

**RELEASE ABATEMENT
MEASURE PLAN**

Former Bird Machine Company Site
Walpole, Massachusetts

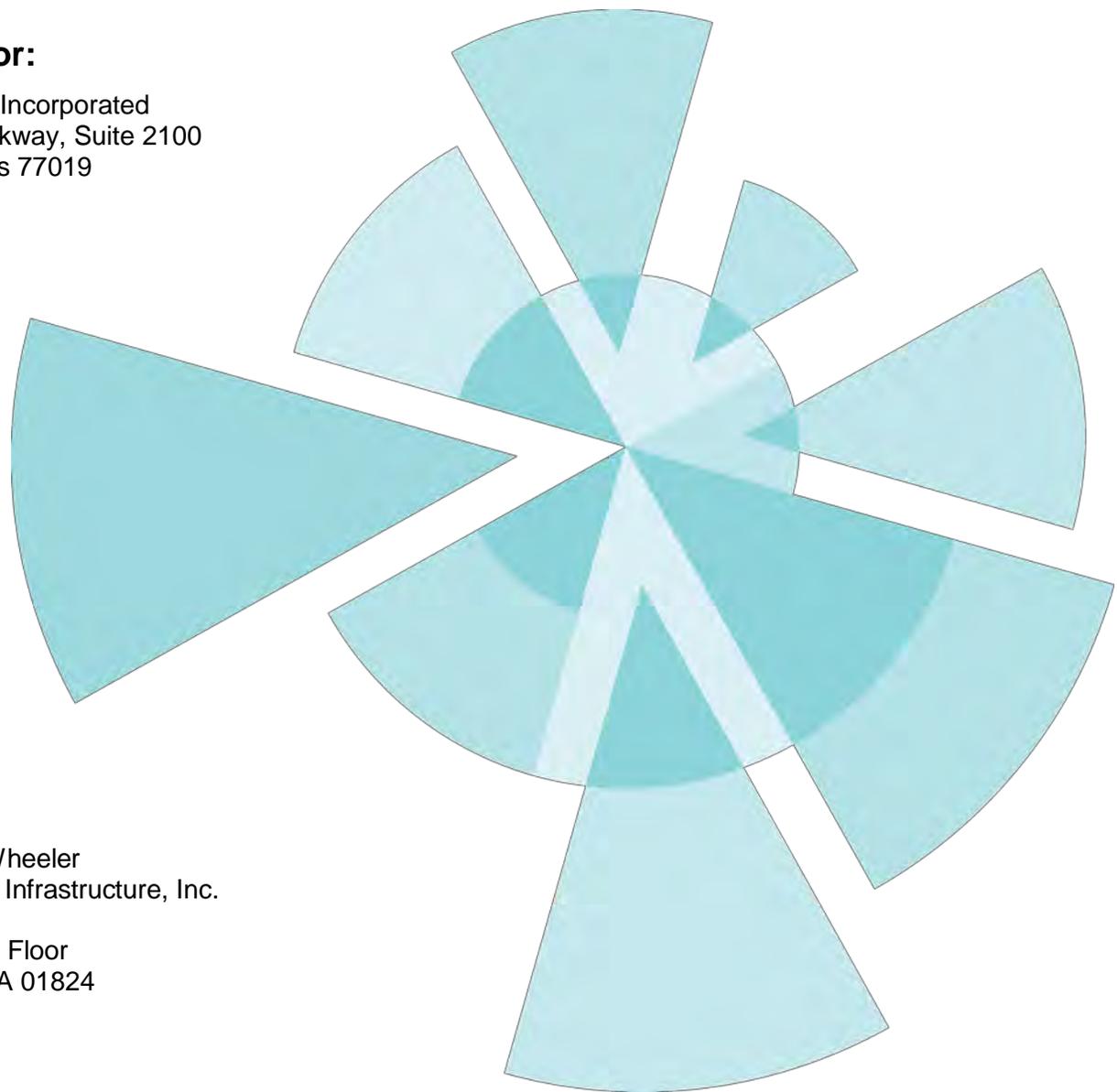


RELEASE ABATEMENT MEASURE PLAN

Former Bird Machine Company Site
100 Neponset Street, Walpole, Massachusetts

Prepared for:

Baker Hughes Incorporated
2929 Allen Parkway, Suite 2100
Houston, Texas 77019



Prepared by:

Amec Foster Wheeler
Environment & Infrastructure, Inc.

271 Mill Rd, 3rd Floor
Chelmsford, MA 01824

April 2016

Project No. 0146790000



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Release Tracking Number (RTN) 4-3024222

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LIST OF ACRONYMS

ACBM	Asbestos-Containing Building Material
ACM	Asbestos-Containing Material
AUL	Activity and Use Limitation
bgs	below the ground surface
BHI	Baker Hughes Incorporated
BOL	Bill of Lading
BMC	Bird Machine Company
BMSF	Bird Machine Solar Farm, LLC
BWSC	Bureau of Waste Site Cleanup
CMR	Code of Massachusetts Regulations
CSA	Comprehensive Site Assessment
CVOCs	Chlorinated Volatile Organic Compounds
DCB	Dichlorobenzene
DDA	Demolition Debris Area
EPA	United States Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
FEMA	Federal Emergency Management Act
IESI	Innovative Engineering Solutions, Inc.
IRA	Immediate Response Action
LRA	Lead Release Area
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MBA	Manufacturing Building Area
MCP	Massachusetts Contingency Plan
MNA	Monitored Natural Attenuation
NEE	New England Environmental, Inc.
NPDES	National Pollution Discharge Elimination System
OHM	Oil and/or Hazardous Material
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbon
PCBs	Polychlorinated Biphenyls
RAM	Release Abatement Measure
RAO	Response Action Outcome
RGP	Remediation General Permit
RMR	Remedial Monitoring Report
RTN	Release Tracking Number
SRS	South Rail Spur
SVOCs	Semi-Volatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
UCL	Upper Concentration Limit
UTM	Universal Transverse Mercator
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
VPH	Volatile Petroleum Hydrocarbon



1.0 INTRODUCTION

On behalf of Baker Hughes Incorporated (BHI), Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has prepared this draft Release Abatement Measure (RAM) Plan for facilitation of the installation of solar photovoltaic array by Bird Machine Solar Farm, LLC (BMSF) with assistance from their environmental consultant, New England Environmental, Inc. (NEE) of Amherst, Massachusetts and Innovative Engineering Solutions, Inc. (IESI) of Walpole, Massachusetts. IESI has been retained to perform the construction of the solar array. BMSF has leased the former Bird Machine Company property (“BMC” or “Property”) for this purpose. The central portion of the Property is currently a state-listed Disposal Site (“Site” or “Disposal Site”) where oil and/or hazardous material (OHM) is present and is being managed by Amec Foster Wheeler under the Massachusetts Contingency Plan (MCP) under Release Tracking Number (RTN) 4-3024222.

According to the construction plan that was prepared by IESI, an approximately 4,700 kilowatt direct current solar photovoltaic array (the “system”) will be constructed at the Property. Approximately 14,724 solar photovoltaic modules will be installed as shown on the attached figures. The system will be ground mounted in rows with two modules in portrait orientation. Each row of photovoltaic modules will be mounted on posts or I-beams that are driven in the ground or attached to a concrete ballast block which will be poured in place or pre-cast and placed on the ground surface.

A RAM Plan is required for the proper management of soils that will be disturbed at the Site as part of the installation of the solar panels. The RAM Plan will also document the areas where soil disturbance and excavation are prohibited due to the presence of asbestos-containing materials. In addition, numerous groundwater monitoring wells located at the Site are currently being used to monitor the success of monitored natural attenuation (MNA), the remedial technology that was selected as part of response actions at the Site. Therefore, the RAM Plan will document the locations of the groundwater monitoring wells which must be accessed for monitoring purposes and cannot be obstructed or destroyed.

This RAM Plan was prepared in accordance with the MCP requirements listed at 310 CMR 40.0440 and will be submitted to the Massachusetts Department of Environmental Protection (MassDEP) prior to the start of any on-site activities that involve the disruption of the ground surface, wetland areas or vegetation within the Disposal Site boundaries. A copy of the RAM transmittal form (BWSC-106) prior to being electronically submitted to MassDEP is provided as **Appendix A.**



2.0 BACKGROUND INFORMATION (310 CMR 40.0444(1)(B))

The Site is located in the central portion of the 134-acre Property that was previously used for manufacturing. The approximate universal transverse Mercator (UTM) coordinates for the Site are 4,664,600 North and 312,700 East (World Geodetic System 1984/North American Datum 1983), based on a 1987 United States Geological Survey Franklin Quadrangle Map. The Site Location Map, **Figure 1**, shows the regional location of the Site. The Neponset River flows around the Site from the south to the northeast; and Ruckaduck Pond is located to the west. Access to the Site is obtained via Neponset Street, which is shown on a Site Plan provided as **Figure 2**.

The Site is zoned Limited Manufacturing, which allows a wide range of commercial, institutional, and residential uses. The Property is also grandfathered for industrial use. The surrounding area consists of a mixture of residential and recreational uses.

The Property is located in an area designated by the Town of Walpole as a Potential Drinking Water Supply Area which is equivalent to an aquifer protection district (Walpole, 2007). Based on this information, MCP groundwater categories for the Site are GW-1, GW-2, and GW-3.

Manufacturing operations at the Property were discontinued in 2004, and all but three buildings associated with the former BMC have been demolished. The photovoltaic array will be secured with a seven foot high chain link security fence and locked gate at the entrance to the Property. Current human receptors at the Site are limited to Amec Foster Wheeler field personnel who are present during quarterly groundwater sampling events and occasional trespassers.

2.1 Disposal Site History

Manufacturing operations have occurred at the Property since at least 1832, due to the availability of water power from the Neponset River which was dammed to create a mill pond. Industries have included a shingle mill, woolen mill, emery mill, and rag sorting plant prior to the beginning of operations by BMC in 1920. BMC primarily manufactured and repaired industrial centrifuges on the Property. BHI acquired BMC in 1989, when it became an operating unit within Baker Process, Inc., a wholly-owned subsidiary of BHI. Baker Hughes Process Systems, Inc. is the present owner of the Property. Histories of the four areas that comprise the Site are provided below.

2.1.1 Manufacturing Building Area (MBA)

The manufacturing facility developed as part of BMC starting in 1920 was comprised of several buildings utilized for metal casting and machining, including lathing, welding, milling, drilling, cutting, grinding, and sheet metal fabrication. The metal working machines were situated in sumps, which collected machining oil, lube oils, and metal cuttings, that accumulated as a result of everyday use. Some of this oil may have been released through the floor of the sumps and into the ground beneath. Degreasing operations were also conducted in these buildings using various solvents. Portions of the MBA were built on filled land. Based on review of aerial photographs and site maps, the most recent building expansion and filling of land occurred prior to 1974. Fill included wood debris, glass bottles and jars, cans, pails, metal, and a few crushed



waste drums which were observed in the MBA during an Immediate Response Action (IRA) initiated in 2003. Soil also appeared to contain waste paint pigment. Manufacturing operations at the Site were discontinued in 2004.

2.1.2 Lead Release Area 3 (LRA3)

LRA3 is located north of the MBA and was identified from test pit investigations performed in December 2004 and May 2005. The dates of filling in this area are unknown but are believed to predate 1974, based on review of topographic maps. The fill material in LRA3 is similar to fill material described for MBA: primarily sandy soil, with pockets of waste materials and oil-stained soils, and characterized as containing OHM exceeding MCP regulatory limits, referred to as Reportable Concentrations, including lead, nickel, zinc, and petroleum hydrocarbons. Buried asbestos-containing building materials consisting of transite sheets were also discovered in a portion of LRA3. Fill depth in LRA3 was generally up to six feet below the ground surface (bgs). Fill materials have been treated and removed.

2.1.3 South Rail Spur (SRS)

A geophysical survey was conducted at portions of the BMC Property including the SRS area in May 2006, and two areas of subsurface anomalies were identified. Test pits and soil borings were advanced in the SRS area in June 2006 to investigate these geophysical anomalies. Waste materials, including what appeared to be black abrasive material and metal shavings, were observed with other sandy fill at depths of two to five feet bgs in the test pits. Samples of the fill and underlying soils were collected for analysis, and metals exceeding MCP Reportable Concentrations included antimony, chromium III, lead, nickel, and zinc. The dates and origins of fill deposited in this area are unknown.

2.1.4 Demolition Debris Area (DDA)

Placement of fill at the DDA or in the vicinity is believed to have started in the late 19th century coincident with the construction of the railroad and industrial development of the Property. Filling in this area is believed to have ended in the 1970s based on aerial photography. The types of materials found in fill in the DDA include demolition debris, machining waste, and testing waste. Some wastes were disposed in containers including 55-gallon drums. The types of contaminants found in wastes and environmental media include metals, polycyclic aromatic hydrocarbons (PAH), extractable petroleum hydrocarbons (EPH), dioxins, and asbestos. The fill at the Site was placed directly on the native soil surface, generally in depths of less than eight feet.

2.2 **Surrounding Receptors**

According to the MassDEP MCP Numerical Ranking System Map, provided as **Figure 3**, the Site is located within an EPA Sole Source Aquifer. The closest wetland areas are located immediately east of the Site near the Neponset River. The closest surface waters are Ruckaduck Pond and the Neponset River which are located immediately west and east of the Site, respectively. A FEMA 100 year flood plain is located adjacent to the Neponset River to the east of the Site. Protected open spaces are located approximately 3,000 feet southeast of the Site. A Zone II drinking water source area is located approximately 4,000 north of the Site. The Boyden School located approximately 4,000 feet southeast of the Site.

According to information obtained from previous reports, approximately 270 residences are located within one-half mile of the Site. There are currently no residences, schools, daycare centers, playgrounds or parks located within 500 feet of the Site.

2.3 Summary of Response Actions

Detailed chronologies of the investigations in each area of the Site are presented in the Phase II Comprehensive Site Assessment (CSA) Reports (AMEC 2011a, AMEC 2011b). The Phase II investigations included test pitting, soil borings, well installations, and the sampling and analysis of soil and groundwater between 2004 and 2011. RAMs and IRAs were performed during this time and documented in status reports and completion reports for the RTNs included in the Site, before these RTNs were linked in the 2008 Tier IB permit. The removal actions throughout the Site are summarized below.

2.3.1 Manufacturing Building Area

RAM activities for the MBA specifically targeted lead and extractable or volatile petroleum hydrocarbons (EPH/VPH), with the goal of removing soils above the Upper Concentration Limits (UCLs) and MCP Method 1 S-1/GW-2 and S-1/GW-3 standards, when possible. A brief summary of soil removal and other remediation activities in the MBA is presented below:

- In July 2005 two excavations were conducted to remove metals-impacted soils associated with lead release areas (LRA1 and LRA2) north and east of Buildings 7-7C. The objectives of the RAM were to remove pockets of waste materials and affected soils and to restore the site to grade.
- In August 2005 a 15,000-gallon No. 6 fuel oil underground storage tank (UST) located north of Manufacturing Building 6 was removed. Analytical results from the tank grave samples did not indicate the presence of reportable concentrations of EPH or VPH fractions.
- In April 2006 a storm drain pipe replacement was conducted underneath former Building 6A to remove a potential migration pathway between the location of reportable concentrations of OHM in soil (i.e., in the vicinity of MB-GP-2 and MB-B6) and the Neponset River, and to reduce the mass of OHM at the Site by removing impacted soils. Approximately 338 tons of contaminated soil and debris deemed unsuitable for reuse onsite were transported off-site for disposal.
- Between November 2007 and February 2008, 11 excavations (A01-A06 and A08-A12) were performed to reduce the mass of OHM underneath the former Manufacturing Buildings (i.e., elevated concentrations of metals and EPH). Existing drain, sewer, and fire protection lines encountered were removed or capped.

Excavation areas were backfilled to re-establish existing grades in the MBA.

A Method 3 risk assessment was prepared as part of the Phase II CSA for the MBA. It assumed that an Activity and Use Limitation (AUL) will be implemented at the Site prohibiting the use of the Site for residential purposes and did therefore not evaluate potential unrestricted Site use. The risk assessment for the MBA concluded that for soil, a condition of No Significant Risk

exists for human health, public welfare, safety and the environment. The risk assessment assumed that for soil, the exposure duration for construction workers would be a maximum of six months. However, a condition of No Significant Risk could not be demonstrated for the MBA groundwater because the groundwater has been designated as a Potential Drinking Water Source and groundwater exposure point concentrations did not meet the Massachusetts Drinking Water Quality Standards.

For the entire Site, risk to current and future trespassers in the Neponset River surface water and sediment were estimated separately and are lower than target risk limits, indicating a condition of No Significant Risk in river areas. A Method 3 Stage II Environmental Risk Characterization used a weight-of-evidence approach to conclude no risk to aquatic receptors in the Neponset River. This risk assessment served as a complement to the upland risk assessment, also prepared for the Phase II CSA, which concluded no unacceptable risk to terrestrial receptors. These two risk assessments taken together indicate No Significant Risk to the environment.

