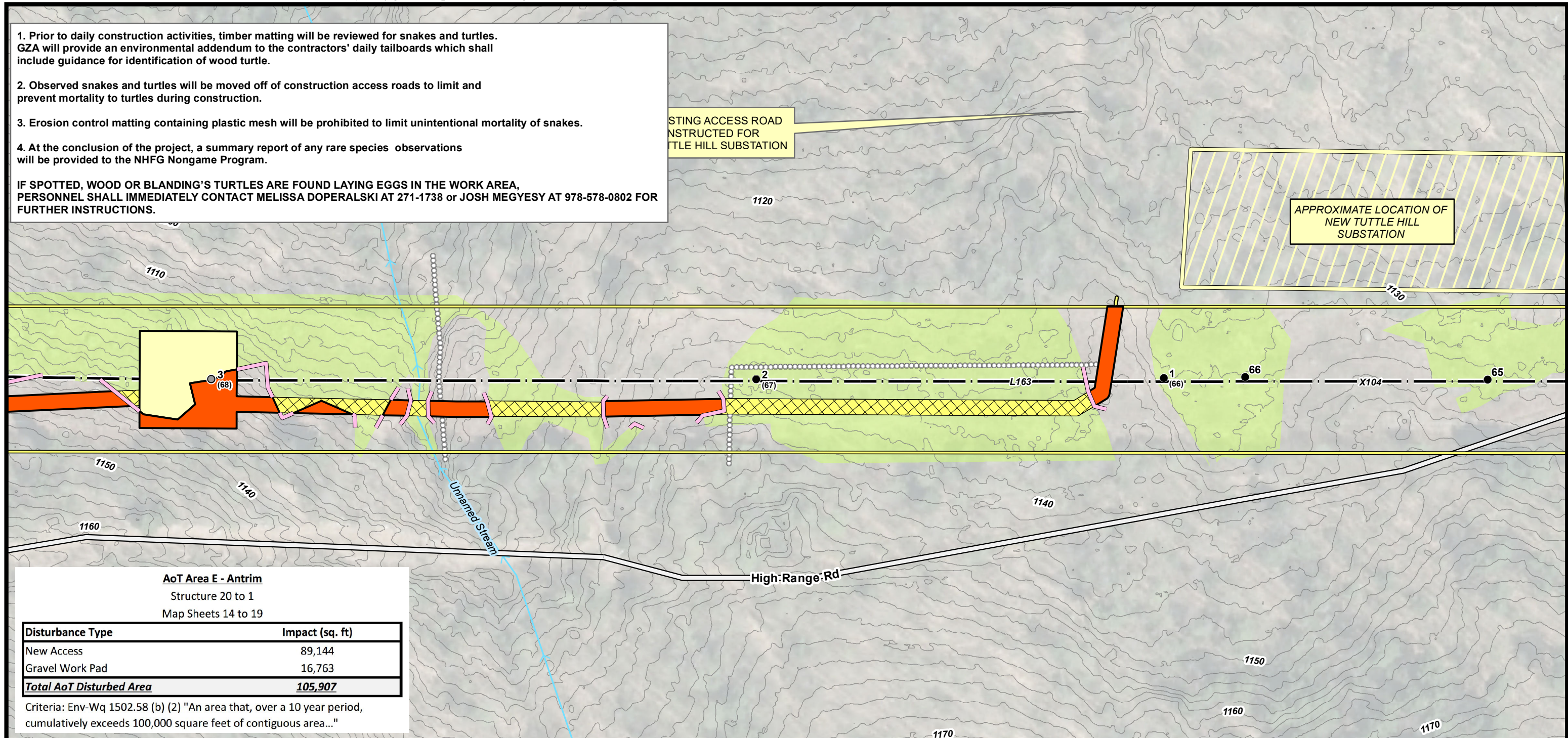
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EXISTING ACCESS ROAD
CONSTRUCTED FOR
TUTTLE HILL SUBSTATION

