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VIA FEDERAL EXPRESS

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Cheryl Sprague, Remedial Project Manager
New Hampshire/Rhode Island Superfund Section
Office of Site Remediation and Restoration
United States Environmental Protection Agency
One Congress Street, Suite 1100 (HBO)
Boston, Massachusetts 02114-2023

Subject: **Modification of 100% Design Submittal**
Operable Unit 1
Fletcher's Paint Works and Storage Facility Superfund Site
CERCLA Docket No. 01-2001-0063
Milford, New Hampshire

Dear Ms. Sprague:

As reported in my September 13, 2010 letter, Table 11 of the Final (100%) Design Report (Final Design Report) for the above-referenced site erroneously reported that the lowest water-level elevation reported for well MW-02AR at the Elm Street Area was 231.78 feet above mean sea level (amsl), as recorded during the January 11, 2005 gauging event. The correct water-level elevation for well MW-02AR on that date is 235.70 feet amsl. With this revision, the lowest water-level elevation ever measured at well MW-02AR is 234.89 feet amsl, as recorded during the July 20, 2010 gauging event.

Well MW-02AR is screened in the deep overburden. Well MW-02B is located adjacent to well MW-02AR but is screened in the shallow overburden. Thus, the water-level elevation in well MW-02B better reflects the water table. The lowest water-level elevation in well MW-02B is 234.98 feet amsl, as recorded during the July 20, 2010 gauging event, and represents the seasonal low water table elevation that controls the vertical limit for excavation at cell V.

Cell V is the only excavation cell projected to extend vertically to the seasonal low water table in the Final Design Report. The base elevation of that cell was set at 232 feet amsl based on the erroneously reported water-level elevation for well MW-02AR during the January 11, 2005 gauging event. While excavation cell V must extend to the seasonal low water table elevation, that will be achieved by excavating to a depth of 235 feet amsl, rather than the 232 feet amsl as shown in the Final Design Report submitted on December 31, 2007.

ARCADIS U.S., Inc. (ARCADIS) has reviewed the Final Design Report and made the modifications necessary to adjust the depth of excavation cell V to conform to the correct seasonal low water table elevation. The following modifications to the Final Design Report are attached:

- Modification of the text in Sections 1.4.4, 2.6, 4.2, 4.7.3.1 and 4.8.2 on pages 9, 29, 30, 24, 26, 59, 80 and 89 of Volume I of the Final Design Report to reflect (a) revised excavation and backfill volumes due to less excavation at cell V and (b) use of the water-level elevation data from the quarterly monitoring as well as the pre-design investigation to determine the season low water-table elevations;

- Revision of Table 6 of Volume I of the Final Design Report to reflect a change to the base of excavation cell V based on the correct seasonal low water-table elevation, and related changes to cells A and X (the latter subsumed by the former);

- Revision of Table 8 of Volume I of the Final Design Report to reflect a change to the base of excavation cell V based on the correct seasonal low water-table elevation, and related changes to cells BB and UU (the latter subsumed by the former);

- Revision of Table 11 of Volume I of the Final Design Report to provide the corrected water-level elevation data, as discussed in my September 31, 2010 letter, updated to also include the data from the October 2010 monitoring event;

- Revision of Figures 8, 9, 11 and 14 of Volume I of the Final Design Report to reflect a change to the base of excavation cell V based on the correct seasonal low water-table elevation, and related changes to the 1-foot excavation cell(s) to the north, northeast and northwest of cell V;

- Modification of the text in Section 2.5.1 on page 10 of Appendix A in Volume II of the Final Design Report to reflect a revised surface area subject to confirmation sampling;

- Revision of Table A-1 in Appendix A of Volume II of the Final Design Report to reflect modified information for excavation cells X1, X2, Y and AA2;

- Revision of Table A-2 in Appendix A of Volume II of the Final Design Report to reflect modified information for excavation cell X1;

- Revision of Figures A-1, A-3, A-6, A-7 and A-18 in Appendix A of Volume II of the Final Design Report to reflect a change to the base of excavation cell V based on the correct seasonal low water-table elevation, and related changes to the 1-foot excavation cell(s) to the north, northeast and northwest of cell V;

- Revision of Figure A-16 in Appendix A of Volume II of the Final Design Report to reflect incorporation of a portion of former excavation cell V (immediately adjacent to the river's edge) into verification area 9;

- Revision of Technical Drawings G-10, G-12, G-13, S-1 and S-2 in Appendix C of Volume II of the Final Design Report to reflect a change to the base of excavation cell V based on the correct seasonal low water-table elevation, and related changes to the 1-foot excavation cell(s) to the north, northeast and northwest of cell V;

- Revision of Technical Drawings S-3 and S-4 in Appendix C of Volume II of the Final Design Report to reflect modifications to the support of excavation for cell V;

- Modification of the text in Sections 3 and 5 on pages 3 and 6 of Appendix D in Volume III of the Final Design Report to reflect revised excavation and backfill volumes due to less excavation at cell V;

- Revision of Table D-1 in Appendix D of Volume III of the Final Design Report to reflect a change to the base of excavation cell V based on the correct seasonal low water-table elevation, and related changes to cells BB and UU (the latter subsumed by the former);

- Revision of Figure D-2 in Appendix D of Volume III of the Final Design Report to reflect a change to the base of excavation cell V based on the correct seasonal low water-table elevation, and related changes to the 1-foot excavation cell(s) to the north, northeast and northwest of cell V;

- Modification of the text in Sections 2.2.1, 2.2.2, 2.2.3, 2.4.1 and 3.2 on pages 4, 6, 7, 8, 10, 11 and 15 in Appendix E of Volume III of the Final Design Report to reflect revised excavation volumes, backfill volumes and truck trips due to less excavation at cell V; and

- Revised and/or additional calculations sheets for Appendix F of Volume III of the Final Design Report that also relate to excavation cell V.

Note that ARCADIS has not modified the schedule information included in Section 9.2 of Volume I of the Final Design Report or in Appendices E and G of Volume III. Schedule information will be addressed in the Final Design Report when it is next revised.

As always, please call me if you have any questions.

Sincerely,

Paul Wm. Hare DMD

Paul Wm. Hare
Program Manager, Northeast/Midwest Regions

attachments

cc: Michael Jasinski, USEPA
Ruthann Sherman, Esq., USEPA
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approximately 13%) in the volume of soil removal required to achieve the ROD-specified SCLs (approximately 25,280 cubic yards [cy] versus the 28,900 cy estimated in the ROD) but resulted in an increase in the area within which such soil removal is necessary. In addition, approximately 2,040 cy of additional materials associated with sloping of excavations to safely implement the remedial action will require excavation. Finally, the total volume of soil excavation contemplated by this Final Design Report (which includes approximately 3,970 cy of material associated with installation of an engineered soil cover and utility and tree planting corridors requested by the Town) is 30,995 cy, or about 7% more than estimated by EPA in its ROD.

Although not the primary focus of the remedial design, the PDI also included the installation of several additional groundwater monitoring wells at the Elm and Mill Street Areas. The PDI also included the performance of a comprehensive round of groundwater sampling in February 2004.

As directed by EPA in a June 20, 2007 letter, GE submitted a revised *Surface Water and Groundwater Monitoring Plan* (also known as the Water Monitoring Plan [WMP]) to EPA on July 30, 2007. The WMP specifies the groundwater monitoring activities to be performed during the pre-design and remedial design phases of the project. On July 30, 2007, GE also submitted an *Environmental Monitoring Plan* (EMP) that proposed the groundwater monitoring activities to be performed during the post-construction phase of the project. Section 2.5 of the revised WMP and also the EMP provide a discussion of the groundwater data previously collected at the Site.

As directed by EPA in its June 20, 2007 letter, groundwater monitoring has begun under the revised WMP. Specifically, GE has performed the two quarterly monitoring events, one in July 2007 and the other in October 2007. The results of the first event were presented in the *Water Monitoring Report* (WMR) that was submitted to EPA on October 16, 2007. Preliminary results are available for the second event, and, once validated, will be included in a WMR due to be submitted to EPA on or about January 23, 2008. Both of these WMRs provide a summary of the groundwater quality data from the previous investigation activities performed at the Site, as well as the data from the most recent monitoring event. In general, the groundwater data collected to date support EPA's conclusion in the ROD that certain constituents are present in groundwater at the Site at levels above the ICLs specified in the ROD. However, the concentrations detected during the PDI and the two recent monitoring events under the WMP were generally lower than those observed during EPA's RI for most constituents.

1.5 Description of ROD Remedy and Cleanup Standards

This section of the Final Design Report provides a brief summary of the remedial action selected in the ROD for OU-1, identifies the SCLs established by EPA for the Elm and Mill Street Areas, and also identifies the ICLs established by the EPA for OU-1 groundwater. Additional details regarding the OU-1 remedy are provided in EPA's ROD, the ESD, and also the UAO and attached SOW.

1.5.1 EPA's Description of the ROD Remedy

The ROD and the UAO include a description of the remedial action selected by the EPA for OU-1. In general, the EPA-specified remedy addresses the following media:

1. Surface (0- to 1-foot deep) soils at the Elm and Mill Street Areas;

2. Subsurface (greater than 1-foot deep) soils at the Elm and Mill Street Areas; and

3. Groundwater.

Restating from the ROD, the UAO provides a summary of the OU-1 remedy. Applicable excerpts from those paragraphs are quoted below (in italics).

