

To: Pamela Monroe, New Hampshire Site Evaluation Committee
From: Lulu Pickering, Newington
Date: February 7, 2017
RE: Seacoast Reliability Project (SRP), Docket No. 2015-04

Please consider the following comments about the negative impacts of the Seacoast Reliability Project on the Alfred Pickering Farm and other historic resources in Newington and about our thoughts on the Town of Newington's request for Eversource to be granted eminent domain powers.

First, though, we want to say how important it is for the public to be directly involved in this process. We are not paid consultants nor do we have a huge amount of time to review all of the filings. But having access to the documents and being involved in the process does allow us to express our opinions without paying money for attorneys to represent us. Oftentimes the public needs to speak up for itself and the SEC involving the public in its process is very much appreciated. Public participation is essential and the process is working.

Preserving the Alfred Pickering Farm

1. The only ones who have invested any time or money in trying to preserve the historic Alfred Pickering Farm is our family. It is great for the public and members of the town's boards to appreciate the farm but the backbreaking work of maintaining the property and preserving its historic nature has been ours alone.
2. I'm not sure people appreciate the cost of keeping up a historic resource. My husband and I spent \$363,700 to acquire the farm buildings and hayfields that were going to be developed and another \$355,000 to date in maintenance and repair work. The total \$719,000 was hard-earned money and not inherited. Right now we are looking at another \$200,000 in foundation/sill and rock work to further stabilize the foundations, stonewalls, and retaining walls. Then there will be the farmhouse chimney and the outside cladding of all those buildings, the windows, doors, etc., that need to be addressed ... the list is endless and expensive.
3. The State of New Hampshire and the NH Preservation Alliance mean well but the benefits of a \$500 barn assessment grant or the couple of hundred dollars a year in property taxes that could be saved under the barn tax incentive program pale in comparison to the reality of hundreds of thousands of dollars in recurring costs for historic building repair.

4. The \$719,000 in item #2 does not include the untold hours in our own sweat equity that we have invested to keep the costs manageable for preserving our farm. For example, in 1984, my brothers and I shingled the roofs of the farmhouse, carriage shed, garden shop, barn, and tractor shed by ourselves. In 2004, my sons and I painted the whole farmhouse, porch and entry. For 29 years, my husband and I have maintained animals and worked to keep the fields hayed, the fences intact, and the pastures bush-hogged and open. No one has helped us keep this property running for future generations to enjoy, except my family. The only exception is the Pease Noise abatement program that invested about \$20,000 in 2006 to add noise reducing windows, doors, etc. to the farmhouse.
5. Now comes Eversource with their Seacoast Reliability Project and the need to ensure electricity to the developing seacoast. We cannot prevent their project but neither should they be able to do whatever the SEC allows them to do scot-free. The construction of a transmission line is a new use in their existing ROW. Their project will obviously impact the historic Alfred Pickering Farm that we have been working so hard to preserve.
6. Now comes the Town of Newington, who has requested that the SEC grant Eversource eminent domain rights to enforce its desire that if the transmission line comes through the residential area of town that it be buried across the Alfred Pickering Farm and any other property whose owners do not willingly give underground easements. It is important to know that the Town has not spent even one dime helping to maintain the Alfred Pickering Farm. We have paid our taxes and kept the historic integrity intact by ourselves.

No one supports historic preservation more than my family so it seems to us that the Town is overreaching its authority and using the Eversource issue, in part, to enforce open space restrictions on private property, such as our farm, where the Town has not purchased any development rights.

The Town of Newington has been aggressively buying the development rights for properties that are located either within a quarter mile of our Farm or directly abut it – the Darius Frink agricultural easement, Hislop conservation easement, Ripley conservation easement (almost finalized), Boynton conservation easement (in discussion), and direct purchase of the old Nat Coleman property on Old Post Road. These open space, no development activities by the Town are, and should remain, independent of Eversource's SRP project.

We strongly feel that eminent domain rights should not be granted to Eversource in order to enforce underground development. We strongly feel that overhead rights will impact the historic Alfred Pickering Farm far less than underground rights (see later in this letter).