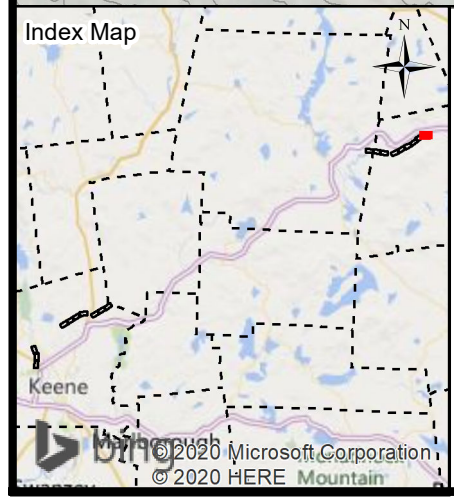
APPROXIMATE LOCATION OF
NEW TUTTLE HILL
SUBSTATION



AoT Area E - Antrim
Structure 20 to 1
Map Sheets 14 to 19

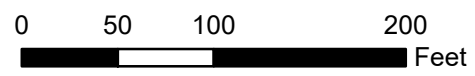
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KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 19 OF 20

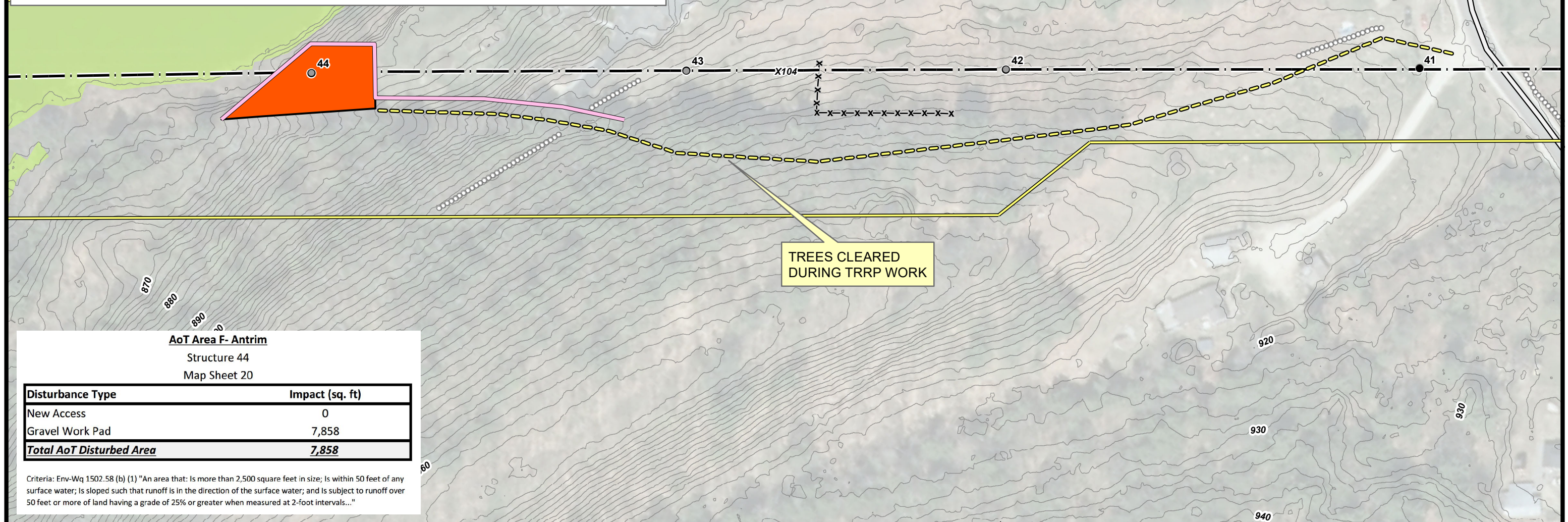
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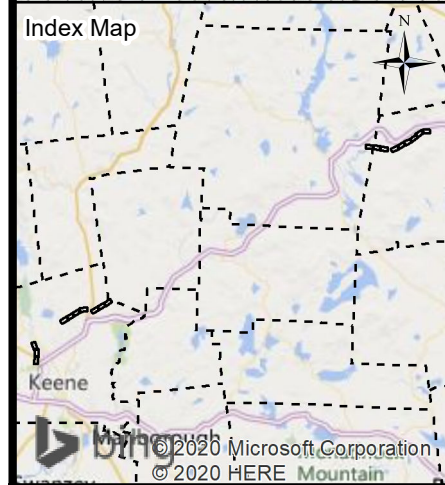
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AoT Area F- Antrim
Structure 44
Map Sheet 20

Disturbance Type	Impact (sq. ft)
New Access	0
Gravel Work Pad	7,858
Total AoT Disturbed Area	7,858

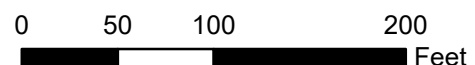
Criteria: Env-Wq 1502.58 (b) (1) "An area that: Is more than 2,500 square feet in size; Is within 50 feet of any surface water; Is sloped such that runoff is in the direction of the surface water; and Is subject to runoff over 50 feet or more of land having a grade of 25% or greater when measured at 2-foot intervals..."