Paragraph 52 of the UAO specifies the following for the Mill Street Area soils:

> *Excavation of approximately 1,500 yd^3 of surface soils (0 to 1 foot) at the Mill Street Area to a depth of 1 foot, wherever PCB concentrations are greater than 1 mg/kg PCB.*

Paragraph 53 of the UAO also specifies the following for the Mill Street Area soils:

a. *Excavation of approximately 12,000 yd^3 of subsurface soils at the Mill Street Area to bedrock (1 foot to 20 feet below surface), wherever PCB concentrations remain that exceed 1 mg/kg PCB; or excavation of soils wherever PCB concentration remain that exceed a level at which leaching models and/or soil column testing show that infiltration through the remaining PCB soil concentrations will not result in future groundwater concentrations in excess of the 0.5 ug/l MCL groundwater concentration for PCBs. The determination of a subsurface soil cleanup level other than 1 mg/kg PCB will be at the sole discretion of EPA.*

Wells installed into the bedrock at and near the Mill Street Area encountered 0 to 10 feet of gneiss overlying granite. The gneiss was absent in most areas. However, where present, the gneiss was observed to be highly fractured with granite intrusions. The fractures typically ranged from horizontal to as steep as 80 degrees, although fracture dips of horizontal to 40 degrees predominated. The granite, which was encountered consistently in the bedrock boreholes, was observed to be slightly to moderately fractured, with decreasing fracture prevalence at depth. The fractures in the granite are typically horizontal, although fracture dips up to 80 degrees were also observed. Secondary mineralization was observed along many fractures in both the granite and gneiss.

2.6 Development of Limits of Excavation

A general CSM for the Site was first presented in Section 4.2 of the PD Report. That CSM was revised to incorporate EPA comments and was presented in Section 4.2 of the revised PD Report. Additional revisions to the CSM were made in Section 2.6 of the Preliminary Design Report. The CSM was revised again for the Intermediate LTTD and OSD Design Reports to incorporate the supplemental sampling data summarized in Section 2.4 and to reflect information provided in numerous submittals to EPA, as reviewed and commented upon by the EPA.

The remainder of this section presents an overview of the limits of excavation, estimates of the volume of excavated soil/material subject to the remedial action, and identification and description of certain soils not subject to the remedial action based on risk management decisions.

The data included in the CSM were used to develop preliminary limits of excavation for both the Elm and Mill Street Areas. With some exceptions (further described below), the limits of excavation were developed using a next cleanest point methodology, which generally entails the following:

- At each soil sampling location, the deepest sample containing total PCBs in excess of the ROD-specified subsurface SCLs was identified.

- The depth of excavation at each sampling location was then established using the following criteria:

  - Maximum limits of excavation - The ROD specifies that the maximum depth of excavation at the Elm Street Area is the seasonal low water table. Similarly, the ROD indicates that bedrock represents the maximum depth of excavation at the Mill Street Area. Data collected during the PDI and the quarterly monitoring

performed under the WMP was utilized to establish the depth of the seasonal low water table at the Elm Street Area and the bedrock at the Mill Street Area. Where soil sampling data contained PCBs in excess of the subsurface SCLs down to these maximum limits of excavation, the depth of excavation extends to these limits. Excavation cell V on Technical Drawing G-10 represents an excavation to the seasonal low water table at the Elm Street Area, while excavation cells H and O on Technical Drawing G-15 represent excavations to the bedrock at the Mill Street Area.

- Soil sample data - Where not extended to the maximum limits of excavation, soil sampling data were used to establish the depth of excavation at each sampling location. Specifically, the depth of excavation was established as the bottom of the sample depth increment containing total PCBs in excess of the applicable subsurface SCL, where the next sample interval did not contain total PCBs in excess of that SCL. However, at a few locations such soil sampling data are not available. GE proposed to perform confirmatory soil sampling for these areas in the Preliminary Design Report. Based on subsequent feedback provided by EPA in its February 13, 2007 letter, a more extensive site-wide confirmation sampling program was developed and included in the Intermediate Design Reports. Additional details regarding the confirmation sampling activities that will be performed at the Site are provided in the revised VSP that is included in Appendix A to this Final Design Report.

- The horizontal limits of soil removal at each depth interval with an exceedance of the applicable SCL were established using an approach similar to that specified above for the vertical limits of soil removal, consisting of the following:

  - The first step involved the identification of the sample(s) containing total PCBs in excess of the applicable SCL at the greatest depth relative to existing grade at both the Elm and Mill Street Areas.

  - At each such location, the horizontal limits of soil removal were extended outward from the location(s) requiring excavation to adjacent sample locations containing total PCBs at concentrations less than the applicable SCL at the same depth interval.

  - This process was repeated proceeding from deep to shallow excavations until the horizontal limits of soil removal were established for each sample containing total PCBs in excess of the applicable SCLs.

1.1 and 2.6 mg/kg). It should be noted, however, that some of the soils associated with these locations will be removed under the remedial action proposed in this Final Design Report because the excavation approach in the vicinity of these sampling locations involves sloping the northern sidewall of excavation cell T, which is a deeper excavation located south of sampling locations MSSB-C14, MSSB -C15, and MSSB -C17 (see Figure 12).

As requested by EPA, GE provided technical justifications for not excavating certain soil samples with total PCBs above the 1 mg/kg SCL set by the EPA in the ROD for surface and subsurface soils at the Mill Street Area. Specifically, excluding the two subsurface soil samples at location MSSB-C01 that were already approved by EPA to be excluded from the OU-1 soil remedy, GE provided technical justification in a March 30, 2007 submittal to also exclude 41 soil samples at 23 locations (see Table 5 in the March 30, 2007 submittal). In a May 10, 2007 submittal, GE modified its March 30, 2007 submittal regarding the excavation limits at and near the Mill Street Area. However, the modifications did not alter the number of soil samples or number of sampling locations proposed to be excluded from the OU-1 soil remedy.

As indicated in Section 1.5.2.1, EPA's February 13, 2007 approval with modifications letter for the confirmation sampling portion of the Preliminary Design Report (as modified by GE's August 17, 2006 submittal) concurred with the rationale for excluding from the excavation limits certain additional subsurface soil samples at sampling locations MSSB-B12, MSSB-B13, MSSB-B17, MSSB-C14, MSSB-C15, and MSSB-C17. Eleven of the 41 soil samples presented in Table 5 of GE's March 30, 2007 submittal occur at these six locations. The remaining 30 soil samples occurred at 19 locations and were presented in Table 6 of GE's March 30, 2007 submittal, reproduced as Table 9 in the Intermediate Design Reports and Table 10 in this Final Design Report, and EPA approval was requested to exclude these soil samples from the excavation limits. EPA's November 1, 2007 letter did not include any comments on Table 9 of the Intermediate Design Reports, or on the figures that showed the excavation limits for the Elm and Mill Street Areas.

As previously reported, GE was informed in a March 28, 2007 meeting with representatives of Guilford Transportation Industries, Inc. (Guilford) that Guilford would, based on current demand, likely approve removal of the southern rail line on a short-term bases (i.e., two to four weeks), but indicated that removal of the southern rail line on a more protracted basis would not be acceptable without changes to its current infrastructure. Guilford also stressed that demand can change on short notice, and that the demand in the future (e.g., next year, two years from now, etc.) cannot be predicted. This information was summarized in GE's May 10, 2007 letter to EPA and included in the Intermediate LTTD and OSD Design Reports. Since submittal of the Intermediate Design Reports on June 4 and 12, 2007, respectively, Guilford informed GE that it would not allow short-term removal of the southern

rail line. Regarding removal of the southern rail line on a long-term basis (i.e., several months), as assumed in the Intermediate LTTD and OSD Design Reports, Guilford indicated that 1,000 feet of alternate siding would need to be constructed to the immediate west of the current location (i.e., between the Mill Street Area and West Street), that such a siding would need to be installed by Guilford, but that Guilford was not willing to incur the cost to construct the alternate siding. No agreement has been reached at this time with Guilford for the long-term removal of the southern rail line. However, like the Intermediate LTTD and OSD Design Reports, this Final Design Report is based on that assumption.

Based on the methodology described above, the limits of excavation required to achieve the surface and subsurface SCLs for the Elm Street Area are presented on Figure 9 and Technical Drawing G-10. As indicated in Table 6, the volume of soil removal required to achieve the SCLs at the Elm Street Area is approximately 16,700 cy. With respect to the Mill Street Area, the limits of excavation required to achieve the surface and subsurface SCLs are presented on Figures 12 and 13, as well as Technical Drawings G-15 and G-31. As shown in Table 6, the volume of soil removal required to achieve the SCLs at the Mill Street Areas is approximately 8,580 cy. Thus, the total excavation required to meet the SCLs at both areas is approximately 25,280 cy, all of which is subject to off-site disposal. However, as also indicated in Table 6, approximately 1,745 cy of soil removal has been added to the total estimated volume of soil removal for the Site (approximately 670 cy at the Elm Street Area and approximately 1,075 cy at the Mill Street Area). This volume of additional soil removal is based on the sloping of excavations, illustrated on Technical Drawings S-2 (Elm Street Area) and S-9 (Mill Street Area), which is required to safely implement the remedial action. Therefore, the revised total volume of soil removal to meet the SCLs at both the Elm and Mill Street Areas is approximately 27,025 cy.

