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www.gza.com



November 16, 2021  
File No. 04.0190999.64

City of Portsmouth  
Planning Board  
Attn: Dexter Legg, Chairman  
1 Junkins Ave, 3<sup>rd</sup> Floor  
Portsmouth, New Hampshire 03801

Re: Conditional Use Permit Application  
Eversource Energy  
2021 E194, U181, & 3135 Transmission Line Structure  
Replacement Project  
Portsmouth, New Hampshire

Dear Chairman Legg:

This letter transmits a Conditional Use Permit Application on behalf of Public Service Company of New Hampshire doing business as Eversource Energy (Eversource), for the E194, U181, & 3135 Transmission Line Structure Replacement Project (see attached **Figure 1, Locus Plan**). On behalf of Eversource, GZA GeoEnvironmental, Inc. (GZA) is requesting consideration of a Conditional Use Permit Application for required impacts within the City of Portsmouth.

The proposed project includes the replacement of eight utility structures along the existing E194, U181, & 3135 Transmission Lines in Portsmouth, New Hampshire. The E194 and U181 Transmission Line ROW is approximately 5.5 miles in length, beginning at the Schiller Substation and ending at Ocean Road Substation in Portsmouth, New Hampshire, and has a width of approximately 300 feet. The 3135 Transmission Line ROW is approximately 12.8 miles in length, beginning at the Newington Substation in Newington, NH and ending at Timber Swamp Substation in Hampton, New Hampshire, and has a width of approximately 170-300 feet. The 3135 Transmission Line runs parallel to the U181 and E194 Transmission Lines through Newington and Portsmouth and breaks off just north of the Portsmouth and Greenland town line. See **Figure 2 – Access and Permitting Plans** for a depiction of the proposed project. The Site crosses through residential, commercial, and rural properties, as well as three public roads including Gosling Road, Borthwick Avenue, and Greenland Avenue. Natural cover within the ROW includes upland shrublands and wetland emergent and scrub-shrub habitats.



In total, the proposed project requires approximately 98,984 sq. ft. of temporary wetland impact for equipment access and work pad placement. The proposed project also requires 25,224 sq. ft. of temporary buffer impact in uplands for access and work pad placement. A summary of proposed wetland and buffer impacts is provided in the table below.

**Table 1 – Summary of Wetland and Surface Water Buffer Impacts**

Wetland ID	Classification	Temporary Wetland Impact (sq. ft.)	Temporary Upland Buffer Impact (sq. ft.)
PW-6	PEM1/5H	33,740	12,146
PW-11	PEM1E/PSS1E	52,229	11,447
PW-28	PEM1E/PSS1E	13,015	1,631
<b>Total</b>		<b>98,984</b>	<b>25,224</b>

**Key to classifications:**

- P = palustrine wetland system
- SS = scrub-shrub, 1 = broad-leaved deciduous
- EM = emergent, 1= persistent, 5 = Phragmites

**Modifiers**

- E = nontidal, seasonally flooded/saturated
- H = permanently flooded

The proposed project is necessary in order to support current and future electricity demands in the region. The proposed structure replacements were selected based on a line load modeling evaluation completed by Eversource. The existing wood structures will be replaced with wood equivalent steel structures in order to increase the long-term reliability of the line. There are no proposed expansions to the ROW or construction of new lines associated with this project. In addition, work is proposed within an existing and maintained utility ROW, and therefore tree removal is not anticipated as part of this project. Pole replacements will be on average 5-10-ft higher than existing poles due to updated National Electric Safety Code Standards. Work is proposed to begin in March 2022 and pending emergencies and weather-related delays, the proposed project will be completed by early summer 2022.

In addition to this Conditional Use Permit, Eversource will also be filing a Statutory Permit by Notification (SPN) with the Department of Environmental Services (DES) Wetlands Bureau.

Wetlands were delineated by GZA in 2016 and confirmed in 2021 in accordance with the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual using the Routine Determinations Method, and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual as required by the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau and the USACE. GZA photographed resources and recorded data relevant to functions and values provided by these natural resources within the ROW in October 2021. GZA classified wetlands in accordance with the “Classification of Wetlands and Deepwater Habitats of United States” (Federal Geographic Committee, 2013).

Where proposed access and work pads are located within existing wetlands and adjacent 100-ft wetland buffer areas, timber matting will be utilized to minimize and prevent rutting and compaction within wetlands



and wetland buffers. Work will be conducted in accordance with NHDES Best Management Practices Manual for Utilities in and Adjacent to Wetlands and Waterbodies (March 2019). Prior to placement of timber matting within wetlands and wetland buffers, timber mats will be reviewed to ensure cleanliness to prevent spread of invasive plant species. Upon completion of work, timber matting will be removed and temporarily impacted wetlands and wetland buffers will be stabilized with straw and will be restored using a native herbaceous seed mix.

In accordance with the City of Portsmouth Zoning Ordinance, Article 10, section 10.1017.60, a Conditional Use Permit may be issued by the Planning Board for the construction of Public and Private Utilities within Rights-of-Ways in wetlands and wetland buffers provided that certain conditions are satisfied. The following section describes how the proposed project meets the stated conditions.

- A. *The proposed construction is in the public interest.*** The proposed project is necessary to maintain the power supply of the existing transmission line. The existing lines are approximately 67 years old and select poles must be replaced due to horizontal splitting, rotting, and woodpecker holes. If the work is not conducted, the utility poles could eventually fail and prevent power transmission. The project will improve the existing transmission line and increase reliability. This project does not propose expansion of the existing utility line ROW and does not include the construction of new lines. The project is maintenance of existing infrastructure within an existing and maintained utility ROW.
- B. *Design, construction, and maintenance methods will utilize best management practices to minimize any detrimental impact of such use upon the wetland and will include restoration of the site as nearly as possible to its original grade, condition, and vegetated state.*** As previously mentioned, the proposed work will be conducted in accordance with NHDES Best Management Practices Manual for Utilities in and Adjacent to Wetlands and Waterbodies (March 2019). The access for the project has been sited to avoid prime wetlands and prime wetland buffers to the greatest extent feasible. In addition, the project utilizes existing access trails within the ROW to limit and prevent new disturbance. Where access ways temporarily cross a wetland or wetland buffer, the proposed project has been designed to minimize temporary wetland impacts through the use of timber matting. Matting will be temporarily placed in a narrow section of the wetland, to provide appropriate access and prevent rutting and compaction.

Best management practices that include the installation and maintenance of erosion and sediment barriers will be used during construction. In addition, timber matting will be reviewed prior to placement to prevent the spread of invasive plant species. Upon completion of work, temporarily impacted areas will be seeded and mulched with a native herbaceous seed mix to establish permanent vegetative cover, as necessary, to promote restoration as nearly as possible to its original grade, condition, and vegetated state.

