ADAM M. DUMVILLE
Direct Dial: 603.230.4414
Email: adam.dumville@mclane.com
Admitted in NH and MA
11 South Main Street, Suite 500
Concord, NH 03301
T 603.226.0400
F 603.230.4448

MCLANE
MIDDLETON

November 11, 2016

Via Electronic Mail and Hand Delivery

Pamela Monroe, Administrator
New Hampshire Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Re: SEC Docket No. 2015-04: Public Service Company of New Hampshire d/b/a Eversource Energy for a New 115 kV Transmission Line from Madbury Substation to Portsmouth Substation – Applicant's Witness Substitution for Anthony Troy Godfrey

Dear Ms. Monroe:

I write to inform the Site Evaluation Committee that the Applicant in the above-referenced matter is substituting a witness in support of its Application for a Certificate of Site and Facility, effective as of November 11, 2016.

The Application filed on April 12, 2016 included the pre-filed testimony of Anthony Troy Godfrey. Marc Dodeman, Director of Business Development and Project Manager for Caldwell Marine International, LLC, will be replacing Mr. Godfrey and will adopt his pre-filed testimony. Mr. Dodeman's pre-filed testimony and his resume are enclosed. To avoid any doubt, Mr. Godfrey will no longer be a witness in this proceeding.

Please contact me directly should you have any questions.

Sincerely,

Adam Dumville

Adam M. Dumville

AMD:

cc: SEC Distribution List

Enclosures

THE STATE OF NEW HAMPSHIRE

BEFORE THE

SITE EVALUATION COMMITTEE

DOCKET NO. 2015-04

PRE-FILED DIRECT TESTIMONY OF MARC DODEMAN

APPLICATION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY FOR A CERTIFICATE OF SITE AND FACILITY FOR CONSTRUCTION OF A NEW 115 kV TRANSMISSION LINE

THE SEACOAST RELIABILITY PROJECT

November 11, 2016

Qualifications and Purpose of Testimony

Q. Please state your name, title, and business address.

A. My name is Marc Dodeman and I am the Director of Business Development and Project Manager for Caldwell Marine International, LLC ("CMI") with a registered address of 1433 Route 34 South, Building B1, Farmingdale, New Jersey 07727.

Q. Briefly summarize your educational background and work experience.

A. I hold Bachelor of Science Degrees from Richard Stockton College in both Environmental Science and Biology. I joined the submarine cable industry as a fault locating technician at Margus Company in 1989. I moved into cable engineering and survey/navigation and trained as an ROV pilot / electronics technician, advancing to the offshore superintendent level. At Margus, I was promoted to Marine Project Manager overseeing international submarine cable installations. In 2001, I joined the Tyco Telecommunications' Shore Ends group, concentrating on marine operations as an Engineer-in-Charge (EIC.) At Tyco, I also served as PLIB (Post-Lay Inspection and Burial) EIC and attained my Type-C Powered Systems Splicing Certification, eventually being promoted to Sr. Project Coordinator concentrating on international submarine cable systems.

I departed Tyco in 2008 to join CMI as the Director of Business Development. Since coming to CMI, I have headed Business Development efforts as well as supported such projects as the Vancouver Island Transmission Reinforcement ("VITR") installation and the Bayonne Energy Corporation ("BEC") Transmission line installation in project management and customer liaison roles.

Please refer to my resume, Attachment A, for further details.

Q. Have you previously testified before the Site Evaluation Committee?

A. No, I have not.

Q. What is your role in the Project?

A. I am the Director of Business Development at CMI. CMI has been retained by Public Service Company of New Hampshire to support the Project and to provide technical expertise for the permitting and marine construction of the underwater portion of the Project.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide information regarding the permitting and construction of the underwater portion of the Project. I will be replacing Anthony Troy Godfrey for the purposes of testifying in support of the Project.

Underwater Construction

Q. Please describe Caldwell Marine's experience installing and maintaining underwater electric transmission lines.

A. Caldwell has extensive experience in this area. Most recently, Caldwell directed the installation of PSNH's affiliate, NSTAR Electric Company's 23 kV distribution submarine cable system between Falmouth and Martha's Vineyard. Other recent major projects under our responsibility were the New York Power Authority submarine cable repair support operations, the Brooklyn to Bayonne (Hess) 345 kV cable system, and the Vancouver Island 242 kV Transmission Reinforcement Project. Full details of Caldwell Marine's history, structure, and experience can be found in the document "CMI History, Structure, Key Projects, and Personnel 2014" in Attachment B.

Q. Please describe the existing cable corridor for the Project.

A. The existing mapped cable corridor runs from West to East across Little Bay. It can be located on National Oceanographic and Atmospheric Administration ("NOAA") Chart #13285 just adjacent to Welsh Cove. For further details, please refer to the document "NOAA Chartlet Little Bay Crossing," Attachment C.

Q. Please describe the cable survey that CMI conducted.

A. Caldwell performed a dive survey of the area to determine the location and condition of existing out-of-service cables crossing Little Bay within the cable corridor. During the dive survey, divers made positive contact with all of the existing cables within the PSNH charted cable corridor in a non-invasive visual dive survey, and critically obstructive existing cable positions were verified. In all diver reported accounts, the physical condition of all existing out of service cables had been found to be structurally sound. The sediment found to be covering the cables in the inspection area trended toward soft, non-cohesive fine sands and soft mud with burial depths ranging from a maximum of 24" to areas of full exposure. Finally, divers reported that in none of the inspection sites were any of the cables found to be cemented

in place by stiff sediment overburden or silt/clay accretion. Complete details can be found in the document "F107 Cable Survey Final Report (31Jul14)," Attachment D.

Q. Please describe what data was collected during the marine route survey, and describe how Caldwell Marine utilized the Marine Route Survey data that was collected by Ocean Surveys, Inc. (OSI) in the cable corridor area.

A. A Marine Route Survey (Marine Geophysical Survey) was performed April 20-23, 2013 by Ocean Surveys, Inc., (OSI) at the behest of Power Engineers, Inc. The tasks undertaken during this marine route survey were:

1) A hydrographic survey to determine water depths and record the existing topography.

2) A shallow subbottom profile survey to map shallow subsurface geology and identify buried submarine utilities.

3) Deep subbottom profile survey to map deeper subsurface stratigraphy and geology.

4) Side scan sonar survey, to map surficial sediments and obstructions as well as identify exposures of existing submarine utilities.

5) Magnetic intensity measurements, to measure the deviation in the earth's total magnetic field generated by ferrous objects on and below the bottom.

Subsequent borings were taken along the anticipated submarine cable route by Normandeau Associates Inc. Geotherm, USA, an underground and underwater substrate testing company, analyzed the cores to provide further subbottom data in terms of geomorphology and substrate plasticity to assist in determining thermal resistivity and burial feasibility.

Caldwell Marine utilized this data to determine soil characteristics, identify obstructions and assess burial feasibility.

Q. Please describe how existing sections of the inactive cables that are currently in the cable corridor will be removed.

A. Data acquired by OSI during the Marine Route Survey will be utilized by to provide rough positioning of the existing out-of-service cables. Reference positions will be entered into a navigation suite, which will act as the central navigation system of the cable removal barge.

The installer will utilize surface grapnels to hook the existing power cable bringing the end on board. Divers may be used to assist in locating the cable end and using a hand jet as needed to free the cable from the bottom.

Once a cable end is on board and a suitable length laid out on deck, it will be tied off with chain stays and sections will be cut off and prepared for onshore disposal. The barge will move along the cable and sections will be cut off until it is determined that the section of the cable corridor needed for the new cable system is clear. Should the cable snap before being entirely cleared from the route, additional grapnel runs or diver locates will be undertaken to relocate the cable and continue clearing the route.

Only sections of the existing out-of-service cables will be removed to create a clear route for the new cable system.

Q. Once the new 115 kV cables are ready for installation, how will the cables be transferred to the Project site?

A. Cable reels will be delivered by the manufacturer to a local port. At this time it is understood that the local port will either be a commercial dock in Newington, NH, or the Schiller Station which is expected to have a suitable berth and dock facilities to allow for heavy lift crane operations.

It is expected that only one power cable reel will be loaded and installed at a time. The barge will return to the storage dock between installations. Separate loading and installation operations are necessary due to the weight of the cable reels. Individual reels will be loaded between installations to allow the barge to operate with minimum draft.

Q. Please describe the jet plow.

A. The cable jet plow is a device which is laid on the seafloor and towed from the barge. Its main mechanical components are two skids which allow the sled to slide across the bottom, and an articulated blade which rotates down into the seafloor. The blade is fitted with water injectors along its leading edge which emulsify the sediment immediately ahead of the blade greatly reducing the force required to pull the plow forward. The cable is strung through the plow blade from the barge, and as the plow moves forward, the cable runs through the blade and is left embedded at a pre-determined depth underneath the seafloor.