As indicated in GE's December 22, 2006, January 26, 2007, February 28, 2007, May 2, 2007 and May 18, 2007 submittals, the remedial design currently includes a proposal to perform additional excavation at the Elm Street Area, beyond that required to achieve the applicable subsurface SCL (i.e., 100 mg/kg), to address Town comments related to future use of the Elm Street Area. Specifically, additional excavation is proposed for the purpose of: 1) installing a 40-inch thick engineered cover system in lieu of the asphalt cap specified in the ROD and proposed in the Preliminary Design Report; and 2) establishing utility and tree planting corridors for future use by the Town. This proposal was based on certain conditions, as further described in GE's May 2, 2007 submittal, including: 1) the location and depth (and, for the utility corridors, width) of the utility and tree planting corridors would be as shown in figures included within that submittal; 2) the over-excavated material would be used as backfill in deeper excavations that are located within the horizontal extent of the engineered cover system; and 3) confirmation soil sampling would not be required in any areas within which the depth of over-excavation is one foot or more. Based on comments

on the Intermediate LTTD and OSD Design Reports, this latter condition has been modified such that confirmation soil sampling is not required in areas within which the depth of over-excavation is two feet or greater. As indicated in the response to comments submitted with this Final Design Report, if EPA requires confirmation sampling even in areas where the over-excavation equals or exceeds 2 feet, then an alternate approach will be considered that is more consistent with that envisioned by the ROD. For the alternate approach, the designated utility corridors would be sampled below the excavation required to meet the 100 mg/kg subsurface SCL to determine if the 25 mg/kg SCL set for the utility and tree planting corridors is achieved, and only those soils that do not meet the 25 mg/kg SCL would be excavated and backfilled with imported clean backfill. This sampling could be performed before initiation of the soil remedy, or incrementally after completing the required excavation in the applicable areas.

GE has estimated that the over-excavation necessary to install the engineered cover system and establish the utility and tree planting corridors at the Elm Street Area would involve the excavation of an additional 3,675 cy of soil at the Elm Street Area, which would be used as backfill for the deeper excavations under the cover system, as indicated in Table 7. Similar to the soil removal limits necessary to achieve the SCLs at the Elm and Mill Street Area, certain of the excavations associated with the installation of the engineered soil cover and/or the utility and tree planting corridors required excavation sloping to perform the work in a safe manner. As indicated in Table 7, it is estimated that an additional approximately 295 cy of soil will be removed as part of the sloping of excavations associated with the installation/construction of these features. As such the revised volume of soil removal necessary to install the engineered soil cover and utility and tree planting corridors as designed is approximately 3,970 cy. The soil removal limits for the excavation cells subject to such additional excavation are identified on Figure 10 and Technical Drawing G-11.

As previously indicated, to help support the excavations, the limits of excavation in this Final Design Report include sloping some of the excavation sidewalls. Such excavation sidewall sloping is illustrated on of Technical Drawings S-2 and S-9, and involves additional over-excavation. Specifically, this sloping of the excavation sidewalls increases the volume of excavation at the Elm Street Area by approximately 965 cy, and increases the volume of excavation by approximately 1,075 cy at the Mill Street Area.

In summary, the combined limits of excavation associated with achievement of the SCLs and over-excavation for the installation of the cover system, establishing the utility and tree planting corridors and laying back excavation sidewalls are presented on Figure 11 and Technical Drawings G-12 and S-2 for the Elm Street Area and Figure 12 and Technical

Drawings G-15 and S-8 for the Mill Street Area. The revised total volume of excavation is approximately 30,995 cy.

As indicated earlier in this section, the limits of soil removal were developed using a next cleanest point methodology. This approach to determining the limits of excavation is, in conjunction with the extensive pre-design investigation that was performed (which involved collection of approximately 1,700 surface and subsurface soil samples), sufficiently conservative to eliminate the need for a site-wide confirmatory soil sampling program (and the negative impacts on constructability of such a program). However, as requested by EPA in its February 13, 2007 letter, a VSP was developed and included in the Intermediate Design Reports. Based on comments provided by EPA in their November 1, 2007 comment letter for those submittals, a revised VSP is provided in Appendix A. Similar to the VSP provided in the Intermediate Design Reports, the VSP provided in Appendix A involves of the collection of approximately 240 confirmation samples for excavation bottoms and sidewalls at both the Elm and Mill Street Areas. As indicated therein, the results of those confirmation samples could warrant still further revisions to the limits of soil removal described in this Section. Additional details regarding the confirmation sampling activities that will be performed at the Site are provided in VSP in Appendix A to this Final Design Report.

4. Implementation of Remedial Action

4.1 Overview

This section of the Final Design Report provides additional details regarding the implementation of the OSD soil remedy, and includes the following information:

- Installation of engineering controls, including fixed excavation structural support systems at the Elm and Mill Street Areas;
- Relocation of the sand cap at the Elm Street Area;
- Design overview of the Mill Street Area excavation dewatering system;
- Design overview and staging/construction of temporary water treatment system and ancillary equipment at the Mill Street Area;
- Performance testing of the temporary water treatment system;
- Performance/sequencing of the remedial action; and
- Off-site transportation and disposal of excavated materials.

Additional details regarding the activities associated with each of these tasks are provided in the remainder of this section. Site preparation activities were previously discussed in Section 3, while site restoration and demobilization activities are discussed in Section 5.

4.2 Installation of Engineering Controls

Section 2.6 of this document discussed the CSM, including updated excavation limits and removal volumes. As indicated in Table 6, approximately 27,025 cy of material will be excavated from the Elm Street Area (17,370 cy) and the Mill Street Area (9,655 cy) to achieve the ROD-specified SCLs. Consistent with the Intermediate Design Reports and the development of the limits of excavation as discussed in Section 2.6 of this Final Design Report, the limits of excavation (and the corresponding estimated volume of soil removal) for the Elm and Mill Street Areas were developed in such a manner that certain samples identified during the PDI as containing PCBs in excess of the SCLs are not entirely within the limits of excavation. However, as previously indicated in Section 2.6, GE has previously proposed (and EPA has explicitly approved) not including certain of these samples in the limits of excavation. It is also noted that EPA's November 1, 2007 letter on the Intermediate

Design Reports did not provide comments on the other samples which contained PCBs in excess of the SCLs but that are not included within the limits of excavation. In addition, an extensive confirmation sampling program is proposed in Appendix A of this Final Design Report to confirm the appropriateness of the limits of excavation.

Regarding the excavations at the Elm Street Area, approximately 3,970 cy of additional excavation (i.e., over-excavation) is proposed at the Elm Street Area to facilitate installation of the proposed cover system, as well as establishment of the utility and tree planting corridors (Table 7). Performance of the excavation activities to the limits and depths indicated on Figures 11 (Elm Street Area) and 12 (Mill Street Area) will result in the need for engineering controls (i.e., fixed structural supports and/or excavation sloping) for the following reasons: 1) constructability and dewatering activities associated with excavations below the water table at the Mill Street Area; 2) flood protection for certain excavations which will be performed in close proximity to the level of the Souhegan River at the Elm Street Area; and 3) performance of the remedial action in accordance with applicable Occupational Safety and Health Administration (OSHA) regulations. Additional details regarding the design, location, and installation of fixed structural supports are provided below.

As discussed in the Preliminary Design Report for the LTTD soil remedy, several different types of fixed structural supports were evaluated for their ability to: 1) conform with applicable OSHA regulations; 2) protect against potential floods at the Elm Street Area; and, 3) serve as a cut-off barrier to restrict groundwater infiltration into excavations below the water table at the Mill Street Area. The types of structural supports/flow barriers evaluated during the preliminary design phase included soldier piles and lagging, steel sheeting, cement/bentonite slurry walls, secant pile walls, and soldier pile tremie concrete (SPTC) walls. Based on that evaluation, the structural supports selected for certain excavation cells at the Elm Street Area consist of steel sheeting, soldier piles and lagging, while excavation sloping will be employed for certain cells in lieu of the installation of excavation supports. For the Mill Street Area, Appendix B of the Preliminary Design Report presented an evaluation of the various potential structural support/flow barriers that were considered for use. Based on the information provide therein, the structural supports selected for certain excavation cells at the Mill Street Area consist of SPTC walls/wood lagging, while excavation sloping will be employed for certain cells in lieu of the installation of excavation supports. The design calculations for the excavation support systems (excluding sloping) are included in Appendix F.

Based on physical constraints and space limitations, it is anticipated that the Remedial Action Contractor will mobilize to the Site prior to initiation of soil removal activities associated with the OU-1 remedy and install the fixed excavation supports or, for areas

4.7.2 Full-Scale Dewatering Activities at the Mill Street Area

Prior to initiation of the Phase 1 excavations at the Elm and Mill Street Areas, full-scale dewatering activities will commence at the Mill Street Area in preparation for the excavation of materials below the water table. As illustrated on Technical Drawings S-8 and S-9, there are six excavation cells that extend below the water table at the Mill Street Area and will require active dewatering activities (including four SPTC cells and two shallow water table cells). Operation of the temporary water treatment system will be phased to coincide with the dewatering and excavation activities for these six cells. Once all cells requiring active dewatering at the Mill Street Area are backfilled to the level of the water table, operation of the temporary water treatment system will be scaled back as necessary to accommodate treatment of miscellaneous waters generated during the remainder of the project (e.g., collected precipitation, equipment and personnel decontamination fluids, etc.).

