

Site LOCUS

Figure 1

15 Gardner Falls Road
Buckland, Massachusetts

OHI
OHI Engineering, Inc.
 Engineers and Environmental Scientists
 44 Wood Avenue · Mansfield, MA



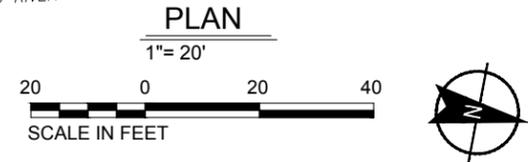
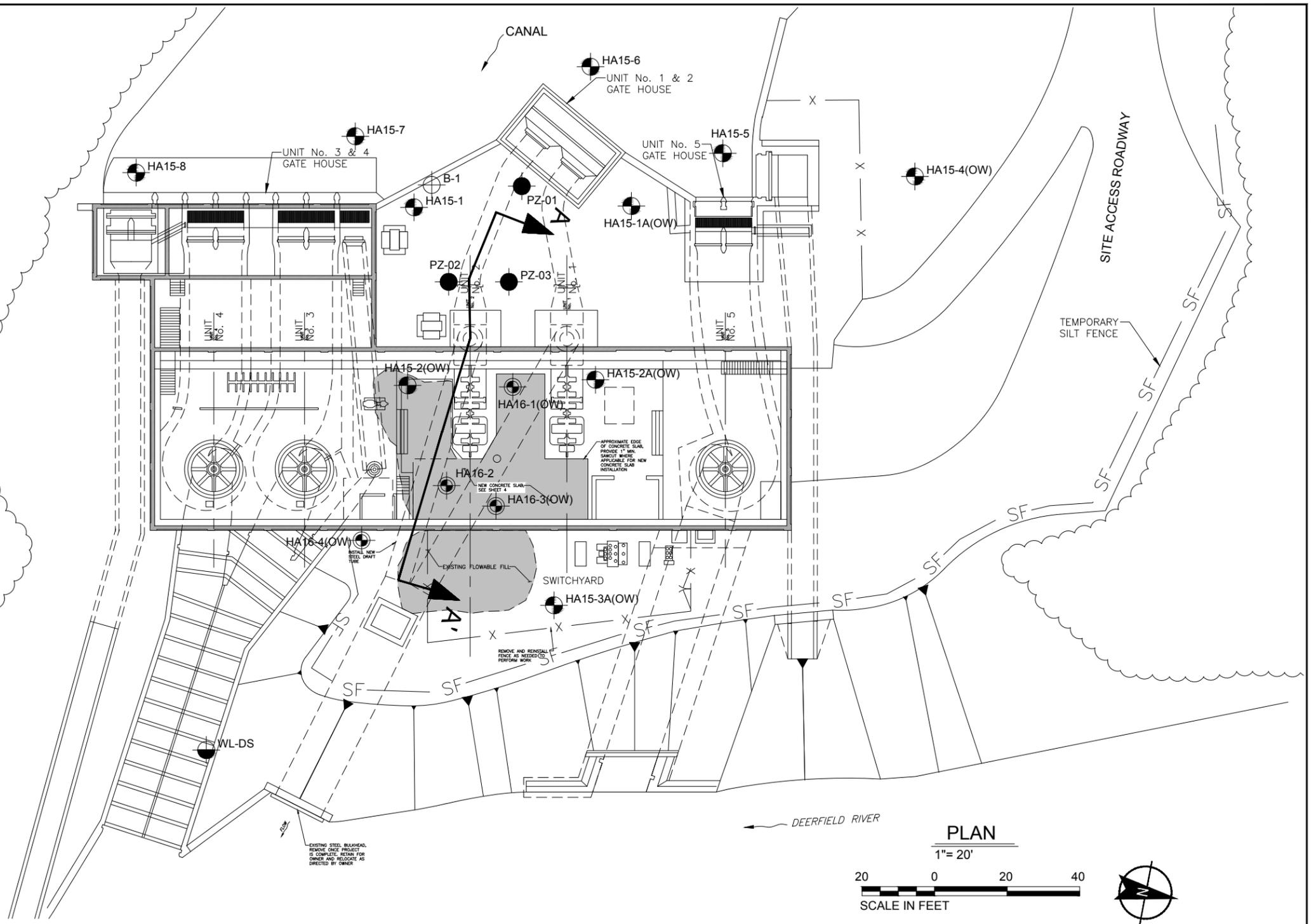
NOTES:

1. BASE PLAN OBTAINED FROM PLAN TITLED "0803046 sht 1-5.dwg", DATED 22 JANUARY 2016.
2. ELEVATIONS ARE IN FEET AND REFERENCE A VERTICAL DATUM SPECIFIC TO THE GARDNER FALLS HYDROELECTRIC FACILITY SITE.
3. FULL-TIME ON-SITE TECHNICAL MONITORING OF THE 2015 AND 2016 TEST BORINGS WAS PERFORMED BY HALEY & ALDRICH, INC.
4. LOCATIONS OF 2015 AND 2016 TEST BORINGS WERE OBTAINED BY HALEY & ALDRICH BY TAPING DISTANCES FROM EXISTING SITE FEATURES.
5. PLAN LIMITS OF SINKHOLE TAKEN FROM FIGURE C-2 IN REPORT TITLED "GARDNER FALLS HYDROELECTRIC PROJECT, FERC 2334, POWERHOUSE STRUCTURAL ASSESSMENT," PREPARED BY HDR ENGINEERING, INC. DATED OCTOBER 2014.

LEGEND:

-  HA16-1 DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS (NEBC) OF LONDONDERRY, NEW HAMPSHIRE DURING THE PERIOD 12 TO 18 JULY 2016 RELATED TO UNIT NO. 2 PENSTOCK REPLACEMENT PROJECT
-  HA15-1 DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEBC OF LONDONDERRY, NEW HAMPSHIRE DURING THE PERIOD 27 MAY TO 9 JUNE 2015 RELATED TO UPSTREAM HYDRAULIC CUTOFF PROJECT
-  PZ-01 DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEBC FOR HDR IN SEPTEMBER 2014 RELATED TO NO. 2 PENSTOCK SINK HOLE DOWNSTREAM OF UNIT 1 & 2 GATEHOUSE
-  B-1 DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY KLEINSCHMIDT ASSOCIATES IN 2011 RELATED TO THE CANAL WALL REPLACEMENT PROJECT

-  WL-DS DESIGNATION AND APPROXIMATE LOCATION OF SLOTTED PVC CASING HUNG FROM SITE FEATURE TO ALLOW WATER LEVEL MEASUREMENTS IN THE RIVER DOWNSTREAM OF THE POWERHOUSE
-  GENERAL PLAN LIMITS OF SINKHOLE PER OCTOBER 2014 REPORT BY HDR. SEE NOTE 5 BELOW
-  PZ INDICATES OPEN STANDPIPE PIEZOMETER INSTALLED IN COMPLETED BOREHOLE
-  OW INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
-  A A' DESIGNATION, ORIENTATION AND APPROXIMATE LOCATION OF SUBSURFACE PROFILE