Q. Please describe the process for making landfall on both the western and eastern sides of Little Bay.

A. The west shore of Little Bay will be the initial landing site for all three cable runs. They will terminate on the East shore. The cables will be landed into a common open-cut trench at each landing area. These trenches will extend as far seaward as practicable as can be reached by a tracked excavator at low tide. The landing trenches will be dug deep enough that a minimum of 42 inches of cover from the top of installed cables is met. The common landing trenches will be approximately 3 to 5 feet in width. Typically, personnel staffed at the beach landings will include experienced project managers familiar with cable landing operations, field supervisors, and site engineers.

A jet plow will be set as close to the shoreline as possible at high tide to minimize the amount of diver burial between the end of the open-cut landing trench, and the start of the plow launch position. The cable, strung through the plow at its initial launch position, will be hauled ashore until its end is at the position of the transition structure with a suitable amount of over-pull to allow the cable engineers to terminate the end at the transition structure. Once the cable end is secured ashore, the jet plow will start moving seaward along the planned route. This initial landing procedure will be performed for all three cable installation runs.

The Eastern shore landing will be the final landing site for all three cable runs. The jet plow will be towed as close to the shoreline as possible at high tide to minimize the amount of diver burial between the plow recovery position and the end of the open-cut landing trench. At the Eastern shore landing, the cable will be unloaded from the jet plow by divers. A sufficient amount of cable to reach the termination point will be floated from the barge and pulled to shore. This initial landing procedure will be performed for all three cable installation runs.

Q. Please describe the submarine cable installation process.

A. Submarine power cable installation will be performed from an installation barge equipped with a four point mooring system. The lay barge will be fitted with a Dynamic Global Positioning System ("DGPS"), which will allow for the precise positioning of the lay barge and towed jet plow system.

The installation plan calls for laying the submarine cables from reels in three continuous parallel runs from shore to shore. The first installation run will include one power cable segment with one externally strapped fiber optic cable segment bundled in the same trench. The second

installation run will include one power cable segment with one externally strapped fiber optic cable segment bundled in the same trench. The third installation run will include one power cable segment. The cables will be installed using a jet plow.

Following each simultaneous lay/burial jet plow operation, the lay barge will be towed back to the staging port to load the next reel of cable segments.

The cable lay barge will likely be a 180'x 54' barge fitted with a four point anchor winch system, and may also include a centrally placed pulling anchor. All anchors will be controlled by anchor winches on the barge, this will allow precise movement of the barge across Little Bay by controlling the anchor wires.

The cable lay barge is fitted with a DGPS that is capable of positioning the barge and jet plow to +/- 1.0 meter accuracy. The lay barge will be supported by a dedicated support tug boat, a crew boat to ferry crew and customer representatives to and from the barge, and several small work skiffs.

The jet plow will be controlled from the barge utilizing a program that allows for the accurate real-time measurement of cable positioning as the installation occurs, residual cable tension, and burial depth.

Cable handling will be controlled utilizing specialty linear cable engines and powered reel stands to precisely control the pay-out and hold-back of the cables during the installation operations.

Cable landfall operations will include the use of a large winch on the beach. This will be used to haul the cable end onto the beach at the beginning and the end of each cable laying and burial run. The winch will be fitted with a dynamometer to ensure the cable tension during the pull-in operation stays within manufacturers recommended ranges.

Per National Electrical Safety Code ("NESC") requirement, the minimum the submarine cable can be buried at any point is 42 inches. The 42-inch requirement will extend from the landing trench out to the start of plow burial. Once the plow progresses to the line delineating the deep water channel, the plow blade will be lowered to the 8-foot burial depth. A minimum of 30 foot separation between the cables is required in the area where jet-plow installation is taking place, as this is the minimum safe working distance of the plow from each previously installed cable section. Wherever a 42-inch burial cannot be achieved with the jet-plow, articulated concrete mattresses will be installed over the top of the submarine cables. The intent

of the concrete mattresses is to provide the submarine cables with robust, permanent protection from forces of external aggression such as anchors and fishing gear strikes.

Each run will have an initial cable landing on the Western shoreline, and be installed from West to East. The final landing (end being floated in) will occur from the end of plow position to the Eastern landing.

The remaining sections of cable between the open-cut trench on the shorelines and the end of the jet plow operation will be buried by divers using a hand jetting process. Prior to the start of diver burial operations at the Western shore landing area, a turbidity curtain will be deployed surrounding the entire work area. As divers bury the cable utilizing a jet hose, the deployed turbidity curtain will create a barrier to prevent suspended particulates from being allowed to migrate from the vicinity of the work area. Prior to the start of diver burial operations at the Eastern shore landing area, a turbidity curtain will be deployed around the intertidal portion of the work area. As divers bury the cable utilizing a jet hose, the deployed turbidity curtain will create a barrier to prevent suspended particulates from being allowed to migrate from the vicinity of the work area.

Q. How will PSNH ensure that the underwater segments of the Project comply with all of the requirements of the Certificate of Site and Facility when implementing the construction plan, including, the conditions set under each State and federal permit?

A. PSNH will require all contractors to comply with the requirements identified in the Certificate of Site and Facility in performance of this installation. The installer will be required to provide all as-built documentation for submittal to NOAA for the purposes of nautical charting. Per final permit requirements, it is anticipated that an environmental monitor will be on-site during the marine operations.

Q. Please describe any maintenance that is required for an underwater electric transmission line of this nature.

A. Typically, no maintenance is required on a buried submarine cable. Should a break occur due to a high voltage blowout or fault due to external aggression, the cable will be cut, raised to the surface, a section of new cable spliced in, laid on the seafloor, and diver buried and/or covered with an articulated concrete mattress.

Q. Does this conclude your testimony?

A. Yes, it does.

ATTACHMENT A.

RESUME OF MARC DODEMAN

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Marc Dodeman

EDUCATION

- Richard Stockton College, Bachelor of Science, Biology, Marine Ecosystems Core Studies, May 1996
- Richard Stockton College, Bachelor of Science, Environmental Science, Oceanography Core Studies, May 1995

EXPERIENCE

2008 to Present — **Caldwell Marine International, LLC** — Farmingdale, NJ

Director of Business Development

Director of Business Development, Marine Services and Construction. Responsibilities include the acquisition and development of business opportunities and coordination of commercial sales. Secondary tasks include marketing and contract management, as well as field project management associated with survey and navigation operations.

Martha's Vineyard - Falmouth Cable System
Martha's Vineyard Cable Repair
Prysmian Long Island Sound Cable Repair
Hudson River Burial Verification Program
Ocean County Outfall Pipe Repair
Bayonne Energy Corporation, BEC Brooklyn to Bayonne 345kV Submarine Power Cable System
Anderson Island Fault Locating
Vancouver Island Transmission Reinforcement Project (VITR)

2006 to 2011 — **Tyco Telecommunications** — Morristown, NJ

Senior Project Coordinator, Marine Services Group

Responsibilities included sales support to the Vice-President via preparation of the Marine Cost Estimates included in bids and proposals. Position included in-situ Project Coordination including schedule development / management and management of associated marine construction budgets. The Sr. Project Coordinator position involved the management of personnel, vessels, equipment, logistics, and high profile customer interface.

Cable Engineer; Shore Ends Group. Primary responsibilities included all phases of installation, both marine and terrestrial, from the shore end demarcation to the cable terminal. Certified Raychem and Type-"C" jointer. Proficient in the use of various HV test equipment as well as various fusion splicing machines and optical test equipment. Due to prior experience, secondary responsibilities evolved into "Engineer in Charge" position for various shallow and deep water PLIB (ROV) projects.

- October 2006 – October 2008: Trans-Pacific Express (TPE) Senior Project Coordinator SPC and sole Marine Coordinator for the entire Marine Installation program. Responsibilities included coordination of up to twelve main-lay, shore end, freighting, route clearance, and PLGR vessels simultaneously for the duration of the project. Was the sole Tyco Marine representative at all CCM meetings in China, Taiwan, Korea and the US, presenting status summary on a six-weekly basis and closing any contractual issues raised by the TPE consortium composed of delegates from Verizon Business, Korea Telecom, China Telecom, Chunghwa Telecom and the China Network Communications Group (CNC.) Reported on a daily basis to the Directors of Marine Services and Project Management, and submitted financial and budgetary tracking information to the Director of Finance monthly. Managed subcontractors from Alcatel, SBSS (China,) Hitachi Cable, and NEC/OCC cable. Acted as direct support to the Vice-President of Sales during the bidding of Phase 1 and Phase 2 contracts, both of which were awarded to Tyco Telecommunications.
- November 2005 – January 2006: Bahamas Domestic Cable Network (BDSN) Project Coordinator Shore End EIC at Eleuthera, Bahamas. Responsible for the excavation of the land cable route and installation of the land cable. Included management of the excavation and installation sub-contractors and final splicing of the land cable at the BMH and cable terminal.

EXPERIENCE cont.

- December 2004 – January 2005: Sea-Me-We IV (SMW-4) Engineer in Charge Load EIC aboard the C/S Tyco Durable at Hitachi Cable Factory, Japan. Responsible for loading 3000+ km of fiber cable, repeaters, and branching units aboard the main lay vessel for the "Durable Load B" program. Responsibilities included the management of factory and vessel personnel, shipboard splicing and testing personnel, and client interface.
- April 2004 – August 2004: Tata Indicom, India – Singapore (TIISCS) Engineer in Charge Engineer in Charge aboard the C/B Cable Networker off Singapore overseeing the deep injector burial of the Tanah Merah Shore End. Responsible for all reporting activities, and data production and submittal to the onboard client representatives. Provided technical assistance in the process of obtaining MPA operational clearances. Responsible for all cable crossing notifications.