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● EXISTING STRUCTURE TO BE WRECKED OUT	▭ SUBSTATION
■ WORK PAD	— DOT ROADS
■ AOT DISTURBANCE AREA	→ NHD FLOWLINE
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ALTERATION OF TERRAIN
PERMITTING PLANS
APRIL 03, 2020

KEENE, STODDARD & ANTRIM,
NEW HAMPSHIRE
PAGE 20 OF 20

Project No.: 04.0190923.05

1 inch = 100 Feet



© 2020 - GZA GeoEnvironmental, Inc. P:\04 Jobs\0190923.00 - Eversource\MSA\04.0190923.05 - L163 Transmission Line - Structure Replmt Proj\Figures\GIS 2019_2020\MXD\L163 AOT NOTESHEET 1.mxd, 1/16/2020, 10:55:52 AM, matthew.deane

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.
3. 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.
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 WITH COMPLETE REHABILITATION OF THE AFFECTED AREA.
6. ACCESS ROUTES HAVE BEEN SELECTED TO PREVENT DEGRADATION OF THE RIGHT-OF-WAY AND MINIMIZE ENVIRONMENTAL IMPACT. ALL OPERATIONS SHALL BE CONFINED TO THE SPECIFIED ACCESS ROUTES WITHIN THE PROPOSED WETLAND IMPACT AREA. ALL 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 SWAMP MATS WHERE REQUIRED.
8. ALL 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.
9. SWAMP MATS WILL BE USED ALONG ALL ACCESS ROUTES 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 SWAMP 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. IF SWAMP 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.
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. 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.
13. 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.
14. INSTALL NEW POLES IN THE LOCATIONS DESIGNATED ON THE PERMITTING PLANS.
15. 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.
16. 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.
17. ALL SWAMP MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.
18. 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.
19. 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.
20. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.

WINTER CONSTRUCTION NOTES

1. ALL 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. 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 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).

GENERAL NOTES:

OWNER: EVERSOURCE ENERGY
13 LEGENDS DRIVE
HOOKSETT, NH 03106

1. BASE PLAN PROVIDED BY EVERSOURCE ENERGY. EVERSOURCE ENERGY PROVIDED THE WETLAND DATA. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.
2. JURISDICTIONAL WETLANDS WERE DELINEATED BY TIGHE AND BOND IN 2018, 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 WERE REVIEWED BY GZA GEOENVIRONMENTAL, INC. IN JANUARY AND FEBRUARY 2019.
3. GZA EVALUATED WETLANDS AS POTENTIAL VERNAL POOLS ON FEBRUARY 6, 12, AND 15, 2019 IN ACCORDANCE WITH "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE," 1997, NEW HAMPSHIRE FISH AND GAME DEPARTMENT, NONGAME AND ANDANGERED WILDLIFE PROGRAM.
4. GZA PERFORMED A WETLANDS FUNCTION AND VALUES ASSESSMENT IN ACCORDANCE WITH THE ACOE'S "HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT," SEPTEMBER 1999, IN THE TOWN OF STRAFFORD.
5. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
6. THE PROJECT WILL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
7. IN ACCORANCE 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.
8. ALL AREAS SHALL BE STABILIZED WITH 45 DAYS OF INITIAL DISTURBANCE.

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. 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 AGAINST EROSION, AS NECESSARY.
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 ANNUAL RYEGRASS PRIOR TO OCTOBER 15TH.
6. EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.