Newington's Historic Resources

Of the 10 historic resources already identified within ½ mile of the SRP project, half of them are in Newington:

- Newington Little Bay Terminal House
- Alfred Pickering Farm
- Pickering-Rowe House
- Newington Center Historic District – *poor category because Darius Frink Farm is on the National Register of Historic Places but is not in the Newington Historic District*
- Adams Homestead

Spinney Farm

The Spinney Farm located at 241 Fox Point Road should be included as one of the impacted historic resources. The 34.2-acre farm was the last operating dairy farm in town but is still hayed and farmed for raising beef. The Spinney farmhouse was built in 1850 and the current barns in 1964. The old barn was removed in 1979. Three small houses (for a sibling and two sons) were built on the road frontage, but the backfields are largely unchanged.

The Spinney Farm is an excellent example of how New England farms have evolved over the years so the family farming heritage can live on. It is one of the three remaining farms in Newington that have been in continuous operation for more than 100 years (*Our Farming Heritage Lives On: Celebrating 100 Years of New Hampshire Farm Bureau Federation, 1916-2016*). The other two farms, the Alfred Pickering Farm and Darius Frink Farm, are bicentennial farms in continuous operation by the same family; the Spinney Farm is a centennial farm in continuous operation by more than one family.

Not in the Historic District

The aerial view below from Google Earth shows the location of the Eversource right of way (yellow) in relation to the historic resources in Newington:

#1 Spinney Farm, #2 Adams Homestead, #3 Alfred Pickering Farm, #4 Pickering-Rowe house, #5 Darius Frink farm, #6 Newington cable Terminal House, #7 Newington Center Historic District and town forest, and all scenic roads connecting these resources:

- Resources #1 thru #6 are not in the Town's Historic District.
- The Town has expended no money to maintain historic resources #1, #2, #3, and #6.
- The Town did contribute funds to purchase development rights for the Frink Farm #5 and is finalizing a conservation easement on the Pickering-Rowe House #4, now owned by the Ripleys.
- The Town spends money to maintain Town-owned buildings and land in its Historic District #7.

Logically, the Town's desire to protect historic resources should be more heavily weighted to actions that impact town-owned buildings and land in the Newington Historic District or on properties where the Town has expended money to buy development rights (i.e., Darius Frink Farm).

When the Town is not a financial stakeholder in a historic resource, its position on how best to preserve the historic character of that resource (i.e., Alfred Pickering Farm underground rights by eminent domain) should not trump those of the property owners who are doing all of the work of historic preservation and are paying all of the bills.



Options to AVOID Adverse Effects on Newington Historic Resources

7. The best way to preserve the integrity of the historic resources in Newington would be to avoid building a new transmission line through the only remaining piece in Newington where people can live. Newington is one of NH's smallest towns and our residential areas include only 29% of our landmass. The use of alternative routes seems to have fallen on deaf ears, even though the whole line under Little Bay was abandoned and will now need to be built from scratch. Now is the time to plan for the future but ISO NE, evidently, will only look 10 years out in its planning.

8. The best way to avoid impacts on the historic resources in Newington is to use directional drilling under the Wildlife Refuge to connect the cables that cross Little Bay to Arboretum Drive. Unital Corporation successfully used directional drilling under the Little Bay Bridges so its electrical lines can transit the Piscataqua River. (*Newington Neighbor #177, attached*). Eversource has not addressed directional drilling in its application.

Though more expensive, using directional drilling under Little Bay from Durham to Newington would also prevent the contamination of the Bay that will come from the proposed waterjet, trenching plan.

Furthermore, the current plans calls for the transmission line to be buried under the Hannah Lane and Gundalow Landing developments and the Frink Farm once the last sign-off is obtained from the federal easement holder. Using directional drilling under the short span of the Wildlife Refuge and then trenching along the north end of the Pease runway would not be that much longer than the underground sections Eversource has already proposed.