2.3.2 Lead Release Area 3

Remediation activities for three areas within LRA3 specifically targeted lead and nickel, with the goal of removing soils above the UCLs and S-1/GW-3 standards, when possible. Remediation activities for the fourth area specifically targeted Asbestos-Containing Building Material (ACBM) found at the site. The following RAM activities were conducted in LRA3:

- Between July and October 2005, approximately 1,508 tons of ACBM-contaminated soils were removed from an area approximately 80 feet by 100 feet. The depth of excavation was not documented but fill material in this area appeared to extend up to six feet bgs based on the adjacent test pits LR-TP-35, -36, and -37, and this depth is consistent with other fill in LRA3. A native silty layer was encountered at the bottom of the excavation.
- Between July through October 2005, in-situ soil treatment using a phosphate-based chemical fixation technology was performed in 13 stabilization cells within LRA3 and east of the ACBM removal activities.
- Between January and February 2006, approximately 1,937 tons of the phosphate-treated soil were excavated from LRA3 and transported off-site for re-use as daily cover. Note that treatment and excavation activities were conducted up to a pre-determined boundary (soil serving as a berm) so as not to impact the adjacent wetlands. Soil was excavated to approximately five feet bgs in this area.
- In July 2007, approximately 2,500 cubic yards of overburden soil material were excavated from the berm that was located between the Neponset River wetlands and the prior excavations to a maximum depth of eight feet bgs.
- In October 2007, an additional 800 cubic yards of surface soil (approximately 0 to 2 feet bgs) were excavated northwest of the 2005 excavation area.

Excavation areas were backfilled to re-establish existing grades in the LRA3 area.

A Method 2 risk assessment was prepared as part of the Phase II CSA for the LRA3. It assumed that an AUL will be implemented at the Site prohibiting the use of the Site for residential purposes and did therefore not evaluate potential unrestricted Site use. The risk

assessment concluded that for the LRA3, concentrations of all constituents in soil and groundwater were lower than the applicable standards. Therefore, the risk assessment for the LRA3 concluded that for soil and groundwater, a condition of No Significant Risk exists for human health, public welfare, safety and the environment. The risk assessment assumed that for soil, the exposure duration for construction workers would be a maximum of six months.

2.3.3 South Rail Spur

No RAM or IRA activities were performed in the SRS area, considering the relatively lower levels of OHM in that area.

A Method 2 risk assessment was prepared as part of the Phase II CSA for the SRS area. It assumed that an AUL will be implemented at the Site prohibiting the use of the Site for residential purposes and did therefore not evaluate potential unrestricted Site use. The risk assessment concluded that for the SRS, concentrations of all constituents in soil and groundwater were lower than the applicable standards. Therefore, the risk assessment for the SRS concluded that for soil and groundwater, a condition of No Significant Risk exists for human health, public welfare, safety and the environment. The risk assessment assumed that for soil, the exposure duration for construction workers would be a maximum of six months.

2.3.4 Demolition Debris Area

Waste source materials in drums and soils were transported off-site during RAM activities beginning in 2005. Approximately 2,191 tons of soil and debris were removed. The excavation ranged from eight to ten feet in depth in the western and eastern clearings and 13 feet in depth in the central clearing. All of the excavations were above the water table. Post excavation contaminants in soil included metals, dioxin, and petroleum compounds. Concentrations in the depth interval of zero to five feet bgs were higher than in the depth interval of five to 15 feet bgs.

Asbestos-Containing Material (ACM) was encountered within the limits of the DDA fill, typically three feet in depth. Based on laboratory results, visible fibrous material was used as an indicator of ACM and excavation of soil continued until no visible ACM was observed. Approximately 1,106 tons of ACM and soil were transported off-site during an IRA performed in 2005. The excavation area was lined with geotextile and backfilled to surrounding grade.

A Method 3 risk assessment was prepared as part of the Phase II CSA for the DDA. It assumed that an AUL will be implemented at the Site **prohibiting disruption of the ground surface due to the presence of ACM**. It also prohibited the future use of the Site for residential purposes. The risk assessment therefore did not evaluate potential unrestricted Site use, but assumed that receptors to soil would be limited to trespassers, who would have incidental contact with soils located at a depth of 0 to 3 feet below the ground surface. The risk assessment concluded that for soil and groundwater, a condition of No Significant Risk exists for human health, public welfare, safety and the environment. The risk assessment assumed that construction workers would not be exposed to subsurface soils because of the prohibition preventing soil disturbance in the DDA.



2.4 Current Regulatory Status

A Temporary Solution was achieved for the Site with the submittal of a Class C-2 Response Action Outcome (RAO) Statement to the MassDEP in December 22, 2011. The selected remedial technology was MNA. MNA monitoring is currently conducted at the Site on a quarterly basis and a Phase V Status and Remedial Monitoring Report (RMR) documenting the results of the monitoring activities are submitted to MassDEP semi-annually in February and August of each year.



3.0 RAM PLAN REQUIREMENTS

3.1 RAM Plan Objectives

The objectives of this RAM Plan are to reduce risks at the Disposal Site while performing construction activities that are necessary for the installation of solar panels since a Permanent Solution has not been achieved. In particular, this RAM Plan has been prepared for the following purposes:

- To ensure that all workers are adequately protected while present at the Site;
- To properly manage soils that will be generated at the Site as part of the installation of the solar panels;
- To document that soil disturbance and excavation are prohibited in the Demolition Debris Area, shown on **Figure 2**, due to the presence of asbestos containing material that is present in surficial and subsurface soils; and
- To document the locations of the groundwater monitoring wells, shown on **Figure 2**, which must be accessed for continued monitoring purposes and cannot be obstructed or destroyed by the placement of the solar panels at or near the locations of the wells.

3.2 Persons Assuming Responsibility for Conducting the RAM (310 CMR 40.0444(1)(a))

Potentially Responsible Party (PRP): Mr. Chris Clodfelter
Senior HS&E Specialist
Baker Hughes Incorporated
2929 Allen Parkway, Suite 2100
Houston, Texas 77019-2118
Phone: 713-439-8329

Licensed Site Professional (LSP): Ms. Kim Henry, LSP License #7122
Amec Foster Wheeler Environment &
Infrastructure, Inc.
271 Mill Road
Chelmsford, Massachusetts 01824
Phone: 978-392-5334

3.3 Health and Safety Plan Requirements

IESI, the contractor selected to install the solar array, shall ensure that a Site-specific Health and Safety Plan is implemented to the extent required by the federal Occupational Safety and Health Administration (OSHA) under the Occupational Safety and Health Act of 1970, 29 U.S.C. 651, as amended, and 29 CFR 1910.120(e) and any other applicable federal, state and local laws. The Site-specific Health and Safety Plan will describe potential environmental hazards associated with the Site, as well as methods to monitor for and control or mitigate those environmental hazards. Contractors who are potentially exposed to environmental hazards as a result of their particular Site activities will be provided the Site-specific Health and Safety Plan and must participate in daily safety meetings. Contractors shall conduct activities at the Site using workers with the appropriate level of OSHA training in hazardous waste operations,

dependent on their assigned activities and the potential exposure associated with those activities. In addition, Contractors will be responsible for performing their work activities safely in compliance with all applicable OSHA construction standards.

3.4 RAM Implementation (310 CMR 40.0444(1)(c) and (e))

The proposed activities, including specific plans and the proposed implementation schedule for the RAM is described below.

3.4.1 Proposed Activities and Specific Plans

All activities related to the installation of the solar array, including but not limited to building demolition and construction of entrances, access roads, and mitigation areas, will be performed by IESI and their subcontractors. IESI was contracted by BMSF to complete the work.

According to the construction plans that were reviewed for the solar panel installation activities, solar panels will only be installed within the Manufacturing Building Area (MBA) and areas located adjacent to the MBA. No work will be performed within the Demolition Debris Area, Lead Release Area or South Rail Spur Area. Two stormwater basins will be installed in the northeastern property boundary; it appears that one of the basins is located within the MBA and one basin is located outside the MBA. The 12 solar development permit drawings and design plans that were prepared by NEE and BMSF are identified as Sheet C-1.0, C-2.0, C-2.1, C-3.0, C-3.1, C-4.0, C-4.1, C-5.0, 6.1, C-6.0, C-6.1 and C-6.2 and are provided in **Appendix B**.

No existing pavement that remains at the ground surface above the arsenic and chlorinated volatile organic compound (CVOC) plumes will be disturbed (see **Figure 4**). The major drain line that begins at Ruckaduck Pond to the Neponset River will not be disturbed.

3.4.2 Site Preparation

Prior to installing the solar panels, erosion and sediment control barriers will be installed and site office/sanitary facilities will be set up. If soil is disturbed during the installation of the sediment control barriers, it will be conducted in accordance with Section 3.4.6 below. Access road and laydown areas will also be constructed. The Property will be flagged and surveyed showing the limits of clearing, fence line, and erosion control lines. Survey control points will be established for on-site GPS survey equipment.

3.4.3 Tree Removal and Trimming

Prior to the installation of the solar panels, tree trimming and clearing activities will be completed to complete a shade free area and to prepare the ground for installation of the photovoltaic modules. Trees and trimming debris will be removed as timber or chipped as biomass and then removed from the Property for disposal as landscaping waste. Tree stumps will be removed as necessary and disposed of by grinding onsite. Stump grindings, including any soil entrained on the root balls, will remain on site, at or near the location where trees were removed. If the stumps and root balls are moved to a central location at the site, soil must be brushed from the root balls before movement of the material occurs. Soil removed from the root balls should remain in the same general area as where it originated.

3.4.4 Demolition of Existing Garage

The existing garage located in the northern portion of the MBA and shown on Sheet 3.0 will be demolished. After the necessary building demolition and asbestos abatement permits are obtained, all asbestos containing material and other hazardous material will be removed and properly disposed of off-site. The structure will then be demolished. The construction debris may include wood, concrete, steel or other debris which will be disposed of according to state and federal laws and will not be disposed of on-site. If minor quantities of soil are generated from the demolition activities, the soil be reused on-site as backfill in the same general area that it originated. In the unlikely event that excess soil is generated from disposal activities and cannot be reused on site as backfill, the soil will require characterization prior to off-site disposal. The remaining concrete foundation and floor will be crushed and left onsite in the area of the garage.

3.4.5 Site Grading

The areas of stump removal will be smoothed for a final grade. The approximately 9,500 cubic yards of crushed concrete that is currently stockpiled on site and shown on Sheets C-3.0 and C-3.1 will be crushed to less than six inches diameter in size after all major rebar has been removed. The material will then be loaded, moved and placed to grade the site as shown on Sheets C-4.0 and C-4.1.

3.4.6 Soil Excavation and Soil Disturbance

No soil will be removed from the Disposal Site Boundary. As shown on Sheets C-3.0, C-3.1, C-4.0, and C-4.1, soil disturbance will occur from the following activities:

1. excavation and grading of the two stormwater basins,
2. installation of the erosion control barriers such as silt fences,
3. removal of existing utility poles,
4. trenching to approximately six feet below grade for electrical connection trenches,
5. excavation to six feet below grade for the foundations of the equipment pads,
6. trenching to approximately four feet below grade for inter-row jumper trenches to connect strings to combiner boxes between rows,
7. excavation and forming of concrete ballast for locations where driving piles cannot be completed due to refusal,
8. post holes for solar panel racking and equipment mounting racks,
9. post holes for fence posts for the eight-foot high chain link fence that will be installed around the solar installation, and
10. tree stump removal.

The generated soil will be left at the ground surface at or near the location from which it was generated. No export of soil from the Property will occur. Soil generated during subsurface work within the MBA must remain within the MBA. Soil generated outside the MBA can stay either outside the MBA or be moved to the MBA.

During trenching, which can be conducted to a maximum feet of 15 feet bgs, soil removed from the trench will be placed at a safe distance from the edge of the trench near the location from



which it was removed (a “row” parallel to the edge of the trench). Once work is completed in the trench, soils will be backfilled and compacted at the same general depths from which they were originally removed. Similar procedures will be conducted for the excavation and backfill of the equipment pads and root balls.

Due to the presence of residual soil contamination within the MBA, proper handling techniques should be followed to minimize the potential for human contact with the contaminated materials.

3.4.7 Excavated Subgrade Soil from Plantings

Subgrade soil excavated during planting and shown on Sheet C-6.2 will not be removed from the Site. All soil is to be reused in backfill and finish grading.

3.4.8 Construction of Mitigation Area

Construction of the Mitigation Area shown on Sheets C-3.1 and C-6.1 will require removal of some of the pavement in the parking lot south of the Neponset River. This Mitigation Area is located outside of the Disposal Site Boundary and therefore, the RAM Plan does not apply to these activities. Soil that is generated from the Mitigation Area will be reused within that area.

3.4.9 Stabilized Construction Entrances and Access Roads

The stabilized construction entrances and access roads identified on Sheets C-3.1 and C-3.2 and shown in detail on Sheet C-6.1 will be constructed by placing clean, imported material at grade.

3.4.10 Maintaining Access to Site Monitoring Wells

As shown on **Figure 2**, a total of 38 groundwater monitoring wells are currently being used to monitor the effectiveness of MNA, the remedial technology that was selected as part of the response actions at the Site. These wells must be accessed by Amec Foster Wheeler for monitoring purposes and cannot be obstructed or destroyed during or after the installation of the solar panels. An access route with a minimum width of five feet leading from the nearest roadway to the monitoring wells must also be kept free from any obstructions to allow field personnel and sampling equipment to access and sample the wells.

3.4.11 Implementation Schedule

Implementation of the proposed RAM is tentatively scheduled to begin the week of April 25, 2016 and is anticipated to be completed by September 30, 2016. However, the work necessary to interconnect to the electrical utility grid may occur at a later date. Depending on the length of the construction project, a RAM Status Report must be prepared and submitted to the MassDEP within 120 days of the submittal of the RAM Plan and every six months thereafter. A RAM Completion Report must be prepared and submitted to the MassDEP within 60 days following completion of the RAM activities and removal of any and all generated remediation waste from the Site.

3.5 Waste Management

3.5.1 Management of Soil

In the unlikely event that generated soil will require off-site disposal at a licensed receiving facility (such as a landfill, asphalt batching, or thermal treatment facility) it will be sampled for laboratory analysis of waste characterization parameters. The analysis is dependent on the requirements of the selected receiving facility. However, analysis typically consists of volatile organic compounds (VOCs) via EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, total petroleum hydrocarbons (TPH), metals, flashpoint, ignitability and reactivity. Sampling frequency will also be determined by the receiving facility but is typically one sample for every 250 or 500 cubic yards. Once a disposal facility is selected and if facility acceptance criteria are met, a Bill of Lading will be prepared as described in Section 4.1 of this report to manage, transport and dispose of soils.

In accordance with the MassDEP anti-degradation requirements (310 CMR 40.0032(3)) and the Similar Soils Provision Guidance Document (WSC#-13-500, October 2, 2013, revised April 25, 2014), soils containing OHM at concentrations less than the applicable reporting thresholds (known as the MCP Reportable Concentrations) and that are not otherwise a hazardous waste must not be disposed or reused at locations where existing concentrations of OHM at the receiving site are significantly lower than the levels of OHM present in the soil being disposed or reused. Also, soils cannot be disposed of at locations where concentrations of OHM would be in excess of a release notification threshold applicable at the receiving site.

3.5.2 Management of Groundwater/Dewatering

The depth to groundwater at the Site typically ranges from one to five feet bgs. Therefore, groundwater may be encountered during excavation activities. If dewatering is required within the boundaries of the CVOC, arsenic, or dichlorobenzene (DCB) plumes (as shown on **Figure 4**), an EPA National Pollution Discharge Elimination System (NPDES) Remediation General Permit (RGP) or construction dewatering permit may be sought for the proper treatment/discharge of groundwater. If dewatering is required in areas outside the CVOC, arsenic or DCB plume boundaries, then the water can be recharged upgradient of the point of generation, provided that the recharge area is also outside these plumes.

3.6 Waste Characterization Sampling

Sampling and analysis shall be performed in accordance with 310 CMR 40.0017 of the MCP. Procedures and methodologies employed for the collection and analysis of samples shall consist of the following:

- Methods published by the MassDEP, EPA, American Society for Testing and Materials (ASTM), American Public Health Association (APHA), National Institute for Occupational Safety and Health (NIOSH) and other organizations with expertise in the development of standardized analytical testing methods;
- Modifications of published methods, provided that all modifications are completely documented; and



- Unpublished methods, including analytical screening methods, provided that such methods are scientifically valid, are of a known and demonstrated level of precision and accuracy.

3.7 Future Sampling Activities

Results of any additional sampling activities, if needed, as well as a description of excavation and export activities, will be summarized and submitted to MassDEP in subsequent RAM reports.

4.0 REMEDIATION WASTE MANAGEMENT, PERMITS, FEES, LSP SEAL AND SIGNATURE, AND PUBLIC INVOLVEMENT

4.1 Remediation Waste and Waste Management (310 CMR 40.0444(1)(d))

Contaminated media (such as soil or groundwater) and contaminated debris containing OHM at levels equal to or greater than the release notification thresholds and that are not otherwise a hazardous waste shall be managed under the Bill of Lading process when they are transported from a Disposal Site.