- C. *No alternative feasible route exists which does not cross or alter a wetland or have a less detrimental impact on a wetland.*** There are no alternatives with less impact that maintain the safety and reliability of the existing transmission line. Access is sited within an existing and maintained utility ROW. In addition, the project has been designed to utilize existing historical access routes along the ROW, where possible, to minimize impacts to wetlands.
- D. *Alterations of natural vegetation or managed woodland will occur only to the extent necessary to achieve construction goals.*** The proposed project will utilize existing access trails within the ROW to limit



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E194, U181, & 3135 Transmission Line Structure Replacement

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disturbance to wetlands and wetland buffers to the greatest extent feasible. Timber matting will be used to limit impacts on natural vegetation. Best management practices will be used to restore the site as nearly as possible to its original grade, condition and vegetated state. Permanent alterations of natural vegetation are proposed only where Eversource has identified utility structures which must be replaced in order to maintain current and projected future energy demands.

GZA conducted a wetland Function and Value Assessment in October 2021. Wetlands within the ROW corridor are typically capable of production export, nutrient removal, and groundwater recharge and discharge. Common principal functions and values include sediment and toxicant retention due to wetlands having close proximity to roadways, wildlife habitat, and floodflow alteration. It is not anticipated that the long-term functions and values of these wetlands will be impacted as a result of the proposed project. The project is maintenance of existing utility infrastructure.

Prior to daily construction activities, timber matting will be reviewed by personnel trained in wildlife identification and observed turtles and snakes will be safely relocated out of the active work zone, in similar nearby habitat. Observed turtles and snakes will be moved off of construction access roads to limit and prevent mortality to turtles and snakes during construction and will be reported to New Hampshire Fish and Game. Erosion control matting, if utilized, will consist of jute matting. Matting with plastic mesh will be avoided to limit unintentional mortality to snakes.

Should you have any questions, please contact Ms. Lindsey White at 603-232-8753 or at [lindsey.white@gza.com](mailto:lindsey.white@gza.com).

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in cursive script that reads "Lindsey White".

Lindsey White, CPSS  
Project Manager

A handwritten signature in cursive script that reads "Deborah M. Zarta-Gier".

Deborah M. Zarta-Gier  
Consultant/Reviewer

A handwritten signature in cursive script that reads "Tracy L. Tarr".

Tracy L. Tarr, CWS, CESSWI  
Associate Principal





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E194, U181, & 3135 Transmission Line Structure Replacement

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LEW/TLT/DMZ: jc

P:\04\JOBS\01909005\04.0190999.00 - EE SITING PERMITTING 2019-2022\04.0190999.64 - E194 TRANSMISSION LINE STRUCTURE REPLACEMENT PROJECT\WORK\LOCAL PERMITTING\PORTSMOUTH CUP\DRAFT E194\_U181\_3135 STRUCTURE REPLACEMENTS PORTSMOUTH CUP NARRATIVE 101821.DOCX

Attachments: Conditional Use Permit Application Form - Online

List of Abutters

Photo Log

Wetland Function and Value Assessment

Table 1 – Wetland Buffer Review

Figure 1 – Locus Plan

Figure 2 – Access and Permitting Plans

Application Fee

**Conditional Use Permit Application Form - Online**

## **List of Abutters**



**E194, U181, 3135, & 369 Transmission Line Structure Replacement Project**  
**Eversource Energy**  
**Abutters List**  
**Portsmouth, New Hampshire**

**Wetland Scientist**

GZA GeoEnvironmental, Inc.  
Attn: Tracy Tarr, CWS, CWB, CESSWI  
5 Commerce Park North, Suite 201  
Bedford, NH 03110

**Owner/Applicant**

Eversource Energy (a.k.a. PSNH)  
PO Box 270  
Hartford, CT 06141

**Map 214-3**

Public Service Company of New  
Hampshire, DBA Eversource  
Energy  
PO Box 270  
Hartford, CT 06141-0270

**Map 234-7-3, Map 240-2-1001, Map  
240-2-2001, Map 241-18, Map 259-27,  
Map 282-5, Map 278-2, Map 265-2E**  
City of Portsmouth  
1 Junkins Avenue  
Portsmouth, NH 03801

**Map 28-5**

GSP 325 Gosling LLC.  
431 River Road  
Bow, NH 03304

**Map 28-4**

GSP Newington LLC.  
431 River Road  
Bow, NH 03304

**Map 214-2**

GSP Schiller LLC.  
431 River Road  
Bow, NH 03304

**Map 215-1**

Retrosi Properties LLC.  
150 Gosling Street  
Portsmouth, NH 03801

**Map 215-9**

Kelly Property Trust  
PO Box 342  
Rye Beach, NH 03871

**Map 216-1**

135 Commerce Way LLC.  
210 Commerce Way, Suite 300  
Portsmouth, NH 03801

**Map 216-1-1**

150 Commerce Way LLC.  
210 Commerce Way, Suite 300  
Portsmouth, NH 03801

**Map 215-14**

Cole BJ Portfolio LLC.  
25 Research Drive  
Westborough, MA 01581

**Map 234-21**

Davenport, Elijah Y.  
34 Coakley Road  
Portsmouth, NH 03801

**Map 234-20**

White, Garrett B.  
38 Coakley Road  
Portsmouth, NH 03801

**Map 234-19**

St. Martin, Brittany  
42 Coakley Road  
Portsmouth, NH 03801

**Map 234-18**

Barbin, Derek  
46 Coakley Road  
Portsmouth, NH 03801

**Map 234-17**

Gallmeyer, John  
34 Coakley Road  
Portsmouth, NH 03801

**Map 234-16**

Rice Family Irrevocable Trust  
54 Coakley Road  
Portsmouth, NH 03801

**Map 234-15**

Manougian, Richard J.  
58 Coakley Road  
Portsmouth, NH 03801

**Map 234-14**

Bowlen, Wayne T.  
62 Coakley Road  
Portsmouth, NH 03801

**Map 234-13**

Adams, Christopher  
68 Coakley Road  
Portsmouth, NH 03801

**Map 234-12**

Mariotta Family Trust  
70 Coakley Road  
Portsmouth, NH 03801

**Map 234-11**

Dorr, Leslie E. 2004 Trust  
74 Coakley Road  
Portsmouth, NH 03801

**Map 234-10**

Delvalle, Kathleen  
644 Main Street  
Rollingsford, NH 03869



**E194, U181, 3135, & 369 Transmission Line Structure Replacement Project**  
**Eversource Energy**  
**Abutters List**  
**Portsmouth, New Hampshire**