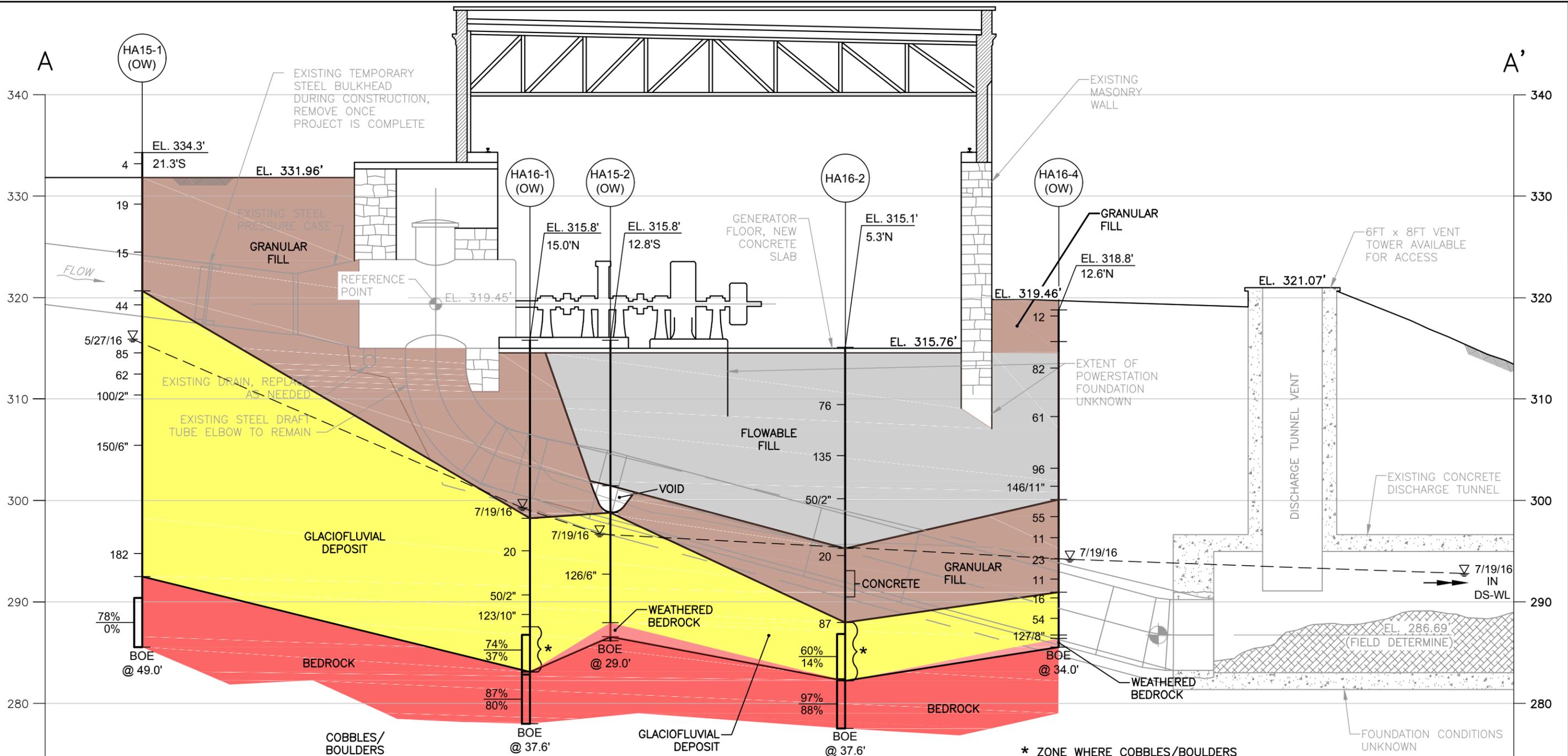
HALEY ALDRICH UNIT NO. 2 PENSTOCK REPLACEMENT
 GARDNER FALLS HYDROELECTRIC FACILITY
 BUCKLAND, MASSACHUSETTS

**SITE AND SUBSURFACE
 EXPLORATION LOCATION PLAN**

SCALE: AS SHOWN
 JULY 2016

FIGURE 2

STACEY, MICHELLE Printed: 8/3/2016 10:48 AM Layout: HA-FIG-B-L-H G:\PROJECTS\127888 - GARDNER FALLS UNIT 2 PENSTOCK\FIGURES\12788-100_FIG3.DWG



LEGEND

- TEST BORING DESIGNATION (OW - WELL INSTALLED IN COMPLETED BOREHOLES)
- GROUND SURFACE ELEVATION AT TEST BORING (SEE NOTE 4)
- APPROXIMATE PERPENDICULAR OFFSET DISTANCE AND DIRECTION MEASURED FROM PROFILE LINE
- UNCORRECTED STANDARD PENETRATION TEST (SPT) N-VALUE (BLOWS PER FOOT)
- WATER LEVEL MEASURED IN OBSERVATION WELL ON DATE SHOWN INTERPOLATED PHREATIC WATER SURFACE FROM RECENT WATER LEVEL READINGS (SEE NOTE 6)
- INTERPRETED GEOLOGIC STRATUM INTERFACE
- PERCENT RECOVERY/PERCENT ROCK QUALITY DESIGNATION (RQD)
- DENOTES BOTTOM OF EXPLORATION AT APPROXIMATE DEPTH SHOWN