4.7.3 Excavation of Phase 1 Impacted Materials at the Elm and Mill Street Areas

As indicated in Appendix D, it is anticipated that the Remedial Action Contractor will generally implement the remedial action at the Elm and Mill Street Areas in two phases. The excavations at the Elm and Mill Street Areas will be performed using standard excavation equipment (e.g., tracked excavators, rubber-tire backhoes, etc.). It is anticipated that the construction equipment utilized to excavate and handle impacted materials at these areas will be dedicated to those operations. Therefore, cleaning of such equipment will only be required prior to handling and placement of clean backfill (as described in Section 5.2) or prior to demobilization from the Site (as described in Section 5.6). Additional information regarding the Phase 1 excavations at the Elm and Mill Street Areas is provided below.

4.7.3.1 Phase 1 Excavation - Elm Street Area

The Phase 1 excavation activities at the Elm Street Area will involve two distinct activities, including: 1) the performance of the excavations located within Elm Street; and 2) the performance of the deep excavations (defined herein as excavations greater than 3 feet in depth), which are generally located in the central and northern portions of the Elm Street Area and include several excavations along the banks of the Souhegan River (Figure D-2 in Appendix D). Each of these activities are further described below.

In response to EPA and Town comments on the Intermediate Design Reports, the Elm Street excavations will be initiated prior to initiation of excavation activities at the Mill Street Area for the purpose of ensuring that the northern (i.e., west-bound) lane of Elm Street is not closed concurrent with the eastern end of Mill Street. Performance of the Elm Street excavations will require the temporary closure of the northern (i.e., west-bound) lane of Elm

Street while excavation and backfilling activities are ongoing in that area. However, in a further attempt to minimize disruption to the local community, the excavation activities for the impacted materials beneath Elm Street may be performed during off-peak hours. In such a situation, the Remedial Action Contractor would have clean imported fill available for immediate backfilling and restoration of the affected portions of Elm Street following verification, through survey, of achievement of the limits of excavation.

During performance of the Elm Street excavations, traffic control activities will be implemented in accordance with Section 3.13, the T-series of Technical Drawings provided in Appendix B, and the TR/TA Report provided in Appendix E. Performance of the Elm Street excavations will involve the removal of approximately 135 cy of material. The Remedial Action Contractor may either elect to place the excavated materials directly into vehicles for transportation to the applicable off-site disposal facility, or may stockpile the excavated soils in a temporary staging area (described in Section 3.11) for subsequent loading and off-site disposal concurrently with the other Phase 1 excavation activities, as further described below. Upon verification that the limits of excavation have been achieved in these cells (i.e., through survey and confirmation sampling, as further described in Section 4.7.7), the cells will be backfilled with gravel to surface grade, followed by restoration of the normal vehicular traffic patterns for Elm Street (pedestrian traffic will still be rerouted to the opposite side of the street until completion of the remedial action). Final surface restoration (i.e., paving of the street) will occur during site restoration activities and in accordance with the Town's standard specifications (see Appendix C). It should be noted that the Remedial Action Contractor may elect to perform these excavation activities within Elm Street concurrently with the replacement storm sewer installation activities beneath Cottage and Elm Street (described in Section 3.6).

Following completion of the Elm Street excavations described above, the Remedial Action Contractor will commence with performance of the remaining Phase 1 excavations at the Elm Street Area, which will involve the removal of approximately 14,285 cy of material. This volume includes approximately 3,460 cy of material to facilitate construction of the engineered cover system and establish the utility and tree planting corridors. As indicated in Section 4.2.1, fixed excavation supports including steel sheeting and soldier piles will be installed at the Elm Street Area following the site preparation activities described in Section 3. Lagging will be installed on the soldier piles as the Phase 1 excavation activities proceed, as required to provide the necessary support for the excavation sidewalls. As previously indicated, limited dewatering activities will be required during the performance of the excavation activities at the Elm Street Area. In fact, since the vertical limit of excavation for the Elm Street Area is the seasonal low water table, the Remedial Action Contractor may elect to excavate saturated soils in the vicinity of the seasonal low water table (as encountered, depending on the time of year during which the excavations are performed)

Spent Filters from Bag Filter Units – The filters in the bag filter units will be periodically changed out. Although this unit is designed as the final polishing step for the treated water prior to discharge (and will likely be exposed to very low-levels of constituents, if any), these materials will be subject to characterization and transportation to an appropriate off-site disposal facility, in accordance with all applicable regulations.

Oil – Although significant quantities of oil (if any) are not anticipated, an OWS was included in the design of the temporary water treatment system to handle oils separated from the water stream. Separated oil will require characterization and transportation to an appropriate off-site treatment or disposal facility, in accordance with applicable regulations.

Other Miscellaneous Wastes - Other miscellaneous wastes generated during operation of the temporary water treatment system will include PPE and other construction-related materials. These materials will require characterization and transportation to an appropriate off-site disposal facility, in accordance with applicable regulations.

4.8.2 Waste Characterization, Transportation, and Disposition of Residuals

Where applicable, pre-design and/or other supplemental data will be provided to the applicable off-site treatment or disposal facilities to assist with characterization of the residual waste streams. As indicated on Figures 9 and 12, sampling and analysis conducted during the PDI indicate that certain Site soils contain PCBs at concentrations greater than 50 mg/kg and thus are regulated for disposal under TSCA. Specifically, it is estimated that the volume of excavated material subject to TSCA disposal regulations includes approximately 15,905 cy of excavated material from the Elm Street Area and 7,100 cy of excavated material from the Mill Street Area, as indicated on Table 6. Some of the excavated materials might also contain other constituents at concentrations sufficient to cause those excavated materials to be considered characteristic hazardous waste under RCRA regulations. Where additional waste characterization activities are necessary, such activities would be performed in accordance with the requirements of the appropriate off-site treatment or disposal facilities and the Waste Characterization Plan that will be part of the RAWP.

At this time, it is anticipated that residuals from four distinct waste streams may be generated during the performance of the remedial action: hazardous liquids, non-hazardous liquids, hazardous solids, non-hazardous solids. It is further anticipated that these waste streams will be routed to the following facilities:

- Hazardous liquids - Waste Management, Inc. (WMI) facility in Port Arthur, Texas.
- Non-hazardous liquids - Numerous facilities are available for the treatment/disposal of such liquids.
- Hazardous solids - WMI facility in Model City, New York.
- Non-hazardous solids - WMI facility in Rochester, New Hampshire.

Additional details regarding the management, disposition, and waste characterization requirements associated with each facility will be provided in the Waste Characterization Plan, which will be included in the RAWP.

Segregated materials requiring transportation to one of the above-listed off-site disposal facilities will be managed and loaded into transportation vehicles in accordance with the procedures specified in Section 4.7.6. As indicated in the Project Construction Schedule provided in Appendix G, it is currently anticipated that approximately 450 tons of excavated material (or 15 trucks loaded with approximately 20 cy [i.e., about 30 tons] of excavated material per truck) will be sent off-site for disposal on a typical day during implementation of the OSD soil remedy. The Remedial Action Contractor will be responsible for providing coordination for the off-site transportation and disposal of these excavated materials. As part of these activities, the Remedial Action Contractor will be responsible for complying with all federal, state, and/or local transportation requirements, including applicable U.S. Department of Transportation (DOT) regulations. Additional details regarding such requirements (e.g, placarding, weights, etc.) will be provided in future design documents and/or contractor submittals.

In addition to the activities relating to the loading of excavated materials for off-site transportation (as specified in Section 4.7.6), the Remedial Action Contractor will be required to implement the following operational procedures for the off-site transportation of excavated materials from the Site:

- Employ qualified personnel trained per DOT requirements for handling and shipping hazardous materials, with such training to include general safety, emergency response, exposure protection, accident prevention, preparation of shipping papers, and securing loads;
- Employ drivers that have a Commercial Driver's License (CDL) with a Hazardous Materials Endorsement;