  (SMW-4) Engineer in Charge Shore End EIC aboard the Swissco 12. Responsible for the mobilization of the Swissco 12 lay barge and GATOR 2 trenching spread at Labroy Shipyard, Batam, Indonesia. EIC of the Swissco 12 for the lay / burial of Segment S1.6 at Cox's Bazar, Bangladesh.

1196 to 2001 **Margus Company** Edison, NJ

Cable and Environmental Impact Engineer

May 1996, responsibilities included cable route design including all geodetic calculations, desk top study support, marine route survey analysis, landing site surveys, ROV PLIB (project manager and pilot,) PLIB (ROV) data assessment, shore end installation (ship-board project manager,) field operations management, cable fault locating (analog and digital,) 25Hz tone injection for ROV PLIB and cable locating, cable locating and charting, cable patrol, quality assurance during cable installation, ship-board representation and field reporting for all phases of cable installation and PLIB, and providing technical support for proposals.

SPECIALIZATION

- Proficient in: Win-Frog Operations, Microsoft Office Suite, BlueMarble Geographics Desktop Suite, Lucent/Agilent OTDR Trace View, EXFO Fiber Guardian Suite, Scout USBL Remote Suite, ODOM Mk-III Control Suite, GeoMetrics Geoutilities, CES Cable Engineering Software

CERTIFICATIONS

CPR, AED, Supplemental Oxygen, Current, 2014
Basic First Aid, Current, 2014
TWIC, Current, 2014
Hazcom / GHS Training, January 2013
OSHA 30 Certificate, March 2011
NASBLA Safe Boating Course and Certificate, February 2011
Tyco Telecom: Cable Systems Design and Engineering Process Refresher (Process-8), August 2006
Tyco Compliance: Responsible Business Communications, June 2005
Tyco Compliance: Diversity at Work, June 2005
Tyco Compliance: Financial Reporting, June 2005
Tyco Compliance: Foreign Corrupt Practices Act, June 2005
Tyco Compliance: Global Health and Safety, June 2005
Tyco Compliance: Business Ethics, June 2005
International Construction, Operations and Maintenance: Integrity Training, October 2004
Docs Open Controlled Library Training, March 2004
ICOM ISO 9001-2000, February 2004
ICOM Cable Laying Fundamentals, February 2004
POTB Railroad: EIC, Watchman / Lookout, RMM Operator, November 2002
Site Survey Course Completion, May 2002
Power Safety Officer Offshore Designation, February 2002
HP OTDR Training, (2001)

CERTIFICATIONS cont.

Agilent OTDR Training, 2001
HP OTDR Training, 2001
Lucent / Avaya OTDR Training, 2001
HiPotronics HV DC Training, 2001
Star-Spellman HV DC Power Supply Training, 2001
Shore End Cable Installation (Plow Ops) + Type "C" End Seal, October 2001
Post Lay Inspection and Burial (ROV) + TerraWave Grounded End Seal, March 2001
AT&T High Voltage Safe Practices Training, December 1996
AT&T Inside Plant Installers Course, December 1996
Bell Labs: General-Radio / HP 1308A High Output Tone Generator Training, 1989

Registrations

- Registered Tyco, Type-C Jointing Certified for Powered Submarine and OSP Systems, March 2001; Refresher November 2004
- ASCE, SSTT Trenchless Technology, SSES / Buried Asset Management, December 2011
- ABB Contractor OHS Project Manager, December 2010
- Registered RayChem Jointing Certified for Submarine and OSP Systems, June 2001
- Registered AT&T Inside Plant High Voltage Certified for DC Powered Systems, May 1995

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ATTACHMENT B.

CMI HISTORY, STRUCTURE, KEY PROJECTS, AND PERSONNEL

2014

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Caldwell
Marine International, LLC.

JAG COMPANIES

CALDWELL MARINE INTERNATIONAL, LLC

Marine Construction Operations

Capabilities & Experience to Meet Project Requirements

1. Introduction

Caldwell Marine International is pleased to provide the following Capabilities and Experience documentation. *Caldwell Marine International* is a marine contractor that covers the total spectrum of marine construction operations. These operations fall into two broad categories: Marine Civil Construction and Submarine Utility Operations. The utility operations further split into the two areas of submarine cable and submarine pipeline. The core group of past & present personnel at Caldwell Marine has been in the marine industry since the mid 1960s and has completed a multitude of operations covering all facets of marine construction. This group has enjoyed an excellent working relationship over a long period with many of the key players in the industry and we look forward to furthering our relationships with new clients.

Based upon our 30 years of marine construction and submarine utility experience *Caldwell Marine International* can provide a highly effective team of professionals experienced with all aspects of marine operations. In addition to our experienced personnel, *Caldwell Marine International* maintains an impressive array of specialized marine equipment, vessels, and marine facilities. *Caldwell Marine International* has all the resources required to begin operations immediately along with the ability to complete projects on time and on budget.

Based in New Jersey *Caldwell Marine International* has worked on both a national and international basis. Operations have been completed throughout North America, Central America, The Caribbean, Europe, the Middle East and the Far East. Our specialist equipment is modular and can be easily transported via open top Conex containers. Our personnel have the experience to conduct operations in remote locations and provide the necessary logistic and supply support.

All work performed by *Caldwell Marine International* shall be done in a safe and expedient manner. **No work is so important that safety becomes a secondary issue.**

2 Company Overview

2.1 Company History & Profile

The Caldwell name has been synonymous with marine operations for over 40 years. The Caldwell Group (Caldwell Diving, Caldwell Ventures etc) operated as a marine construction group from 1963 to 1998. In 1998 the General Dynamics (GD) Corporation purchased the company. GD renamed the company International Telecom USA, Inc. as part of its International Telecom Group. Under the corporate ownership of GD, the company concentrated on submarine utility work (cable & pipeline) on both the national and international scale for over 4 years. In early 2003 GD announced that it was exiting the submarine utility business. The Former Caldwell Group operation was sold to the management of Northeast Construction of Lakewood New Jersey. The new company was named Caldwell Marine International and has continued to provide clients with marine construction support reverting back to its base of both marine civil construction and submarine utility work.

Northeast Construction is a terrestrial utility contractor that operates in New York, New Jersey and throughout the United States, the Caribbean & Central America. Northeast recently celebrated its 25th year in business and has successfully completed over $500,000,000.00 in utility construction contracts. The performance-bonding limit at Northeast is $450,000,000.00 reflecting their ability to complete projects within schedule and on budget. This gives Caldwell Marine a solid bonding capability for their operations.

Caldwell Marine International (CMI) is now part of the JAG portfolio of companies, along with the Northeast companies, and Huxted Tunneling, LLC, which was acquired in 2011.

In partnership with the JAG Companies, CMI provides strength and a common goal of delivering excellence to its customers, from start to finish.

2.2 Titles and Locations of Principal Officers

Rolando Acosta
President and CEO *Caldwell Marine International*
Farmingdale, NJ

John Gutierrez
Corporate Vice President *Caldwell Marine International*
Farmingdale, NJ

James B. Yuille
Executive Vice President *Caldwell Marine International*
Farmingdale, NJ

2.3 Corporate Structure

Company	Northeast Remsco Construction, Inc.	Caldwell Marine International, LLC	Huxted Tunneling, LLC	JAG Companies, Inc.
Address	1433 Route 34 South Building B	1433 Route 34 South Building B	3208 17th Street East	1433 Route 34 South Building B
City, State & Zip Code	Farmingdale, NJ 07727	Farmingdale, NJ 07727	Palmetto, FL 34221	Farmingdale, NJ 07727
Telephone Number Fax Number	732-557-6100 732-736-8904	732-557-6100 732-736-8910	941-722-6613 941-722-6615	732-557-6100
Tax ID Number Duns Number	22-3131714 79-6894392	05-0567167 13-3336441	27-3335452 ~	27-2394975 ~
"Inc" Date Organized As	September 18, 1991 *New Jersey Corporation*	May 13, 2003 *NJ – Single Member LLC*	August 25, 2010 *DE – Single Member LLC*	March 19, 2010 *NJ – Single Member Owner*
Chairman of Board President & CEO Vice President Secretary	Juan A. Gutierrez Rolando E. Acosta John S. Gutierrez Marcelo R. Afonso	Juan A. Gutierrez Rolando E. Acosta John S. Gutierrez Marcelo R. Afonso	CEO – Roly Steve Cancen John S. Gutierrez Marcelo R. Afonso	*MG Family Trust (90%)* *Juan Gutierrez (10%)*
Registered Agent	Juan A. Gutierrez 1433 Rt. 34 S – Bldg. B Farmingdale, NJ 07727	Juan A. Gutierrez 1433 Rt. 34 S – Bldg. B Farmingdale, NJ 07727		
EEO /AA Officer	Marcelo R. Afonso	Marcello R. Afonso		
Contracts Administrator	Jodi Buckman Christine Charcalla	Catherine Bender		
Signing of Paperwork	Rolando E. Acosta	Rolando E. Acosta		
Email Address	engineering@ northeastremsco.com	engineering@ caldwellmarine.com		

2.4 Number of Full Time Employees

Caldwell Marine International and Northeast Construction has a total of 200 full time employees.