**Map 234-9**

Hunkins, Joseph V.  
PO Box 5  
Greenland, NH 03840

**Map 234-8**

Cook, Samuel A.  
426 Middle Street  
Portsmouth, NH 03801

**Map 234-7**

Mitchell, Joseph R. 94 Trust  
58 Fox Point Road  
Newington, NH 03801

**Map 234-7**

Johnson, Paul R.  
92 Coakley Road  
Portsmouth, NH 03801

**Map 234-31**

Saulnier, Rose Marie  
19 Coakley Road  
Portsmouth, NH 03801

**Map 234-32**

Howard, Alfred Jr.  
23 Coakley Road  
Portsmouth, NH 03801

**Map 234-33**

Callahan, Keith S. Revocable Trust  
60 Garland Road  
Rye, NH 03870

**Map 234-34**

Wolf, John J.  
4 Palm Drive  
Greenland, NH 03840

**Map 234-41**

Sokorelis, Eli  
15 Larry Lane  
Portsmouth, NH 03801

**Map 234-42**

Mulkerin, Jos M. III  
31 Coakley Road  
Portsmouth, NH 03801

**Map 234-43**

Crowell, Cedric L.  
35 Coakley Road  
Portsmouth, NH 03801

**Map 234-44**

Lull, Seth  
39 Coakley Road  
Portsmouth, NH 03801

**Map 234-7-4A, Map 240-2-1**

HCA Realty Inc  
PO Box 80610  
Indianapolis, IN 46280

**Map 240-2-2**

Jackson Gray Condos Master Card  
330 Borthwick Avenue  
Portsmouth, NH 03801

**Map 240-3, Map 240-1**

Liberty Mutual  
175 Berkeley Road  
Boston, MA 02117

**Map 165-14**

Boston and Maine Corp.  
Iron Horse Park High Street  
North Billerica, MA 01862

**Map 242-1, Map 258-54,**

**Map 263-1-6**  
State of NH  
11 Hazen Drive  
Concord, NH 03301

**Map 242-4**

Stokel S. B. & N. A. Trust  
83 Peverly Hill Road  
Portsmouth, NH 03801

**Map 242-5, Map 258-53**

Roman Catholic Bishop of Manchester  
153 Ash Street  
Manchester, NH 03104

**Map 258-1, Map 258-1-1**

Foucher, Joli Ann  
566 Greenland Road  
Portsmouth, NH 03801

**Map 258-3-1**

Tooke, Kenneth M.  
606 Greenland Road  
Portsmouth, NH 03801

**Map 258-2**

Harding, Samuel C.  
2450 Ocean Boulevard  
Rye Beach, NH 03871

**Map 258-12**

Donohue, Kelly L.  
144 Oxford Avenue  
Portsmouth, NH 03801

**Map 258-13**

Scarlotto, Joseph W.  
130 Oxford Avenue  
Portsmouth, NH 03801



**E194, U181, 3135, & 369 Transmission Line Structure Replacement Project**  
**Eversource Energy**  
**Abutters List**  
**Portsmouth, New Hampshire**

**Map 258-34**

Finam, Daniel S.  
555 Greenland Road  
Portsmouth, NH 03801

**Map 258-35**

Garand, Susan L.  
551 Greenland Road  
Portsmouth, NH 03801

**Map 258-36, Map 278-1,  
Map 265-2D, Map 241-18**

City of Portsmouth DPW  
PO Box 628  
Portsmouth, NH 03802

**Map 258-51, Map 258-52**

Thoma, Mark F. & Hans M.  
PO Box 1148  
Portsmouth, NH 03802

**Map 263-1-5**

Griffin Road Realty LLC.  
304 Maplewood Avenue  
Portsmouth, NH 03801

## **Photo Log**



**PHOTO LOG**  
**E194, U181, & 3135 Transmission Line Structure Replacement Project**  
**Portsmouth, New Hampshire**

**Photos Taken: October 26, 2021**



Photograph No. 1: Southeasterly view of proposed access in the 100-foot wetland buffer of Wetland PW-28 from Gosling Road towards E194 Structure 3 to be replaced.



Photograph No. 2: Easterly view of E194 Structure 3 (center) to be replaced within Wetland PW-28.



**PHOTO LOG**  
**E194, U181, & 3135 Transmission Line Structure Replacement Project**  
**Portsmouth, New Hampshire**

**Photos Taken: October 26, 2021**



Photograph No. 3: Southwesterly view of proposed access and work area in the 100-foot wetland buffer of Wetland PW-11 for E194 Structure 34 to be replaced.



Photograph No. 4: Northeasterly view of E194 Structure 34 to be replaced within Wetland PW-11.



**PHOTO LOG**  
**E194, U181, & 3135 Transmission Line Structure Replacement Project**  
**Portsmouth, New Hampshire**

**Photos Taken: October 26, 2021**



Photograph No. 5: Southwesterly view of E194 Structure 35 (right) and U181 Structure 35 (left) to be replaced within Wetland PW-11.



Photograph No. 6: Westerly view of proposed access in the 100-foot wetland buffer of Wetland PW-11.



**PHOTO LOG**  
**E194, U181, & 3135 Transmission Line Structure Replacement Project**  
**Portsmouth, New Hampshire**

**Photos Taken: October 26, 2021**



Photograph No. 7: Easterly view of Wetland PW-11 (left) and U181 Structure 36 to be replaced.



Photograph No. 8: Northerly view of Wetland PW-11 from U181 Structure 36 to be replaced.



**PHOTO LOG**  
**E194, U181, & 3135 Transmission Line Structure Replacement Project**  
**Portsmouth, New Hampshire**

**Photos Taken: October 26, 2021**



Photograph No. 9: Westerly view of Wetland PW-11 (right) and E194 Structure 36 to be replaced.



Photograph No. 10: Southeasterly view of proposed access from Greenland Road for 3135 Structure 105 and 106 to be replaced.



**PHOTO LOG**  
**E194, U181, & 3135 Transmission Line Structure Replacement Project**  
**Portsmouth, New Hampshire**

**Photos Taken: October 26, 2021**



Photograph No. 11: Northeasterly view of Wetland PW-7 from proposed access route. There are no direct impacts to this wetland system.



Photograph No. 12: Southeasterly view of proposed access in the 100-foot wetland buffer of Wetland PW-6 for 3135 Structure 105 and 106 to be replaced.



**PHOTO LOG**  
**E194, U181, & 3135 Transmission Line Structure Replacement Project**  
**Portsmouth, New Hampshire**

**Photos Taken: October 26, 2021**



Photograph No. 13: Southwesterly view of 3135 Structure 106 to be replaced within Wetland PW-6.



Photograph No. 14: Northeasterly view of 3135 Structure 105 to be replaced within the 100-foot wetland buffer of Wetland PW-6.