TABLE 6
ESTIMATED VOLUME OF MATERIAL SUBJECT TO REMEDIAL ACTION TO ACHIEVE NON-CORRIDOR SCLs

FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE

Area	Excavation Cell Identifier	Excavation Depth Below Ground Surface (feet)	Elevation of Excavation Bottom (feet)	Approximate Surface Area (square feet)	Approximate In-Situ Volume (cubic feet)	Approximate In-Situ Volume (cubic yards)	Approximate In-Situ Volume (cubic yards)	
							TSCA	Non-TSCA
Elm Street Area	A	1	--	23,946.30	23,946	890	530	360
	B	--	244	459.50	919	30	30	--
	C	--	244	617.66	2,471	90	90	--
	D	--	238	1,247.28	13,096	490	490	--
	E	1	--	1,209.75	1,210	40	10	30
	F	--	238	919.06	8,272	310	310	--
	G	--	236	3,501.87	38,521	1,430	1,430	--
	H	3	--	7,920.09	23,760	880	880	--
	I	1	--	13,367.63	13,368	500	320	180
	J	--	249	2,499.38	7,498	280	280	--
	K	--	240	1,491.51	20,881	770	770	--
	L	3	--	1,338.94	4,017	150	--	150
	M	--	256	1,189.24	8,325	310	310	--
	N	--	262	926.97	2,781	100	100	--
	O	--	253	380.80	1,142	40	40	--
	P1	--	247	3,562.29	39,185	1,450	1,450	--
	P2	--	250	3,135.07	34,486	1,280	1,280	--
	P3	--	248	1,787.88	19,667	730	730	--
	Q	--	239	687.12	13,055	480	480	--
	R	--	251	4,200.75	29,405	1,090	1,090	--
	S	--	258	2,102.54	8,410	310	310	--
	T	--	243	1,142.19	12,564	470	470	--
	U	1	--	11,928.37	11,928	440	215	225
	V	--	234.9	2,627.54	45,033	1,670	1,180	490
	W	--	255	862.42	5,175	190	190	--
	X	--	--	--	--	--	--	--
	Y	--	244	1,049.95	12,599	470	470	--
	Z	--	245	335.79	4,533	170	170	--
	AA	--	251	2,044.44	24,533	910	910	--
	BB	7.5	--	2,300.45	17,253	640	640	--
	CC	--	263	889.91	1,780	70	70	--
	DD	--	255	199.11	597	20	20	--
	Additional volume associated with sloping			--	--	670	640	30
			Subtotal:	**99,872**	**450,411**	**17,370**	**15,905**	**1,465**
Mill Street Area	A	1	--	1,621.91	1,622	60	--	60
	B	--	256	315.59	631	20	--	20
	C	1	--	731.98	732	30	--	30
	D	--	257	929.68	2,789	100	10	90
	E	--	250	803.70	7,233	270	--	270
	F	--	254	159.29	796	30	--	30
	G	--	254	155.43	855	30	--	30
	H	--	238	831.54	19,541	720	720	--
	I	--	249	2,123.17	23,355	860	670	190
	J	3	--	5,111.68	15,335	570	310	260
	K	--	251	2,162.23	21,082	780	390	390
	L	--	258	276.51	1,659	60	60	--
	M	--	254	2,367.63	14,206	530	425	105
	N	--	251	284.30	2,559	90	90	--
	O	--	238	3,464.23	76,213	2,820	2,820	--
	P	--	254	308.91	1,853	70	70	--
	Q	--	248	88.76	1,065	40	40	--
	R	--	245	907.13	14,061	520	520	--
	S	--	255	1,602.11	9,613	360	260	100
	T	--	254	1,323.10	10,585	390	100	290
	U	1	--	4,748.15	4,748	180	--	180
	V	1	--	1,280.23	1,280	50	25	25
	Additional volume associated with sloping			--	--	1,075	590	485
			Subtotal:	**31,597**	**231,813**	**9,655**	**7,100**	**2,555**
			Total:	**131,469**	**682,224**	**27,025**	**23,005**	**4,020**

Notes:
1. Refer to Figure 9 for Elm Street Area excavation cell identifiers.
2. Refer to Figure 12 for Mill Street Area excavation cell identifiers.
3. Approximate volumes were rounded using computer software.
4. TSCA - Toxic Substances Control Act.
5. Based on the support of excavation (SOE) design performed by Haley & Aldrich, the sloping of excavations shown on Technical Drawings S-2 and S-9 will require the excavation of an additional approximately 2,040 cy of material. This includes approximately 965 cy from the Elm Street Area and approximately 1,075 cy from the Mill Street Area.
   Since the SOE design for the Elm Street Area is based on the combined limits of excavation (inclusive of the overexcavation associated with the installation of the soil cover, and utility and tree planting corridors), it is not possible to determine the volume of excavation sloping associated solely with the excavations required to achieve the SCLs at the Elm Street Area.
   As a result, it was estimated that approximately 69% of the sloping volume (670 cy) is associated with the SCL excavations at the Elm Street Area as shown in this table. The remaining 31% of the sloping volume (295 cy) is associated with the non-corridor SCL excavations and is included on Table 7.

TABLE 8
ESTIMATED TOTAL VOLUME OF MATERIAL SUBJECT TO REMEDIAL ACTION

FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE

Area	Excavation Cell Identifier	Excavation Depth Below Ground Surface (feet)	Elevation of Excavation Bottom (feet)	Approximate Surface Area (square feet)	Approximate In-Situ Volume (cubic feet)	Approximate In-Situ Volume (cubic yards)
Elm Street Area	A	4	--	5,466.96	21,868	810
	B	--	244	459.50	919	30
	C	1	--	3,534.48	3,534	130
	D	--	238	1,246.95	13,093	480
	E	4	--	444.38	1,778	70
	F	--	238	919.06	8,272	310
	G	--	236	3,495.46	41,946	1,550
	H	7.5	--	1,279.08	9,593	360
	I	1	--	6,749.16	6,749	250
	J	7.5	--	1,204.91	9,037	330
	K	--	240	1,505.54	21,078	780
	L	3.3	--	9,824.49	32,421	1,200
	M1	--	256	572.95	2,292	80
	M2	--	256	214.77	859	30
	N	4	--	1,190.43	4,762	180
	O	3.3	--	359.62	1,187	40
	P1	--	247	3,562.29	39,185	1,450
	P2	--	248	262.57	2,888	110
	P3	--	250	3,135.07	32,918	1,220
	P4	--	248	1,295.69	14,253	530
	Q	--	239	687.12	13,055	480
	R	--	251	3,786.49	26,505	980
	S	--	258	943.92	4,720	170
	T	--	243	1,135.67	12,492	460
	U	3.3	--	2,617.82	8,639	320
	V	--	234.9	2,627.54	45,033	1,670
	W1	--	255	788.13	4,729	180
	W2	--	255	31.53	189	10
	X	4	--	405.65	1,623	60
	Y	--	244	1,049.95	12,599	470
	Z	--	245	335.79	4,533	170
	AA1	--	251	1,207.80	14,494	540
	AA2	--	251	382.89	3,829	140
	BB	1	--	11,691.05	11,691	430
	CC	1	--	1,330.44	1,330	50
	DD	1	--	6,860.99	6,861	250
	EE	3	--	1,338.94	4,017	150
	FF	1	--	612.08	612	20
	GG	3	--	185.62	557	20
	HH1	7.5	--	6,928.59	51,964	1,920
	HH2	7.5	--	226.34	1,698	60
	II	--	249	604.34	4,230	160
	JJ	--	249	694.63	2,084	80
	KK	--	263	97.09	194	10
	LL	--	262	533.66	1,601	60
	MM	--	258	16.22	81	5
	NN	1	--	1,139.03	1,139	40
	OO	1	--	130.91	131	5
	QQ1	7.5	--	2,065.91	15,494	570
	QQ2	7.5	--	91.35	685	30
	RR	--	255	19.95	60	5
	SS	2.5	--	77.24	193	10
	TT	3.3	--	662.35	2,186	80
	UU	--	--	--	--	--
	VV	4	--	367.72	1,471	50
	WW1	12	--	1,613.66	19,364	720
	WW2	12	--	283.32	3,400	130
	Additional volume associated with sloping			--	--	965
			Subtotal:	**100,295**	**552,114**	**21,340**

TABLE 8
ESTIMATED TOTAL VOLUME OF MATERIAL SUBJECT TO REMEDIAL ACTION

FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE

Area	Excavation Cell Identifier	Excavation Depth Below Ground Surface (feet)	Elevation of Excavation Bottom (feet)	Approximate Surface Area (square feet)	Approximate In-Situ Volume (cubic feet)	Approximate In-Situ Volume (cubic yards)
Mill Street Area	A	1	--	1,621.91	1,622	60
	B	--	256	315.59	631	20
	C	1	--	731.98	732	30
	D	--	257	929.68	2,789	100
	E	--	250	803.70	7,233	270
	F	--	254	159.29	796	30
	G	--	254	155.43	855	30
	H	--	238	831.54	19,541	720
	I	--	249	2,123.17	23,355	860
	J	3	--	5,111.68	15,335	570
	K	--	251	2,162.23	21,082	780
	L	--	258	276.51	1,659	60
	M	--	254	2,367.63	14,206	530
	N	--	251	284.30	2,559	90
	O	--	238	3,464.23	76,213	2,820
	P	--	254	308.91	1,853	70
	Q	--	248	88.76	1,065	40
	R	--	245	907.13	14,061	520
	S	--	255	1,602.11	9,613	360
	T	--	254	1,323.10	10,585	390
	U	1	--	4,748.15	4,748	180
	V	1	--	1,280.23	1,280	50
	Additional volume associated with sloping			--	--	1,075
			Subtotal:	**31,597**	**231,813**	**9,655**
			Total:	**131,892**	**783,927**	**30,995**

Notes:
1. Refer to Figure 11 for Elm Street Area excavation cell identifiers.
2. Refer to Figure 12 for Mill Street Area excavation cell identifiers.
3. Approximate volumes were rounded using computer software.
4. Based on the support of excavation (SOE) design performed by Haley & Aldrich, the sloping of excavations shown on Technical Drawings S-2 and S-9 will require the excavation of an additional approximately 2,040 cy of material. This includes approximately 965 cy from the Elm Street Area and approximately 1,075 cy from the Mill Street Area.