9. The best way to avoid impacts on the historic resources in Newington is to have a viable "decommissioning plan" in place before this project can be approved. How else can the lost opportunity costs of not building the transmission line along Arboretum Drive on the Pease Tradeport be adequately assessed?

10. The best way to avoid impacts on the historic resources in Newington is to use a transformer project to increase the supply of electricity to the seacoast region and not to expend funds to construct a Little Bay undersea crossing that once in place will be a sunk cost that future project planners will not want to lose when addressing alternative utility ROWs outside of Newington's residential district. Long term planning should not be sacrificed for short-term expediency.

11. The best way to avoid impacts on historic resources in Newington is not to relocate the existing 34.5 kV transmission line along Little Bay Road and Nimble Hill Roads. These roads are in the Newington Historic District and are scenic roads under state law. Cutting back more trees and disturbing existing stonewalls will physically damage the historic roadways and will significantly alter the landscape and view when travelling on these roads. Leaving the 34.5 kV line in its current location would have less of an impact on historic resources.
12. The best way to avoid impacts on the historic resources in Newington is to delay this project until our Congressional leaders can amend the rules governing the Wildlife Refuge to allow a new utility corridor to be designated on the north end of the Pease Tradeport and bordering or under the Wildlife Refuge. This corridor would provide direct access to the power plants on the Piscataqua River and would not introduce a new electrical transmission use into the existing residential ROW that until now has only had a distribution use.
13. The best way to avoid impacts on the historic resources in Newington is to prioritize the residential areas of Town. Newington's people should NOT be less important than the animals on the Wildlife Refuges, the oysters in Little Bay, or the profits of Eversource. We, too, are members of the New Hampshire Public and no town in the whole State is doing more to provide electricity and heating fuel to others in the State, than Newington.

All current indications are that Eversource will not adopt any of these avoidance measures and that their proposed minimization plans will not eliminate all the impacts. Mitigation of adverse effects will be necessary.

Adverse Effects on Newington Historic Resources

Alfred Pickering Farm and other historic resources in Newington

14. The current plan calls for higher, wooden, H-frame poles to be constructed on the Alfred Pickering Farm, and for higher, larger, metal poles, some of which will rest on a drilled pier, to be constructed in other areas of the residential zone.
 - The existing, single wooden poles are smaller in diameter and much shorter.
 - Currently, there are no metal poles in the residential area.
 - Currently, there are no drilled piers (concrete?) in the residential area.

It will be difficult to maneuver around the H-frame poles and difficult to keep poison ivy, vines, and brush from growing up between the two-pole configuration. These invasive plants will grow out from the structures and infiltrate the surrounding field decreasing the quality of the hay. Using a brontosaurus every 4 years or so to thrash growing brush and small trees to smithereens leaves a lot of wood pieces on the ground giving rise to some gigantic ant colonies.

Over the last decades since the distribution line was constructed in the ROW, Eversource has only kept part of the width of the 100-foot strip cleared of brush and trees. As a result many tall trees have grown up that will now be removed. This activity will immediately alter the landscape, setting, and viewscape on the Farm.

The proposed structures will (1) not only change the character of the landscape but will (2) cause physical destruction in the sites where they are located and (3) cause negative visual effects when seen by the public from the road or by everyone during their day to day activities on the Darius Frink Farm or Alfred Pickering Farm where they are haying, bush hogging, walking, etc.

The Alfred Pickering Farm is still used for haying, animal paddocks/fences, and animal grazing. In addition, we continue to reclaim pastures and cut trees and brush and mow to keep areas passable. We request that all tree trunks and limbs and brush be removed from the property to keep the ROW and abutting areas free of obstacles.

Proposed Transition Structures

15. The people of Gundalow Landing, Hannah Lane, and the Darius Frink Farm wanted the proposed transmission line to be underground rather than overhead. Unfortunately, the downside to underground lines is the construction of transition structures where the line goes from underground to overhead. Because of these transition structures, we feel that overhead lines would be less damaging to the agricultural fields and overall viewscape and would better minimize the impacts of the SRP project. However, we are happy for these other property owners if underground development of their properties is what they want.