## **Wetland Function and Value Assessment Forms**



**E194, U181, & 3135 TRANSMISSION LINE  
PORTSMOUTH, NEW HAMPSHIRE**

File No: 04.0190999.64		<b>WETLAND FUNCTION – VALUE EVALUATION FORM</b>		Date: 10/26/2021	
Wetland ID: Wetland PW-6 PEM1/PSS1Fg/R4SB				GZA Personnel: Peter Petkauskos, Tracy Tarr, CWS	
Function/Value	Capability Y N	Rationale (Reference #)	Summary	Principal Yes/No	
Groundwater Recharge/Discharge	Y	1, 2, 4, 6, 7, 10	Wetland hydrology is supported by runoff and a high-water table. A portion of the wetland contains sandy soils (see NRCS Soils Overlay).	Y	
Floodflow Alteration	Y	1, 3, 5, 6, 8, 9, 13, 18	The wetland receives and retains overland sheet flow from surrounding residential and commercial properties to the north and east.	Y	
Fish and Shellfish Habitat	Y	1	An intermittent stream is present, however the size and depth of the watercourse limits habitat.	N	
Sediment/Toxicant Retention	Y	1, 2, 3, 4, 5, 8	The wetland receives stormwater from Greenland Road and surrounding residences.	Y	
Nutrient Removal	Y	1, 3, 4, 5, 7, 8, 9, 14	Dense vegetation is present, and the wetland contains very poorly drained soils.	Y	
Production Export	Y	1, 2, 4, 5, 7, 12	The wetland contains dense vegetation and export is occurring through wildlife use in the wetland.	Y	
Sediment/Shoreline Stabilization	Y	3, 4, 5, 7, 15	An intermittent stream is present, but no distinct bar is evident between the stream and the wetland.	N	
Wildlife Habitat	Y	3, 4, 5, 6, 7, 8, 13, 14, 18, 19, 20, 21	The wetland is located in "supporting landscape" (see Wildlife Action Plan overlay). Several songbird species were observed in the emergent and scrub shrub wetland. Wetland is designated as a prime wetland and is located within a conservation easement area.	Y	
Recreation	Y	4, 5, 7, 10	No water-based recreational opportunities are present. Walking trails are present.	N	
Educational/Scientific Value	Y	2, 3, 5, 6, 8	The wetland is located within the "Great Bog" conservation area. Parking suitable for school buses is present. However, access and maintained trails are limited.	Y	
Uniqueness/Heritage	Y	4, 9, 12, 15, 19	The wetland is designated as a prime wetland. The wetland is part of the "Great Bog" conservation area.	Y	
Visual Quality/Aesthetics	Y	1, 2, 3, 5, 6, 8, 9, 11, 12	The wetland contains emergent marsh vistas and contains viewing locations from trails.	Y	
<b>ES</b> Endangered Species Habitat	Y	Not Applicable	The NHB has records of hairy fruited sedge, a State endangered species, and tufted yellow-loosestrife, a State threatened species in the larger wetland system (see NHB memo dated NHB21-3200). species.	Y	

Notes: Dominant plants within the herbaceous layer include sensitive fern, broad-leaf cattail, phragmites, purple loosestrife, Joe Pye weed, wool grass, boneset, and sphagnum moss. Dominant plants within the shrub/sapling/tree layer include speckled alder, bebb willow, glossy buckthorn, red osier dogwood, multiflora rose, and autumn olive.



**E194, U181, & 3135 TRANSMISSION LINE  
PORTSMOUTH, NEW HAMPSHIRE**

File No: 04.0190999.64		<b>WETLAND FUNCTION – VALUE EVALUATION FORM</b>		Date: 10/26/2021	
Wetland ID: Wetland PW-7 PEM1/PSS1E				GZA Personnel: Peter Petkauskos, Tracy Tarr, CWS	
Function/Value	Capability Y N		Rationale (Reference #)	Summary	Principal Yes/No
Groundwater Recharge/Discharge	Y		4	Wetland hydrology is supported by runoff and a high-water table. The wetland contains sandy soils (see NRCS Soils Overlay). The wetland is not underlain by an aquifer (see Aquifer Transmissivity Overlay) or associated with a stream.	N
Floodflow Alteration	Y		3, 5, 6, 8, 9, 18	The wetland receives and retains stormwater from Greenland Road to the north.	N
Fish and Shellfish Habitat		N	Not Applicable	No streams or permanently flooded habitat are present in the assessment area.	N
Sediment/Toxicant Retention	Y		1, 2	The wetland receives stormwater from Greenland Road to the north.	Y
Nutrient Removal	Y		3, 5, 8, 9	Dense vegetation is present within the emergent and scrub shrub wetland.	N
Production Export	Y		7, 12	The wetland contains dense vegetation, and some export is occurring through wildlife use in the wetland.	N
Sediment/Shoreline Stabilization		N	Not Applicable	No streams or shoreline edges are associated with the wetland.	N
Wildlife Habitat	Y		4, 5, 7, 8	The wetland is not located in an area being mapped as “highest ranked habitat” or “supporting landscape” (see Wildlife Action Plan overlay).	N
Recreation	Y		4, 5, 10	No water-based recreational opportunities are present.	N
Educational/Scientific Value	Y		5, 6, 8	The wetland is located within the “Great Bog” conservation area. Parking suitable for school buses is present however, the wetland is dominated by invasive plants with limited educational opportunities compared to PW-6.	N
Uniqueness/Heritage		N	9	The wetland is not known to contain exemplary communities and is not designated as a prime wetland.	N
Visual Quality/Aesthetics		N	Not Applicable	The wetland does not contain open water or emergent marsh vistas.	N
<b>ES</b> Endangered Species Habitat		N	1, 2	The NHB does not have records of rare species (see NHB memo dated NHB21-3200).	N

Notes: Dominant plants within the herbaceous layer include purple loosestrife, phragmites, soft rush, sensitive fern, wool grass, golden rod, reed canary grass.  
Dominant plants within the shrub/sapling/tree layer include glossy buckthorn, red osier dogwood, bebb willow, and meadowsweet.