In the event that contaminated soil residuals are encountered, they can only be consigned, conveyed, and/or transported to facilities and locations licensed, permitted, or approved to accept such materials by appropriate regulatory authorities. Soils which meet the criteria for a listed or characteristic hazardous waste shall, when transported from a disposal site, comply with the requirements of 310 CMR 30.000. Based on the previously obtained laboratory analytical results for the Site, soils generated during this project do not appear to be a hazardous waste.

Should temporary storage of stockpiled soils be required, the stockpile shall be placed entirely on a base composed of an impermeable material and shall be immediately covered with the same material or other suitable material so as to minimize the infiltration of precipitation, volatilization of contaminants and erosion of the stockpile. Polyethylene sheeting (with a minimum thickness of 6 mil) will be used for the base and cover. Any cover material used shall be properly secured and possess the necessary physical strength to resist tearing.

Any failure of materials or procedures used in employing the base layer or cover shall be immediately repaired, replaced or re-secured so as to minimize precipitation, infiltration, volatilization and erosion/runoff of the contaminated media or contaminated debris. All soils when transported upon public roadways shall be covered to minimize fugitive dust, and where necessary, truck tire and undercarriage washing shall be employed to minimize tracking of soils onto public roadways. Appropriate steps must be taken to minimize public access to the contaminated soils located at the storage area and/or site of generation.

As previously stated in Section 3.6.1, if it is necessary to export soils to an off-site licensed receiving facility, the soils will be sampled and characterized beforehand. The analysis is dependent on the requirements of the selected receiving facility. The disposal destination for the soils is dependent on the soil characterization results and available options. The Bill of Lading form, along with the Attestation of Completion and export summary which depicts the number of loads, the amount of soil shipped in tons, and the dates of shipment, will be included in future RAM submittals.

As stated in Section 3.5.2, if dewatering is required, an EPA NPDES RGP or construction dewatering permit will be sought.

4.2 Permits and Fees (310 CMR 40.0444(1)(f))

According to BMSF, the following permits/approvals were obtained:

- Land Disturbance Permit (Walpole Conservation Commission);
- Order of Conditions (Walpole Conservation Commission);
- Site Plan Approval (Walpole Planning Board); and
- Solar Overlay District Inclusion.

Since this RAM Plan is being prepared after tier classification of the Disposal Site, a RAM Plan submittal fee is not required.

As stated above, if it becomes impractical to recharge groundwater directly on-site, an EPA NPDES RGP or construction dewatering permit will be sought.

4.3 LSP Seal and Signature (310 CMR 40.0444(1)(g))

The LSP seal and signature are provided in the BWSC-106 transmittal form which is submitted concurrently with the final RAM Plan via electronic submittal to the MassDEP.

4.4 Public Involvement (310 CMR 40.0447)

A Public Involvement Plan, dated February 24, 2006, is in place for the Site and requires that the public be notified of major milestones under the MCP including the preparation and implementation of RAM Plans. A draft of this RAM Plan was issued for public comment and a meeting was conducted on May 27, 2015 to inform the public of the scope of RAM Activities. No members of the public attended this meeting and no public comments were received.

Also, pursuant to 310 CMR 40.1403(3)(d), the Chief Municipal Officer and Board of Health for the Town of Walpole will be notified within 20 days prior to the implementation of this RAM. A copy of the public notification letter is included as **Appendix C** and will also be provided to the Site public involvement mailing list, along with a notification of the availability of the final RAM Plan.

FIGURES



FIGURE 1
SITE LOCATION MAP
 Former Bird Machine Company
 100 Neponset Street
 Walpole, MA



Source: Topo quad provided by National Geographic TOPOI Series: 2008
 Town Supply Wells by MassGIS, 2012.

0 2,000 Feet

amec foster wheeler
 AMEC Foster Wheeler
 Environment & Infrastructure, Inc.
 271 Mill Road
 Chelmsford, MA 01824
 (978) 692-9090

Copyright: © 2013 National Geographic Society

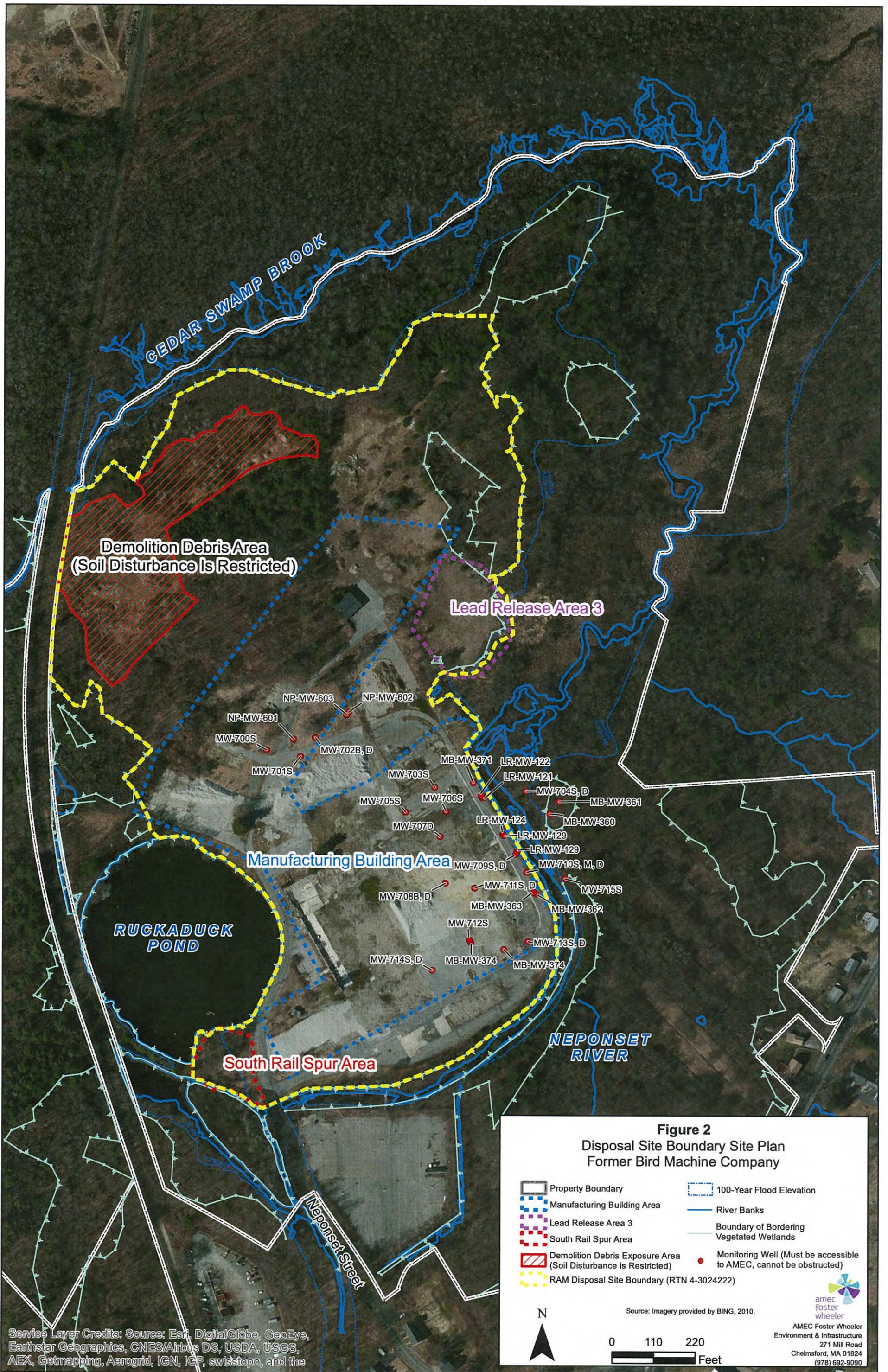


Figure 2
Disposal Site Boundary Site Plan
Former Bird Machine Company

	Property Boundary		100-Year Flood Elevation
	Manufacturing Building Area		River Banks
	Lead Release Area 3		Boundary of Bordering Vegetated Wetlands
	South Rail Spur Area		Monitoring Well (Must be accessible to AMEC, cannot be obstructed)
	Demolition Debris Exposure Area (Soil Disturbance is Restricted)		
	RAM Disposal Site Boundary (RTN 4-3024222)		

Source: Imagery provided by BING, 2010.

amec foster wheeler
 AMEC Foster Wheeler Environment & Infrastructure
 271 Mill Road
 Chelmsford, MA 01824
 (978) 692-9090

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the

MassDEP - Bureau of Waste Site Cleanup

Site Information: MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

FORMER BIRD MACHINE COMPANY
100 NEPONSET STREET WALPOLE, MA
4-003024222

NAD83 UTM Meters:
5177626mN, -7932907mE (Zone: 18)
May 29, 2014

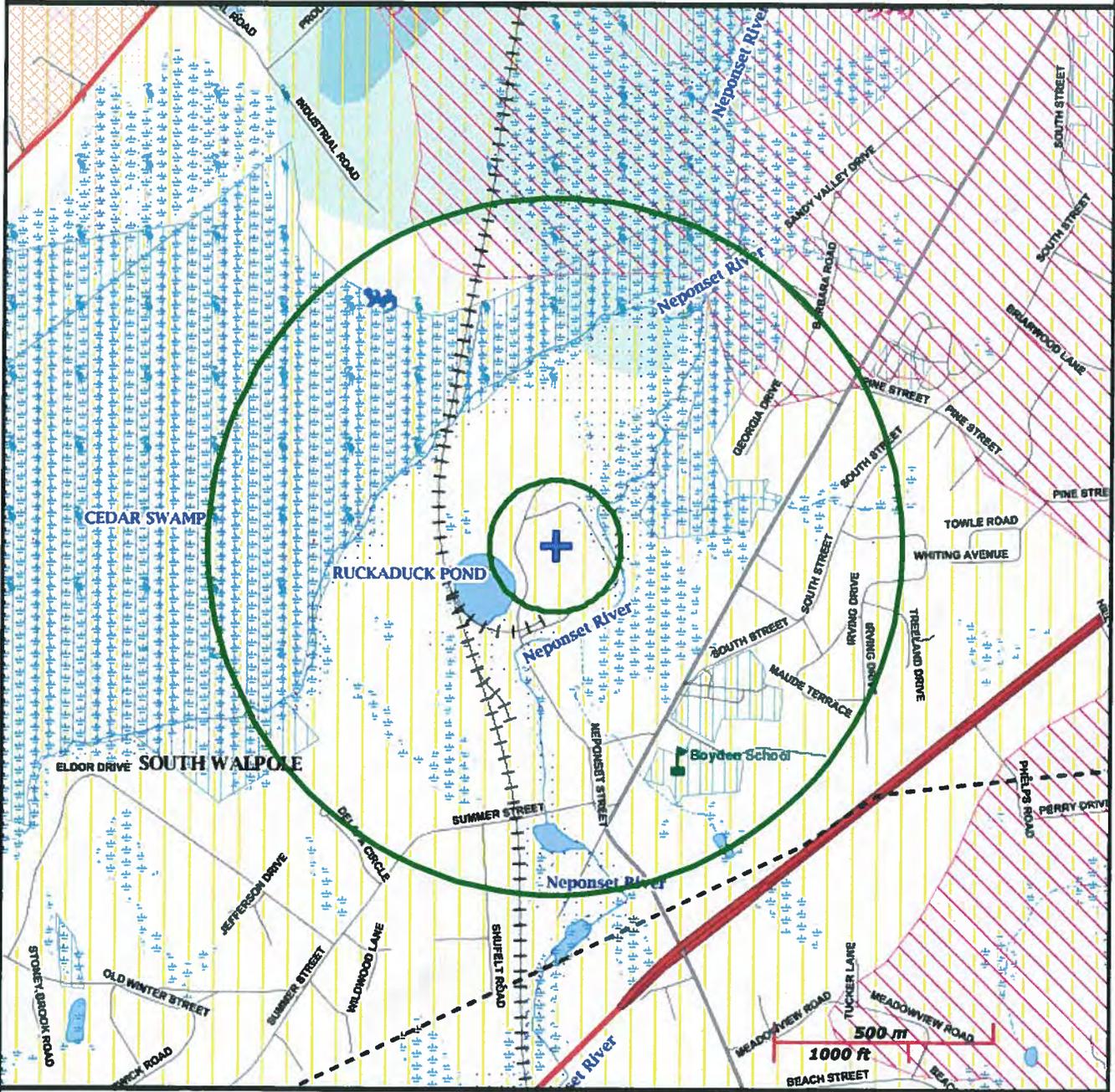
The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:
<http://www.mass.gov/mgis/>



MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection

Figure 3



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail	PWS Protection Areas: Zone II, MWPA, Zone A
Boundaries: Town, County, DEP Region; Train, Powerline; Pipeline; Aqueduct	Hydrography: Open Water, PWS Reservoir, Tidal Flat
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam	Wetlands: Freshwater, Saltwater, Cranberry Bog
Aquifers: Medium Yield, High Yield, EPA Sole Source	FEMA 100yr Floodplain; Protected Open Space; ACEC
Non Potential Drinking Water Source Area: Medium, High (Yield)	Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
	Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.

APPENDIX A

RAM TRANSMITTAL FORM BWSC-106



RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM

Release Tracking Number

4 - 3024222

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

A. SITE LOCATION:

1. Site Name/Location Aid: BAKER HUGHES INC FMLY BIRD MACHINE CO
2. Street Address: 100 NEPONSET ST
3. City/Town: WALPOLE 4. Zip Code: _____

b 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.

a. Tier I b. Tier ID c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of Initial RAM Plan (if previously submitted): _____
(mm/dd/yyyy)

b 2. Submit an **Initial Release Abatement Measure (RAM) Plan.**

a. Check here if the RAM is being conducted as part of the construction of a permanent structure. If checked, you must specify what type of permanent structure is to be erected in or in the immediate vicinity of the area where the RAM is to be conducted.

b. Specify type of permanent structure: (check all that apply) i. School ii. Residential iii. Commercial
 iv. Industrial v. Other Specify: _____

3. Submit a **Modified RAM Plan** of a previously submitted RAM Plan.

4. Submit a **RAM Status Report.**

5. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP, concurrent with a RAM Status Report.)

a. Type of Report: (check one) i. Initial Report ii. Interim Report iii. Final Report

b. Frequency of Submittal:

i. A Remedial Monitoring Report(s) submitted every six months, concurrent with a RAM Status Report.
 ii. A Remedial Monitoring Report(s) submitted annually, concurrent with a RAM Status Report.

c. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC106A, RAM Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

6. Submit a **RAM Completion Statement.**

7. Submit a **Revised RAM Completion Statement.**

8. Provide Additional RTNs:

a. Check here if this RAM Submittal covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here. This section is intended to allow a RAM to cover more than one unclassified RTN and not show permanent linkage to a Primary Tier Classified RTN.

b. Provide the additional Release Tracking Number(s) covered by this RAM Submittal. - -

9. Include in the **RAM Plan** or **Modified RAM Plan** a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

(All sections of this transmittal form must be filled out unless otherwise noted above)



**RELEASE ABATEMENT MEASURE (RAM)
 TRANSMITTAL FORM**

Release Tracking Number

4 - 3024222

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT RAM:

1. Media Impacted and Receptors Affected: (check all that apply)
- | | | |
|---|---|---|
| <input type="checkbox"/> a. Paved Surface | <input type="checkbox"/> b. Basement | <input type="checkbox"/> c. School |
| <input type="checkbox"/> d. Public Water Supply | <input type="checkbox"/> e. Surface Water | <input type="checkbox"/> f. Zone 2 |
| <input type="checkbox"/> g. Private Well | <input type="checkbox"/> h. Residence | <input type="checkbox"/> i. Soil |
| <input type="checkbox"/> j. Ground Water | <input type="checkbox"/> k. Sediments | <input type="checkbox"/> l. Wetland |
| <input type="checkbox"/> m. Storm Drain | <input type="checkbox"/> n. Indoor Air | <input type="checkbox"/> o. Air |
| <input type="checkbox"/> p. Soil Gas | <input type="checkbox"/> q. Sub-Slab Soil Gas | <input type="checkbox"/> r. Critical Exposure Pathway |
| <input type="checkbox"/> s. NAPL | <input type="checkbox"/> t. Unknown | |
- u. Others Specify: _____

2. Sources of the Release or TOR: (check all that apply)
- | | | |
|--|--|---|
| <input type="checkbox"/> a. Transformer | <input type="checkbox"/> b. Fuel Tank | <input type="checkbox"/> c. Pipe |
| <input type="checkbox"/> d. OHM Delivery | <input type="checkbox"/> e. AST | <input type="checkbox"/> f. Drums |
| <input type="checkbox"/> g. Tanker Truck | <input type="checkbox"/> h. Hose | <input type="checkbox"/> i. Line |
| <input type="checkbox"/> j. UST | <input type="checkbox"/> k. Vehicle | <input type="checkbox"/> l. Boat/Vessel |
| <input type="checkbox"/> m. Unknown | <input type="checkbox"/> n. Other: _____ | |
- Describe: _____
 HISTORICAL INDUSTRIAL ACTIVITIES