16. The current plan calls for 3 transition structures consisting of 9 poles to be constructed in the residential zone. These transition structures will have significant adverse impacts on historic resources. The residential area currently has NO metal utility poles. The existing single, wooden poles in the ROW are much shorter and less intrusive in the landscape and viewscape.



Eversource gave this example of the proposed structures (the photo was taken on Borthwick Avenue by the Portsmouth Regional Hospital).

October 5, 2015 email:

Sandra Gagnon, Eversource Transmission Project Outreach Municipal & Community Relations

“The transition structure in Portsmouth (in your picture) is 75 ft tall (The transition structures for SRP are proposed at **65 ft tall**).

For the three pole structure, the two outside poles have a **diameter (at the bottom) of 39 inches**. The center pole has a diameter (at the bottom) of 31 inches. The top diameters for all 3 poles is around 16 inches.

The SRP transition structures are designed to sit on **drilled concrete caisson foundations that are anticipated to be 7 feet in diameter** (similar to the foundations in Portsmouth); however, the exact foundation size may vary depending on the soils in the area.”

Physical destruction of a part of the Darius Frink Farm field will occur when a transition structure is built there. The large metal poles of the transition structures sit on large concrete foundations. The existing 34.5kV wooden distribution poles do not have concrete foundations. The 3 concrete caisson foundations for the transition structure will cause physical damage to the area where they will be located. It will be difficult to maneuver around the poles and difficult to keep poison ivy, vines, and brush from growing up between the poles. These invasive plants will grow out from the structures and infiltrate the surrounding area.

These structures will (1) not only change the character of the landscape but will (2) cause physical destruction in the sites where they are located and (3) negative visual effects when seen by the public from the road or by everyone during their day to day activities on the Darius Frink Farm or Alfred Pickering Farm where they are haying, bush hogging, walking, etc.

Proposed Removal of the Existing 34.5 kV Distribution Line

17. The current plan calls for removing the existing 34.5 kV distribution line in the ROW. The distribution line already feeds several housing developments in town but Eversource will not allow the Pickering Farm to tap into the line, now or in the future.

Sandra Gagnon, Eversource Energy| Legends Drive, Hooksett
Transmission Project Outreach July 8, 2016

Distribution Line Removal

Eversource avoids tapping distribution ROW lines if at all possible for single customers or housing developments. Our distribution engineers have reviewed your property and explained to me that if you were to approach Eversource today wanting to develop your land, we would require the 2300 foot line extension that you referred to, even if the ROW distribution line were still there and had no plans to be removed.

We do this because failed equipment on small taps can result in having to take the entire line out of service and therefore impacting service to larger groups of customers. In addition, with a tap off of the ROW line, if there was ever an issue with the ROW line and it had to be taken out of service, the development or homes tapped off the ROW line would not be fed from a difference direction because there would only be one feed and it would be out of service until repaired.

Also, the existing distribution ROW line is an active line that feeds many customers on Little Bay Rd, Gundalow Landing, Cove Dr, Captain's Landing, and McIntyre Rd.

The net result for us is the added expense of burying up to 4 stretches of electric line and internet/phone lines up to 2,300 feet from the front of the property to the back of those portions of the Pickering Farm owned by us, my sister, and our brother. This seems irrational to us because the existing ROW already crosses these properties halfway from the front to the back of the farm.

OK, so Eversource wants to pass more costs onto us – all the more reason that if the SEC grants the SRP proposal then Eversource should not be allowed to develop a new transmission use on our property scot-free.

18. The current plan calls for removing the existing 34.5 kV distribution line in the ROW but it is not clear whether the entirety of the poles will be removed on the Alfred Pickering Farm. Since the farm fields are still used for haying, animal paddocks/fences and animal grazing, we request that the whole pole be removed and nothing remain either as an obstacle above or below ground.
19. Eversource says removal of the 34.5 kV distribution lines across the Alfred Pickering and Darius Frink Farms would minimize the impacts from this project. This argument seems implausible because relocating these lines along Nimble Hill Road, Fox Point and Little Bay Road will certainly cause adverse impacts that are not discussed and would permanently alter the historic stonewalls, scenic road designations, and rural landscape and views along the roadways. More trees would need to be cut, bigger poles would likely be used, and any existing stonewalls damaged. Strange as it may seem, the 34.5 kV distribution line is a part of the historic fabric and landscape of the Town because it was constructed in the 1950s in response to Pease Air Force Base and the Cold War coming to Town. Removing it destroys this historical connection.

