

120 St. James Avenue, 5th Floor  
 Boston, Massachusetts 02116  
 United States  
 T +1.617.242.9222  
 F +1.617.242.9824  
 www.jacobs.com

**Subject**                    **Weekly Monitoring Report – SRP Submarine Cable Diver Burial Activities**

**Client**                    Eversource Energy                    **Date**                    December 12, 2019

**Project**                    Independent Environmental Monitoring, Little Bay Submarine Cable Installation, Seacoast Reliability Project

**Project No.**                E2X85301                    **File**                    Daily Monitoring Report\_SRP Little Bay IEM\_Diver Burial Week 2 12-1 to 12-7

**Prepared by**              Jeffrey Nield                    **Phone No.**              617-963-3109

**Copies to**                    Gregg Comstock, NH DES  
 David Price, NH DES  
 Chris Nash, NH DES  
 Kurt Nelson, Eversource Energy  
 Pamela Munroe, NH SEC

### Weather Observations

Sunday, December 1, 2019	No work activity – Holiday Break
Monday, December 2, 2019	No marine work activity – Weather hold
Tuesday, December 3, 2019	No marine work activity – Weather hold
Wednesday, December 4, 2019	No marine work activity – Weather hold

Thursday, December 5, 2019			<b>Est. Tides:</b> 7:14 a.m. High; 1:15 p.m. Low	
TIME	WIND (DIRECTION AND SPEED [MPH])	VISIBILITY (NM)	PRECIPITATION (PREV. 24H)	COMMENTS
07:00	8 W, gusts to 16	>5 NM	-	28°F/sun & clouds
13:00	12 W, gusts to 21	>5 NM	-	41°F/sun & clouds
16:00	12 W, gusts to 25	>5 NM	-	36°F/clouds

Friday, December 6, 2019			Est. Tides: 8:05 a.m. High; 2:11 p.m. Low	
TIME	WIND (DIRECTION AND SPEED [MPH])	VISIBILITY (NM)	PRECIPITATION (PREV. 24H)	COMMENTS
07:00	9 W, gusts 21	>5 NM	-	21°F; sun & clouds
13:00	8 SW, gusts 14	>5 NM	-	34°F; clouds & snow
16:00	3 SE, gusts 7	>5 NM	-	32°F; snow
Saturday, December 7, 2019			Est. Tides: 8:53 a.m. High; 3:05 p.m. Low	
TIME	WIND (DIRECTION AND SPEED [MPH])	VISIBILITY (NM)	PRECIPITATION (PREV. 24H)	COMMENTS
07:00	7 NW gusts to 15	>5 NM	0.10"	18 °F; sun
13:00	8 NW gusts to 13	>5 NM	-	30 °F; sun
16:00	8 NW gusts to 15	>5 NM	-	24 °F; sun

### Summary of Work Activities

Day/Date	Work Description
Sunday, December 1 – Wednesday, December 4, 2019	No marine work.
Thursday, December 5, 2019	<p>No east side diver burial team available due to diver illness. One diver team available today.</p> <p>West diver burial start at 0815 for burial and inspection of fiber optic and power cable due to turbidity barrier anchor fouling (last week). All stop due to need to inspect and repair cable on west side. Dive barge moved from west to east side.</p> <p>East side diver burial in channel at boundary of east side turbidity barrier from 1230 to 1615.</p> <p>Water quality monitoring using one water quality crew (one vessel) for the duration of diver burial including pre- and post-hand-jetting monitoring per NH DES authorization to modify water quality monitoring plan.</p>

Day/Date	Work Description
	<p>Mackworth Env installed east side turbidity curtain (approximately 80% complete). Will require additional manipulation to avoid diver burial areas and anchor points for final configuration. Barrier not completely unfurled to avoid conflict with divers.</p> <p>Drone flying on east side. Capturing images of turbidity barrier setup and east side diver burial.</p>
<p>Friday, December 6, 2019</p>	<p>Diver burial east side only. No west side burial. Dive team on east side conducting burial from 0828 to 1605 with short breaks every 2 (+/-) hours.</p> <p>Water quality monitoring using one vessel for the duration of diver burial including pre- and post- hand-jetting monitoring.</p> <p>Drone flying. Capturing images of plume.</p>
<p>Saturday, December 7, 2019</p>	<p>Two dive teams on east side. Dive teams begin at 0831 and complete at 1530 with short breaks every 2 (+/-) hours.</p> <p>Water quality monitoring using one vessel for the duration of diver burial including pre- and post- hand-jetting monitoring.</p>