**E194, U181, & 3135 TRANSMISSION LINE  
PORTSMOUTH, NEW HAMPSHIRE**

File No: 04.0190999.64		<b>WETLAND FUNCTION – VALUE EVALUATION FORM</b>		Date: 10/26/2021	
Wetland ID: Wetland PW-11 PEM1/PSS1Fg				GZA Personnel: Peter Petkauskos, Tracy Tarr, CWS	
Function/Value	Capability Y N	Rationale (Reference #)	Summary	Principal Yes/No	
Groundwater Recharge/Discharge	Y	4	Wetland hydrology is supported by runoff and a high-water table. The wetland is not underlain by an aquifer (see Aquifer Transmissivity Overlay).	N	
Floodflow Alteration	Y	3, 4, 5, 6, 7, 8, 9, 18	The wetland receives and retains overland sheet flow from surrounding residential and commercial properties.	Y	
Fish and Shellfish Habitat		N	Not Applicable	N	
Sediment/Toxicant Retention	Y	1, 2, 4, 5, 9	The wetland receives stormwater from I95, Coakley Road, Borthwick Ave, and Portsmouth Hospital.	Y	
Nutrient Removal	Y	3, 4, 5, 6, 7, 8, 9	Dense vegetation is present, and the wetland contains very poorly drained organic soils.	Y	
Production Export	Y	1, 2, 4, 7, 12	The wetland contains dense vegetation, and some export is occurring through wildlife use in the wetland.	N	
Sediment/Shoreline Stabilization		N	Not Applicable	N	
Wildlife Habitat	Y	8, 13, 19, 21	The wetland is located in “highest ranked habitat in NH” (see Wildlife Action Plan overlay).	Y	
Recreation	Y	5	The wetland is located on City of Portsmouth conservation land. However, no water-based recreational opportunities are present.	N	
Educational/Scientific Value	Y	5	The wetland is located on City of Portsmouth conservation land. However, access is limited and parking suitable for school buses is not present.	N	
Uniqueness/Heritage	Y	Not Applicable	The wetland is not known to contain exemplary communities and is not designated as a prime wetland. However, a portion of the wetland is located within City of Portsmouth Conservation Land.	N	
Visual Quality/Aesthetics	Y	2, 8	The wetland contains a large emergent marsh with overall views available from the surrounding uplands.	N	
<b>ES</b> Endangered Species Habitat		N	1, 2	The NHB does not have records of rare species (see NHB memo dated NHB21-3200).	N

Notes: Dominant plants within the herbaceous layer include fringed sedge, cinnamon fern, sensitive fern, tussock sedge, broad-leaf cattail, phragmites, purple loosestrife, and Joe Pye weed.  
Dominant plants within the shrub/sapling/tree layer include glossy buckthorn, silky dogwood, red osier dogwood, speckled alder, bebb willow, meadowsweet, and multiflora rose.



**E194, U181, & 3135 TRANSMISSION LINE  
PORTSMOUTH, NEW HAMPSHIRE**

File No: 04.0190999.64		<b>WETLAND FUNCTION – VALUE EVALUATION FORM</b>		Date: 10/26/2021	
Wetland ID: Wetland PW-28 PEM1/PSS1E				GZA Personnel: Peter Petkauskos, Tracy Tarr, CWS	
Function/Value	Capability Y N		Rationale (Reference #)	Summary	Principal Yes/No
Groundwater Recharge/Discharge	Y		4	Wetland hydrology is supported by runoff and a high-water table. A portion of the wetland contains sandy soils (see NRCS Soils Overlay). The wetland is not underlain by an aquifer (see Aquifer Transmissivity Overlay).	N
Floodflow Alteration	Y		3, 5, 6, 9, 18	The wetland receives and retains overland sheet flow from surrounding commercial properties to the east and west.	N
Fish and Shellfish Habitat		N	Not Applicable	No streams or permanently flooded habitat are present in the assessment area.	N
Sediment/Toxicant Retention	Y		1, 2	The wetland receives stormwater from Gosling Road and surrounding commercial properties.	Y
Nutrient Removal	Y		3, 4, 8, 9	Dense vegetation is present within the emergent and scrub shrub wetland.	N
Production Export	Y		1, 7, 12	The wetland contains dense vegetation, and some export is occurring through wildlife use in the wetland.	N
Sediment/Shoreline Stabilization		N	Not Applicable	No streams or shoreline edges are associated with the wetland.	N
Wildlife Habitat	Y		6, 7, 8, 13,	The wetland contains emergent/scrub-shrub cover and has landscape connectivity with a stream off-site.	Y
Recreation		N	5	No water-based recreational opportunities are present on-site.	N
Educational/Scientific Value		N	5	The wetland is located on private property and parking suitable for school buses is not present.	N
Uniqueness/Heritage		N	Not Applicable	The wetland is not known to contain exemplary communities and is not designated as a prime wetland.	N
Visual Quality/Aesthetics		N	Not Applicable	The wetland does not contain open water or emergent marsh vistas.	N
<b>ES</b> Endangered Species Habitat		N	1, 2	The NHB does not have records of rare species (see NHB memo dated NHB21-3200).	N

Notes: Dominant plants within the herbaceous layer include soft rush, golden rod, sensitive fern, sphagnum moss, fringed sedge, purple loosestrife, and Joe Pye weed.  
Dominant plants within the shrub/sapling/tree layer include red osier dogwood, glossy buckthorn, bebb willow, winter berry, oriental bittersweet, and speckled alder.

**Table 1 – Wetland Buffer Review**

**Table 1 - Wetland Buffer Review**

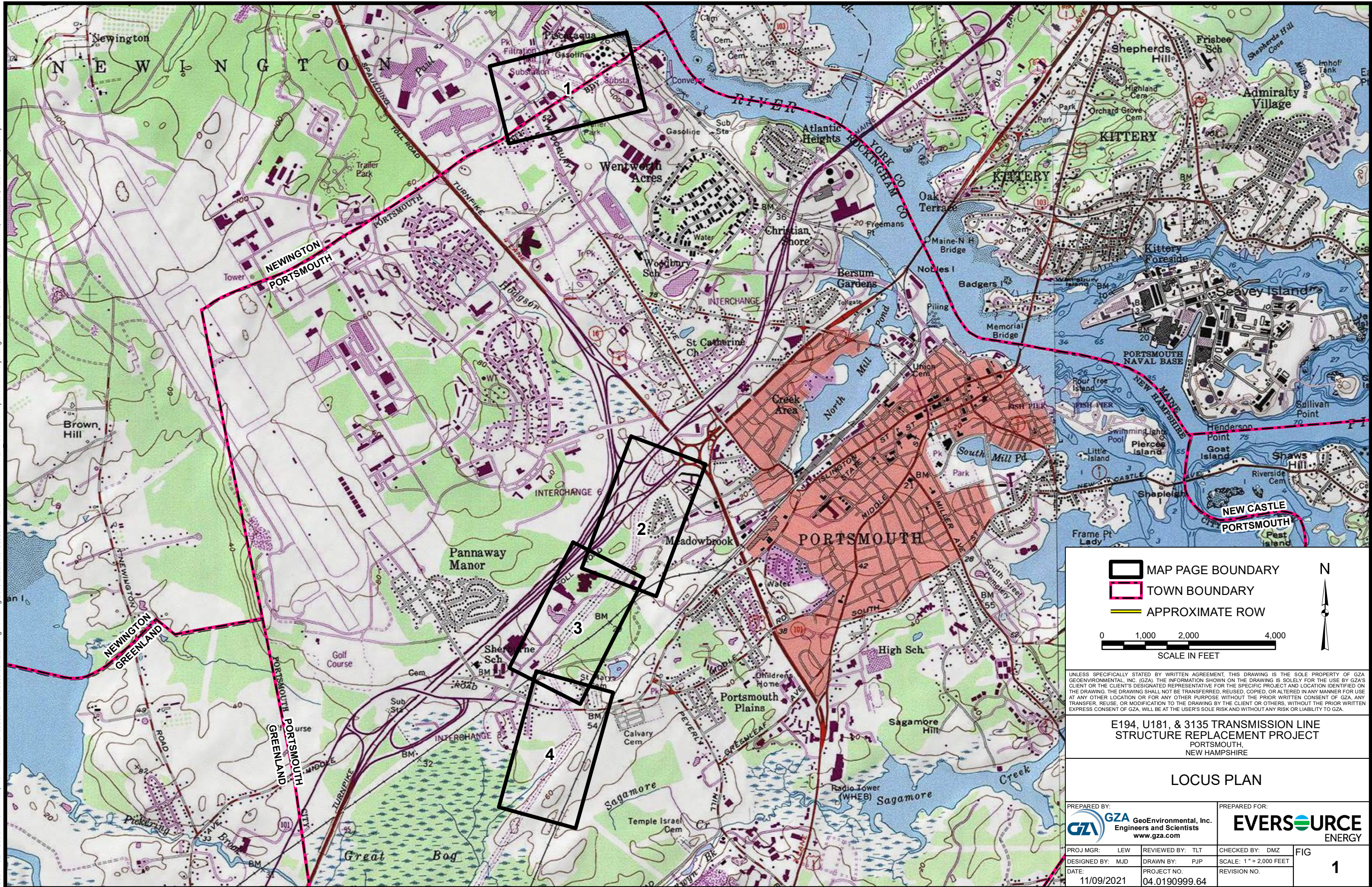
<b>Wetland ID</b>	<b>Temporary Buffer Impact (Sq. Ft.)</b>	<b>Vegetation in Buffer</b>	<b>Percent Invasive Species (%)</b>	<b>Percent Pavement(%)</b>
PW-6	12,146	Goldenrod, purple crown vetch, milkweed, raspberry, glossy buckthorn	30%	0%
PW-11	11,447	Sweet fern, goldenrod, purple crown vetch, staghorn sumac, glossy buckthorn, raspberry, autumn olive	30%	25%
PW-28	1,631	Goldenrod, glossy buckthorn, staghorn sumac, raspberry, quaking aspen	25%	< 5%