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L163 TRANSMISSION LINE STRUCTURE REPLACEMENT PROJECT

KEENE, STODDARD, AND ANTRIM
NEW HAMPSHIRE

NOTES

PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: EVSOURCE ENERGY	
PROJ MGR: AJD	REVIEWED BY: LEW	CHECKED BY: DMZ	SHEET 1 1 OF 3
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 01/16/2020	PROJECT NO: 04.0190923.05	REVISION NO:	

© 2020 - GZA GeoEnvironmental, Inc. P:\04\jobs\01909023\04_0190923_05 - L163 Transmission Line - Structure Replmt Proj\Figures\GIS 2019_2020\MXD\L163 AOT NOTESHEET 2 - BMPs.mxd, 1/16/2020, 10:58:12 AM, matthew.deane

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:

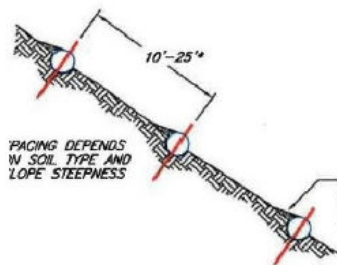
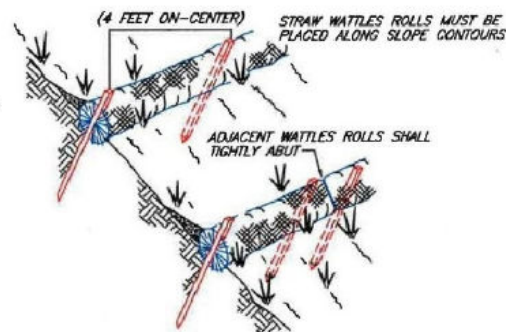
- * Along erodible or unstabilized slopes
- * Spread overland waterflow
- * Trap sediment
- * Around storm drain inlets to slow water and settle out sediment
- * Overlap ends approximately 6 inches

Installation:

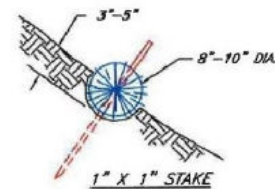
Straw wattles are installed parallel to slope contours and perpendicular to sheet flow.

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

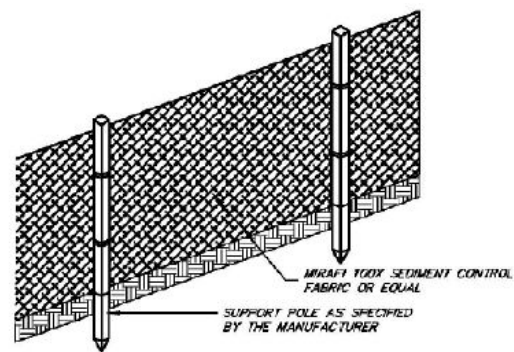
Trenching - 2"-5" inch trench
Stacking - at each end and four foot on center (i.e. 25 foot wattle uses 6 stacks)



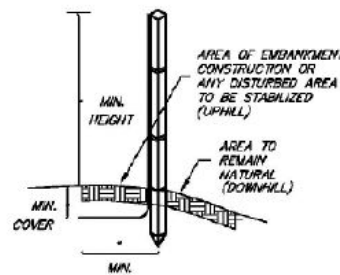
SEDIMENT, ORGANIC MATTER, AND NATIVE SEEDS ARE CAPTURED BEHIND THE WATTLE ROWS.