120 St. James Avenue, 5th Floor  
 Boston, Massachusetts 02116  
 United States  
 T +1.617.242.9222  
 F +1.617.242.9824  
 www.jacobs.com

### Diver Burial Progress (provided by LS Cable and Durocher Marine) through 12/07/19

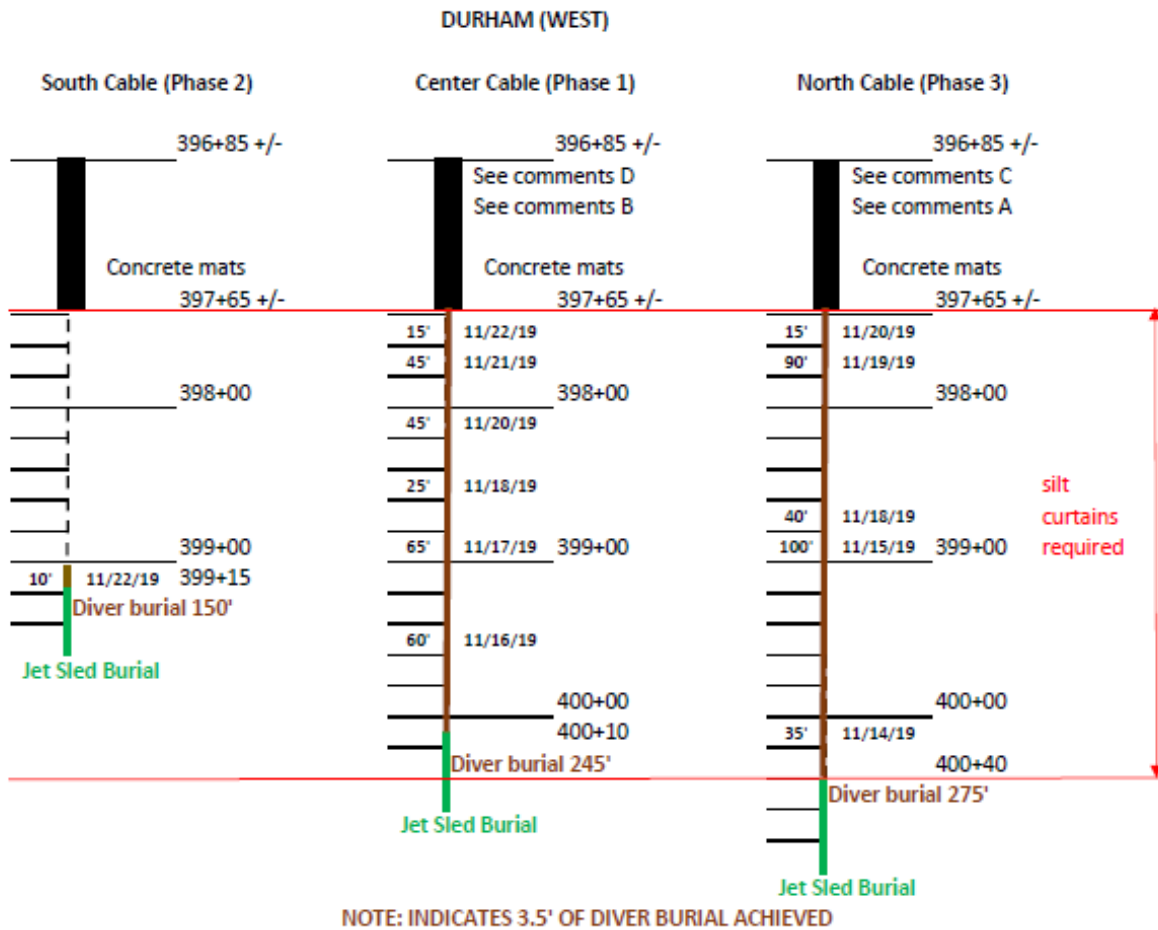
DIVER BURIAL TRACKING (see daily tracking graph)									
			Durham (west)			Gundalow Landing (east)			
#	Day	Sta. Start	South Cable (Phase 2)	Center Cable (Phase 1)	North Cable (Phase 3)	South Cable (Phase 2)	Center Cable (Phase 1)	North Cable (Phase 3)	Daily Total
			39915	40010	40040	44240	44185	44175	
16	Thu	12/05/19	Inspect	FO & Power	Cables	0	0	20	20
17	Fri	12/06/19	FO Cable	Repair	Required	0	0	60	60
18	Sat	12/07/19	0	0	0	45	0	40	85
<b>TOTAL</b>			<b>10</b>	<b>250</b>	<b>280</b>	<b>300</b>	<b>320</b>	<b>365</b>	<b>1525</b>
Sta. Stop			39905	39760	39760	44540	44505	44540	
% Complete			4%	102%	102%	57%	62%	79%	+/-