3. Type of Release or TOR: (check all that apply)
- | | | | |
|--|--|---|--------------------------------------|
| <input type="checkbox"/> a. Dumping | <input type="checkbox"/> b. Fire | <input type="checkbox"/> c. AST Removal | <input type="checkbox"/> d. Overfill |
| <input type="checkbox"/> e. Rupture | <input type="checkbox"/> f. Vehicle Accident | <input type="checkbox"/> g. Leak | <input type="checkbox"/> h. Spill |
| <input type="checkbox"/> i. Test Failure | <input type="checkbox"/> j. TOR Only | | |
- k. UST Removal Describe: _____
 l. Unknown m. Other: _____

4. Identify Oils and Hazardous Materials Released: (check all that apply)
- | | |
|----------------------------------|--|
| <input type="checkbox"/> a. Oils | <input type="checkbox"/> b. Chlorinated Solvents |
|----------------------------------|--|
- c. Heavy Metals d. Others Specify: _____

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply, for volumes list cumulative amounts)

- | | |
|---|---|
| <input type="checkbox"/> 1. Assessment and/or Monitoring Only | <input type="checkbox"/> 2. Temporary Covers or Caps |
| <input type="checkbox"/> 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> 4. Temporary Water Supplies |
| <input type="checkbox"/> 5. Structure Venting System/HVAC Modification System | <input type="checkbox"/> 6. Temporary Evacuation or Relocation of Residents |
| <input type="checkbox"/> 7. Product or NAPL Recovery | <input type="checkbox"/> 8. Fencing and Sign Posting |
| <input type="checkbox"/> 9. Groundwater Treatment Systems | <input type="checkbox"/> 10. Soil Vapor Extraction |
| <input type="checkbox"/> 11. Remedial Additives | <input type="checkbox"/> 12. Air Sparging |
| <input type="checkbox"/> 13. Active Exposure Pathway Mitigation System | <input type="checkbox"/> 14. Passive Exposure Pathway Mitigation System |
| <input type="checkbox"/> 15. Monitored Natural Attenuation | <input type="checkbox"/> 16. In-Situ Chemical Oxidation |



**RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM**

Release Tracking Number

4 - 3024222

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

D. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply, for volumes list cumulative amounts)

b 17. Excavation of Contaminated Soils

b a. Re-use, Recycling or Treatment	b i. On Site	Estimated volume in cubic yards	500
	b ii. Off Site	Estimated volume in cubic yards	500

ii.a. Receiving Facility: TBD Town: TBD State: MA

ii.b. Receiving Facility: _____ Town: _____ State: _____

iii. Describe: SOIL GENERATED FROM THE INSTALLATION OF SOLAR PANELS

e b. Store	e i. On Site	Estimated volume in cubic yards	_____
	e ii. Off Site	Estimated volume in cubic yards	_____

ii.a. Receiving Facility: _____ Town: _____ State: _____

ii.b. Receiving Facility: _____ Town: _____ State: _____

e c. Landfill	e i. Cover	Estimated volume in cubic yards	_____
Receiving Facility: _____	Town: _____	State: _____	

	e ii. Disposal	Estimated volume in cubic yards	_____
Receiving Facility: _____	Town: _____	State: _____	

e 18. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Receiving Facility: _____ Town: _____ State: _____

c. Receiving Facility: _____ Town: _____ State: _____

e 19. Removal of Other Contaminated Media:

a. Specify Type and Volume:

b. Receiving Facility: _____ Town: _____ State: _____

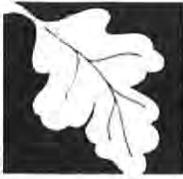
c. Receiving Facility: _____ Town: _____ State: _____

e 20. Other Response Actions:

Describe:

e 21. Use of Innovative Technologies:

Describe:



**RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM**
Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

Release Tracking Number
4 - 3024222

E. LSP SIGNATURE AND STAMP :

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that a **Release Abatement Measure Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Status Report** and/or **Remedial Monitoring Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply (ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Completion Statement** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal:

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 7122

2. First Name: KIMM 3. Last Name: HENRY

4. Telephone: 978-692-9090 5. Ext.: _____ 6. Email: _____

7. Signature: _____

8. Date: _____ 9. LSP Stamp: _____
(mm/dd/yyyy)





RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM

Release Tracking Number

4 - 3024222

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

F. PERSON UNDERTAKING RAM:

1. Check all that apply: a. change in contact name b. change of address c. change in the person undertaking response actions

2. Name of Organization: BAKER PROCESS INC

3. Contact First Name: CHRIS 4. Last Name: CLODFELTER

5. Street: 2929 ALLEN PKWY STE 2100 6. Title: _____

7. City/Town: HOUSTON 8. State: TX 9. ZIP Code: 770197111

10. Telephone: 713-439-8329 11. Ext.: _____ 12. Email: _____

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING RAM:

Check here to change relationship

b 1. RP or PRP a. Owner b. Operator c. Generator d. Transporter

e. Other RP or PRP Specify: NON-SPECIFIED PRP

2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

4. Any Other Person Undertaking RAM Specify Relationship: _____

H. REQUIRED ATTACHMENT AND SUBMITTALS:

1. Check here if any Remediation Waste, generated as a result of this RAM, will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement. You must submit a Phase IV Remedy Implementation Plan along with the appropriate transmittal form (BWSC108).

2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of a Release Abatement Measure.

4. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to bwsc.edep@state.ma.us.

5. If a RAM Compliance Fee is required for this RAM, check here to certify that a RAM Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



RELEASE ABATEMENT MEASURE (RAM)
TRANSMITTAL FORM

Release Tracking Number

4 - 3024222

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

I. CERTIFICATION OF PERSON UNDERTAKING RAM:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: _____ 3. Title: _____
(Signature)

4. For: BAKER PROCESS INC 5. Date: _____
(Name of person or entity recorded in Section F) (mm/dd/yyyy)

e 6. Check here if the address of the person providing certification is different from address recorded in Section F.

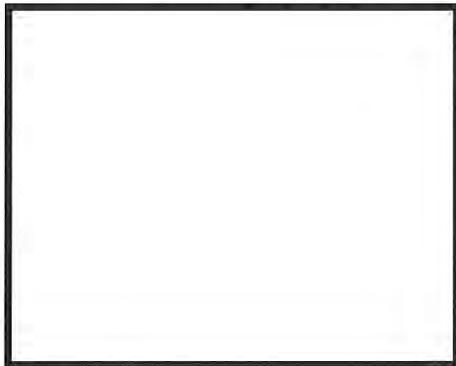
7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE

Date Stamp (DEP USE ONLY:)



APPENDIX B

SOLAR DEVELOPMENT PERMIT DRAWINGS AND DESIGN PLANS

LEGEND

- PROPERTY LINE
- 1-FT CONTOURS
- 5-FT CONTOURS
- RAIL LINE
- GRAVEL
- EDGE OF ASPHALT
- TREE LINE
- WATER
- DEMOLITION DEBRIS AREA (SOIL DISTURBANCE RESTRICTED)
- CHAIN LINK FENCE
- NATURAL HERITAGE AND ENDANGERED SPECIES LIMIT
- 100 YEAR FLOOD PLAIN LIMIT
- R.T.N. BOUNDARY (RELEASE TRACKING NUMBER)
- LEDGE/EXPOSED BEDROCK
- AGGREGATE STOCKPILES (PREVIOUS DEMO)
- MONITORING WELL
- MEAN ANNUAL HIGH WATER
- 200' RIVERFRONT AREA
- BORDERING VEGETATED WETLAND (BVW, SEE NOTES)
- 25' NO DISTURB LINE
- 100' BVW BUFFER

BASE PLAN NOTES:

Existing topography and site features based on plan prepared by AMEC Foster Wheeler in November 2015. Actual conditions may differ.

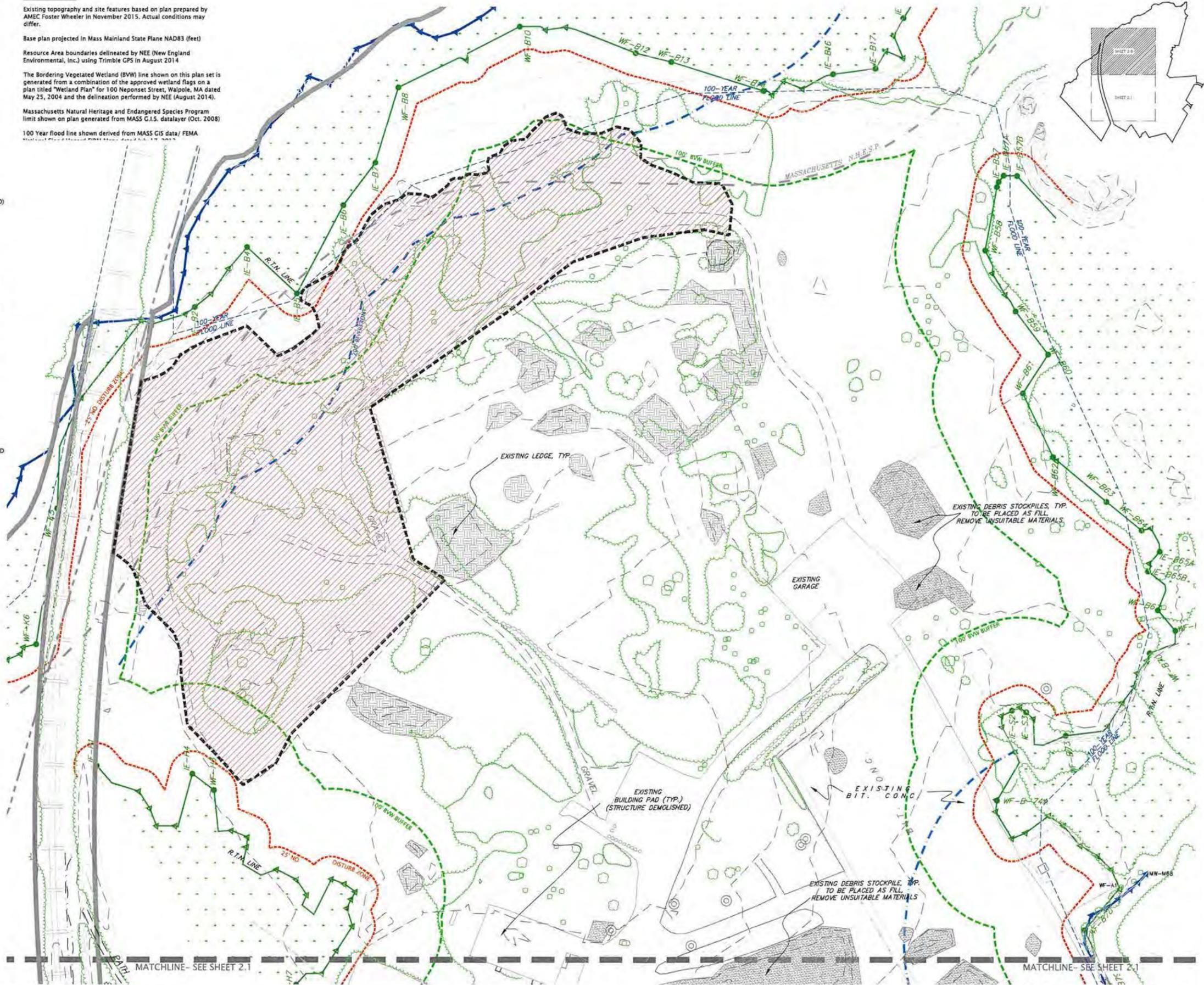
Base plan projected in Mass Mainland State Plane NAD83 (feet)

Resource Area boundaries delineated by NEE (New England Environmental, Inc.) using Trimble GPS in August 2014

The Bordering Vegetated Wetland (BVW) line shown on this plan set is generated from a combination of the approved wetland flags on a plan titled "Wetland Plan" for 100 Neponset Street, Walpole, MA dated May 25, 2004 and the delineation performed by NEE (August 2014).

Massachusetts Natural Heritage and Endangered Species Program limit shown on plan generated from MASS G.I.S. datalayer (Oct. 2008)

100 Year flood line shown derived from MASS GIS data/ FEMA



Prepared by:
New England Environmental, Inc.
 Environmental Consulting
 15 Research Drive
 Amherst, MA 01002
 (p) 413.256.0202
 (f) 413.256.1092
 www.neeinc.com



Base Plan Prepared by:
 AMEC Foster Wheeler
 AMEC Massachusetts, Inc.
 Jerome S. Watts, PLS
 271 Mill Road
 Chelmsford, MA 01824
 (978) 692-9090



GENERAL NOTES:

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CONSTRUCTION PLANS
 ISSUED FOR BID

Project Title:
BIRD MACHINE SOLAR FARM, LLC
 100 Neponset Street
 Walpole, MA

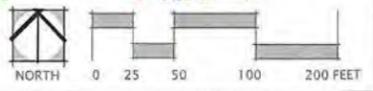
Sheet Title:
EXISTING CONDITIONS PLAN (1 OF 2)

* Original Plan Size 24"x36"

DATE:	2-26-2016
SCALE:	AS SHOWN
DRAWN BY:	KAM
CHECKED BY:	KAM
NEE FILE #:	16-4941

REVISIONS:	DATE:	BY:

1 EXISTING CONDITIONS PLAN
2.0 Scale: 1"=50'



SHEET #
C-2.0

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CONSTRUCTION PLANS
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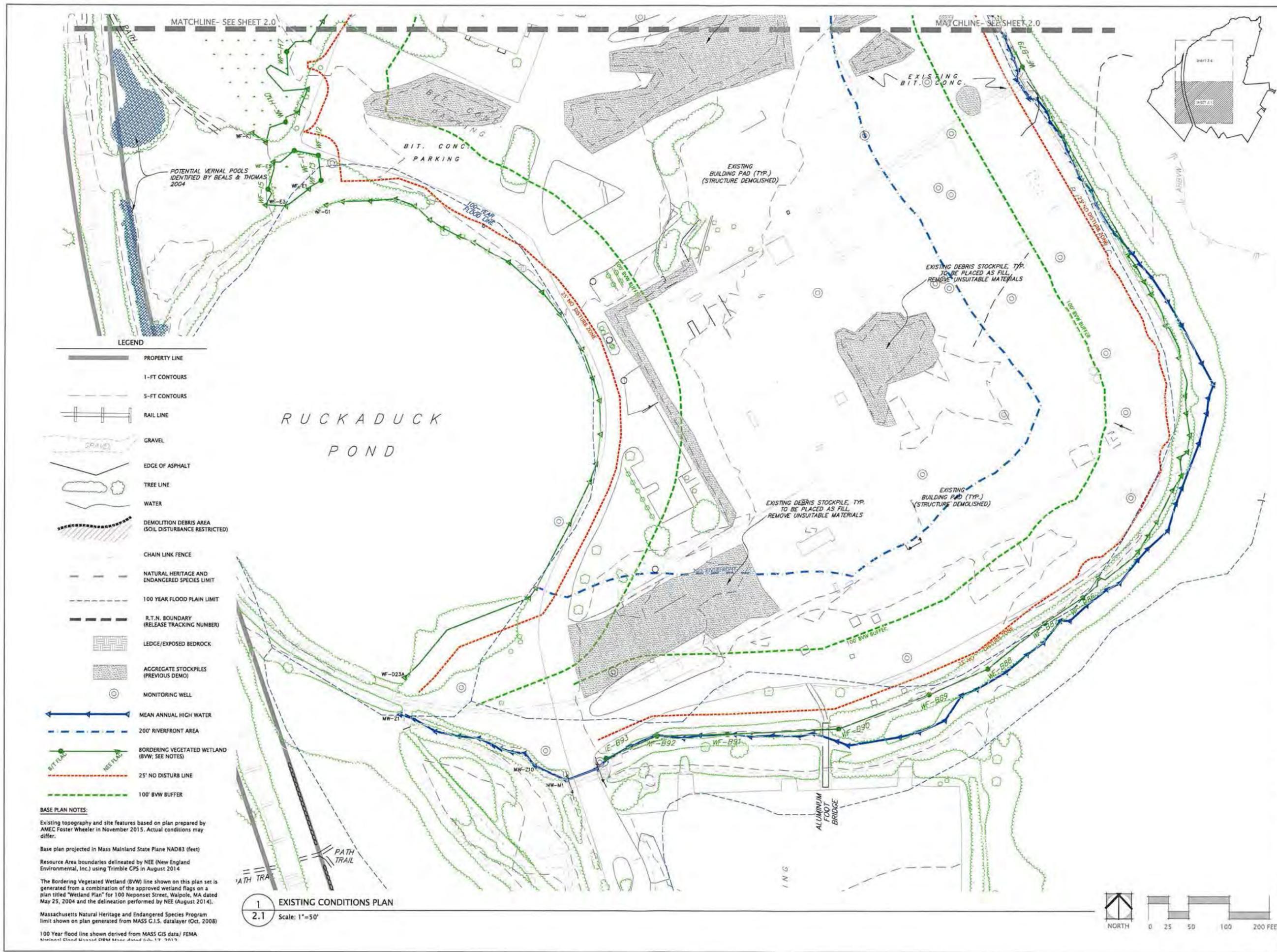
Project Title:
BIRD MACHINE SOLAR FARM, LLC
 100 Neponset Street
 Walpole, MA