Owners Do Not Want the New Transmission Line to be Underground across the Alfred Pickering Farm

20. The Alfred Pickering Farm has been in our family for six generations and soon will pass to the next generation. It is not in current use and has no easements except the Eversource ROW.

Eversource has overhead rights but no underground rights. We do not want Eversource to construct a huge trench across our property and permanently bury a large concrete duct bank there. My husband and I have worked hard for 27 years to keep 37 acres of the farm from being developed and have no wish to be forced by eminent domain to give Eversource development rights for their project.

21. Up until recently our steers and alpacas could freely drink from the springs and streams on our property. But this water is now contaminated with PFOAs and PFOSs that have leached off the former Pease Air Force Base. The levels of these contaminants are at least 10 times higher than the safety threshold for human health. Animals that drink the water are impacted and cannot be sold as organic.

When we operated the baseball field in the middle of what is now a hayfield, we used a gas-powered generator, high and low capacity pumps, and above ground piping to bring water from the spring to the field. We can no longer use the water in the spring.

Any plan to bring a water line from Little Bay Road to provide water to animals in the back paddocks or for a son to build a home by the woods so as not to impact the hayfields would be severely impacted by a concrete duct bank that transects the fields and is buried just four feet underground. Water lines also need to be four feet underground.

We have not been able to get an idea of what costs are involved to put water lines over a duct bank. We understand that it can be done but how much does it cost to do it? Being told by a town representative that bringing in fill to build up the area over the duct bank wouldn't cost us that much is not helpful. Eversource has given us non-committal answers.

Sandra Gagnon, Eversource Energy | Legends Drive, Hooksett
Transmission Project Outreach July 8, 2016

Underground Construction

It is impossible to know if there is any cost difference to a developer between crossing an easement containing an overhead line vs. an underground line as there are a variety of factors that influence what and if any work is required to accommodate the change. It depends on where the crossing occurs, what type of material and utility crossing it is, changes to grading, etc.

Having the transmission lines overhead is much simpler and will not push added costs onto us for continuing to use our own property.

22. The construction of an underground concrete duct bank would require additional cost if we wish to use the property north of ROW and need to bring underground telecommunications cables across the duct bank. The 115 kV transmission line has powerful electromagnetic oscillations that may necessitate shielding telecommunication cables or installing them at greater distances from the transmission lines. We know that these crossings can be done but we have not been given any guidance on what would be involved and how much it would cost.

Having the transmission lines overhead is much simpler and will not push added costs onto us for continuing to use our own property.

23. The burial of a transmission line duct bank would have adverse impacts on the agricultural fields of the Alfred Pickering Farm and those parts of the farm now owned by my sister and brother that we continue to hay. The whole width of the Farm would be trenched to 8 feet in depth to accommodate a concrete duct bank buried 4 feet deep.

When constructing and operating the baseball field in the middle of one of our hayfields, we learned a lot about the negative impacts of digging up a hayfield. It takes years for a field to recover after rearranging the topsoil and gravel beneath. It is less drought resistant, prone to topsoil blowing away, prone to grub and insect infestation, and produces much less hay. How permanent the physical damage will be remains to be seen after 5 years of returning the baseball field to a hayfield. Grass grows back but it is not as healthy and we are still adding manure, insecticides, lime, and fertilizer to recover it.

Constructing a concrete duct bank 4 feet to 8 feet deep across the width of the Alfred Pickering Farm will create a permanent barrier to underground water seepage and drainage. It would bisect wetlands and streams on the Farm. We are in the process of reclaiming a fallow field to the east of the farmhouse for alpaca grazing and do NOT need any more water accumulating in this field. Anything that prevents or slows the water from draining from the field is a negative impact that we should not be responsible for solving at more cost, work, and time.