2.5 Dollar Value of Contracts per Year

Caldwell Marine International is part of the JAG portfolio of companies and is supported by strong financial resources. To date, *Caldwell Marine International* and the Northeast portfolio of Companies have completed over $1,000,000,000.00 in terrestrial and marine construction projects.

2.6 Bonding & Insurance

Caldwell Marine International maintains a solid performance bonding capability with a total bonding capacity of over $450M and a substantial marine insurance package.

3 Quality Management Systems

Caldwell Marine International follows the direction and guidelines of the ISO 9002 quality system. *Caldwell Marine International* recently passed the International Safety Management (ISM) audit for vessel operation and is subsequently qualified for ISM. Our entire offshore vessel crews are STCW (Standard Training Certification and Watch keeping for Seafarers) qualified.

3.1 Caldwell Marine International Safety Manual

Our Environmental Health & Safety Manual is available for review.

3.2 Caldwell Marine International Safe Diving Practices

Our Diving Safe Practices Manual is available for review.

3.3 Caldwell Marine International Quality Plan

A typical project Quality Plan is available for review.

3.4 Caldwell Marine International CFR Parts 195 & 192

In response to the Federal DOT "Operator Qualification" (OQ) rules *Caldwell Marine* maintains an industry standard OQ training program to qualify field personnel.

3.5 Caldwell Marine International Drug & Alcohol Plan

In response to the various oil & gas industry pre-qualification requirements the Caldwell Marine Drug & Alcohol abuse program is audited on a regular basis by the National Compliance Management Service.

4 Typical Project Work Undertaken

Caldwell Marine has the in-house personnel & resources as a prime contractor to complete any of the following:

Marine Civil Construction Operations

- Pier & Dock Construction
- Underwater Inspection, Maintenance & Repair (IMR)
- Bulkhead Construction & Restoration
- Bridge & Fender System Construction
- Marine Foundation & Piling Operations – Mono-piles, Utility Towers
- Marine Platform Construction & Maintenance
- Diving Operations
- Marine Heavy Lift & Salvage Operations
- Pile Wrapping & Rehabilitation
- Amphibious Vehicle Operations

Submarine Utility Operations

- Prime Contractor on Turnkey Submarine Cable or Pipeline supply Projects
- Submarine cable or pipeline repairs
- Marine Route Survey for submarine cable & pipeline systems
- Marine Outfall Installation
- Submarine Cable/Pipeline embedment and burial, via Jet Plowing
- Diver inspection and burial to ~40m water depth

- Horizontal Directional Drilling

- Offshore Renewable Power Projects (Windfarm Installation Support and Wave and Tidal Power Generation Projects)

Terrestrial Operations (with Northeast Construction)

- Prime Contractor on Underground Cable or Pipeline Projects where civil work is a large component
- Underground Duct and Conduit installation
- Micro-Tunneling and Jack & Bore operations
- Open cut trenching
- Complete civil works associated with underground utility installation
- Site Paving and Restoration works.
- Horizontal Directional Drilling (HDD)

4.1 Experience / Work References

The following table is a brief listing of some of Caldwell Marine International's previous clients from the commercial, industrial and municipal fields and the project work under taken on the project:

CLIENT	PROJECT WORK
Prysmian Group	Falmouth to Martha's Vineyard Cable
ABB, Inc.	BEC Project: Brooklyn – Bayonne Submarine Power Cable System – 20 miles 345kV XLPE, NY Harbor
Bayonne Energy Center, LLC	High voltage Duct Bank – 2,000 lf
BC Hydro / Mitsubishi International	VITR Project: Submarine power cable installation
City of Ketchikan, Alaska	Gravina Island Electrical and Telecom Submarine Cable
ConocoPhillips Pipeline	IRPL Project: Submarine pipeline operations NY Harbor
New Jersey Transit	Bridge re-construction & submarine utility work
NYC DOS/NE Construction	Pier, Piling & Wharf rehabilitation
Fox Island Co-op	Submarine Cable Installation - ME
ConocoPhillips Terminals	Offshore Platform construction including mono-piles
Alcatel Submarine Networks	Submarine Cable operations world-wide
Colonial Pipeline Corporation	Submarine pipeline operations

Conectiv (Atlantic City Electric)	Transmission tower construction in river estuary site
Conectiv (Delmarva Power)	Artificial Island re-construction, Delaware River site
US Army Corps of Engineers	Submarine Pipeline Operations
Tyco Telecom	Submarine Cable operations world-wide
Con-Edison/Miller Environmental	Diving Services
Verizon	Submarine Utility Work
Public Service Electric & Gas	Submarine Utility Work

5 Marine Civil Project Operations

5.1 Marine Civil Construction & Maintenance

Caldwell marine provides marine civil construction services either on a turnkey basis whereby we take the role of prime or General Contractor (GC) or on a sub-contract basis whereby we supply the required services to the prime/GC.

Caldwell recently completed a major construction project as GC for Conoco-Phillips at their loading platform offshore Long Island NY. This project included removal of old fuel loading arms, installation of new fuel loading arms and installation of 170' long mono-piles with an outer diameter of 72" and a weight of 80 tons.

5.2 Recent Project Review

The following is a brief review of recent Caldwell marine construction projects:

Marine Pile driving at a River Estuary site

Marine Cofferdam Construction

Loading Arm installation at offshore platform

170 Foot Mono-Pile Installation at Offshore Platform

Fender Installation at Offshore Platform

Transmission Tower Installation

6 Submarine Utility Project Operations

6.1 Submarine Utility Installation

Caldwell marine provides submarine cable & pipeline installation services either on a turnkey basis whereby we supply cable & installation or on a sub-contract basis whereby we supply just the installation services.

6.2 Submarine Utility Repair

Caldwell marine provides submarine cable & pipeline repair services either on a turnkey basis whereby we supply spare cable, splicing and the marine repair or on a sub-contract basis whereby we supply just the marine services and the owner provides the spare cable and splicing. We currently have on-going standby repair contracts with various utility owners for emergency repair services such as Cross Sound Cable LLC.

6.3 Recent Project Review

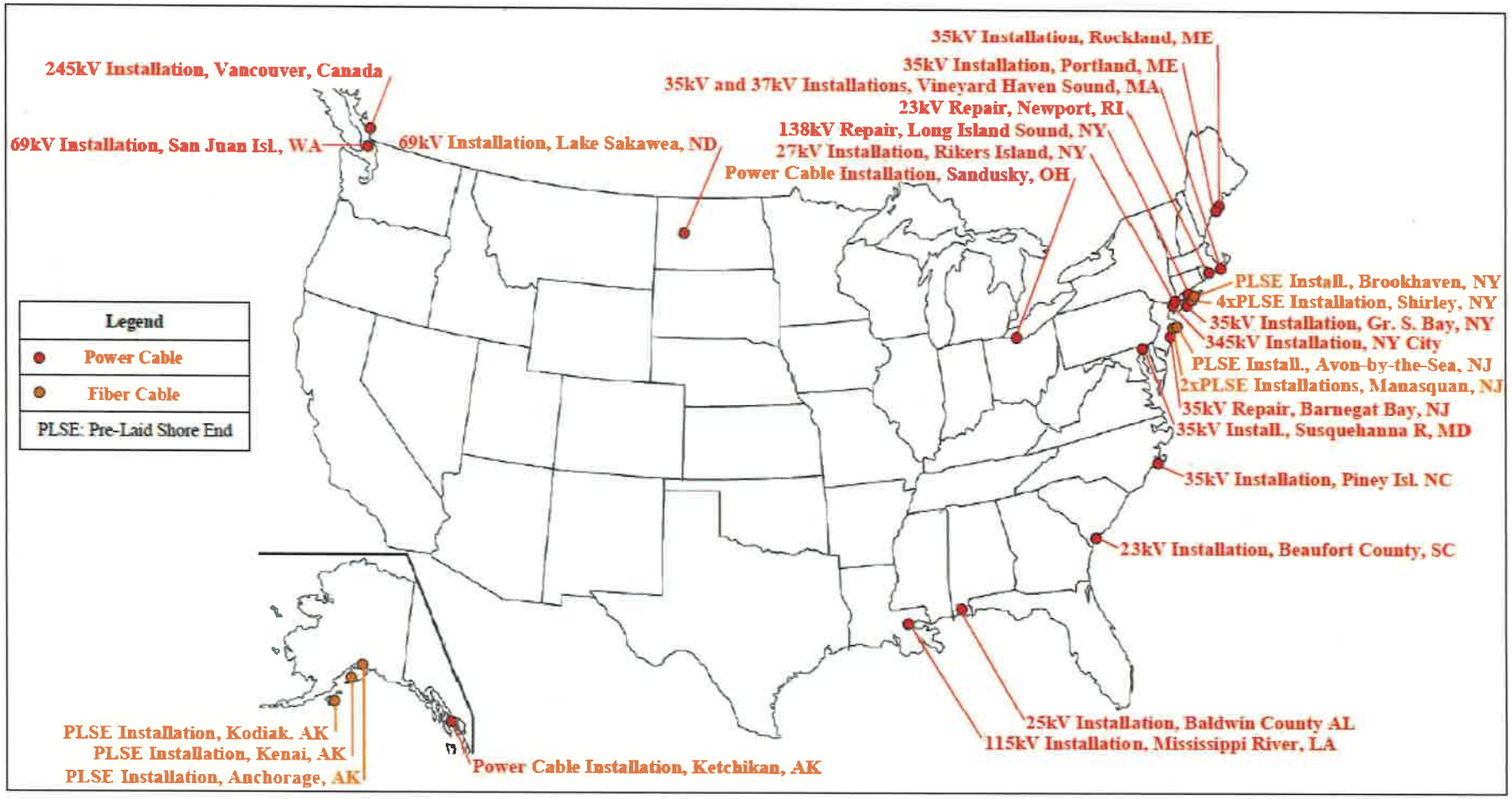
The following is a brief review of recent Caldwell submarine utility projects:

Turnkey Submarine Power Cable Installation Fox Island ME

HDD Tie-in of existing 12" Submarine product line

Submarine Pipeline Installation

7 Submarine Utility Projects; Abbreviated Map of Completed Operations



7.1 Submarine Utility Projects; Abbreviated List of Completed Operations

Submarine Power Cable Experience

• 35kV Submarine Cable	Installation Vineyard Haven, MA
• 345kv Submarine Cable	Installation, New York, NY
• 245kv Submarine Cable	Installation, Vancouver, CA
• 69kv Submarine Cable	Installation, San Juan Islands, WA
• 35kv Submarine Cable	Installation, Rockland, MA
• 35kV Submarine Cable	Repair, Barnegat Bay, NJ
• 35 kV Submarine Cable	Installation, Great South Bay, NY
• 35 kV Submarine Cable	Repair, Vineyard Haven Sound, MA
• 138kV Submarine Cable	Repair, Long Island Sound, NY
• 27kV Submarine Cable	Installation, Rikers Island, NY
• 25kV Submarine Cable	Installation, Baldwin County, Alabama
• 35 kV Submarine Cable	Repair, Vineyard Haven Sound, MA
• 69kV Submarine Cable	Installation, Lake Sakawea, ND
• 23kV Submarine Cable	Installation, Newport, RI
• 35 kV Submarine Cable	Install, Vineyard Haven Sound, MA
• 35 kV Submarine Cable	Installation, Portland, Maine
• 35 kV Submarine Cable	Install, Susquehanna River, PA- MD
• 35 kV Submarine Cable	Installation, Piney Island, NC
• Submarine Power Cable	Installation, Sandusky Bay, OH
• 23 kV Submarine Cable	Installation, Beaufort County, SC
• 15 kV Submarine Cable	Installation, US Navy
• 115 kV Submarine Cable	Installation, Mississippi River
• 37 kV Submarine Cable	Install, Vineyard Haven Sound, MA

Submarine Fiber Optic Systems

• Gemini	Repair, Manasquan, NJ
• BP-GOM	PLSE, Gulf of Mexico
• Kodiak-Kenai	PLSE, Alaska
• Apollo	PLSE, Lannion France
• Apollo	2 PLSE, Shirley NY, Manasquan NJ
• TGN Atlantic	2 PLSE, Manasquan & Avon By the Sea
• TAT 12/13 Interlink	PLSE, Shirley
• TAT 13	PLSE, Shirley
• MAC	2 PLSE, Brookhaven (Shirley)
• Gemini	Route Clearance, Manasquan
• Gemini	PLGR, Manasquan
• Gemini	Main Lay Support, Manasquan
• TAT-14	Landing Assistance, Manasquan
• TAT -14	Terrestrial Fiber Cable Installation, Manasquan
• TAT -14	Terrestrial Power Cable Installation, Manasquan

8 List of Construction Experience of Principal Personnel – Cable Experience

Name	Present Position	Years at CMI	Years Overall	Magnitude & Type of Work	In What Capacity
Juan Gutierrez	Chairman of the Board	-	45	Up to $100,000,000.00 Submarine Cable and Marine Construction	COB, President, CEO, Owner, Project Manager, Project Engineer, Estimator
Rolando Acosta	President	10	13	Up to $25,000,000.00 Submarine Cable and Marine Construction	President, Project Engineer, Project Manager & Executive Management
James Yuille	Vice President	10	45	Up to $100,000,000.00 Submarine Cable and Marine Construction	GM, Superintendent, Estimator, Field Supervisor, and Foreman
Alfonso Perez	Chief Estimator, EPM	4	29	Up to $95,000,000.00 Marine Construction	Chief Estimator, Exec. P.M. Superintendant, Project Engineer
Troy Godfrey	Director, Engineering Division	10	22	Up to $100,000,000.00 Submarine Cable and Marine Construction	Project Engineer, Estimator, General Superintendent, and Supervisor
Marc Dodeman	Director, Business Development	7	24	Up to $450,000,000.00 Submarine Cable and Marine Construction	Business Development Project Manager, Survey Supervisor
Paul Larrabee	Superintendent	10	27	Up to $50,000,000.00 Submarine Cable and Marine Construction	Superintendent, Estimator, Field Supervisor, and Foreman
Brett Bryant	Superintendent	10	18	Up to $50,000,000.00 Submarine Cable and Marine Construction	Superintendent, Field Supervior Foreman, Diving Superintendant
Adam Brown	Superintendent (Diver)	10	32	Up to $50,000,000.00 Submarine Cable and Marine Construction	Superintendent, Estimator, Field Supervisor, and Foreman
Robert Breininger	Superintendent	10	32	Up to $50,000,000.00 Submarine Cable and Marine Construction	Superintendent, Estimator, Field Supervisor, and Foreman
Brett Bailey	Project Manager & Engineer	4	10	Up to $50,000,000.00 Marine Construction	Project Administrator, Project Manager, Project Engineer & Estimator
Gregory Gashlin	Project Engineer	4	4	Up to $50,000,000.00 Marine Construction	Project Administrator & Project Engineer
Robert Botsford	Project Administrator	9	38	Up to $50,000,000.00 Submarine Cable and Marine Construction	Project Administrator, Project Manager & Superintendent
Kenneth Peters	Surveyor	10	35	Up to $25,000,000.00 Submarine Cable and Marine Construction	Senior Surveyor, Estimator, Superintendent, Supervisor

ATTACHMENT C.

NOAA CHARTLET LITTLE BAY CROSSING

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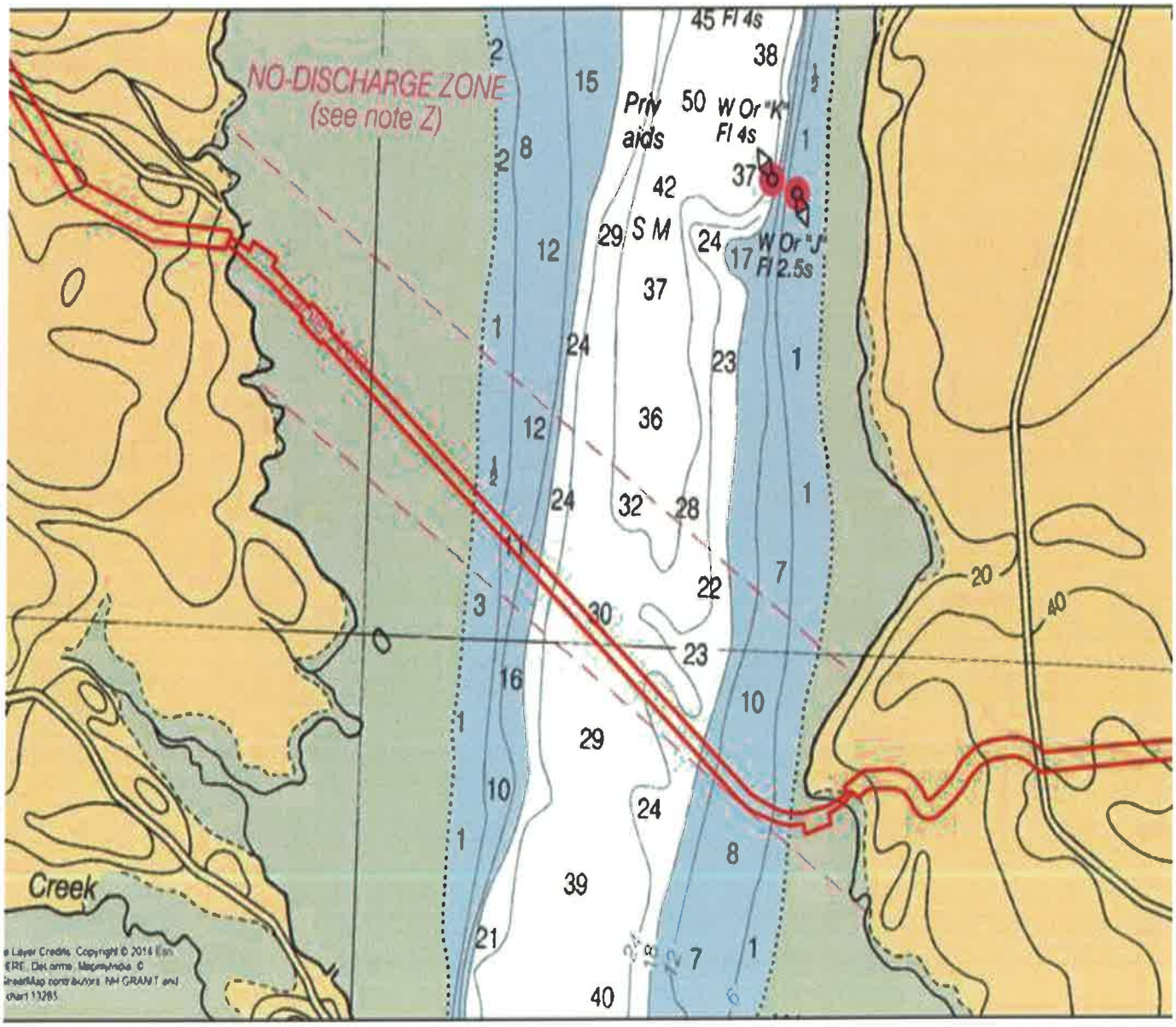
NO-DISCHARGE ZONE
(see note Z)
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ATTACHMENT D.