**Figure 1 – Locus Plan**



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MAP PAGE BOUNDARY  
 TOWN BOUNDARY  
 APPROXIMATE ROW

N

0 1,000 2,000 4,000

SCALE IN FEET

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**E194, U181, & 3135 TRANSMISSION LINE  
STRUCTURE REPLACEMENT PROJECT**  
PORTSMOUTH,  
NEW HAMPSHIRE

**LOCUS PLAN**

PREPARED BY:		PREPARED FOR:	
<b>GZA</b> GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			
PROJ MGR: LEW	REVIEWED BY: TLT	CHECKED BY: DMZ	FIG
DESIGNED BY: MJD	DRAWN BY: PJP	SCALE: 1" = 2,000 FEET	<b>1</b>
DATE: 11/09/2021	PROJECT NO: 04.0190999.64	REVISION NO.	



**Figure 2 – Access and Permitting Plans**



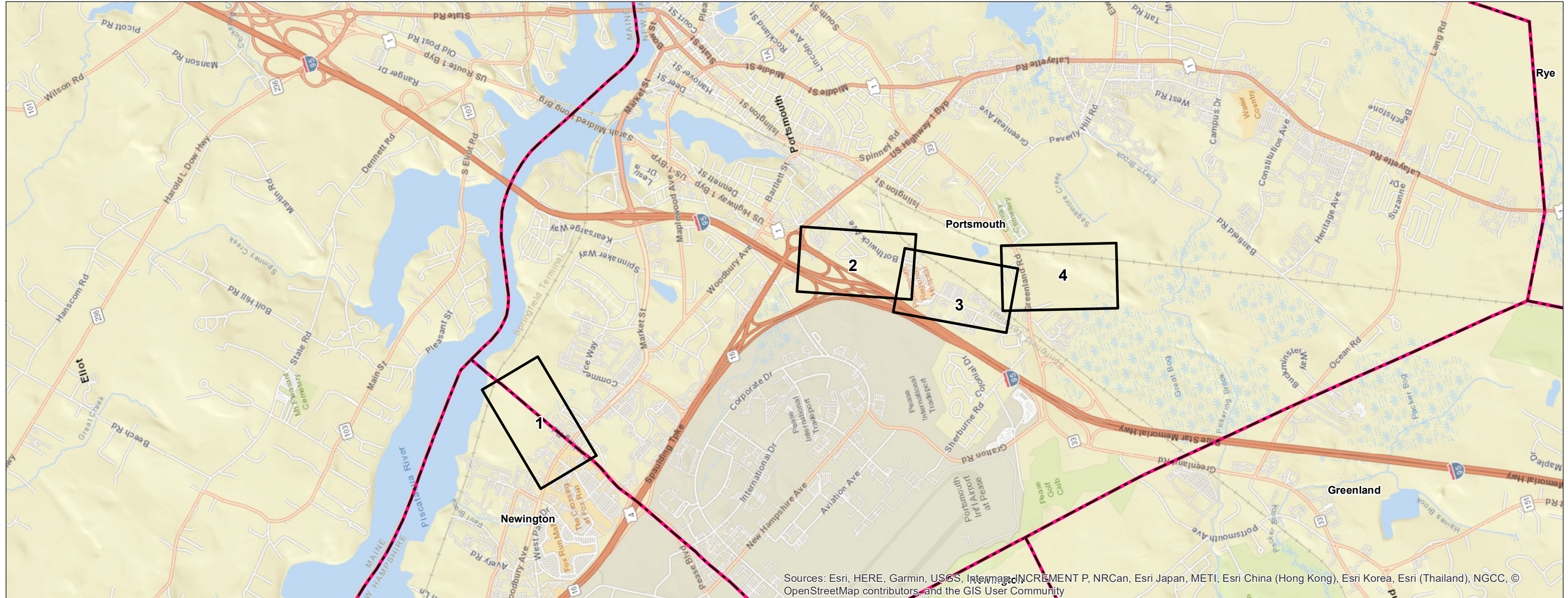
# E194, U181 & 3135 Transmission Lines - Structure Replacement Project

PORTSMOUTH, NEW HAMPSHIRE

Environmental Resources Map

**DRAFT MAP SET**

Date: November 09, 2021

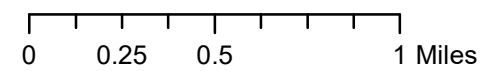


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

PREPARED FOR:



13 Legends Drive  
Hooksett, NH 03106



**INDEX OF FIGURES**

Title Sheet / Index Map  
Map Sheets 1-4  
Sheet 1 Notes  
Sheet 2 Detail

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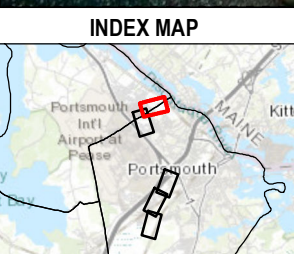