In addition, constructing a concrete duct bank 4 feet to 8 feet deep across the width of the Alfred Pickering Farm could alter the flow of the PFOA/PFOS contaminated water that comes up from underground in the springs of the Farm and flows across and away from the Farm in various streams. This water is more than 10 times above the level for human health hazards and we do not want the animals drinking it. Anything that causes the water to be retained in our fields would be a serious negative impact.

For all the above reasons, we prefer the overhead transmission line option as opposed to the underground option because we believe there will be less actual and less potential physical destruction to the fields that the Pickerings have used for farming since 1788. In addition, overhead lines would result in less cost to us for continuing to use our property.

Mitigation of Adverse Impacts if the Transmission line crosses the Alfred Pickering property overhead

- Minimize the impacts of the three proposed transition structures by surrounding them with trees that grow slowly and only to a medium height. Examples include hemlock, red cedar, and Canaan fir.

- Construct and maintain a permanent bridge made of wooden piers and timber planks, which is wide enough and strong enough to provide vehicle access, across the wetland bisecting the Alfred Pickering Farm. This timber bridge will provide access to future Eversource contractors to access and maintain the ROW and new transmission lines. Currently, most all contractors ask to cross our hayfields with their heavy equipment when accessing the ROW in either the East or West directions. If Eversource is allowed to introduce a new use into the existing ROW, its contractors should be able to service and maintain that new use solely in the existing ROW and not by crossing private property outside the ROW.
- With property owner permission, rebuild new stonewalls and/or repair existing ones along the Towns roads (Nimble Hill Road, Little Bay Road, Fox Point Road, etc.) that will be impacted by the relocation of the 34.5 kV distribution line from the ROW to the side of the road. The stonewalls may need to be constructed around trees that people wish to preserve. Under NH RSA laws, Newington adopted these roads, many of which are 200-300 years old, as scenic roadways and they are part of the Town's historic resources. A section of the stonewall in front of the Susan Gordon property at 299 Little Bay Road, previously 1.84 acres of the Pickering Farm, has already been restored.
- Restore the Pickering Family cemetery that is a scant distance away from the proposed new transmission line (requires approval by Judy Pickering Poulin). Restore the granite post and iron rail fence, remove some trees inside and outside the cemetery, and have a forester address ways to prolong the life of the giant oak tree that stands over the cemetery.

Mitigation of Adverse Impacts if Eminent Domain forces the development of the Transmission line underground across the Alfred Pickering Farm

- Minimize the impacts of the proposed transition structures by shielding them with trees that grow slowly and only to a medium height. Examples include hemlock, red cedar, and Canaan fir.
- Construct and maintain a permanent bridge made of wooden piers and timber planks, which is wide enough and strong enough to provide vehicle access, across the wetland bisecting the Alfred Pickering Farm. This timber bridge will provide access to future Eversource contractors to access and maintain the ROW and new transmission lines. Currently, most all contractors ask to cross our hayfields with their heavy equipment

when accessing the ROW in either the East or West directions. If Eversource is allowed to introduce a new use into the existing ROW, its contractors should be able to service and maintain that new use solely in the existing ROW and not by crossing private property outside the ROW.

- In two places to be designated, construct underground utility lines that travel from Little Bay Road to a spot north of the ROW that contain a large water line and conduits for electricity and telecommunications cables. The underground lines and above ground terrain should comply with Eversource's own requirements and with the Town zoning rules for a road crossing over Eversource's buried underground duct bank.
- Contribute to the estimated \$200,000 worth of projects for foundation/sills, drainage/gutters, and retaining walls that must next to be done to preserve the historic Pickering Farm barn, carriage shed, and farmhouse entry.
- Address drainage across the east field of the Pickering Farm to the wetlands north of Eversource's underground duct bank to maximize drainage of the field. Permits would likely be required because some type of plastic/metal culverts may need to be installed in the area where the underground duct bank crosses the wetlands.