Diver Burial Total (ft.)	2170	100%
Completed to Date (ft.)	1525	70%
Diver Burial Balance	645	30%

Average Feet./Day	84.7
Days to Complete	7.6
Est. Completion Date	12/16/19

**Est. completion date does not include weather or no work days**

West Diver Burial Daily Tracking Graph 12-07-19



### Summary of Observations

Item	Observations and Notes
1	<b>Diver burial (hand jetting)</b> – Short work week due to end of Thanksgiving Holiday, diver illness and snow and ice on the barges. Burial activity on eastern side only in channel outside of turbidity barrier. See table above for contractor tracking of cable burial.
2	<b>Water quality monitoring</b> – Weather monitored for 72 hours before scheduled diver burial water quality monitoring events. Close communication with contractor and water quality teams whenever wind forecasts called for winds greater than 15 mph leading up to work days. No weather cancellations but wind conditions were closely monitored by IEM, Normandeau and Durocher.

Item	Observations and Notes
	<p>Swift ebb tide currents preventing divers on east side channel burial and resulting in 1 – 3 hour breaks on the east side on a daily basis. Water quality team taking breaks when possible. Drone images very useful in monitoring activity and observing a visual plume.</p> <p>No exceedances of BSAL reported to IEM throughout duration of the week. Turbidity readings during hand-jetting indicate very low increases in turbidity above background on both east and west sides. Normandeau providing daily water quality summaries to NH DES for previous day’s events.</p> <p>IEM able to view activity for Gundalow landing with binoculars and by work boat.</p> <p>Drone imagery continues to be useful to observe hand jetting activity. Drone continues to be used to guide the water quality monitoring team to run transects to “find” the plume with instruments. Water quality team did not detect elevated levels that could define a plume based on drone images. Any plume developed from hand jetting on the eastern channel edge quickly dissipated due to tidal forces.</p>

### Turbidity Data Reports and Photographs

Turbidity (NTU) Reported and Observations
<p><b>Boundary Station Action Levels (BSAL)</b></p>
<p>Tidal: BSAL = 15 NTU</p>
<p>Channel: BSAL = 16 NTU</p>
<p>Per NH DES, Normandeau is providing daily water quality summaries via email for hand-jetting activities.</p>

### Turbidity (NTU) Reported and Observations



East side diver burial in channel. Turbidity barrier is in initial installation stage with diver working just outside of barrier. Work barge with concrete mattresses in the background.

### Summary of Work Stops, Modification and Other Operational changes requested by the IEM during Operations

Item	
1	No water quality exceedances of the BSAL were reported. No work stops or modifications were requested by the IEM. IEM was in contact with Mackworth, Eversource, and Normandeau with regard to the location and installation of the turbidity barrier on the east side with respect to diver burial. IEM monitoring drone footage during drone flights to observe plume formation during diver burial. No work on west side due to issues with turbidity barrier movement and cable damage that resulted.

### Action Items

Item	
1	Daily diver burial on eastern and western sides of Little Bay scheduled to resume after repairs to damaged cable armoring (west side). Mackworth to maintain western turbidity barrier in working condition and complete installation of eastern turbidity barrier.  Once diver burial complete on west side, Mackworth will remove western turbidity barrier.

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my own inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate, and complete to the best of my knowledge and belief.

Signed: \_\_\_\_\_  \_\_\_\_\_

Jeffrey Nield  
Independent Environmental Monitor  
617-963-3109  
jeffrey.nield@jacobs.com

Dated: December 12, 2019