TABLE 11
GROUNDWATER ELEVATION MONITORING DATA

FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE
(Results are presented in feet above mean sea level)

Monitoring Well	January/February 2004		March 18, 2004	April 19 & 20, 2004	May 21, 2004	June 23, 2004	July 13, 2004	August 18, 2004	September 14, 2004	October 19, 2004	November 17, 2004	December 13, 2004
	Elevation	Date										
Elm Street Area Monitoring Wells												
MW-01A	236.80	1/22/04	236.30	237.81	237.01	236.36	236.12	235.92	235.86	236.17	235.99	237.24
MW-01B	237.76	1/22/04	236.06	238.63	237.96	236.75	235.82	235.57	235.53	236.00	235.65	237.90
MW-02AR	235.43	2/4/04	235.45	236.95	236.01	235.32	235.15	235.13	235.10	235.38	235.20	236.61
MW-02B	235.55	2/4/04	235.47	237.02	236.05	235.39	235.26	235.18	235.17	235.42	235.26	236.62
MW-03A	235.66	2/4/04	235.62	236.70	236.07	235.45	235.28	235.22	235.17	235.51	235.29	236.63
MW-03B	235.26	2/5/04	235.25	236.18	235.61	235.00	234.82	234.87	234.83	235.20	234.96	236.39
MW-04A	235.70	1/27/04	235.62	236.72	236.09	235.47	235.33	235.23	235.17	235.53	235.29	236.64
MW-04B	235.26	1/27/04	235.25	236.12	235.58	234.98	234.88	234.86	234.82	235.18	234.96	236.36
MW-04C	235.76	2/4/04	235.73	236.89	236.24	235.63	235.46	235.34	235.28	235.60	235.39	236.71
MW-18B	235.54	2/3/04	235.52	236.70	235.98	235.37	235.19	235.12	235.08	235.45	235.22	236.60
MW-26A	235.77	1/22/04	235.40	236.41	235.79	235.18	235.05	235.01	234.98	235.36	235.13	236.50
MW-26B	235.22	2/4/04	235.24	236.21	235.60	235.00	234.85	234.87	234.83	235.21	235.04	236.39
MW-27A	239.92	2/5/04	239.73	241.96	240.78	240.06	239.63	239.30	239.24	239.59	239.39	240.39
MW-27B	241.79	2/5/04	242.21	246.39	244.22	243.60	243.46	242.50	242.24	242.75	241.87	244.53
MW-28A	243.41	1/26/04	242.93	244.92	243.93	243.36	242.98	242.63	242.56	242.87	242.71	243.35
MW-28B	248.16	1/26/04	248.15	249.32	248.64	248.41	248.27	248.05	248.04	248.17	248.10	248.70
MW-29B	235.48	2/4/04	235.50	236.61	235.94	235.34	235.17	235.13	235.09	235.46	235.24	236.61
Mill Street Area Monitoring Wells												
MW-07A	252.74	2/2/04	252.93	261.62	253.35	252.97	252.50	252.08	252.07	252.80	252.55	253.67
MW-09A	251.66	1/27/04	251.38	252.54	251.98	251.44	250.71	250.05	250.03	251.11	250.88	251.95
MW-09B	252.99	1/27/04	-	253.65	253.13	252.45	251.51	250.91	250.90	252.44	252.25	253.46
MW-21C	252.65	1/21/04	252.52	253.57	252.97	252.57	252.04	251.66	251.67	252.43	252.22	253.33
MW-22A	252.91	2/3/04	253.10	254.15	253.44	252.93	252.32	251.85	251.89	252.80	252.62	253.95
MW-22B	252.93	2/3/04	253.11	254.15	253.44	252.93	252.31	251.85	251.89	252.81	252.62	253.96
MW-22C	255.22	1/30/04	252.31	253.32	252.73	252.25	251.56	251.14	251.16	252.08	251.89	253.01
MW-23A	252.99	1/28/04	253.05	254.24	253.40	252.91	252.35	251.92	251.95	252.78	252.59	253.92
MW-23B	252.95	1/28/04	252.97	254.18	253.32	252.86	252.34	251.96	251.94	252.70	252.52	253.85
MW-23C	252.42	1/28/04	252.57	253.68	252.95	252.52	252.02	251.62	251.62	252.37	252.18	253.30
MW-24A	252.61*	1/23/04	252.83	253.90	253.20	252.84	252.31	252.01	251.95	252.66	252.46	253.54
MW-24B	252.87	1/23/04	252.83	253.92	253.19	252.83	252.38	252.01	251.96	252.65	252.45	253.57
MW-24C	251.94	1/29/04	252.30	253.44	252.70	252.28	251.80	251.34	251.35	252.10	251.90	252.99
Other Monitoring Wells												
MW-05A	236.19	1/19/04	235.35	236.41	235.59	235.08	234.93	234.92	234.88	235.29	235.01	236.51
MW-05BR	235.31	2/3/04	235.25	236.22	235.50	234.93	234.78	234.82	234.76	235.21	234.91	236.45
MW-06A	-	-	-	-	-	-	-	-	-	-	-	-
MW-06B	-	-	-	-	-	-	-	-	-	-	-	-
MW-06C	-	-	-	-	-	-	-	-	-	-	-	-
MW-08A	252.63	1/30/04	252.62	253.39	252.85	252.72	251.52	251.39	251.53	252.32	252.36	252.82
MW-08B	252.85	1/30/04	253.10	253.84	253.41	252.59	252.01	251.82	251.79	252.93	252.61	253.91
MW-10A	251.26	1/20/04	251.04	252.39	251.71	251.16	250.50	249.93	249.90	250.66	250.46	251.61
MW-10B	252.79	1/20/04	250.56	253.30	252.73	252.37	249.17	251.84	251.95	252.38	251.95	252.86
MW-10C	251.71	1/21/04	251.05	252.41	251.80	251.25	250.61	250.04	250.01	250.74	250.58	251.71
MW-11A	240.49	2/2/04	239.98	242.31	241.55	240.92	240.34	239.71	239.52	239.77	239.59	240.39
MW-11B	239.76	2/2/04	239.35	241.67	240.89	240.22	239.61	238.01	238.82	239.05	238.88	239.67
MW-11C	-	-	-	-	-	-	-	-	-	-	-	-
MW-25B	253.93	1/21/04	253.89	255.06	254.27	253.77	253.27	252.87	252.91	253.65	253.47	254.63
MW-25C	253.85	1/21/04	253.77	254.99	254.17	253.68	253.16	252.78	252.82	253.55	253.36	254.53
MW-30B	-	-	-	-	-	-	-	-	-	-	-	-
MW-30C	-	-	-	-	-	-	-	-	-	-	-	-
Gas Station Monitoring Wells												
GULF-02R	-	-	-	-	-	-	-	-	-	-	-	-
GULF-03	-	-	-	-	-	-	-	-	-	-	-	-
MOBIL-02R	-	-	-	-	-	-	-	-	-	-	-	-
MOBIL-04	-	-	-	-	-	-	-	-	-	-	-	-
Staff Gauges												
SG-1	See Note 6	See Note 6	See Note 6	237.18	See Note 7	See Note 7	See Note 7	See Note 7	See Note 7	See Note 7	See Note 7	See Note 7
SG-2	See Note 6	See Note 6	See Note 6	235.04	235.26	234.79	234.92	235.94	234.69	235.12	234.80	236.23

TABLE 11
GROUNDWATER ELEVATION MONITORING DATA

FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE
(Results are presented in feet above mean sea level)