NOTES:

1. BASE PLAN TAKEN FROM DRAWING TITLED "PLAN AND SECTION GARDNER FALLS POWERHOUSE UNIT NO. 2 TAILRACE REPAIR PROJECT," DATED 22 JANUARY 2016, PROVIDED BY KLEINSCHMIDT ASSOCIATES.
2. REFER TO FIGURE 2 FOR THE PLAN LOCATION AND ORIENTATION OF THE SUBSURFACE PROFILE; REFER TO APPENDICES OF REPORT FOR TEST BORING LOGS.
3. THE SUBSURFACE PROFILE DEPICTS THE GENERAL GEOLOGIC CONDITIONS AT THE SITE AND IS BASED ON INTERPRETATION OF DATA ENCOUNTERED IN THE EXPLORATIONS. LINES REPRESENTING INTERFACES BETWEEN STRATA ARE BASED ON INTERPOLATION BETWEEN ADJACENT BORINGS. THIS FIGURE SHOWS THE ACTUAL SEQUENCE OF STRATA ENCOUNTERED AT EACH BORING LOCATION. ACTUAL SOIL CONDITIONS AND INTERFACES BETWEEN SUBSURFACE EXPLORATIONS MAY VARY SIGNIFICANTLY FROM THOSE INDICATED ON THE PROFILE.
4. ELEVATIONS ARE IN FEET AND REFERENCE A VERTICAL DATUM SPECIFIC TO THE GARDNER FALLS HYDROELECTRIC FACILITY.
5. EXTENT OF SINKHOLE IS AS SHOWN ON FIGURE C-2 IN REPORT TITLED "GARDNER FALLS HYDROELECTRIC PROJECT, FERC 2334, POWERHOUSE STRUCTURAL ASSESSMENT", PREPARED BY HDR ENGINEERING, INC., DATED OCTOBER 2014.
6. INTERPOLATED PHREATIC WATER SURFACE SHOWN IS APPROXIMATE AND WAS ESTIMATED USING RECENT WATER LEVELS MEASURED IN INSTALLED OBSERVATION WELLS. ACTUAL PHREATIC SURFACE WILL VARY FROM WHAT IS SHOWN.

* ZONE WHERE COBBLES/BOULDERS ENCOUNTERED DURING DRILLING

HALEY ALDRICH UNIT NO. 2 PENSTOCK REPLACEMENT
GARDNER FALLS HYDROELECTRIC FACILITY
BUCKLAND, MASSACHUSETTS

SUBSURFACE PROFILE A-A'

SCALE: AS SHOWN
JULY 2016

FIGURE 3

TABLES

Table 1: Groundwater Lab Analysis Summary for DGP Criteria

Gardner Falls Hydroelectric Facility
 Unit No. 2 Tailrace Structure Repair Project

*15 Gardner Falls Road
 Buckland, Massachusetts
 Daniel O'Connell's Sons, Inc.*

SAMPLE ID			RESERVOIR	DEWATER
	DGP			
	Effluent Limit	Units		
General Chemistry				
Solids, Total Suspended	30	mg/l	NS	8.4
Anions by Ion Chromatography				
Chloride		mg/l	NS	8.22
General Chemistry				
Chlorine, Total Residual	11	mg/l	NS	ND
pH (H)	6.5-8.3	SU	NS	7.8
Oil & Grease, Hem-Grav	15	mg/l	NS	ND
Chromium, Hexavalent	11.4	µg/l	NS	ND
Total Metals				
Antimony, Total	5.6	µg/l	NS	ND
Arsenic, Total	10	µg/l	NS	ND
Cadmium, Total	0.2	µg/l	NS	ND
Chromium, Total	48.8	µg/l	NS	ND
Copper, Total	5.2	µg/l	NS	2.13
Iron, Total	1000	µg/l	140	273
Lead, Total	1.3	µg/l	NS	0.61
Mercury, Total	0.9	µg/l	NS	ND
Nickel, Total	29	µg/l	NS	ND
Selenium, Total	5	µg/l	NS	ND
Silver, Total	1.2	µg/l	NS	ND
Zinc, Total	66.6	µg/l	NS	ND