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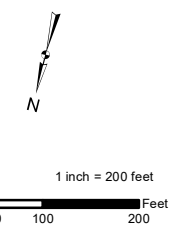


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● PROPOSED STRUCTURE REPLACEMENT	— APPROXIMATE ROW	▭ EXISTING CONSERVATION LAND	▭ PARCEL BOUNDARY
● EXISTING STRUCTURE	▭ 100-FT WETLAND BUFFER TO BE RESTORED	— 2FT CONTOURS	▭ EVERSOURCE OWNED PARCEL
● EXISTING STRUCTURE TO BE REPLACED	— EXISTING TRANSMISSION LINE	▭ DELINEATED WETLAND	▭ STATE OWNED PARCEL
— RAIL ROAD OR RAIL TRAIL	▭ UPLAND MATTING	▭ WETLAND ADJACENT TO TIER 3+ STREAM	
— PROPOSED ACCESS	▭ WETLAND BUFFER IMPACT	▭ PRIME WETLAND	
— NHD FLOWLINES	▭ TEMPORARY WETLAND IMPACTS	▭ TOWN BOUNDARY	
— EXISTING DISTRIBUTION LINE	▭ WORK PAD		
— NHDOT ROAD	▭ EROSION CONTROL		

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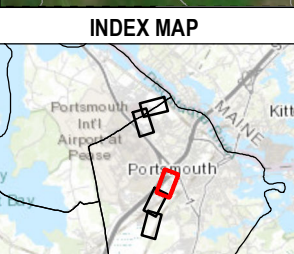
**E194/U181/3135 Line Structure Replacement**

Portsmouth/Newington, NH	MAP SHEET
Date: November, 2021	
<b>1 OF 4</b>	



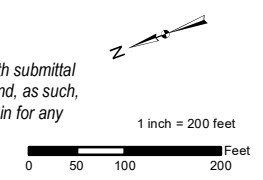


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 User: E194



- |                                     |  |                                      |                           |
|-------------------------------------|--|--------------------------------------|---------------------------|
| ● PROPOSED STRUCTURE REPLACEMENT    | — APPROXIMATE ROW                      | ▭ EXISTING CONSERVATION LAND         | ▭ PARCEL BOUNDARY         |
| ● EXISTING STRUCTURE                | ▭ 100-FT WETLAND BUFFER TO BE RESTORED | — 2FT CONTOURS                       | ▭ EVERSOURCE OWNED PARCEL |
| ● EXISTING STRUCTURE TO BE REPLACED | — EXISTING TRANSMISSION LINE           | ▭ DELINEATED WETLAND                 | ▭ STATE OWNED PARCEL      |
| — RAIL ROAD OR RAIL TRAIL           | ▭ UPLAND MATTING                       | ▭ WETLAND ADJACENT TO TIER 3+ STREAM |                           |
| ▭ PROPOSED ACCESS                   | ▭ WETLAND BUFFER IMPACT                | ▭ PRIME WETLAND                      |                           |
| — NHD FLOWLINES                     | ▭ TEMPORARY WETLAND IMPACTS            | ▭ TOWN BOUNDARY                      |                           |
| — EXISTING DISTRIBUTION LINE        | ▭ WORK PAD                             |                                      |                           |
| — NHDOT ROAD                        | ▭ EROSION CONTROL                      |                                      |                           |

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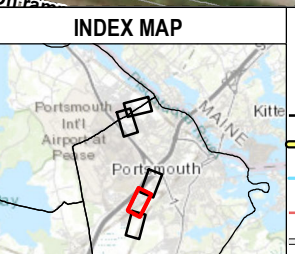
**E194/U181/3135 Line Structure Replacement**

Portsmouth, NH	MAP SHEET
Date: November, 2021	<b>2 OF 4</b>



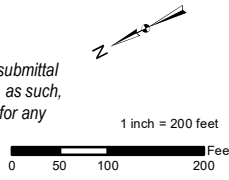


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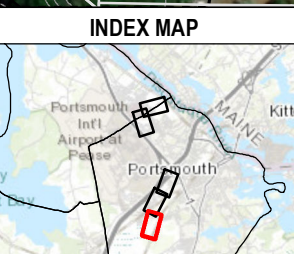


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<b>E194/U181/3135 Line Structure Replacement</b>	
Portsmouth, NH	MAP SHEET
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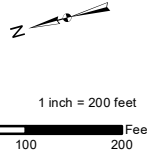


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### Best Management Practices (BMP's) for Straw wattles

#### Definition and purpose:

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

#### Applications:

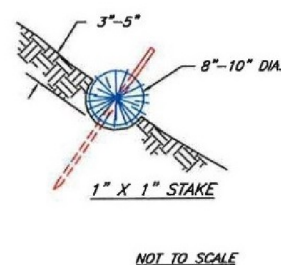
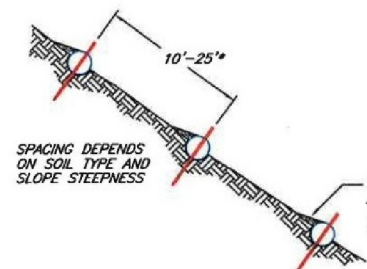
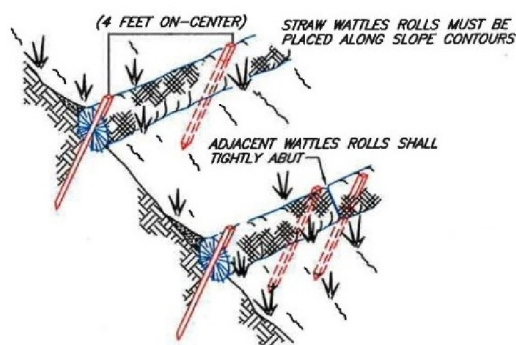
- \* Along erodible or unstabilized slopes
- \* Spread overland waterflow
- \* Trap sediment
- \* Around storm drain inlets to slow water and settle out sediment