Monitoring Well	January 11, 2005	July 31, 2007	October 8, 2007	January 22, 2008	April 16, 2008	July 29, 2008	October 17, 2008	January 20, 2009	April 21, 2009	July 23, 2009	October 7, 2009
Elm Street Area Monitoring Wells											
MW-01A	236.58	236.20	235.84	236.65	238.38	237.59	236.62	237.24	237.37	237.29	236.30
MW-01B	236.60	235.95	235.46	237.01	238.49	238.48	236.21	236.88	237.10	237.09	235.83
MW-02AR	235.70	235.22	235.15	235.79	237.29	236.54	235.46	235.98	236.20	236.10	235.33
MW-02B	235.73	235.35	235.25	235.85	237.35	236.59	235.54	236.05	236.27	236.17	235.41
MW-03A	235.83	235.34	235.20	236.02	237.34	236.79	235.66	236.26	236.53	236.28	235.49
MW-03B	235.47	234.94	234.89	235.68	236.68	236.42	235.15	235.70	236.05	235.74	235.05
MW-04A	235.83	235.32	235.36	235.99	237.30	236.76	235.64	236.22	236.54	236.24	235.43
MW-04B	235.44	234.89	234.87	235.66	236.64	236.38	235.13	235.66	236.03	235.72	235.02
MW-04C	235.96	235.51	235.08	236.13	237.32	236.89	235.83	236.42	236.75	236.44	235.58
MW-18B	235.77	235.29	235.11	235.87	237.12	236.72	235.53	236.15	236.31	236.17	235.39
MW-26A	235.63	235.15	234.80	235.86	236.84	236.61	235.35	235.95	236.30	236.02	235.28
MW-26B	235.47	234.99	235.21	235.72	236.64	236.50	235.22	235.76	236.14	235.82	235.09
MW-27A	240.03	239.80	239.18	240.35	242.06	241.33	240.59	241.07	241.15	241.47	239.89
MW-27B	243.55	243.89	243.17	245.33	245.25	246.42	244.70	245.39	245.60	245.59	244.39
MW-28A	243.26	243.20	242.48	243.48	245.01	244.22	244.04	244.32	244.31	244.67	243.28
MW-28B	248.33	248.72	248.43	249.33	249.54	250.15	249.13	249.46	249.53	249.73	248.82
MW-29B	235.74	235.30	235.17	235.96	237.88	237.88	235.54	236.09	236.43	236.18	235.39
Mill Street Area Monitoring Wells											
MW-07A	253.06	252.57	251.38	253.14	253.90	254.19	253.20	253.24	253.62	253.57	252.42
MW-09A	251.46	251.11	249.04	251.46	252.84	252.83	250.85	252.13	252.46	252.35	250.63
MW-09B	252.84	252.16	249.80	252.81	253.63	253.98	251.76	253.16	253.46	253.21	251.42
MW-21C	252.74	252.24	250.88	252.81	253.63	253.85	252.82	253.02	253.37	253.24	252.05
MW-22A	253.15	252.58	251.04	253.23	254.04	254.41	253.17	253.41	253.78	253.56	252.22
MW-22B	253.16	252.59	251.07	253.24	254.05	254.39	253.16	253.42	253.76	253.57	252.22
MW-22C	252.46	251.92	250.29	252.50	253.45	253.54	252.58	252.86	253.14	253.01	251.61
MW-23A	253.12	252.56	251.15	253.23	254.01	254.47	253.12	253.34	253.88	253.55	252.29
MW-23B	253.03	252.51	251.20	253.20	253.92	254.53	253.04	253.24	253.87	253.49	252.30
MW-23C	252.70	252.22	250.83	252.82	253.60	253.85	252.77	252.97	253.36	253.20	251.99
MW-24A	252.96	252.49	251.29	253.07	253.62	254.05	252.98	253.11	253.42	253.36	252.32
MW-24B	252.93	252.48	251.29	253.08	253.64	254.12	252.97	253.10	253.44	253.35	252.33
MW-24C	252.41	251.97	250.61	252.62	253.34	253.63	252.56	252.80	253.16	253.06	251.85
Other Monitoring Wells											
MW-05A	235.58	234.96	234.89	235.85	236.88	236.55	235.26	235.76	236.17	236.88	235.05
MW-05BR	235.45	234.80	234.79	235.79	236.70	236.50	235.09	235.65	236.00	235.67	234.94
MW-06A	-	-	-	235.57	236.39	236.21	234.91	NA (See Note 4)	NA (See Note 4)	NA (See Note 4)	234.84
MW-06B	-	-	-	235.63	236.53	236.36	234.93	NA (See Note 4)	NA (See Note 4)	NA (See Note 4)	234.85
MW-06C	-	-	-	235.60	236.54	236.32	234.97	NA (See Note 4)	NA (See Note 4)	NA (See Note 4)	234.90
MW-08A	253.04	251.90	250.01	252.70	253.52	253.75	252.70	253.02	253.21	253.12	251.36
MW-08B	253.09	252.25	250.70	253.36	253.91	254.38	252.95	253.28	254.11	253.57	251.85
MW-10A	251.16	250.68	248.92	250.94	252.71	252.30	251.50	251.79	252.11	252.29 (See Note 8)	250.48
MW-10B	252.48	252.35	249.21	252.80	253.47	253.32	252.38	252.71	253.03	252.73 (See Note 8)	250.75
MW-10C	251.31	250.88	248.89	250.85	252.64	252.21	251.42	251.73	252.02	252.21 (See Note 8)	250.43
MW-11A	240.49	240.44	239.24	240.06	243.71	241.29	241.27	241.95	241.89	242.05	240.32
MW-11B	239.75	239.77	238.53	239.30	243.00	240.80	240.70	241.37	241.30	241.46	239.75
MW-11C	-	-	-	-	-	241.12	241.22	241.96	241.82	242.02	240.25
MW-25B	254.05	253.36	252.05	253.97	254.92	255.06	254.03	254.15	254.62	254.36	253.26
MW-25C	253.95	253.27	251.99	253.88	254.85	254.99	254.05	254.06	254.56	254.32	253.17
MW-30B	-	-	-	-	-	252.99	252.50	252.56	252.66	252.74	252.04
MW-30C	-	-	-	-	-	253.02	252.42	252.52	252.63	252.76	251.83
Gas Station Monitoring Wells											
GULF-02R	-	249.26	248.98	249.88	250.32	250.53	249.78	250.20	250.57	250.64	249.57
GULF-03	-	249.19	248.56	250.28	250.24	251.45	249.58	249.91	250.29	250.36	249.22
MOBIL-02R	-	248.04	247.55	249.53	249.82	250.20	251.85	249.37	249.66 (See Note 5)	249.64 (See Note 5)	247.81 (See Note 5)
MOBIL-04	-	248.69	248.59 (See Note 5)	249.65	249.92	250.52 (See Note 5)	249.22	249.80	249.94 (See Note 5)	250.06	248.86
Staff Gauges											
SG-1	See Note 7	Dry	Dry	Frozen	See Note 7	See Note 7	See Note 7	See Note 7	See Note 7	See Note 7	See Note 7
SG-2	235.19	235.19	235.21	Frozen	235.74	235.02	234.24	234.74	235.99	236.29	235.14

TABLE 11
GROUNDWATER ELEVATION MONITORING DATA

FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE
(Results are presented in feet above mean sea level)

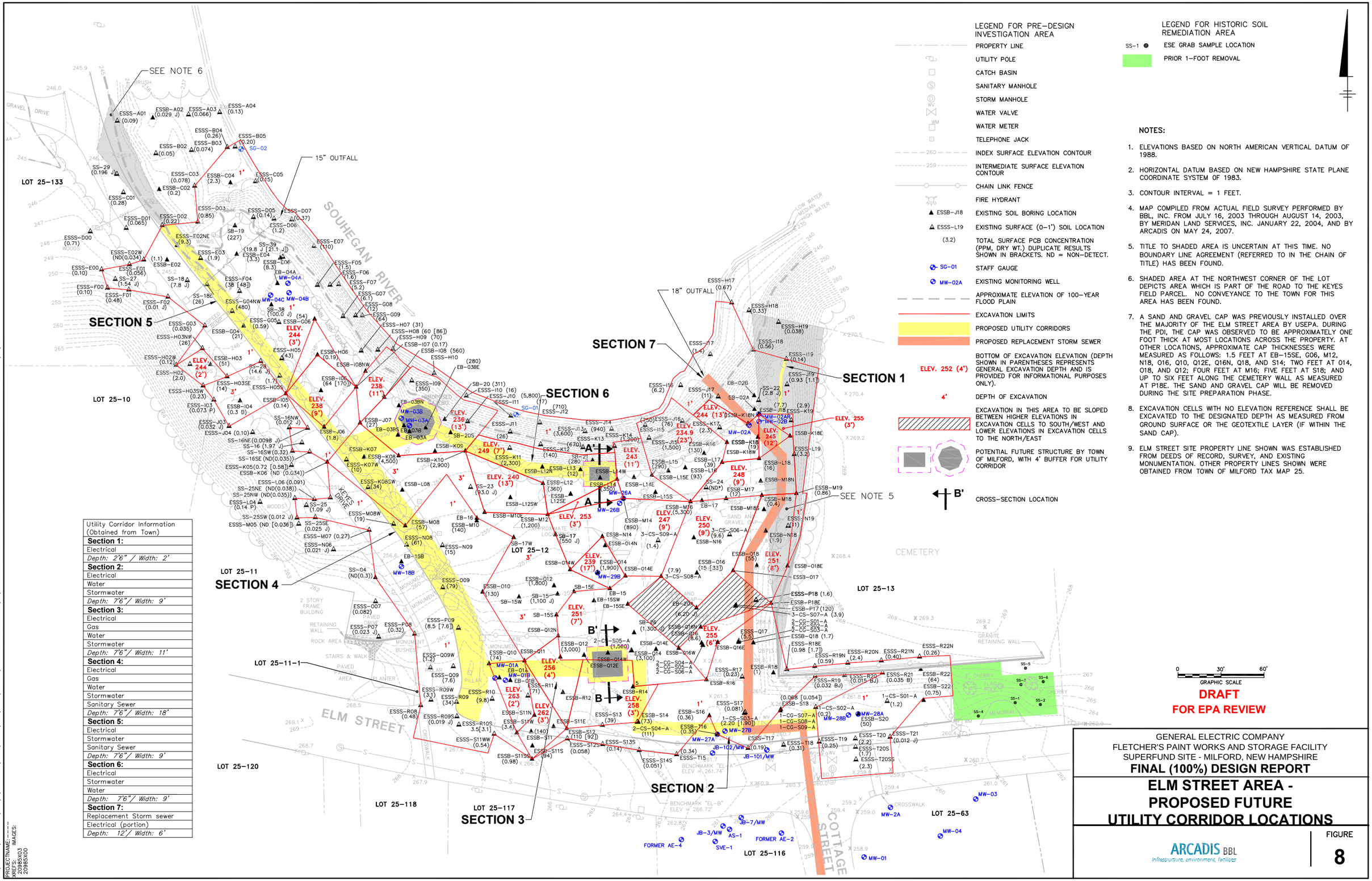
Monitoring Well	January 12, 2010	April 20, 2010	July 20, 2010	October 19, 2010
Elm Street Area				
MW-01A	236.72	237.89	235.52	235.87
MW-01B	236.55	238.15	235.00	235.53
MW-02AR	235.71	236.53	234.89	235.15
MW-02B	235.76	236.58	234.98	235.25
MW-03A	235.77	236.64	234.65	235.23
MW-03B	235.45	235.95	234.23	234.94
MW-04A	236.52	236.56	234.63	235.30
MW-04B	235.97	235.88	234.18	234.92
MW-04C	236.75	236.86	234.81	235.31
MW-18B	235.75	236.50	234.55	235.14
MW-26A	235.65	236.27	234.45	235.12
MW-26B	235.48	235.99	234.25	234.97
MW-27A	240.40	241.79	239.13	239.36
MW-27B	245.01	245.68	243.72	244.37
MW-28A	243.72	244.89	242.69	242.72
MW-28B	249.12	249.46	248.60	248.68
MW-29B	235.79	236.43	234.61	235.22
Mill Street Area				
MW-07A	253.04	253.71	251.82	251.62
MW-09A	251.60	252.85	249.72	249.36
MW-09B	252.73	253.59	250.46	250.16
MW-21C	252.74	253.51	251.29	251.17
MW-22A	253.16	253.93	251.48	251.38
MW-22B	253.15	253.94	251.48	251.39
MW-22C	252.52	253.41	250.80	250.61
MW-23A	253.06	253.84	251.60	251.10
MW-23B	253.00	253.73	251.64	251.60
MW-23C	252.70	253.43	251.30	251.24
MW-24A	253.00	253.52	251.75	251.59
MW-24B	253.00	253.53	251.74	251.59
MW-24C	252.66	253.35	251.12	251.02
Other Wells				
MW-05A	235.59	236.14	234.25	235.06
MW-05BR	235.45	235.94	234.10	234.95
MW-06A	NA (See Note 4)	NA (See Note 4)	NA (See Note 4)	234.82
MW-06B	NA (See Note 4)	NA (See Note 4)	NA (See Note 4)	234.87
MW-06C	NA (See Note 4)	NA (See Note 4)	NA (See Note 4)	234.87
MW-08A	252.77	253.36	250.49	250.61
MW-08B	252.97	253.79	251.16	251.74
MW-10A	251.20	252.72	249.42	249.14
MW-10B	252.38	253.28	249.78	250.67
MW-10C	251.15	252.66	249.40	249.11
MW-11A	240.73	243.59	239.69	238.84
MW-11B	240.12	243.10	239.11	238.30
MW-11C	240.72	243.55	239.67	238.82
MW-25B	254.06	254.78	252.47	252.49
MW-25C	253.94	254.71	252.41	252.40
MW-30B	252.43	252.77	251.56	251.36
MW-30C	252.33	252.87	251.34	251.13
Gas Station Wells				
GULF-02R	249.77	250.19	248.79	249.13
GULF-03	249.60	250.12	248.69	248.99
MOBIL-02R	NA (See Note 9)	249.29 (See Note 5)	247.43 (See Note 5)	247.81 (See Note 5)
MOBIL-04	NA (See Note 9)	249.73	248.47	248.76
Staff Gauges				
SG-1	See Note 7	See Note 7	See Note 7	See Note 7
SG-2	Frozen	235.55	Dry	See Note 7