Sheet Title:
**EXISTING CONDITIONS PLAN
 (2 OF 2)**

* Original Plan Size 24"x36"

DATE:	2-26-2016
SCALE:	AS SHOWN
DRAWN BY:	KAM
CHECKED BY:	KAM
NEE FILE #:	16-4941

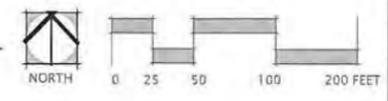
REVISIONS:	DATE:	BY:



- LEGEND**
- PROPERTY LINE
 - - - 1-FT CONTOURS
 - - - 5-FT CONTOURS
 - RAIL LINE
 - GRAVEL
 - EDGE OF ASPHALT
 - TREE LINE
 - WATER
 - DEMOLITION DEBRIS AREA (SOIL DISTURBANCE RESTRICTED)
 - CHAIN LINK FENCE
 - NATURAL HERITAGE AND ENDANGERED SPECIES LIMIT
 - 100 YEAR FLOOD PLAIN LIMIT
 - R.T.N. BOUNDARY (RELEASE TRACKING NUMBER)
 - LEDGE/EXPOSED BEDROCK
 - AGGREGATE STOCKPILES (PREVIOUS DEMO)
 - MONITORING WELL
 - MEAN ANNUAL HIGH WATER
 - 200' RIVERFRONT AREA
 - BORDERING VEGETATED WETLAND (BVW; SEE NOTES)
 - 25' NO DISTURB LINE
 - 100' BVW BUFFER

BASE PLAN NOTES:
 Existing topography and site features based on plan prepared by AMEC Foster Wheeler in November 2015. Actual conditions may differ.
 Base plan projected in Mass Mainland State Plane NAD83 (feet)
 Resource Area boundaries delineated by NEE (New England Environmental, Inc.) using Trimble GPS in August 2014.
 The Bordering Vegetated Wetland (BVW) line shown on this plan set is generated from a combination of the approved wetland flags on a plan titled "Wetland Plan" for 100 Neponset Street, Walpole, MA dated May 25, 2004 and the delineation performed by NEE (August 2014).
 Massachusetts Natural Heritage and Endangered Species Program limit shown on plan generated from MASS G.I.S. datalayer (Oct. 2008)
 100 Year flood line shown derived from MASS GIS data/ FEMA National Flood Hazard Data Center dated July 17, 2013

1
2.1 EXISTING CONDITIONS PLAN
 Scale: 1"=50'



- LEGEND**
- MEAN ANNUAL HIGH WATER
 - 200' RIVERFRONT AREA
 - BORDERING VEGETATED WETLAND (BWV; SEE NOTES)
 - 25' NO DISTURB LINE
 - 100' BWV BUFFER
 - SOLAR ARRAY LIMIT/ SECURITY FENCE LINE
 - SILT FENCE
 - STRAW WATTLE WITH SILT FENCE
 - STRAW WATTLE
 - STABILIZED CONSTRUCTION ENTRANCE
 - PAVEMENT REMOVAL AREA
 - CONSTRUCTION STAGING/ LAY-DOWN AREA
 - CLEARING AND STUMP REMOVAL WITHIN UPLAND AREAS
 - CLEARING AND STUMP REMOVAL WITHIN 100-FT BUFFER
 - SELECTIVE SHADE CUTTING WITHIN UPLAND AREAS (NO GRUBBING OR STUMP REMOVAL)
 - SELECTIVE SHADE CUTTING WITHIN 100-FT BUFFER (NO GRUBBING OR STUMP REMOVAL)
 - AGGREGATE AND DEBRIS STOCKPILES TO BE PLACED AS FILL, REMOVE AND DISCARD ANY UNSUITABLE PORTION
 - BUILDING OR FOUNDATION DEMO AND REMOVAL
 - GRAVEL AND ASPHALT AREAS TO BE TRACKED AND PULVERIZED FOR USE AS SUBGRADE (DO NOT REMOVE)
 - LEDGE/EXPOSED BEDROCK

- CLEARING AND GRUBBING NOTES:**
1. ANY VEGETATION CLEARING IS TO BE PERFORMED ACCORDING TO SECTION III PHASING AND GENERAL CONSTRUCTION SEQUENCE NOTES ON SHEET 6.2.
 2. AREAS OF EXPOSED SOIL AS A RESULT OF CLEARING VEGETATION IN THE 100' WETLAND BUFFER ZONE ARE TO BE SEEDED WITH NEW ENGLAND MOIST MIX SHOWN ON SHEET 6.2.
 3. ANY EXPOSED SOIL AS A RESULT OF CLEARING ANY VEGETATION WITHIN THE SOLAR ARRAY FOOTPRINT IS TO BE SEEDED WITH SOLAR ARRAY SEED MIX SHOWN ON SHEET 6.2.

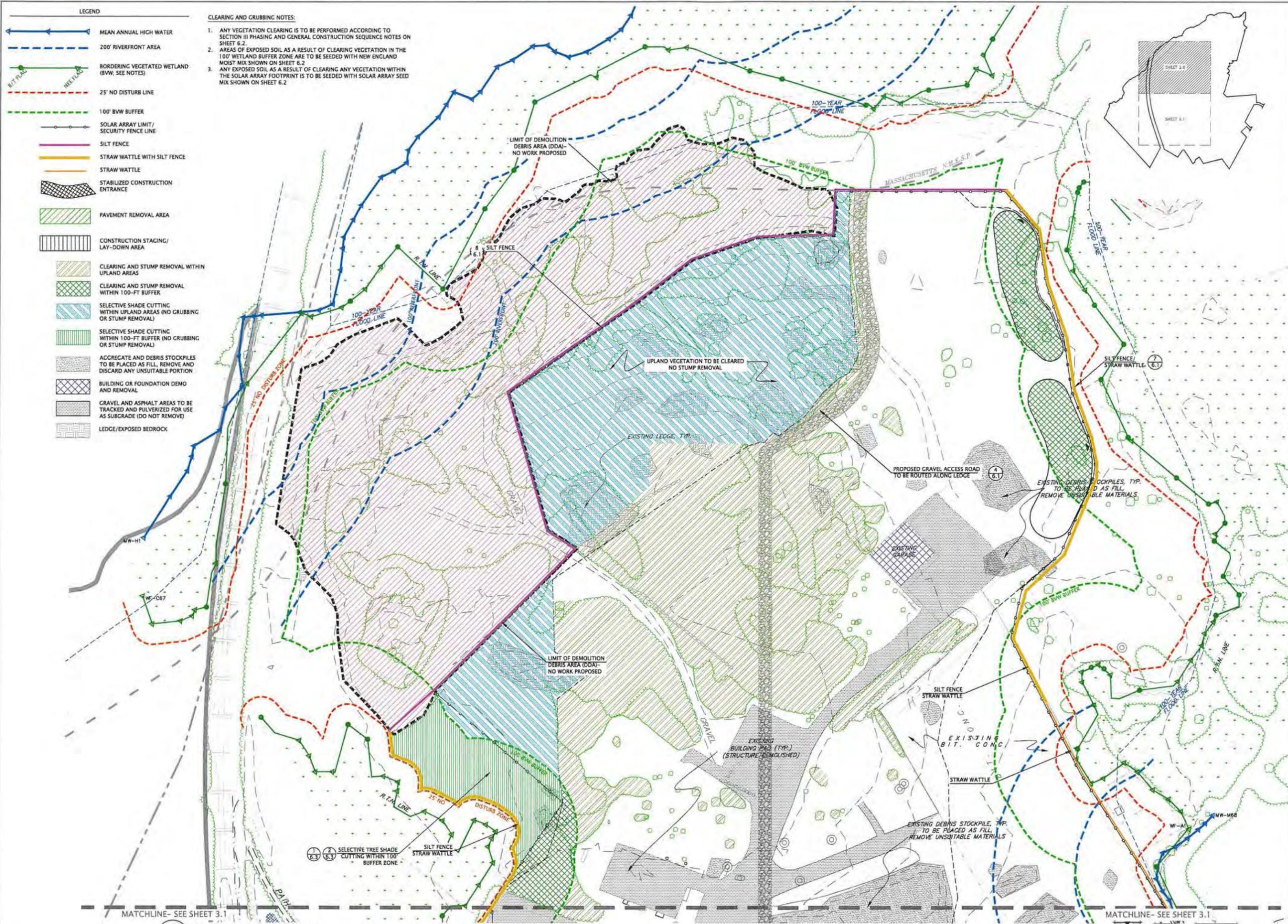
Prepared by:
New England Environmental, Inc.
 Environmental Consulting
 15 Research Drive
 Amherst, MA 01002
 (p) 413.256.0202
 (f) 413.256.1092
 www.neeinc.com



Base Map Provided by:
AMEC Foster Wheeler
 AMEC Massachusetts, Inc.
 Jerome & Werts, PLS
 271 Mill Road
 Chelmsford, MA 01824
 (978) 692-9090



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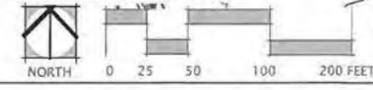
Sheet Title:
CLEARING/ DEMOLITION PLAN

* Original Plan Size 24"x36"

DATE:	2-26-2016
SCALE:	AS SHOWN
DRAWN BY:	KAM
CHECKED BY:	KAM
NEE FILE #:	16-4941

REVISIONS:	DATE:	BY:

1
3.0 CLEARING/ DEMOLITION PLAN
 Scale: 1"=50'



SHEET #
C-3.0

CONSTRUCTION PLANS
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BIRD MACHINE SOLAR FARM, LLC
 100 Neponset Street
 Walpole, MA

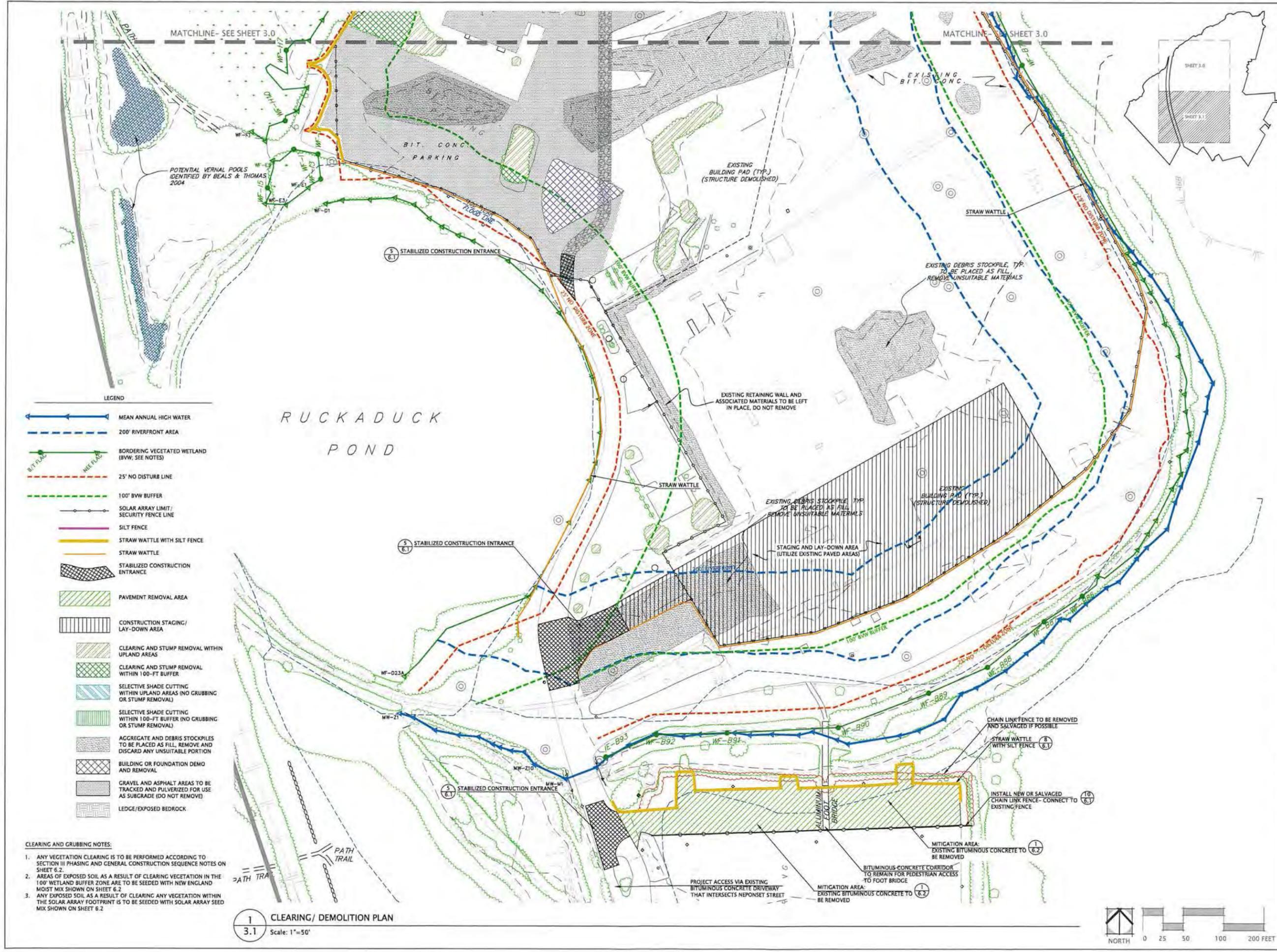
Sheet Title:
CLEARING/ DEMOLITION PLAN (2 OF 2)

* Original Plan Size 24"x36"

DATE:	2-26-2016
SCALE:	AS SHOWN
DRAWN BY:	KAM
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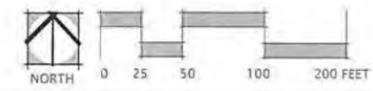
SHEET #
C-3.1



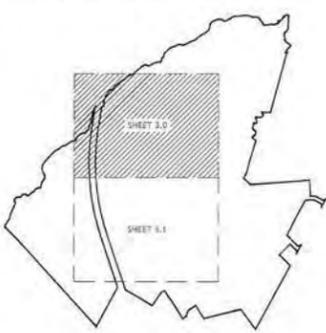
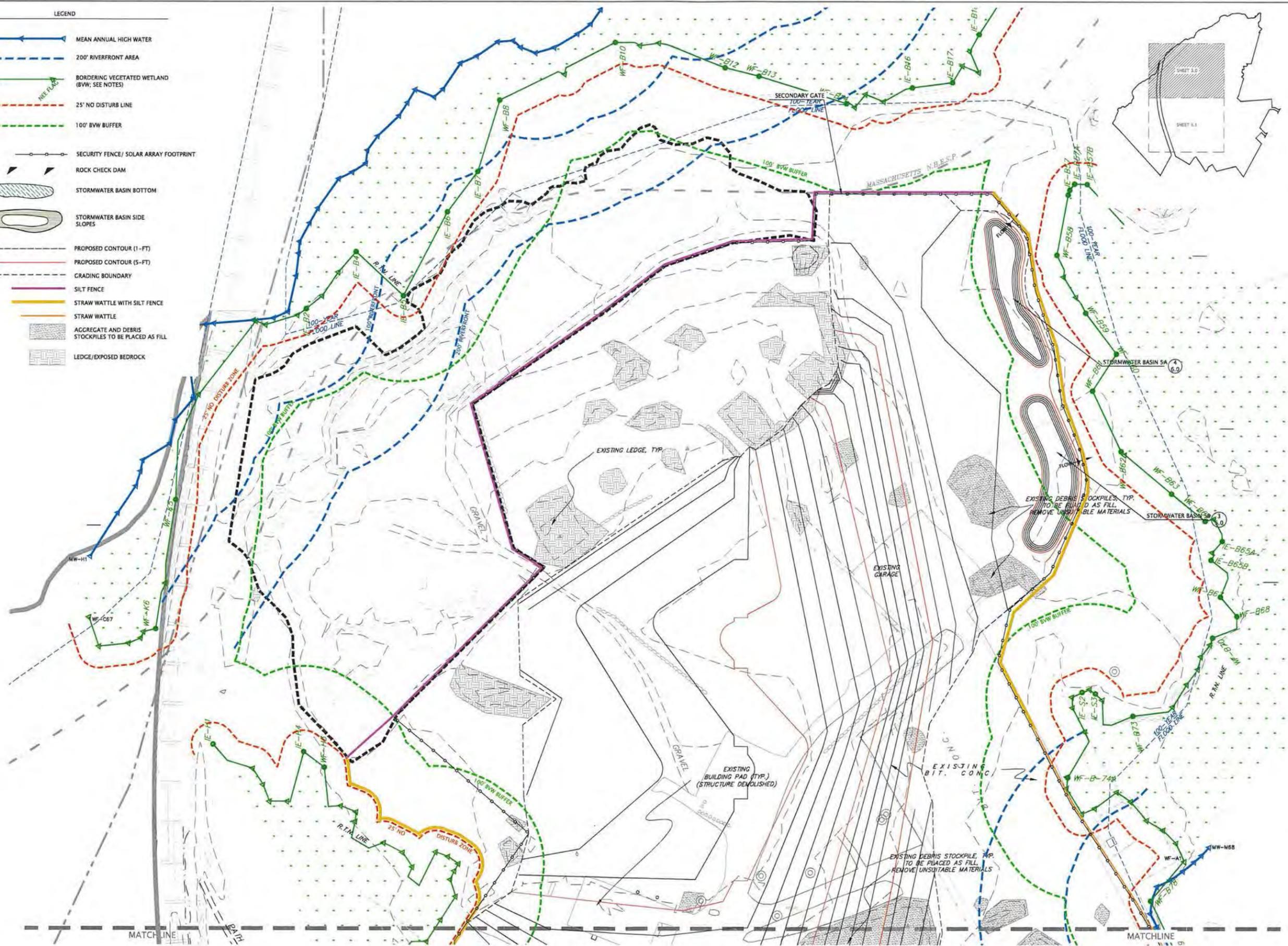
- LEGEND**
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 - 200' RIVERFRONT AREA
 - BORDERING VEGETATED WETLAND (BWV; SEE NOTES)
 - 25' NO DISTURB LINE
 - 100' BWV BUFFER
 - SOLAR ARRAY LIMIT/ SECURITY FENCE LINE
 - SILT FENCE
 - STRAW WATTLE WITH SILT FENCE
 - STRAW WATTLE
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1
3.1 CLEARING/ DEMOLITION PLAN
 Scale: 1"=50'