ND = Not Detected

APPENDIX A

Notice of Intent Form

Notice of Intent (NOI) Format

1. General facility information. Please provide the following information about the facility.

<p>a) Name of facility: Gardner Falls Hydroelectric Facility Unit No. 2</p>	<p>Mailing Address for the Facility: 15 Gardner Falls Road Buckland, Massachusetts 01338</p>	
<p>b) Location Address of the Facility (if different from mailing address):</p>	<p>Facility Location longitude: 42.5893 N latitude: 72.7269 W</p>	<p>Type of Business: Privately Owned Power Station</p>
	<p>Facility SIC codes: 4911</p>	
<p>c) Name of facility owner: Congentrix Energy Power Management, LLC. Owner's email: _____ Owner's Tel #: 704-525-3800 Owner's Fax #: _____ Address of owner (if different from facility address) 9405 Arrowpoint Blvd Charlotte, NC 28273 Owner is (check one): 1. Federal ___ 2. State ___ 3. Private <input checked="" type="checkbox"/> 4. Other _____ (Describe) _____</p>		
<p>Legal name of Operator, if not owner: Daniel O'Connell's Sons, Inc. Operator Contact Name: Mark Bedard Operator Tel Number: 508-520-8900 Fax Number: _____ Operator's email: mbedard@oconnells.com Operator Address (if different from owner) 1000 Franklin Village Drive #205 Franklin, MA 02038</p>		
<p>d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? <input checked="" type="checkbox"/></p>		
<p>e) Check Yes or No for the following: 1. Has a prior NPDES permit been granted for the discharge? Yes ___ No <input checked="" type="checkbox"/> If Yes, Permit Number: _____ 2. Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes <input checked="" type="checkbox"/> No ___ 3. Is the facility covered by an individual NPDES permit? Yes <input checked="" type="checkbox"/> No ___ If Yes, Permit Number MA00035670 and MAG360018 4. Is there a pending application on file with EPA for this discharge? Yes ___ No <input checked="" type="checkbox"/> If Yes, date of submittal: _____</p>		

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) Name of receiving water into which discharge will occur: Deerfield River
State Water Quality Classification: Class B Freshwater: X Marine Water: _____

- b) Describe the discharge activities for which the owner/applicant is seeking coverage:
1. Construction dewatering of groundwater intrusion and/or storm water accumulation. X
 2. Short-term or long-term dewatering of foundation sumps.
 3. Other.

c) Number of outfalls 1

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow 100,000 GPD
Average Monthly Flow 10,000 GPD

e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 7.8 Min pH 6.8

f.) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. Groundwater. Test Results attached.

g.) What treatment does the wastewater receive prior to discharge? Sedimentation.

h.) Is the discharge continuous? Yes _____ No X If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) I (as needed)

If (P), number of days or months per year of the discharge _____ and the specific months of discharge _____;

If (I), number of days/year there is a discharge 90 days

Is the discharge temporary? Yes X No _____

If yes, approximate start date of dewatering June 2017 approximate end date of dewatering September 2017

i.) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. 72.7269 lat. 42.5893; Outfall 2: long. _____ lat. _____; Outfall 3: long. _____ lat. _____.

j.) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations N/A cfs
(See Appendix VII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):
k.) Does the discharge occur in an ACEC? Yes _____ No <u>X</u> If yes, provide the name of the ACEC: _____

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC ₅₀ in percent for aquatic organism(s)). No
b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? <u>A</u>
b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes _____ No <u>X</u> ; Question 2: No _____ Yes <u>X</u>
b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes <u>X</u> or No _____ If yes, attach the results of the consultation(s).
c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? <u>A</u>
d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No <u>X</u> If yes, provide that name of the Indian Tribe associated with the property. _____

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Gardner Falls Hydroelectric Facility Unit No.2

Operator signature: *Paul Praderio*

Print Full Name and Title: *PAUL PRADERIO - OPERATIONS MANAGER*

Date: *5/22/17*

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.