NOT TO SCALE



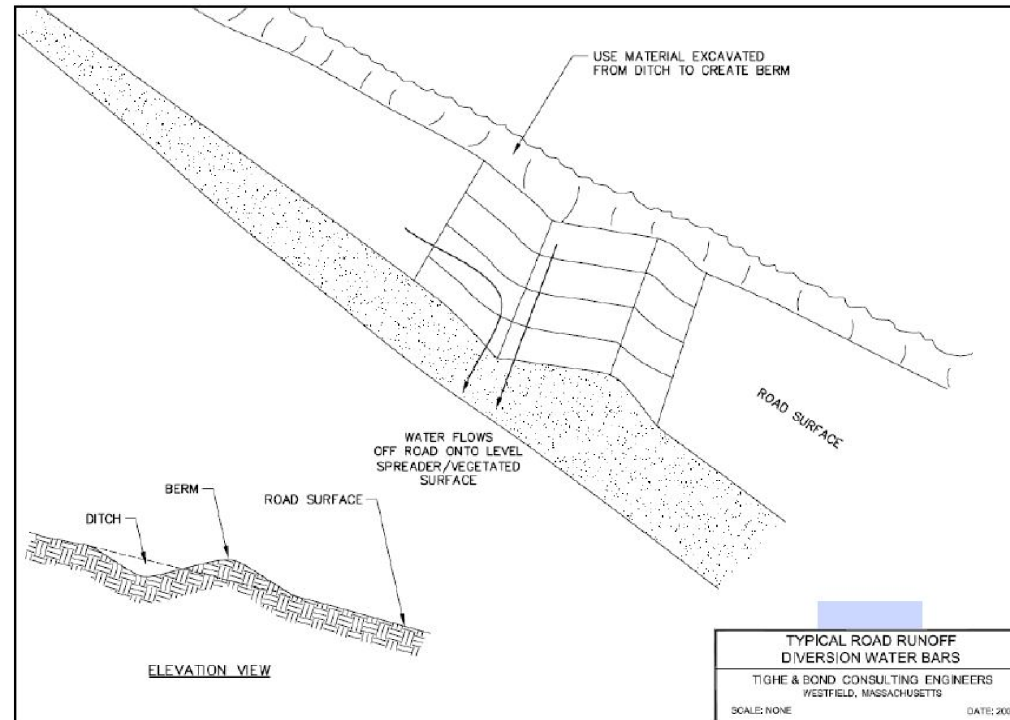
FRONT VIEW



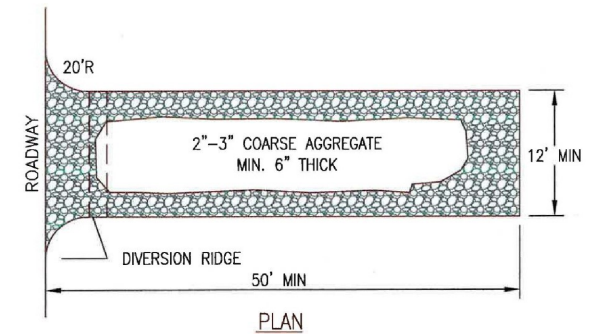
SIDE VIEW

NOTES (SILT FENCE)

1. THE HEIGHT OF THE BARRIER SHALL NOT EXCEED 36 INCHES.
2. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED. SEE MANUFACTURER'S RECOMMENDATIONS.
3. 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). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL BE AS MANUFACTURER RECOMMENDS.
4. 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
5. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE, AND WILL EXTEND A MINIMUM OF 8 INCHES INTO THE TRENCH. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
7. FABRIC BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
8. 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.
9. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
10. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
11. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.



TYPICAL ROAD RUNOFF DIVERSION WATER BARS
TIGHE & BOND CONSULTING ENGINEERS
WESTFIELD, MASSACHUSETTS
SCALE: NONE DATE: 2007



- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

CONSTRUCTION ENTRANCE

NOT TO SCALE

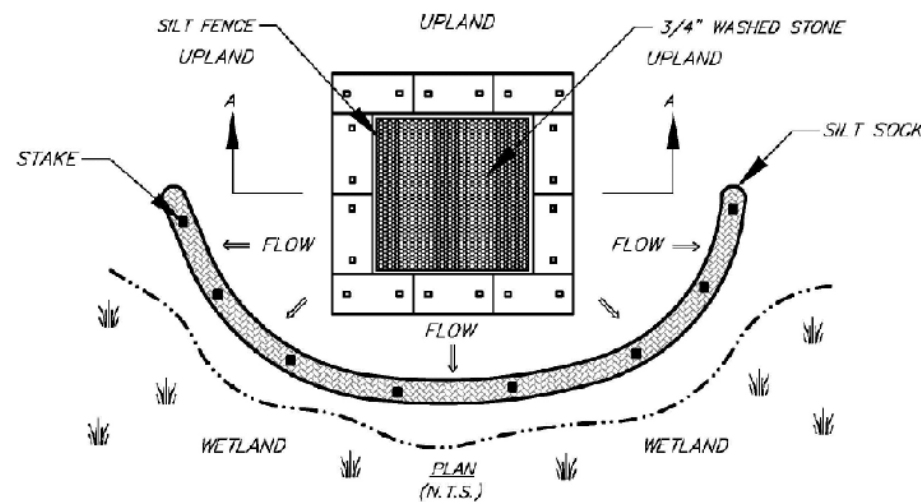
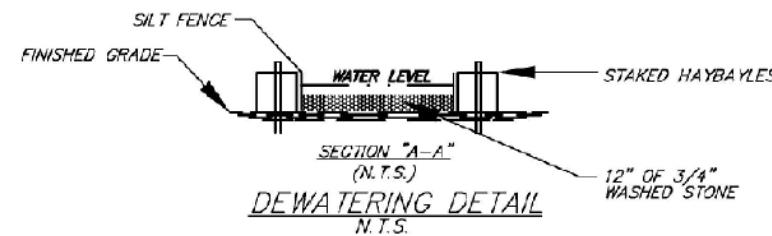