- LEGEND**
- MEAN ANNUAL HIGH WATER
 - 200' RIVERFRONT AREA
 - BORDERING VEGETATED WETLAND (BWV; SEE NOTES)
 - 25' NO DISTURB LINE
 - 100' BWV BUFFER
 - SECURITY FENCE/ SOLAR ARRAY FOOTPRINT
 - ROCK CHECK DAM
 - STORMWATER BASIN BOTTOM
 - STORMWATER BASIN SIDE SLOPES
 - PROPOSED CONTOUR (1'-FT)
 - PROPOSED CONTOUR (5'-FT)
 - GRADING BOUNDARY
 - SILT FENCE
 - STRAW WATTLE WITH SILT FENCE
 - STRAW WATTLE
 - AGGREGATE AND DEBRIS STOCKPILES TO BE PLACED AS FILL
 - LEDGE/EXPOSED BEDROCK



Prepared by:
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 Jerome & Watts, P.L.S.
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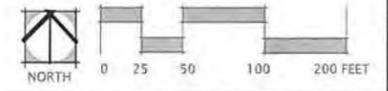
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GRADING PLAN
 (1 OF 2)

* Original Plan Size 24"x36"

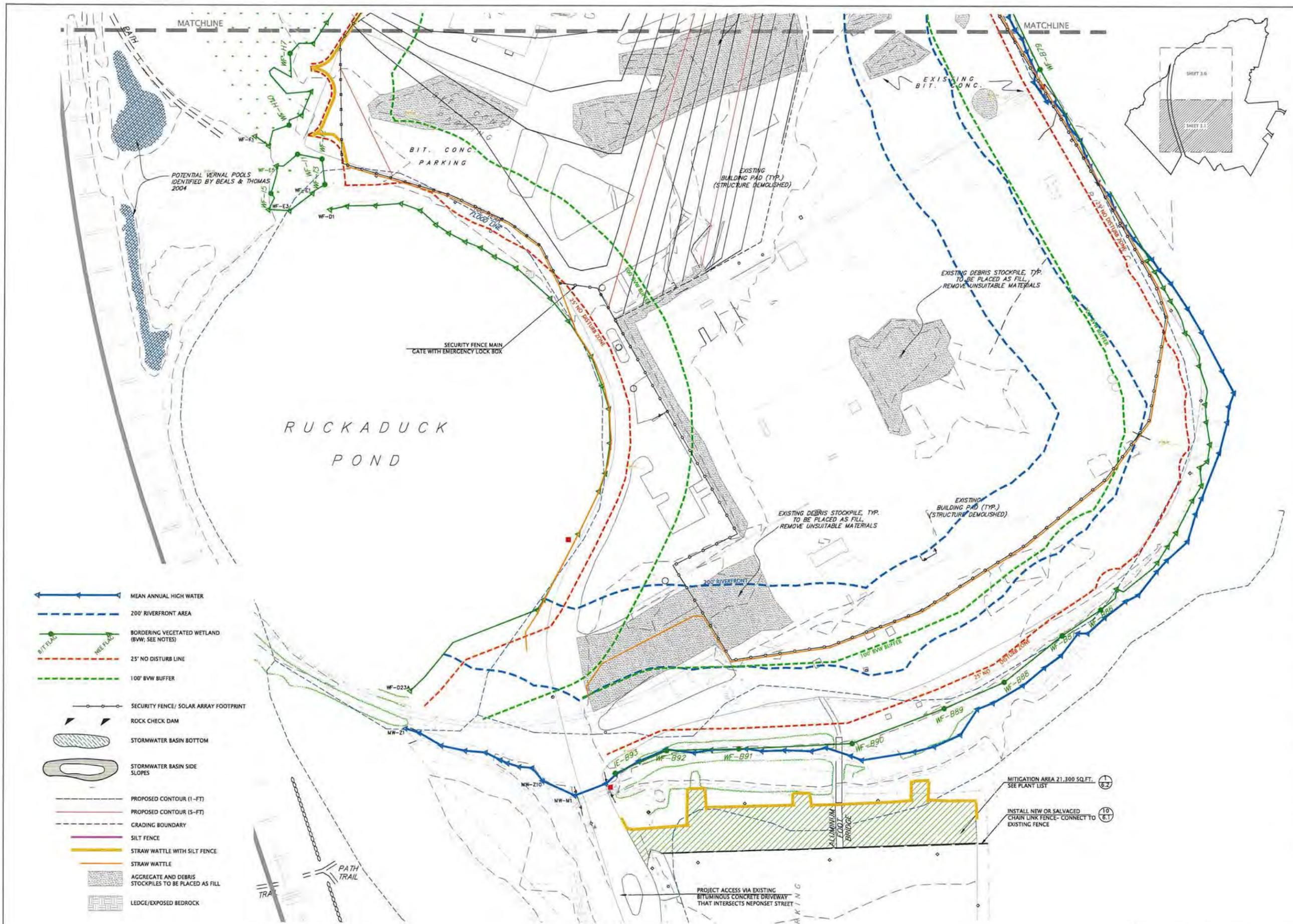
DATE:	2-26-2016
SCALE:	AS SHOWN
DRAWN BY:	KAM
CHECKED BY:	KAM
NEE FILE #:	16-4941

REVISIONS	DATE	BY

1 GRADING PLAN
4.0 Scale: 1"=50'



SHEET #
C-4.0



1
4.1 SOLAR ARRAY LAYOUT
Scale: 1"=50'

Prepared by:
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Walpole, MA

Sheet Title:
**GRADING PLAN
(2 OF 2)**

* Original Plan Size 24"x36"

DATE:	2-26-2016
SCALE:	AS SHOWN
DRAWN BY:	KAM
CHECKED BY:	KAM
NEE FILE #:	16-4941

REVISIONS:	DATE:	BY:

**SHEET #
C-4.1**

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 - SOLAR ARRAY (BALLASTED FOUNDATION)
 - MONITORING WELL
 - INVERTER PAD
 - 16-FT WIDTH ACCESS ROAD
 - ROCK CHECK DAM
 - STORMWATER BASIN BOTTOM
 - STORMWATER BASIN SIDE SLOPES

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Issue Plan Prepared by:
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Sheet Title:
SOLAR ARRAY LAYOUT
 (1 OF 2)

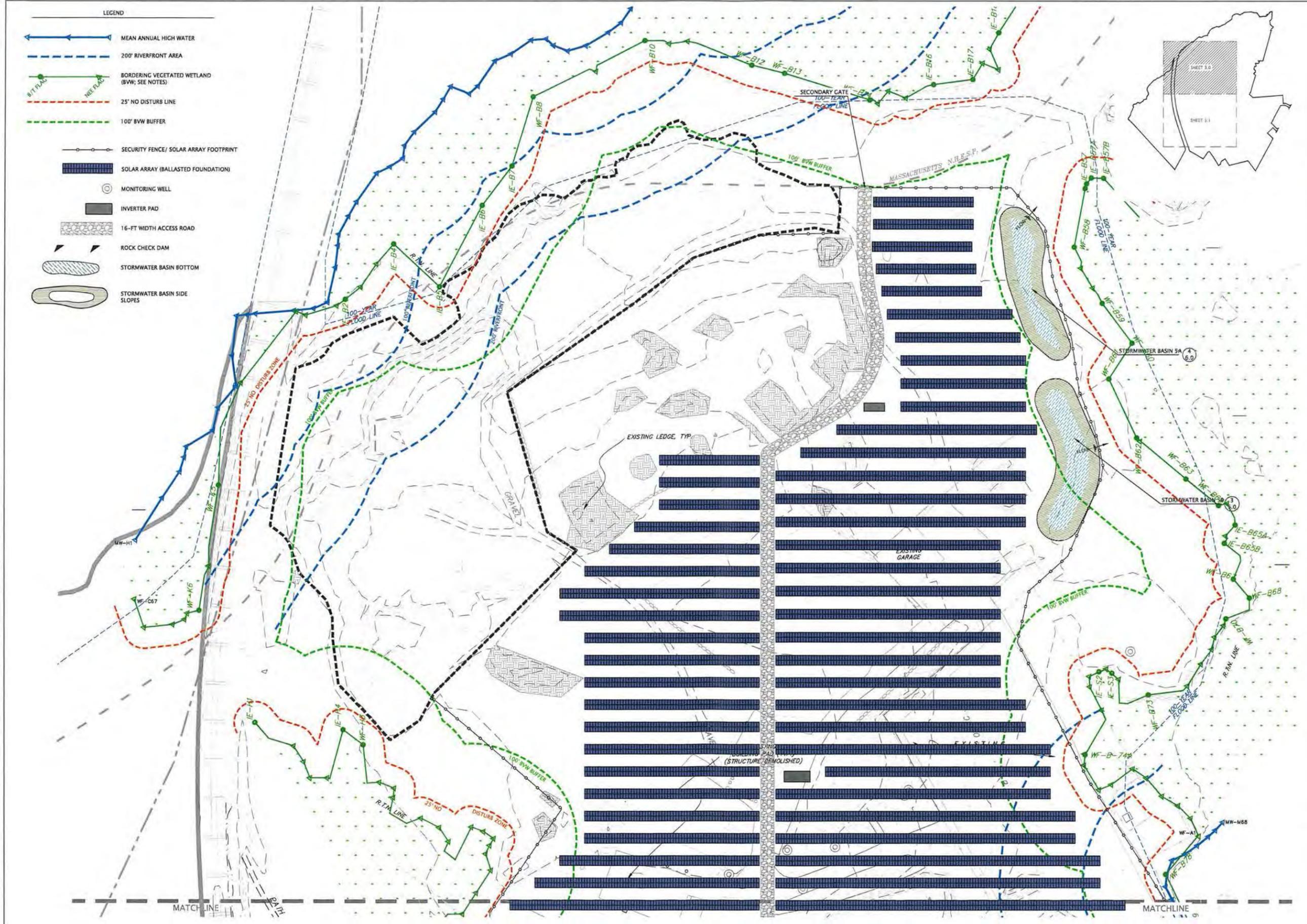
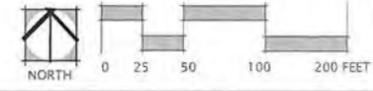
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NEE FILE #:	16-4941

REVISIONS:	DATE:	BY:

SHEET #
C-5.0

1 SOLAR ARRAY LAYOUT
 6.0 Scale: 1"=50'





CONSTRUCTION PLANS
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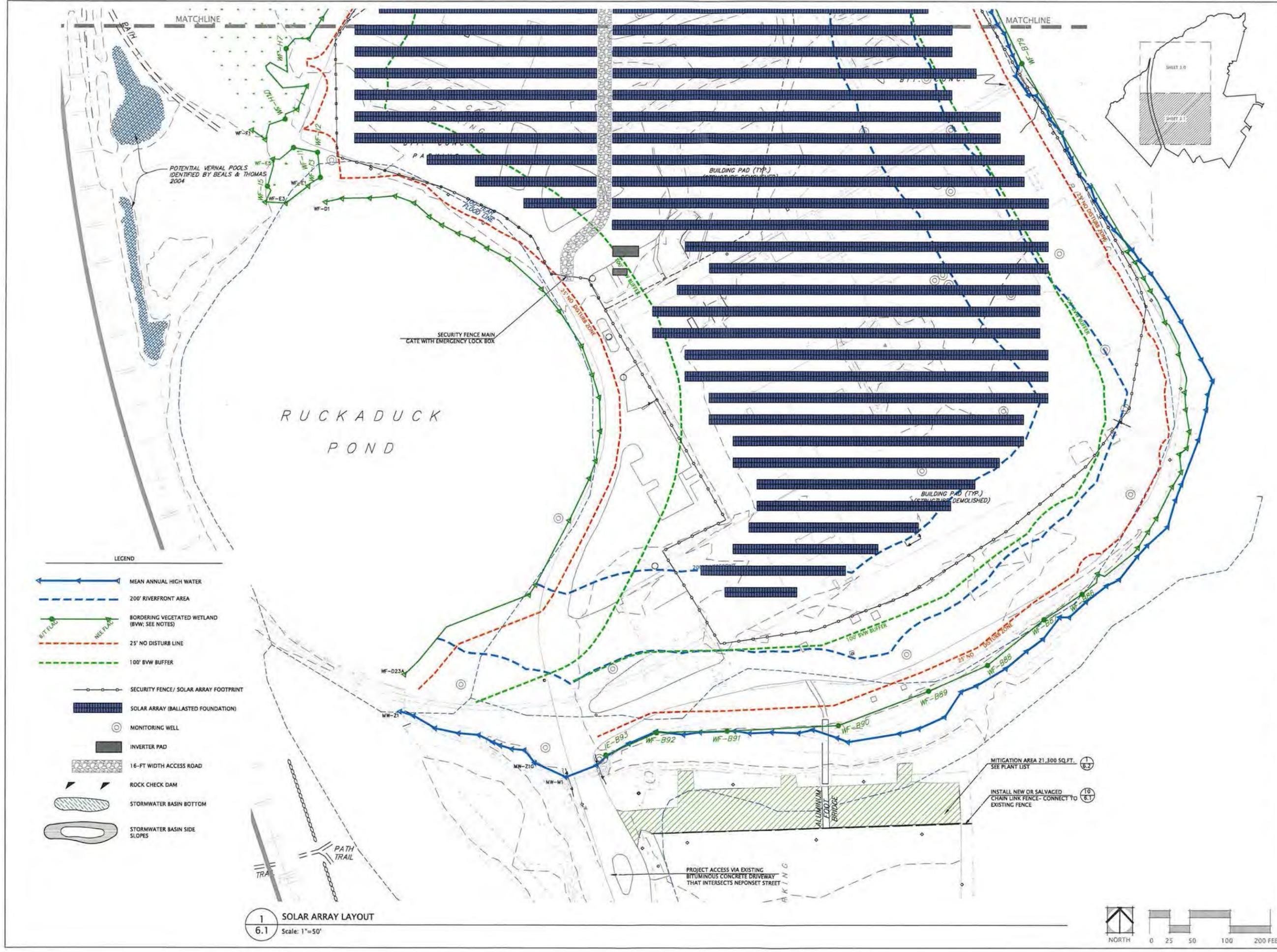
Project Title:
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Sheet Title:
**SOLAR ARRAY LAYOUT
 (2 OF 2)**