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D. Scott Campbell, Langdon Library Director 2007 - 2014

Unitil Drills Under the Piscataqua River to Replace its Natural Gas Pipeline



In 2013, Unitil had to find a way to replace a half-mile section of pipeline, which was attached to the underside of the Captain John F. Rowe Bridge between Newington and Dover Point.

The project was required to make way for the new Little Bay Bridges being built over the river and to enable Unitil to to inspect, service, and maintain its new pipeline.

The pipeline serves natural gas customers in both New Hampshire and Maine and runs continuously for about 100 miles from Haverhill, Massachusetts to Westbrook, Maine.

Unitil decided to relocate its existing pipeline by installing a new river crossing by horizontally and directionally drilling through



more than half a mile of riverbed and granite bedrock 35 feet under the bottom of Little Bay.

“From a technical engineering standpoint, this horizontal bore project was one of the largest and most complex undertaken in Unitil’s history,” Unitil media relations manager Alec O’Meara said. “Natural gas continues to grow in popularity in the region as a cheaper alternative to oil, and this new line not only replaces our old one across the bridge, but will allow us to continue to meet the rising demand in New England.”

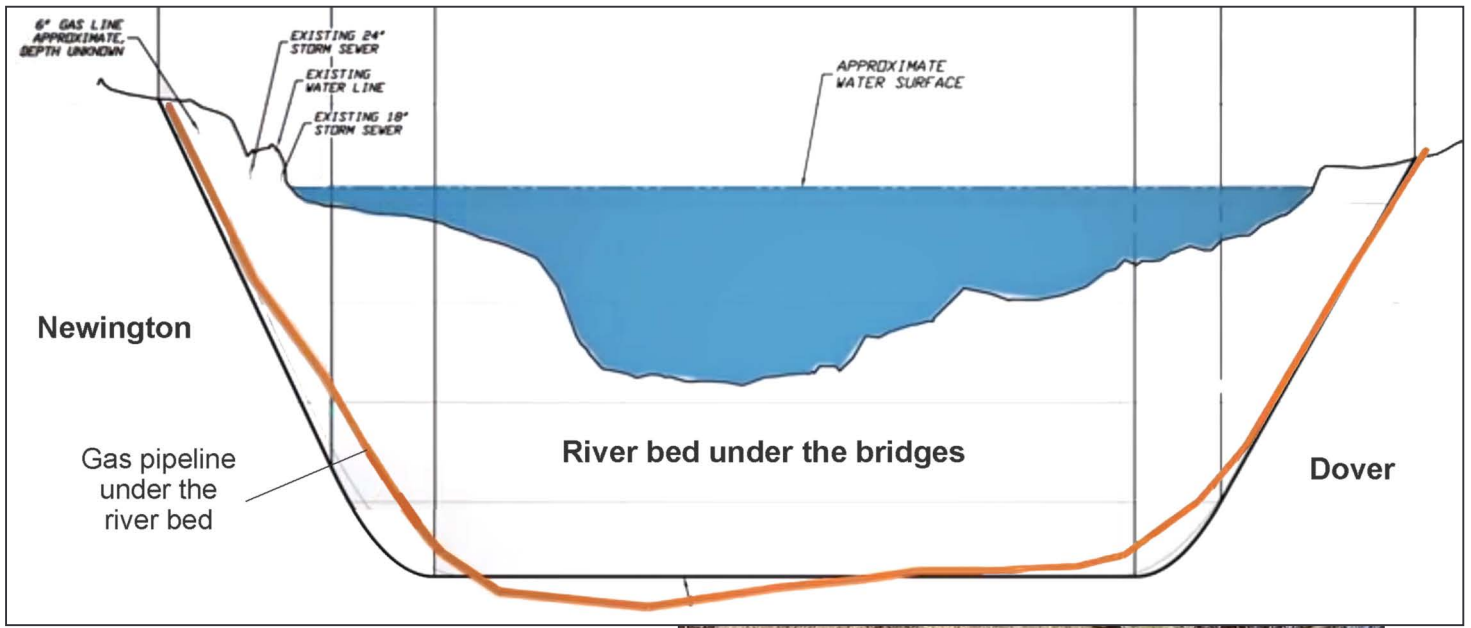


Top photo: Unitil and its contractor, Carson and Roberts, positioned a drill rig just north of Rockingham Electric for performing the horizontal directional drilling to Dover Point. This required the digging of a 15’x15’ and 30-foot deep pit.