F107 CABLE SURVEY FINAL REPORT

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PSNH – F107 CABLE SURVEY
FINAL REPORT

Presented to Public Service New Hampshire / Northeast Utilities

31 July, 2014

Presented to:
Gary O'Kula
Transmissions Projects
PSNH/NU
Legends Dr
Hookset, NH 03106

Prepared by:
Marc A. Dodeman
Director of Survey Operations
Caldwell Marine International, LLC
1433 Hwy 34 South, B1
Farmingdale, NJ 07727
P: 732-557-6100
F: 732-736-8910

Introduction and Project Background

In May 2014, Public Service New Hampshire following their review of bids received for the supply and installation of the F107 cable system, invited bid teams (submarine cable manufacturers / installers) to provide technical presentations of their installation proposals. During the review of Caldwell Marine's installation pricing and methodologies, the requirement to clear the submarine cable corridor (see **Figure 1**) in Little Bay (West of Newington, NH) was discussed.

Since this cable corridor is populated by four existing out-of-service PSNH cables, the section of the corridor being considered for the new F-107 cables must be cleared of existing utilities to allow unhindered cable plow burial during installation operations. Public Service New Hampshire contracted Caldwell Marine International, LLC to conduct a dive investigation of the four existing out-of-service cables that cross Little Bay.

During the week of July 14, 2014, Caldwell Marine conducted a diver investigation and hydrographic sounding survey within the Public Service of New Hampshire cable corridor spanning Little Bay.

Project Area (from NOAA Chart 13285)

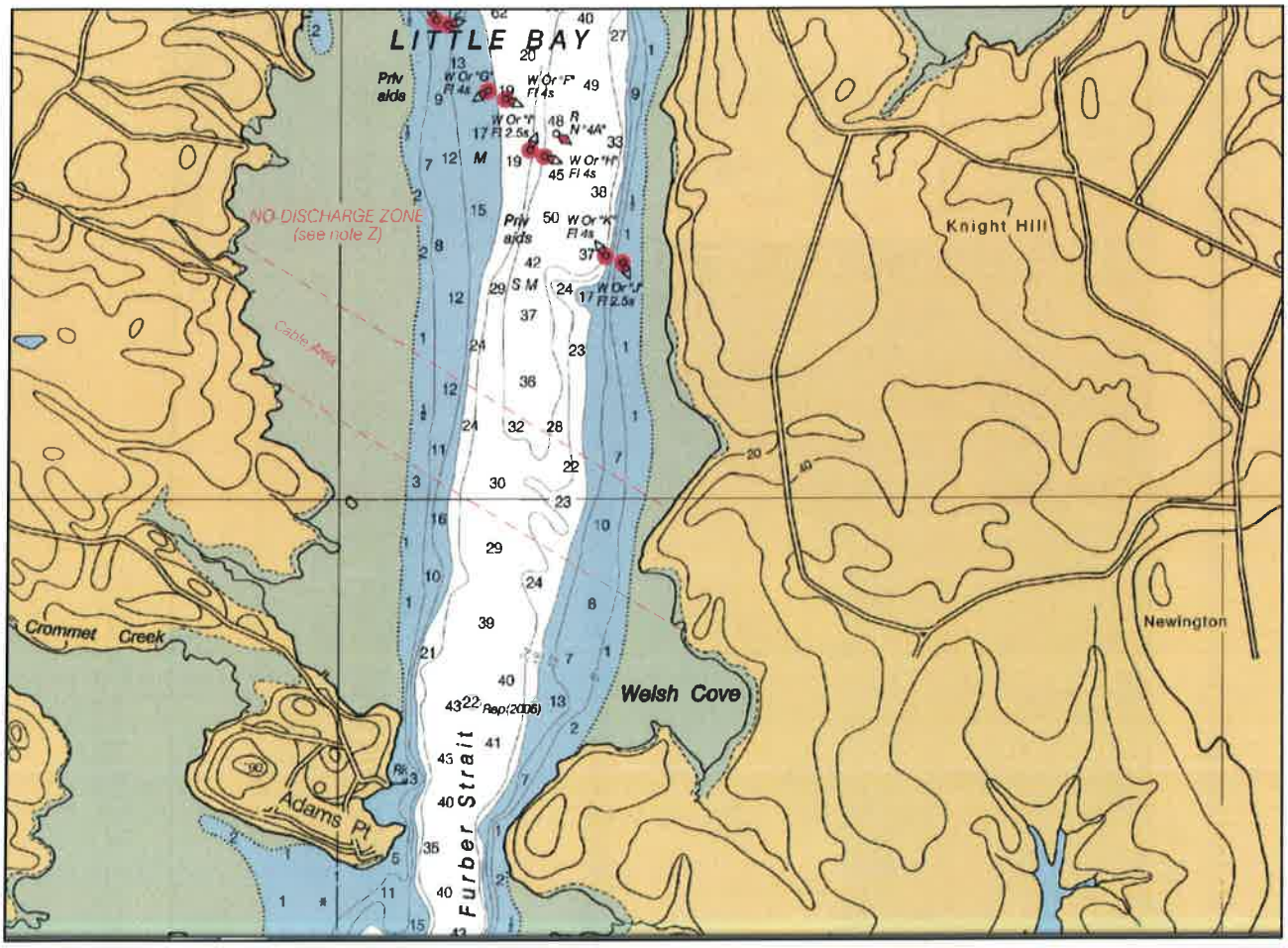

Figure 1. Little Bay Cable Corridor

The primary focus of this survey was to determine existing out of service as-laid cable locations and cable conditions for consideration of recovery operations in preparation of the route design of the future F107 transmission project.

Owner Supplied Areal Information

In April 2013, Ocean Survey, Inc (OSI) conducted a full scale hydrographic survey, which included side scan, magnetometer, and sub bottom profile data collection within the cable corridor (**Figure 2**).