Figure 5



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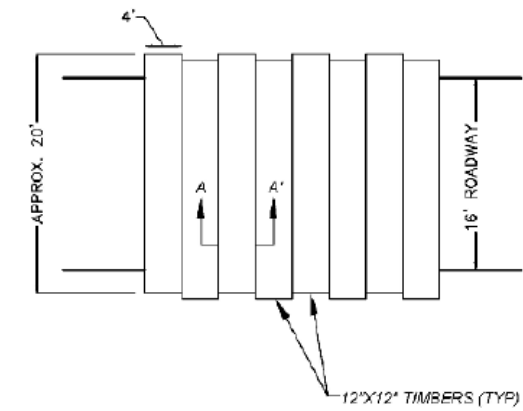
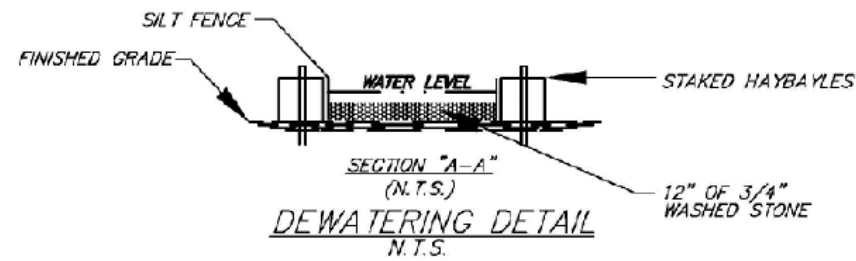
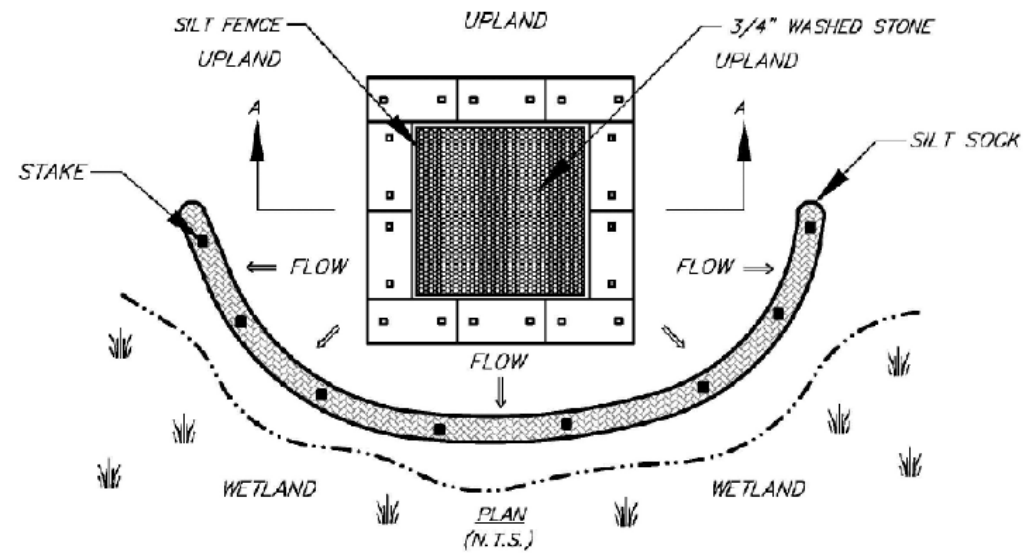
KEENE, STODDARD, AND ANTRIM
NEW HAMPSHIRE

BMP DETAILS

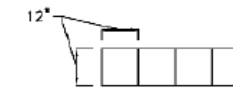
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
EVERSOURCE
ENERGY

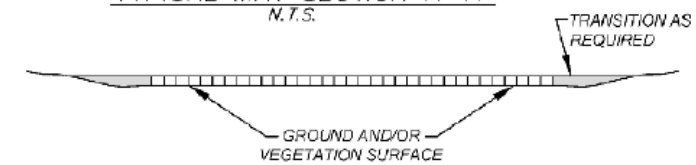
PROJ MGR: AJD	REVIEWED BY: LEW	CHECKED BY: DMZ	SHEET 2
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 01/16/2020	PROJECT NO: 04.0190923.05	REVISION NO:	