Middle: The drill head was attached to a mud motor and threaded into the drill hole on the Newington side. As the drilling proceeded, 30-foot long sections of 4.5 inch drill steel were added.

Bottom: The drill rig was operated by someone in the white driller’s cabinet on the right. A guidance system tracked the position of the drill head carefully as it dug along its intended route under the riverbed.

Unitil Drills Under the Piscataqua River to Replace its Natural Gas Pipeline



To avoid impeding public access to Hilton Park in Dover and boat launch during the summer, the work was scheduled for winter.

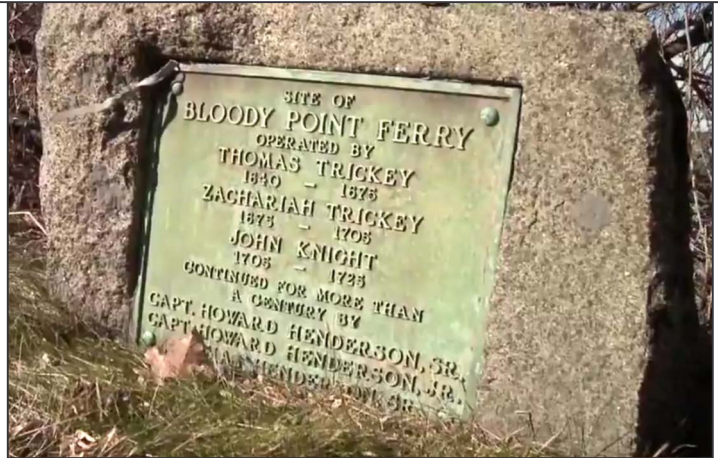
Underway during some of the coldest days of the year with wind chills of minus 20°F, crews drilled 2,600 feet horizontally and carefully monitoring the drill as it made its way underneath the river.

The project was complete in the summer of 2013.

JBC Communications of Portsmouth produced a video of the project that is available on You Tube and at these urls:

www.jbccom.com/2013/12/unitil-directional-drill-film/

www.carsoncorporation.net/2014/01/30/unitil-gas-little-bay-crossing-new-hampshire-video/



Above photo: The drilling occurred at Bloody Point in Newington, previous location of early ferries to Dover.

Bottom photo: After one week and one day of drilling in February 2013, the pilot hole had made the halfway mark under the river, having dug through some very hard rock. The photo below shows the drill bit breaking through the ground in Dover 0.5 miles from its entry point and after 1.5 weeks of drilling.



Unitil Drills Under the Piscataqua River to Replace its Natural Gas Pipeline



Left and bottom photos: After the drill hole was complete, gas technicians welded together three sections of steel pipe and laid out the half-mile of pipe in its entirety on the Dover side.

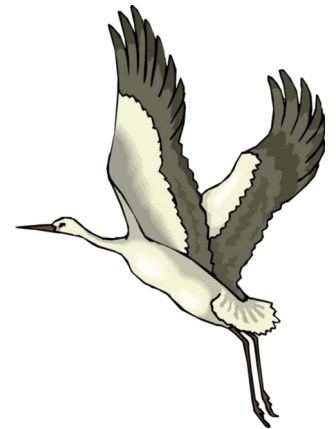


Photo above:

The welded pipe was threaded through the newly formed hole on the Dover side and pulled all the way under the river to the Newington shore.

As the pipe was pulled through to Newington, first the 30-foot sections that did the drilling were removed and finally the attached gas pipeline emerged from the hole on the Newington shore at 2:30 a.m. (right photo).