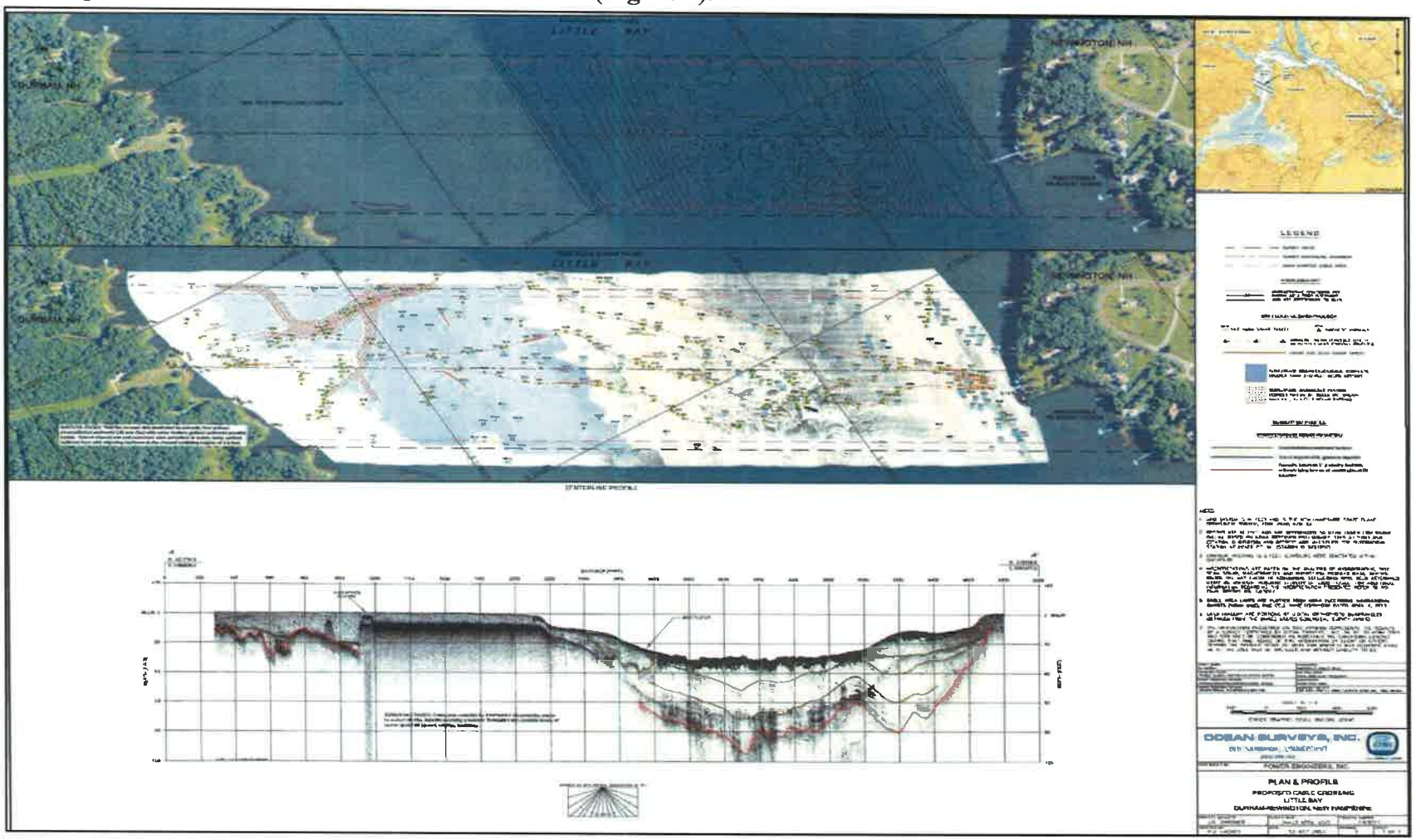

Figure 2: OSI Survey Drawing

This survey identified the four (4) existing out of service cables, as well as other anomalies, within the corridor. Due to the existing cables being located mostly in the northern half of the cable corridor, CMI advised PSNH that the most feasible route for a new cable would be in the southern part of the corridor (**Figure 3.**)

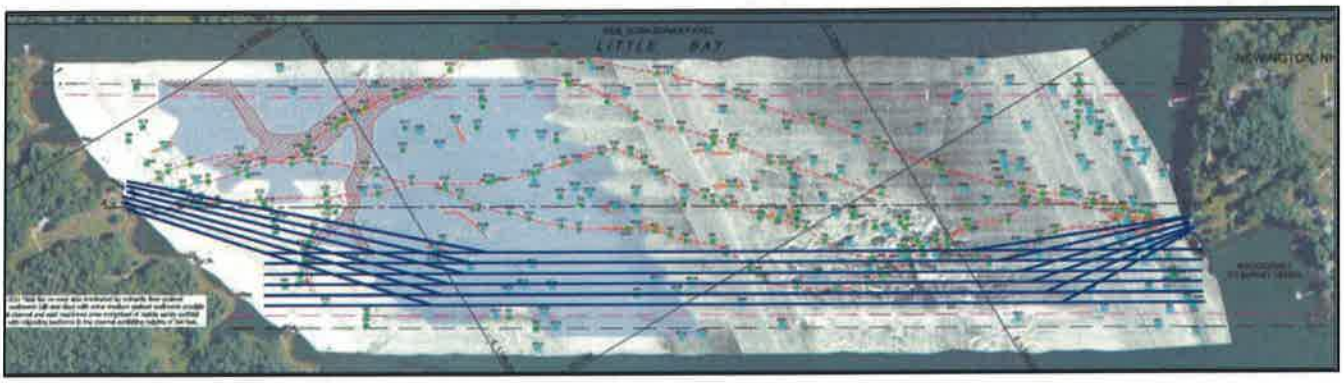

Figure 3

CMI divers first inspected the cable corridor where the new system would most likely be obstructed by the existing cable segments. CMI divers then proceeded along the proposed cable route inspecting for any other possible obstructions. Finally, divers searched for the other existing cables in the northern half of the corridor to verify the as-laid position of the remaining out of service cable segments, and determine their condition and depth.

Surface supplied dive operations were conducted from the *Little Johnny*, a 26' aluminum hulled work vessel. Survey operations were conducted from the *Little Lexi*, a 25' aluminum hulled shallow water survey vessel.

Upon arrival at the work site, utilizing a Differential Global Positioning System (DGPS,) the CMI team located the position of the existing four cables at the approach to the Eastern shore (**Figure 4.**) These locations were consistent with the OSI drawings provided. Over the next four days, divers followed the cables westerly across Little Bay marking as-laid position, overall cable condition, and depth of burial. Divers also investigated the various anomalies identified in the OSI as-found survey drawing and found them to be sunken trees and light debris covered by sand overburden.

Figure 4: View of the work area at the Eastern Shore landing approach; floats were affixed to the as-found cables by divers.

1433 Highway 34 South
Building B
Farmingdale, NJ 07727
Tel: 732-557-6100
Fax: 732-736-8910 www.caldwellmarine.com

Summary of Field Investigation Operations

Public Service New Hampshire
As-Found Cable Dive Investigation and Sounding Survey

Coordinate System Ref: State Plane
Datum: NAD 83
Zone: 2800-New Hampshire
Units: U.S. Survey Foot

Cables numbered 1-4 from South to North
Soundings Referenced to MLLW in feet

			Geoid		NAD 83		Water	Burial	
Date	Dive #	Cable #	Latitude	Longitude	Northing	Easting	Depth (ft)	Depth (in)	Cable Condition and Bottom Notes
15-Jul-2014	1	1	43° 05.9263' N	70° 51.3857' W	219269.20	1200652.47	11.9	0	Pt. 5873. 3"Cable in good condition. Recoverable. Compact gravel bottom.
15-Jul-2014	1	1	43° 05.9233' N	70° 51.3763' W	219251.06	1200694.60	11.6	0	Pt. 5875. 3"Cable in good condition. Recoverable. Compact gravel bottom. SS126, M71
15-Jul-2014	1	2	43° 05.9249' N	70° 51.3745' W	219260.88	1200702.54	11.3	0	Pt.5876. 1" cable in good condition. Recoverable. Compact gravel bottom.
15-Jul-2014	1	3	43° 05.9326' N	70° 51.3707' W	219307.81	1200719.00	11.0	0	Pt.5877. 1" cable in good condition. Recoverable. Compact gravel bottom.
15-Jul-2014	1	4	43° 05.9357' N	70° 51.3660' W	219326.85	1200739.74	10.6	0	Pt. 5878. 1" Cable in good condition. Gravel bottom.
15-Jul-2014	1	1	43° 05.9368' N	70° 51.4027' W	219331.96	1200576.10	12.0	0	Pt. 5879. 3"Cable in good condition. Recoverable. Compact gravel bottom.
15-Jul-2014	2	1	43° 05.9523' N	70° 51.4482' W	219424.15	1200372.86	15.0	3-6	Pt. 5880. 3"Cable in good condition. Recoverable. Compact gravel bottom.
16-Jul-2014	1	1	43° 05.9401' N	70° 51.4081' W	219351.81	1200551.89	12.0	0-3	Pt. 5883. 3"Cable in good condition. Recoverable. Compact gravel bottom.
16-Jul-2014	1	1	43° 05.9473' N	70° 51.4280' W	219394.69	1200462.88	12.0	0-3	Pt. 5925. 3"Cable in good condition. Recoverable. Compact gravel bottom.
16-Jul-2014	1	1	43° 05.9524' N	70° 51.4491' W	219424.77	1200368.66	15.2	3-6	Pt. 5926. 3"Cable in good condition. Recoverable. Compact gravel bottom.
16-Jul-2014	1	1	43° 05.9536' N	70° 51.4617' W	219431.51	1200312.50	19.0	3-6	Pt. 5929. 3"Cable in good condition. Recoverable. Compact gravel bottom. M167, M192
16-Jul-2014	1	1	43° 05.9543' N	70° 51.4767' W	219435.12	1200245.69	24.0	12	Pt. 5931. 3"Cable in good condition. Recoverable. Compact gravel bottom. M35, M188
16-Jul-2014	1	2	43° 05.9342' N	70° 51.3903' W	219316.69	1200631.66	12.0	0-4	Pt. 5932. 1"Cable in good condition. Recoverable. Compact gravel bottom. M153.
16-Jul-2014	1	2	43° 05.9430' N	70° 51.4076' W	219369.40	1200554.13	12.0	0-4	Pt. 5933. 1"Cable in good condition. Recoverable. Compact gravel bottom.
16-Jul-2014	1	2	43° 05.9486' N	70° 51.4245' W	219402.69	1200478.58	12.0	0-4	Pt. 5937. 1"Cable in good condition. Recoverable. Compact gravel bottom.
16-Jul-2014	1	2	43° 05.9602' N	70° 51.4447' W	219472.29	1200387.98	14.6	1-5	Pt. 5939. 1"Cable in good condition. Recoverable. Compact gravel bottom.
16-Jul-2014	1	2	43° 05.9708' N	70° 51.4665' W	219535.74	1200290.32	22.0	1-6	Pt. 5941. 1"Cable in good condition. Recoverable. Compact gravel bottom. M44
17-Jul-2014	1	2	43° 05.9708' N	70° 51.4665' W	219535.74	1200290.32	27.9	10	Pt. 5942. 1"Cable in good condition. Recoverable. Compact gravel bottom.