#### Installation:

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

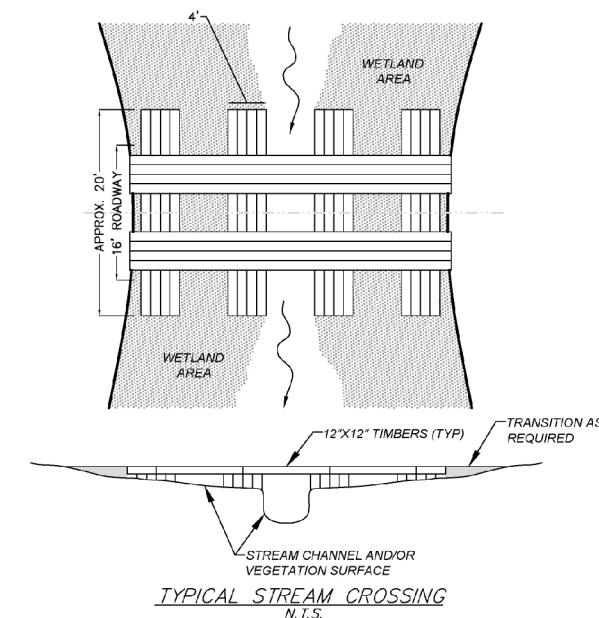
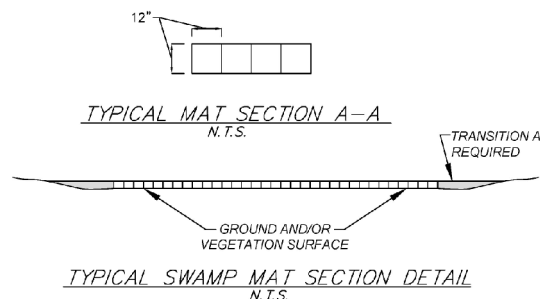
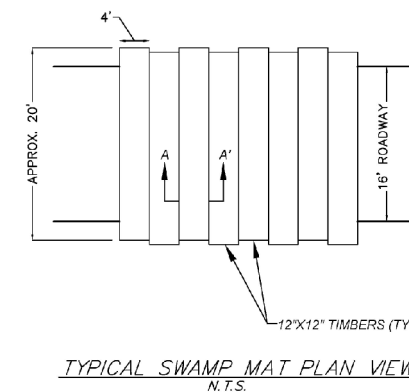
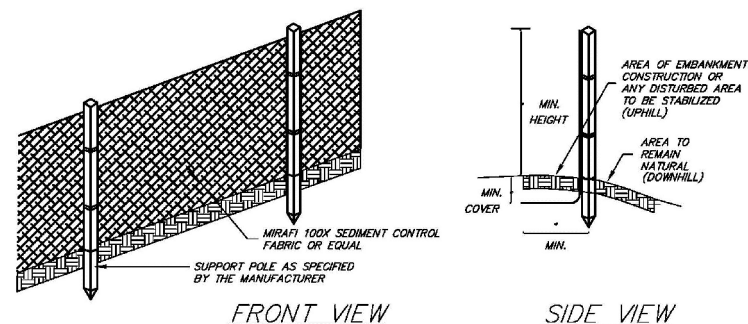
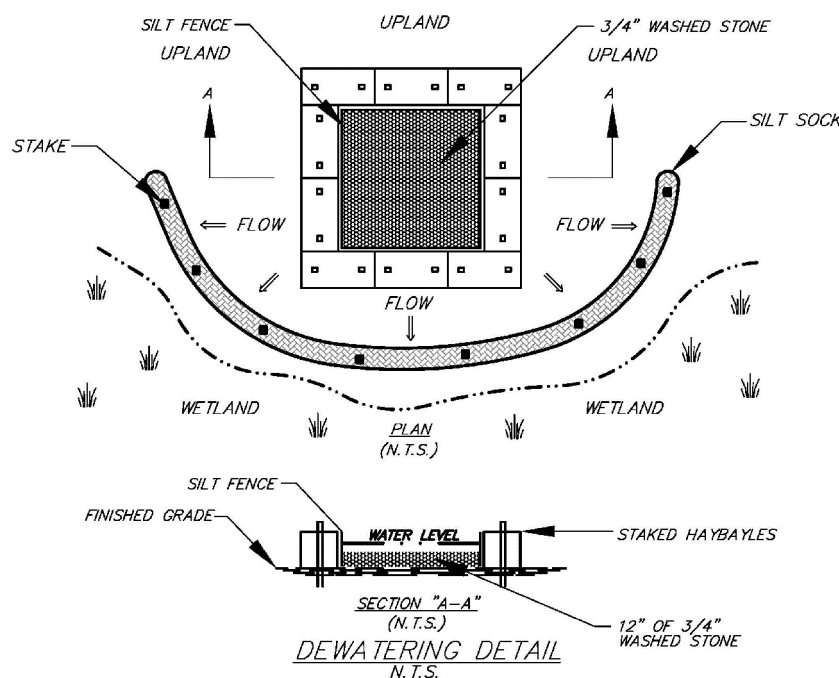
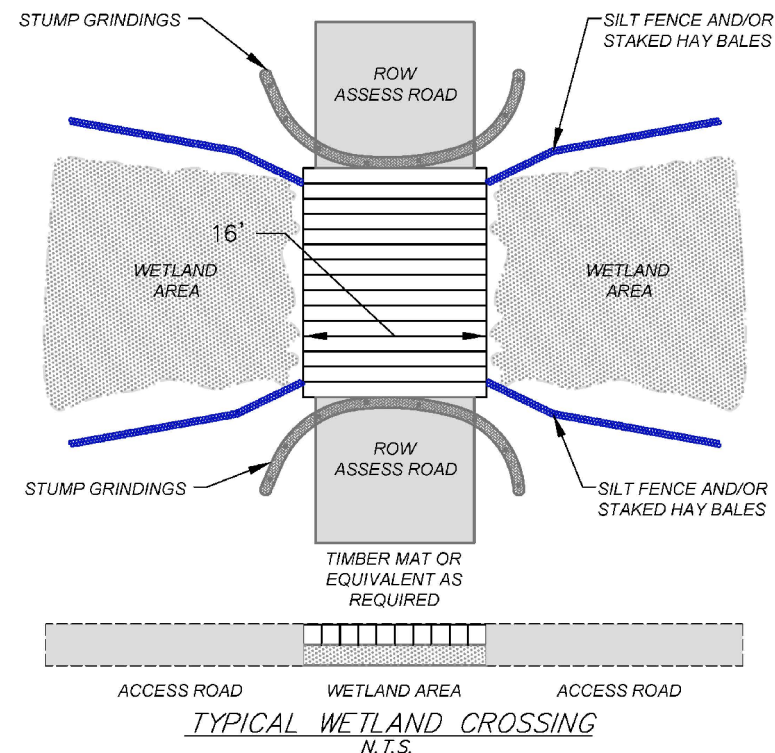
Spacing\* - Dependent on slope length, soil steepness and soil type (general range 10 - 25').

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



#### NOTES (SILT FENCE)

1. THE HEIGHT OF THE BARRIER SHALL NOT EXCEED 36 INCHES.
2. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED 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.



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E194, U181, 3135, A& 369 TRANSMISSION LINE  
STRUCTURE REPLACEMENT PROJECT  
PORTSMOUTH, NEWINGTON, & HAMPTON  
NEW HAMPSHIRE

### DETAILS

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PROJ MGR: LEW	REVIEWED BY: TLT	CHECKED BY: DMZ	SHEET <b>2</b>
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 10/05/2021	PROJECT NO. 04.0190999.64	REVISION NO.	

## **Application Fee**