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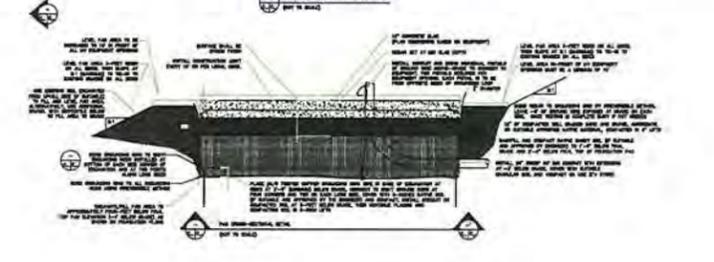
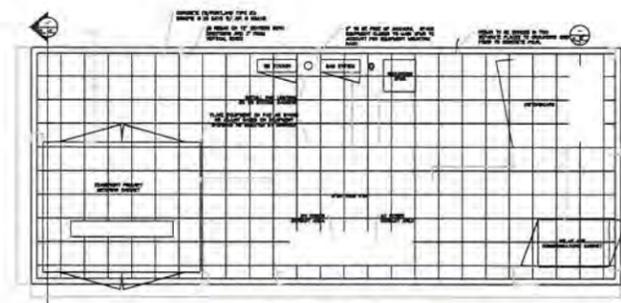
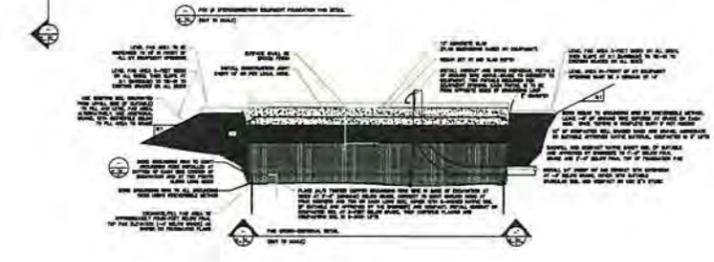
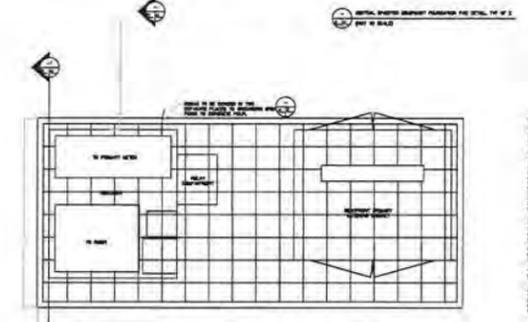
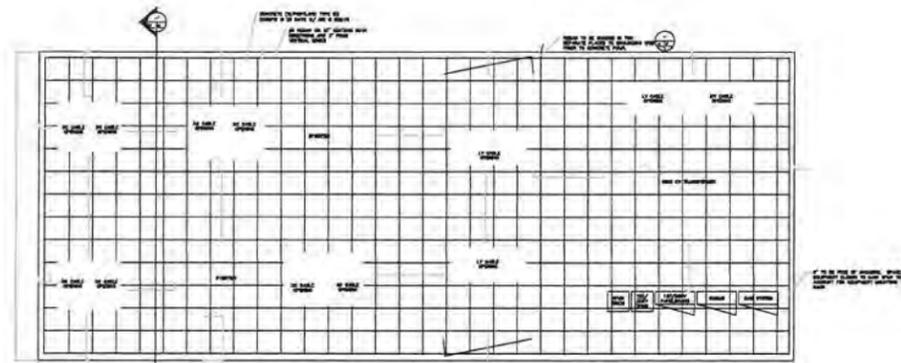
REVISIONS:	DATE:	BY:



LEGEND

- MEAN ANNUAL HIGH WATER
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- BORDERING VEGETATED WETLAND (BVW; SEE NOTES)
- 25' NO DISTURB LINE
- 100' BWV BUFFER
- SECURITY FENCE / SOLAR ARRAY FOOTPRINT
- SOLAR ARRAY (BALLASTED FOUNDATION)
- MONITORING WELL
- INVERTER PAD
- 16-FT WIDTH ACCESS ROAD
- ROCK CHECK DAM
- STORMWATER BASIN BOTTOM
- STORMWATER BASIN SIDE SLOPES
- PATH TRAIL

1 SOLAR ARRAY LAYOUT
 6.1 Scale: 1"=50'



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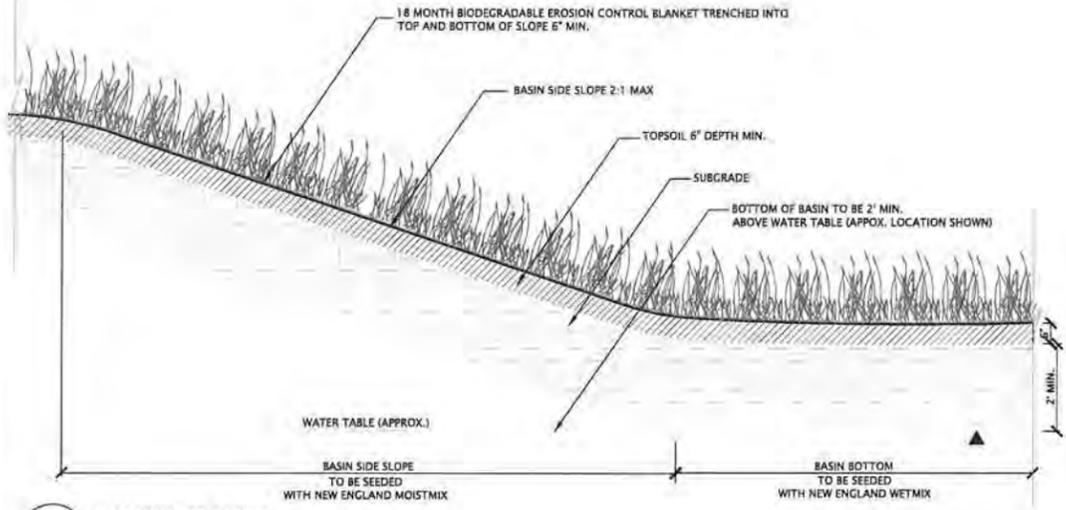
Sheet Title:
SITE/CIVIL DETAILS

* Original Plan Size 24"x36"

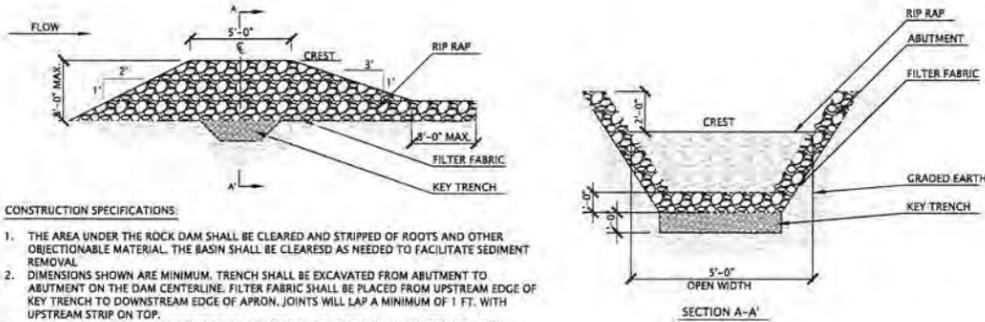
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SHEET #
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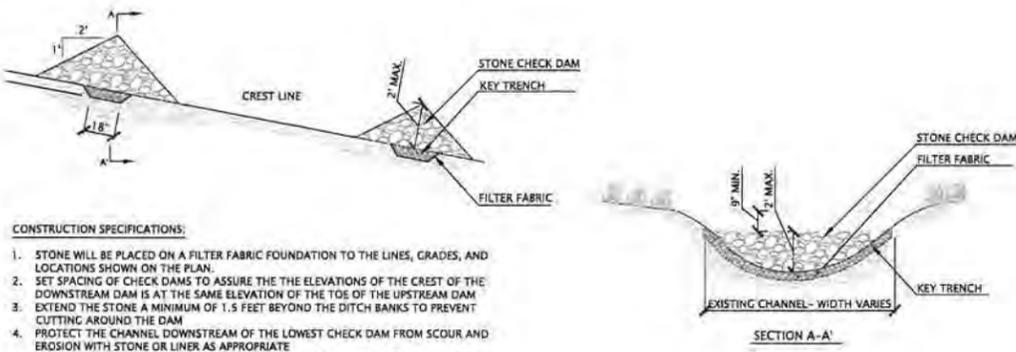


1 STORMWATER BASINS
Scale: 1/2"=1'



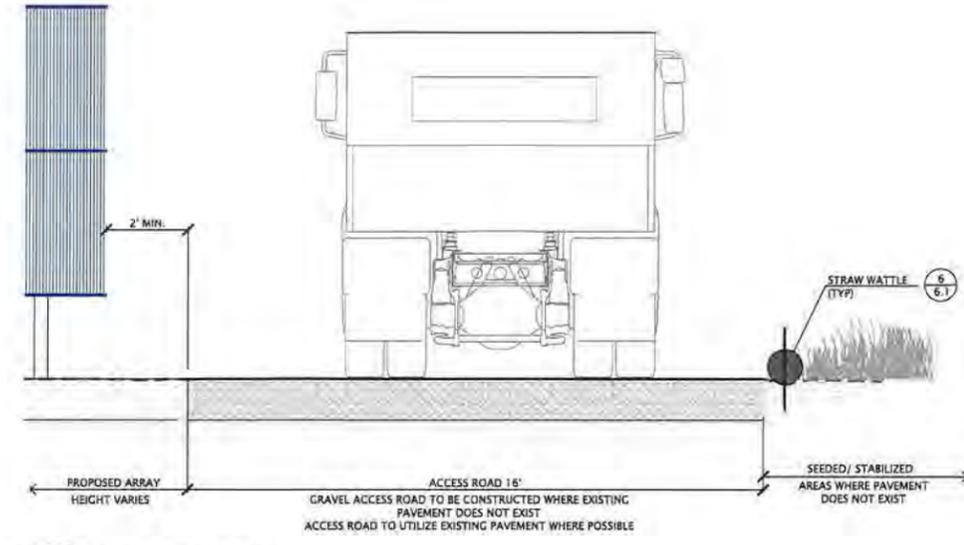
- CONSTRUCTION SPECIFICATIONS:**
1. THE AREA UNDER THE ROCK DAM SHALL BE CLEARED AND STRIPPED OF ROOTS AND OTHER OBJECTIONABLE MATERIAL. THE BASIN SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT REMOVAL.
 2. DIMENSIONS SHOWN ARE MINIMUM. TRENCH SHALL BE EXCAVATED FROM ABUTMENT TO ABUTMENT ON THE DAM CENTERLINE. FILTER FABRIC SHALL BE PLACED FROM UPSTREAM EDGE OF KEY TRENCH TO DOWNSTREAM EDGE OF APRON. JOINTS WILL LAP A MINIMUM OF 1 FT. WITH UPSTREAM STRIP ON TOP.
 3. CONSTRUCT THE ROCK EMBANKMENT TO THE DIMENSIONS SHOWN ON THE DRAWING. ROCK ABUTMENTS SHALL BE MAINTAINED 2 FT. ABOVE THE CREST.
 4. THE ROCK DAM SHALL BE CONSTRUCTED PRIOR TO CLEARING THE BASIN AREA. STABILIZE ALL DISTURBED AREAS, EXCEPT THE BASIN AREA, WITH TEMPORARY SEEDING.

2 ROCK DAM OUTLET STRUCTURE
Scale: NTS

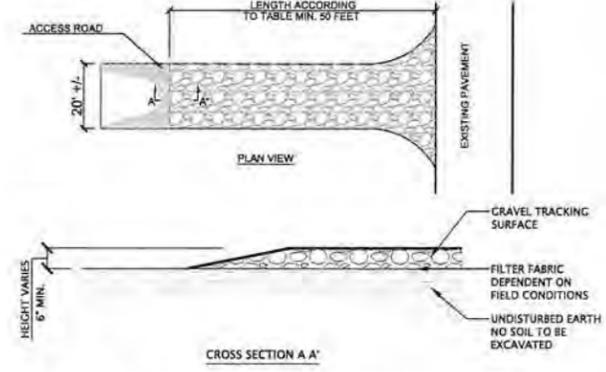


- CONSTRUCTION SPECIFICATIONS:**
1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES, AND LOCATIONS SHOWN ON THE PLAN.
 2. SET SPACING OF CHECK DAMS TO ASSURE THE THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOP OF THE UPSTREAM DAM
 3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM
 4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE
 5. ENSURE THAT THE CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE
 6. MAXIMUM DRAINAGE AREA IS 2 ACRES

3 STONE CHECK DAM
Scale: NTS



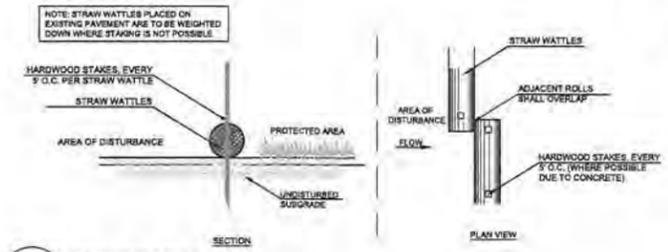
4 GRAVEL ACCESS ROAD
Scale: 1/2"=1'



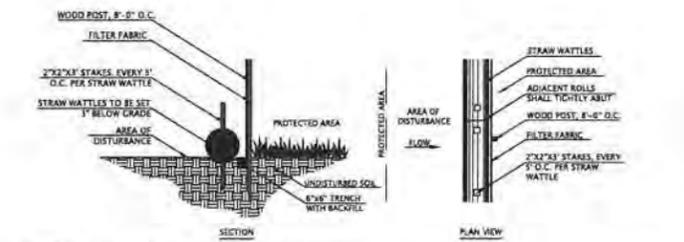
PERCENT SLOPE OF ROADWAY	LENGTH OF ROAD REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT.	100 FT.
2 TO 5%	100 FT.	200 FT.
OVER 5%	ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE (AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER COVERING AUTHORITY)	

- NOTES:**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY OFF-ROAD STORAGE OR STAGING AREAS. THE CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION ENTRANCE FOR EACH OFF-ROAD STORAGE AREA.
 2. STONE SIZE TO BE 2" TO 2-1/2" DIA.
 3. DEPTH OF GRAVEL TO BE BASED ON SOILS BUT BE A MINIMUM DEPTH OF 3"
 4. THE ABOVE-INDICATED STABILIZATION CONSTRUCTION ENTRANCE TO BE USED AT OFF-SITE STORAGE OR STAGING AREA, IF REQUIRED, AND OBTAINED BY THE CONTRACTOR.

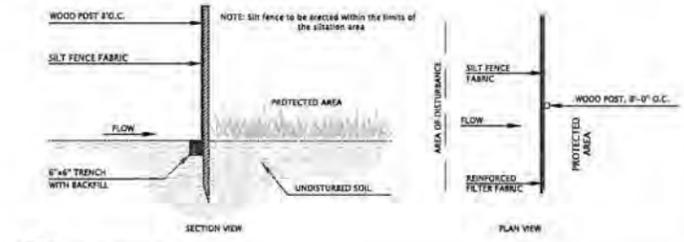
5 STABILIZED CONSTRUCTION ENTRANCE
Scale: NTS



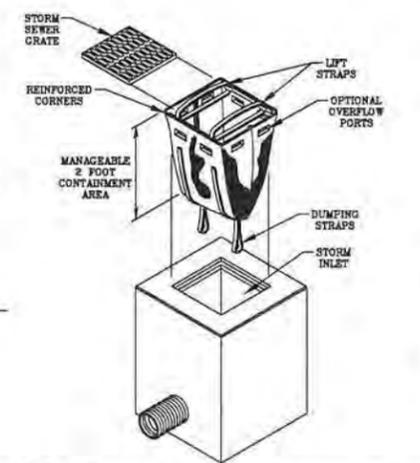
6 STRAW WATTLE (TYP.)
Scale: NTS



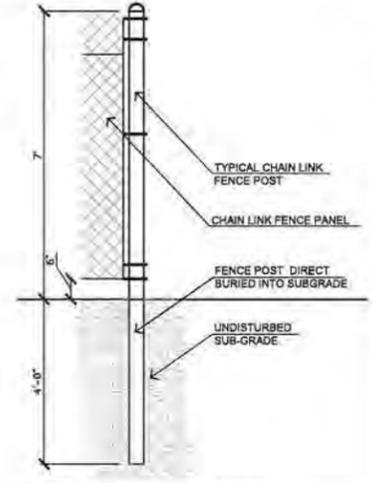
7 STRAW WATTLE AND SILT FENCE
Scale: NTS



8 SILT FENCE
Scale: NTS



9 CATCH BASIN SEDIMENT PROTECTION
Scale: NTS



10 SECURITY FENCE (TYP.)
Scale: NTS



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Walpole, MA

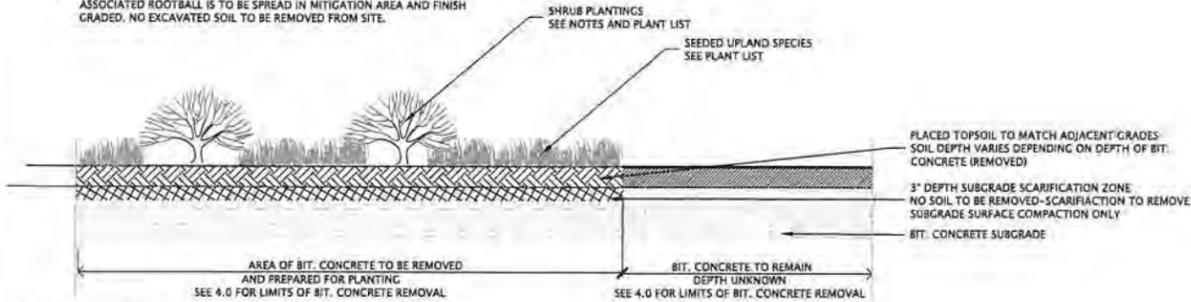
Sheet Title:
SITE/CIVIL DETAILS

* Original Plan Size 24"x36"

DATE:	2-26-2016
SCALE:	AS SHOWN
DRAWN BY:	KAM
CHECKED BY:	KAM
NEE FILE #:	16-4941

REVISIONS:	DATE:	BY:

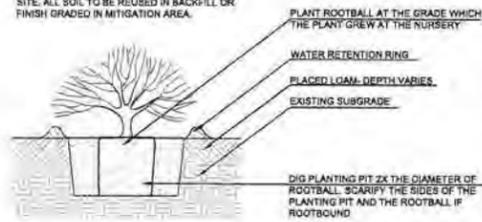
- NOTES:
- PLACED SOIL NO DEEPER THAN 6" TO HAVE NO OR MINIMAL COMPACTION. NO COMPACTION MACHINERY TO BE USED.
 - SOIL SURFACE SHOULD NOT BE "GLAZED" BY EXCAVATING EQUIPMENT AND IS TO BE LEFT AS A PREPARED SEED BED SURFACE TO BE SEED WITH SPECIFIED SEED MIX.
 - ANY EXCAVATED SOIL SPOILS GENERATED FROM PLANTING SHRUB AND ASSOCIATED ROOTBALL IS TO BE SPREAD IN MITIGATION AREA AND FINISH GRADED. NO EXCAVATED SOIL TO BE REMOVED FROM SITE.