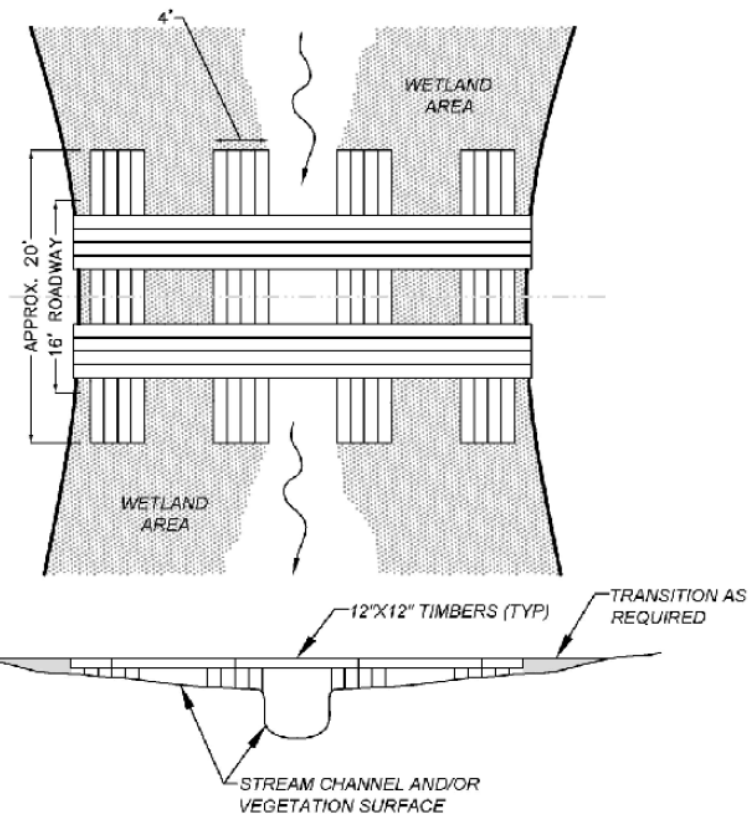
TYPICAL SWAMP MAT PLAN VIEW
N.T.S.



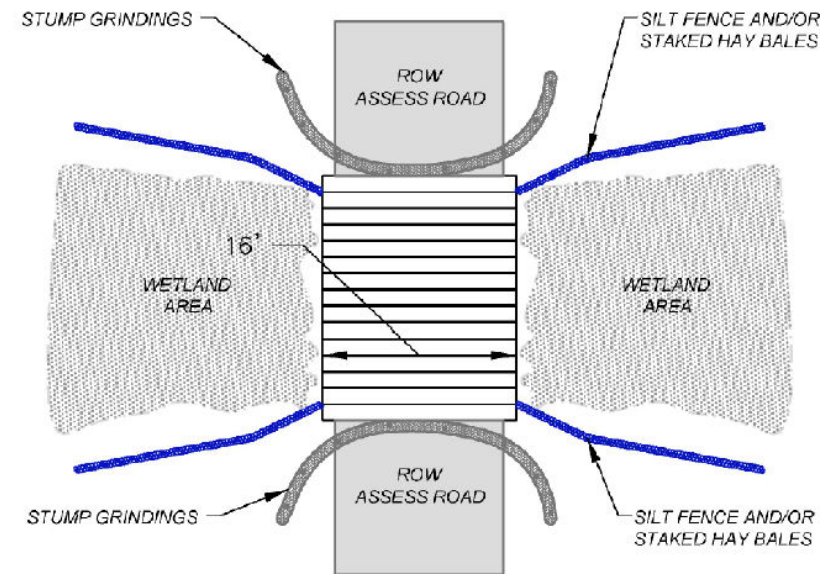
TYPICAL MAT SECTION A-A
N.T.S.



TYPICAL SWAMP MAT SECTION DETAIL
N.T.S.



TYPICAL STREAM CROSSING
N.T.S.



TYPICAL WETLAND CROSSING
N.T.S.

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NEW HAMPSHIRE

BMP DETAILS

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ENERGY

PROJ MGR: AJD	REVIEWED BY: LEW	CHECKED BY: DMZ	SHEET 3
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