1433 Highway 34 South
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Public Service New Hampshire
As-Found Cable Dive Investigation and Sounding Survey

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Cables numbered 1-4 from South to North
Soundings Referenced to MLLW in feet

			Geoid		NAD 83		Water	Burial	
Date	Dive #	Cable #	Latitude	Longitude	Northing	Easting	Depth (ft)	Depth (in)	Cable Condition and Bottom Notes
16-Jul-2014	1	2	43° 05.9761' N	70° 51.4788' W	219567.46	1200235.06	25.3	4-6	Pt. 5943. 1"Cable in good condition. Recoverable. Compact gravel bottom. M44
16-Jul-2014	1	2	43° 05.9877' N	70° 51.5010' W	219636.92	1200135.75	27.4	0	Pt. 5944. 1"Cable in good condition. Recoverable. Compact gravel bottom. Cable on surface. SS52, M165
16-Jul-2014	1	2	43° 06.0008' N	70° 51.5227' W	219715.57	1200038.39	28.0	6-8	Pt. 5945. 1"Cable in good condition. Recoverable. Compact gravel bottom. SS52, M166
16-Jul-2014	1	2	43° 06.0065' N	70° 51.5309' W	219749.84	1200001.56	30.0	12	Pt. 5946. 1"Cable in good condition. Recoverable. Compact gravel bottom. SS52, M167
16-Jul-2014	2	1	43° 06.1121' N	70° 51.7867' W	220380.38	1198856.76	10.9	0-3	Pt. 5950. 3"Cable in good condition. Recoverable. Compact gravel bottom. M15, SS132
16-Jul-2014	2	1	43° 06.0928' N	70° 51.7586' W	220264.34	1198982.96	14.0	3	Pt. 5951. 3"Cable in good condition. Recoverable. Compact gravel bottom. M97
16-Jul-2014	2	1	43° 06.0800' N	70° 51.7404' W	220187.36	1199064.72	18.3	5	Pt. 5952. 3"Cable in good condition. Recoverable. Compact gravel bottom. M67
16-Jul-2014	2	1	43° 06.0719' N	70° 51.7335' W	220138.45	1199095.90	20.5	0	Pt. 5953. 3"Cable in good condition. Recoverable. Compact gravel bottom. M67, M21
16-Jul-2014	2	1	43° 06.0512' N	70° 51.7236' W	220013.13	1199141.18	23.7	0-4	Pt. 5954. 3"Cable in good condition. Recoverable. Compact gravel bottom. M187, M20
17-Jul-2014	1	1	43° 06.0018' N	70° 51.6624' W	219715.71	1199416.29	32.0	0-12	Pt. 5958. 3"Cable in good condition. Recoverable. Compact gravel bottom. Southern most point of cable route. M40
17-Jul-2014	1	NA	43° 06.0162' N	70° 51.6629' W	219803.10	1199413.46	32.0	NA	Pt. 5960. Investigation of SS69. Found sand and gravel bank piled against tree.
17-Jul-2014	1	1	43° 06.0069' N	70° 51.6637' W	219746.45	1199410.35	32.0	24+	Pt. 5961. 3"Cable in good condition. Recoverable, but with 2' of burial. Compact gravel bottom. M40
17-Jul-2014	1	1	43° 05.9999' N	70° 51.6519' W	219704.29	1199463.24	32.0	18	Pt. 5963. 3"Cable in good condition. Recoverable, but with 1.5' of burial. Large anchor hooked on cable. Compact gravel bottom. M175
17-Jul-2014	1	1	43° 05.9999' N	70° 51.6519' W	219704.29	1199463.24	28.0	NA	Pt. 5964. 100' Circle search for Cable1, SS73, M180, M57. Tree with sand piled against it found.
17-Jul-2014	2	NA	43° 05.9926' N	70° 51.5796' W	219663.11	1199785.44	28.0	NA	Pt. 5965. Search for SS73, M180, M57. Sand and Gravel bank against tree.
17-Jul-2014	2	NA	43° 05.9589' N	70° 51.4781' W	219463.19	1200239.52	22.0	NA	Pt.5968. 50' circle search for SS50. Tree with sand piled against it.
18-Jul-2014	1	4	43° 05.9725' N	70° 51.4113' W	219548.44	1200535.93	12.0	0-6	Pt. 5972. 1" cable followed from Pt. 5878. A 2' square cinder mooring block SS12.
18-Jul-2014	1	3	43° 05.9686' N	70° 51.4236' W	219524.22	1200481.41	12.0	4-6	Pt. 5973. 1" cable followed from Pt. 5878. A 2' square cinder mooring block SS12.

1433 Highway 34 South
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Conclusions

Having made positive contact with all of the existing cables identified by the OSI survey within the PSNH charted cable corridor in a non-invasive visual dive survey, critically obstructive existing cable positions have been verified. In all diver reported accounts, the physical condition of all existing out of service cables were found to be structurally sound. The sediment found covering the cables in the inspection area trended toward soft, non-cohesive fine sands and soft mud with burial depths ranging from a maximum of 24" to areas of full exposure. Finally, divers reported that in none of the inspection sites were any of the cables found to be cemented in place by stiff sediment overburden or silt/clay accretion, which means that any of the cables within the corridor would be suitable for removal. It should be noted that the sections of the approach areas nearest to the landings areas are very shallow and inaccessible by boat. Should permitting or regulatory agencies require PSNH / NU to remove all existing cables identified during the survey within the corridor, it is probable that this could be achieved.

As per the originally anticipated design of the F-107 cable route, the new cables should be routed towards the Southern half of the charted cable corridor. Using an assumed minimum 10m separation between each new phase cable and a safety buffer zone on either side of each of the extend cables, it is recommended that at least 150-200m (~500-660 feet) from the southern edge of the cable route be cleared of existing cables and debris. Caldwell also recommends a route clearance swath towards the existing cable vaults being performed as needed where the cable route turns northerly towards the vaults at the landing approaches. This translates effectively to removing the two cable sections at a minimum:

1) The southernmost cable (identified as Cable #1) should be removed from the area of recorded data point 5876 across Little Bay to at least the area of recorded data point 5950.
2) Cable #2 (immediately north of Cable #1) should be removed from the area of recorded data point 5876 to ~500 feet west of recorded data point 5965.

An as-found drawing overview of data points collected by Caldwell Marine is shown in figure 5.

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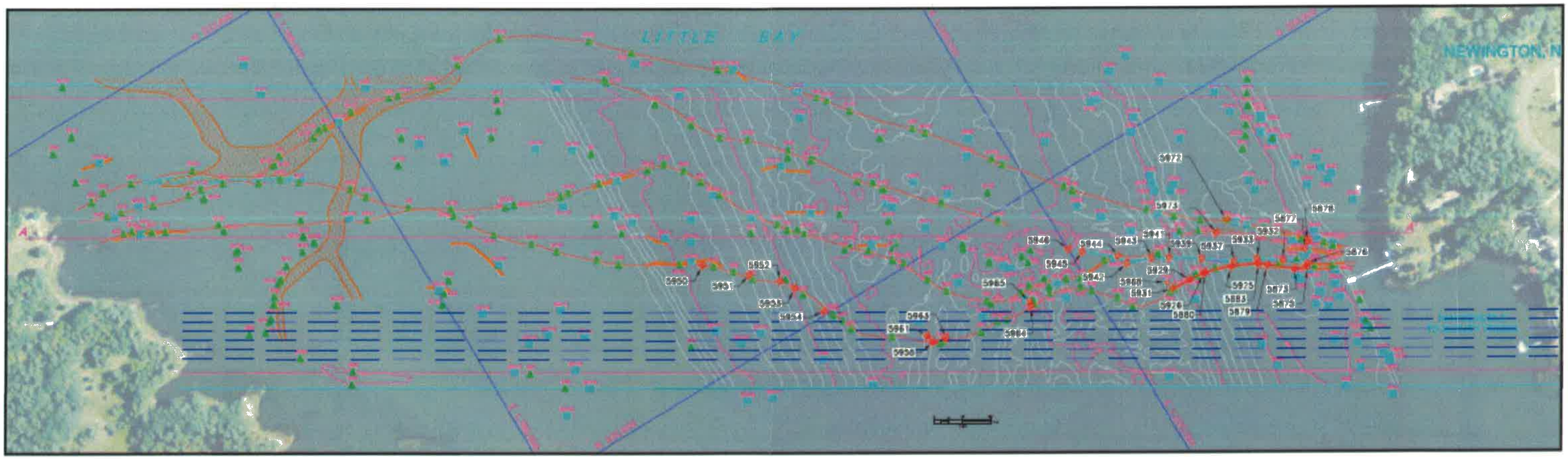

Figure 5.