1 MITIGATION AREA CROSS SECTION

Scale: 1/2" = 1'-0"

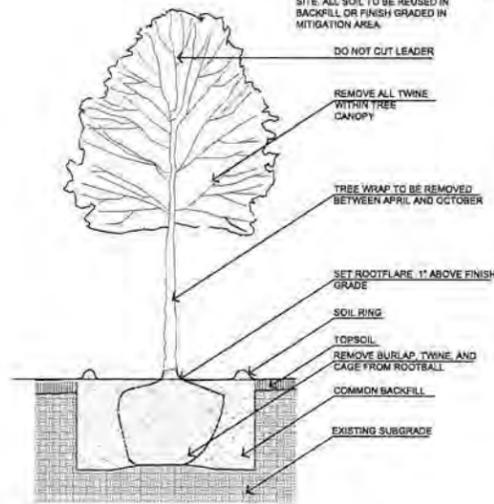
- NOTES:
- EXCAVATED SUBGRADE SOIL DURING PLANTING NOT TO BE REMOVED FROM SITE. ALL SOIL TO BE REUSED IN BACKFILL OR FINISH GRADED IN MITIGATION AREA.



2 SHRUB PLANTING (TYP.)

Scale: NTS

- NOTES:
- EXCAVATED SUBGRADE SOIL DURING PLANTING NOT TO BE REMOVED FROM SITE. ALL SOIL TO BE REUSED IN BACKFILL OR FINISH GRADED IN MITIGATION AREA.



3 SHRUB PLANTING (TYP.)

Scale: NTS

RIVERFRONT MITIGATION PLANT LIST; 21,300 sq.ft +/-					
COMMON NAME	BOTANICAL NAME	QTY	SIZE	SPACING	GRADING
TREES					
Quaking Aspen	Populus tremuloides	10	5 gal.	20' o.c.	2,3,5
Grey Birch	Betula populifolia	10	5 gal.	20' o.c.	2,3,5
SHRUBS					
Meadowsweet	Spiraea alba	80	1 gal.	6' o.c.	5,10,15
Sweet Fern	Comptonia peregrina	150	quart	3' o.c.	5,10,15
Common Juniper	Juniperus communis	70	1 gal.	5' o.c.	5,10,15
SEED					
New England Conservation/ Wildlife Mix		1 lb / 1500 sq.ft.	15.5 lbs	Throughout	

NEW ENGLAND WETMIX: 1LB/ 1500 SQ.FT.	
SPECIES	PERCENT (RAW SEED)
Fox Sedge (Carex vulpinoidea)	40
Hop Sedge (Carex lupulina)	8
Water Plantain (Alisma spicatum)	5
Nodding Bur-Marigold (Bidens cernua)	5
Lure Sedge (Carex lurida)	5
Soft Rush (Juncus effusus)	5
Grass-leaved Goldenrod (Solidago graminifolia)	5
Bearded Sedge (Carex comosa)	4
Fringed Sedge (Carex ornith)	4
Bowtie (Scirpus perfoliatus)	4
Flat-top Aster (Aster umbellatus)	4
Hair-stem Burreed (Scirpus setosus)	3
Green Burreed (Scirpus strovirens)	3
Woodgrass (Scirpus opeanum)	3
Spotted Joe-Pye Weed (Eupatorium maculatum)	2
Blue Vervain (Verbena hastata)	2
Bluish Stonecrop (Pharbitis pedunculata)	1
TOTAL	100

NEW ENGLAND CONSERVATION / WILDLIFE SEED MIX 1LB/ 1500 SQ.FT.	
SPECIES	PERCENT
Big Bluestem (Andropogon gerardii)	20
Little Bluestem (Schizachyrium scoparium)	20
Switchgrass (Panicum virgatum)	20
Fox Sedge (Carex vulpinoidea)	10
Silky Wild Rye (Elymus villosus)	8
Common Milkweed (Asclepias syriaca)	5
Doertongue (Panicum clandestinum)	5
Pennsylvania Smartweed (Polygonum pensylvanicum)	5
Partridge Pea (Chamaecrista fasciculata)	4
Silky Smooth Aster (Aster laevis)	1.5
Nodding Bur-Marigold (Bidens cernua)	1
Flat-top Aster (Aster umbellatus)	0.5
TOTAL	100

NEW ENGLAND MOIST MIX 1LB/ 1500 SQ.FT.	
SPECIES	PERCENT
Lupine (Lupinus albus)	30
Creeping Red Fescue (Festuca rubra)	18
Big Bluestem (Andropogon gerardii)	16
Fox Sedge (Carex vulpinoidea)	10
Canada Wild Rye (Elymus canadensis)	7.5
Virginia Wild Rye (Elymus virginicus)	7
Creeping Red Fescue (Festuca rubra)	5.5
Soft Rush (Juncus effusus)	2
Switchgrass (Panicum virgatum)	1
Little Bluestem (Schizachyrium scoparium)	1
Green Burreed (Scirpus strovirens)	1
New England Aster (Aster novae-angliae)	1
Spotted Joe-Pye Weed (Eupatorium maculatum)	0.5
Blue Vervain (Verbena hastata)	0.5
TOTAL	100

Solar Array Seed Mix 6 LB/ 1,000SQ.FT.	
SPECIES	PERCENT
Creeping Red Fescue (Festuca rubra)	30
Sheep Fescue (Festuca ovina)	30
Hard Fescue (Festuca ovina var. duriuscula)	15
Annual Ryegrass (Lolium multiflorum)	10
Hard Fescue (Festuca ovina var. italica)	7.5
Hard Fescue (Festuca ovina var. brevipila)	7.5
TOTAL	100

I. Erosion Control Plan

Erosion and sediment control methods for the site include structural and stabilization practices. Stabilization practices will be implemented to cover exposed soil so that discharge of sediment into buffer zones and resource areas is minimized. Stabilization practices reduce the time soil is exposed to the elements therefore reducing the possibility of erosion. An adequate stockpile of erosion control materials will be maintained at the construction site in the event of an emergency or routine repairs.

- Structural practices involve the construction of devices to divert and limit runoff. These practices limit the amount of stormwater entering a disturbed area or trap sediment prior to stormwater leaving a site. The following are the procedures to be followed:
- The site construction foreman shall be designated as the on-site individual who will be responsible for the daily maintenance of all sediment and erosion controls, and shall implement all measures necessary to control erosion and to prevent sediment from leaving the site.
 - Prior to any site grading or site work, the contractor shall install all specified sediment and erosion controls, which will also serve as the limit of construction. The sediment controls will be as specified on the approved plans.
 - A construction exit shall be constructed to shed dirt from construction vehicle tires. The crushed stone pad will be replaced/cleaned as needed to maintain its effectiveness.
 - Temporary sediment basins may be used as needed during construction. Sediment shall be removed from the basins on a as needed basis or when the sediment reaches a depth of more than 3".
 - Construction debris and sediment shall be kept on site and shall not be permitted to migrate beyond the project boundaries.
 - Once the site is stable, the sediment and erosion controls may be removed under the direction of the wetland scientist.

II. Other Controls

- The following additional controls shall be implemented during construction in order to minimize erosion and runoff from the project location:
- No chemicals (cement, mortar, etc.) shall be mixed or poured within any wetlands.
 - Solid waste will be collected and stored in a secure dumpster. The dumpster shall meet all local and state solid waste management regulations.
 - Construction debris may include lumber, concrete, steel, or other debris and site materials requiring removal. This materials will be disposed of according to state and federal law and will not be disposed of on site. Excuse soil generated from this site requires characterization prior to removal. Rather than export material, it is preferred that minor excavations are re-used on site as backfill in the same general area it originated.
 - The limits of all grading and disturbance shall be kept to a minimum within the proposed area of construction. All areas outside the limits of disturbance shall remain undisturbed.
 - Continuous lines of erosion controls shall enclose the work area and serve as the limit of work.
 - All erosion and sediment control measures shall be maintained or replaced as required to assure proper function.
 - All breaches or failures in sediment controls shall be immediately repaired or replaced.
 - Debris and litter, which accumulates along the construction area, shall be removed daily.
 - Sediment build-up behind any silt fences or erosion control barriers will be monitored and removed whenever sediment has accumulated to 8-inches in depth.
 - Other controls will be implemented, as deemed necessary by the contractor, during the construction of the project.
 - If conditions warrant, additional de-watering controls may be needed such as dirt bags, frac tanks or other measures.

III. Phasing and General Construction Sequence

In order to further minimize sediment loss on the site, a general construction sequence plan has been developed. Prior to conducting work associated with this project, the contractor shall be required to obtain all copies of permit applications and approve that outline conditions governing the proposed work. The contractor will also review the drawings prepared for the project. The contractor will then follow the general sequence of work as outlined below:

- The contractor will place all erosion and sedimentation control systems in accordance with the drawings, or as may be dictated by site conditions, in order to maintain the intent of the specifications and permits. Deficiencies or changes on the drawings shall be corrected or implemented as site conditions change. Changes during construction shall be noted and posted on the drawings (Site Plans).
- The intent is to direct all water from disturbed areas through sedimentation controls prior to leaving construction boundaries. There shall be no discharge of untreated construction runoff from this site.
- The contractor shall maintain temporary erosion and sedimentation control systems as dictated by site conditions, indicated in the construction documents, or as directed by governing authorities or owner to control sediment until final stabilization.
- The contractor shall respond to any maintenance or additional work ordered by owner or governing authorities immediately if required and always within 7 days.
- The contractor shall incorporate permanent erosion control features, permanent slope stabilization, and vegetation into the project plans at the earliest practical time to minimize the need for temporary controls.
- Tree and vegetation clearing and any rough grading shall only occur if the disturbed soil surface can be stabilized within 48 hours of clearing. Tree and vegetation clearing shall be scheduled in conjunction with weather forecast such that no more than 1/4" of rain is to be expected within 48 hours of any clearing or grading activity.
- The contractor shall stabilize all disturbed areas within 48 hours after final grading. In the event that it is not practical to seed areas, slopes must be stabilized with geotextile fabric or other means to reduce the erosive potential of the area.

IV. Mitigation Area Notes

The intent of the mitigation area is to mitigate for the selective cutting of trees in the riverfront area and improve degraded riverfront area. This will be accomplished by removing existing bituminous concrete to the limits shown on the approved plans and to a depth necessary to remove bituminous concrete. Only the bituminous asphalt is to be removed while the remaining subgrade is to remain. The subgrade is to be scarified to a depth of 3" max. No soil is to be removed. The mitigation area is to have 6" of loam spread over the area to provide a suitable planting medium. No compaction equipment is to be used. The loam is to be spread to match the existing adjacent grade. The soil surface is to be left uncompacted and to have a raked "seed bed" texture suitable for seeding.

- Additional Mitigation shall include the removal of refuse within Bordering Vegetated Wetlands and Riverfront Area on the property.

OPERATION AND MAINTENANCE PLAN

On-going access road O&M plan

- Ruts or erosion in the gravel access road may be filled with gravel and smoothed as necessary.
- Vegetation in the access road may periodically be mown following the restrictions outlined under the vegetation maintenance plan below.

Solar Energy Equipment O&M plan

- Periodic inspections of the perimeter fence, solar array, and connecting infrastructure will be made by the maintenance contractor.
- The fence panels are to be raised approximately 6" off of the ground, to permit movement of ground dwelling animals.
- Repairs to the fence shall be made as needed.
- Repairs to solar energy collecting and distribution equipment shall be made as needed.
- Repairs to or replacement of utility poles shall be made as needed.

Vegetation Maintenance plan

- Vegetation within the solar array, under and around the energy collecting panels and inside the perimeter fence, a strip of vegetation immediately outside of the fence limit, and any other location throughout the site, shall be mown periodically as needed.

TOWN OF WALPOLE CONSERVATION COMMISSION

- The construction foreman shall provide the Conservation Commission with a 24-hour contact number and documentation that the person designated to inspect the erosion controls has a professional certificate or documented experience of at least 3 years of erosion control management.
- The erosion control and limit of work shall be surveyed, flagged and approved by the Conservation Commission prior to installation.
- If the permanent stormwater basins are used as temporary sediment basins then they need to be cleaned and surveyed prior to final use. Documentation and As-Built to be provided to the Conservation Commission.
- All stockpiled areas shall be ringed with erosion controls.
- Erosion controls shall not be removed until approval from the Conservation Agent.
- Other controls will be implemented, as deemed necessary by Conservation Commission.
- A dewatering plan shall be submitted to the Conservation Commission.
- A concrete washout area shall be provided on site and clearly noted.
- The area shall be controlled for dust.
- All gas, oil, and other hazardous materials shall be stored in designated areas.
- There will be at least one spill kit on site during construction.

Prepared by:
New England Environmental, Inc.
Environmental Consulting
15 Research Drive
Amherst, MA 01002
(413) 256-0202
(413) 256-1092
www.neeninc.com



Soil Plan Prepared by:
AMEC Foster Wheeler
AMEC Massachusetts, Inc.
Jerome S. Watts, P.E.
271 Mill Road
Chelmsford, MA 01824
(978) 892-9690



GENERAL NOTES:
1. Any and all utility improvements must be approved by the Town of Walpole Engineering Department prior to construction.
2. Any and all changes to the existing topography must be approved by the Town of Walpole Engineering Department prior to construction.



CONSTRUCTION PLANS ISSUED FOR BID

Project Title:
BIRD MACHINE SOLAR FARM, LLC
100 Neponset Street
Walpole, MA

Sheet Title:
SITE/CIVIL DETAILS

* Original Plan Size 24"x36"

DATE	2-26-2016
SCALE	AS SHOWN
DRAWN BY:	KAM
CHECKED BY:	KAM
NEE FILE #	16-4941

REVISIONS	DATE	BY:
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APPENDIX C
PUBLIC NOTIFICATION LETTER



April 22, 2016

Mr. Gerard Martin
Massachusetts Department of Environmental Protection
Southeast Regional Office
Bureau of Waste Site Cleanup
20 Riverside Drive
Lakeville, Massachusetts 02347

Dear Mr. Martin:

Re: Implementation of Release Abatement Measure Plan
Former Bird Machine Company
100 Neponset Street
Walpole, Massachusetts
Release Tracking Number (RTN) 4-3024222

On behalf of Baker Hughes, Inc. (Baker Hughes), Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) is providing notification of the implementation of a Release Abatement Measure (RAM) at the Bird Machine Company Site. The Site has been assigned RTN 4-3024222 and is located at 100 Neponset Street in Walpole, Massachusetts.

The RAM will facilitate the installation of solar panels by Urban Green Technologies, LLC (UGT), who is leasing the former Bird Machine Company property, and by UGT's contractors. The RAM will ensure the proper management of soils that will be disturbed or generated at the Site as part of the installation of the solar panels. Site preparation will begin on April 25, 2016. The installation of the solar panels and the duration of the RAM are expected to extend through October 2016.

A paper copy of the RAM Plan is being provided to the public involvement plan (PIP) repository at the Walpole Public Library (Telephone Number: 508-660-7341). The electronic version of this plan has been uploaded to the Massachusetts Department of Environmental Protection (MassDEP) Waste Site/Reportable Releases Lookup database (<http://db.state.ma.us/dep/cleanup/sites/Search.asp>) and is being provided to the Town of Walpole for upload to their website for this property: <http://walpole-ma.gov/BirdMachine.htm>. A draft of this RAM Plan was issued for public comment and a meeting was conducted on May 27, 2015 to inform the public of the scope of RAM Activities. No members of the public attended this meeting and no public comments were received. Therefore, the final RAM Plan incorporates only those revisions needed to address minor modifications in the construction program proposed by UGT and their contractors. Please contact me if you have any questions on this document or the RAM implementation.

Sincerely,

AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE, INC.

A handwritten signature in black ink, appearing to read "Kim M. Henry".

Kim M. Henry, Licensed Site Professional
LSP No. 7122

cc: Mr. Jim Johnson, Walpole Town Administrator
Ms. Robin Chapell, Walpole Health Agent
Ms. Landis Hershey, Walpole Conservation Agent
Ms. Deborah Burke, Key Petitioner
Public Involvement Plan Mailing List

Amec Foster Wheeler Environment & Infrastructure, Inc.
271 Mill Road
Chelmsford, Massachusetts 01824
Tel 978-392-5334