TABLE 11
GROUNDWATER ELEVATION MONITORING DATA

FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE
(Results are presented in parts per billion, ppb)

Notes:

1. * = Measured from top of casing before the coupling was added for the locking cap.
2. - = Not measured.
3. The groundwater elevation data for the MW-06 well cluster during the 2008 monitoring events presented in previous WMRs was calculated using survey information provided by EPA in the *Final Remedial Investigation Report for Fletcher's Paint Site, Milford, NH* (July 1, 1994). ARCADIS surveyed the location, ground, and measuring point elevation data for the MW-06 well cluster (as well as the MW-05 and MW-30 clusters and the Gulf and Mobil monitoring wells) following the April 2009 monitoring event. The groundwater elevation data presented in this table were revised based upon the ARCADIS survey data.
4. In accordance with EPA's approval letters dated December 1 and 2, 2008, groundwater elevations at the MW-06 monitoring well cluster are only collected annually during the September/October monitoring event.
5. Groundwater elevation corrected for thickness of free product. Specific gravity of free product assumed to be 0.74 (see, http://ww2.ramapo.edu/libfiles/HR/Environmental_Health_and_Safety/MSDS/Facilities/Plumbing/gasoline.pdf). The depth to free product at MOBIL-02R on April 21, 2009, July 23, 2009, October 7, 2009, April 20, 2010, July 20, 2010, and October 19, 2010 was 11.65 feet, 11.76 feet, 13.57 feet, 12.25 feet, 13.99 feet, and 13.75 feet, respectively with free product thickness of 0.98 feet, 0.62 feet, 0.69 feet, 0.06 feet, 0.53 feet, and 0.01 feet, respectively. The depth to free product at MOBIL-04 on October 8, 2007, July 29, 2008, and April 21, 2009 was 11.51 feet, 9.56 feet and 10.19 feet, respectively with free product thickness of 0.14 feet, 0.24 feet and 0.02 feet, respectively.
6. Staff gauges SG-1 and SG-2 were not installed until April 2004.
7. Staff gauge could either not be located or was not accessible for measurement.
8. The groundwater elevations for the MW-10 monitoring well cluster during the July 2009 quarterly monitoring event were not collected on the same day as the measurements at the other wells in the network and may have been impacted by drawdown associated with sample collection.
9. The Snack Corner Mobil property changed ownership prior to the January 2010 quarterly monitoring event. GE/ARCADIS was unable to obtain access from the new owner prior to completing the monitoring event. Therefore, groundwater elevations were not collected at MOBIL-02R and MOBIL-04 during the January 2010 quarterly monitoring event.



Utility Corridor Information (Obtained from Town)
Section 1:
Electrical
Depth: 2'6" / Width: 2'
Section 2:
Electrical
Water
Stormwater
Depth: 7'6" / Width: 9'
Section 3:
Electrical
Gas
Water
Stormwater
Depth: 7'6" / Width: 11'
Section 4:
Electrical
Gas
Water
Stormwater
Sanitary Sewer
Depth: 7'6" / Width: 18'
Section 5:
Electrical
Stormwater
Sanitary Sewer
Depth: 7'6" / Width: 9'
Section 6:
Electrical
Stormwater
Water
Depth: 7'6" / Width: 9'
Section 7:
Replacement Storm sewer
Electrical (portion)
Depth: 12" / Width: 6'

LEGEND FOR PRE-DESIGN INVESTIGATION AREA

- PROPERTY LINE
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- INDEX SURFACE ELEVATION CONTOUR
- INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- ESSB-J18 — EXISTING SOIL BORING LOCATION
- ESSS-L19 — EXISTING SURFACE (0-1') SOIL LOCATION
- (3.2) — TOTAL SURFACE PCB CONCENTRATION (PPM, DRY WT.) DUPLICATE RESULTS SHOWN IN BRACKETS. ND = NON-DETECT.
- SG-01 — STAFF GAUGE
- MW-02A — EXISTING MONITORING WELL
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- PROPOSED UTILITY CORRIDORS
- PROPOSED REPLACEMENT STORM SEWER
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY).
- 4' — DEPTH OF EXCAVATION
- EXCAVATION IN THIS AREA TO BE SLOPED BETWEEN HIGHER ELEVATIONS IN EXCAVATION CELLS TO SOUTH/WEST AND LOWER ELEVATIONS IN EXCAVATION CELLS TO THE NORTH/EAST
- POTENTIAL FUTURE STRUCTURE BY TOWN OF MILFORD, WITH 4' BUFFER FOR UTILITY CORRIDOR
- B' — CROSS-SECTION LOCATION

LEGEND FOR HISTORIC SOIL REMEDIATION AREA

- SS-1 — ESE GRAB SAMPLE LOCATION
- PRIOR 1-FOOT REMOVAL

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. TITLE TO SHADED AREA IS UNCERTAIN AT THIS TIME. NO BOUNDARY LINE AGREEMENT (REFERRED TO IN THE CHAIN OF TITLE) HAS BEEN FOUND.
6. SHADED AREA AT THE NORTHWEST CORNER OF THE LOT DEPICTS AREA WHICH IS PART OF THE ROAD TO THE KEYES FIELD PARCEL. NO CONVEYANCE TO THE TOWN FOR THIS AREA HAS BEEN FOUND.
7. A SAND AND GRAVEL CAP WAS PREVIOUSLY INSTALLED OVER THE MAJORITY OF THE ELM STREET AREA BY USEPA. DURING THE PDI, THE CAP WAS OBSERVED TO BE APPROXIMATELY ONE FOOT THICK AT MOST LOCATIONS ACROSS THE PROPERTY. AT OTHER LOCATIONS, APPROXIMATE CAP THICKNESSES WERE MEASURED AS FOLLOWS: 1.5 FEET AT EB-15SE, G06, M12, N18, O16, Q10, Q12E, Q16N, Q18, AND S14; TWO FEET AT O14, O18, AND Q12; FOUR FEET AT M16; FIVE FEET AT S18; AND UP TO SIX FEET ALONG THE CEMETERY WALL AS MEASURED AT P18E. THE SAND AND GRAVEL CAP WILL BE REMOVED DURING THE SITE PREPARATION PHASE.
8. EXCAVATION CELLS WITH NO ELEVATION REFERENCE SHALL BE EXCAVATED TO THE DESIGNATED DEPTH AS MEASURED FROM GROUND SURFACE OR THE GEOTEXTILE LAYER (IF WITHIN THE SAND CAP).
9. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

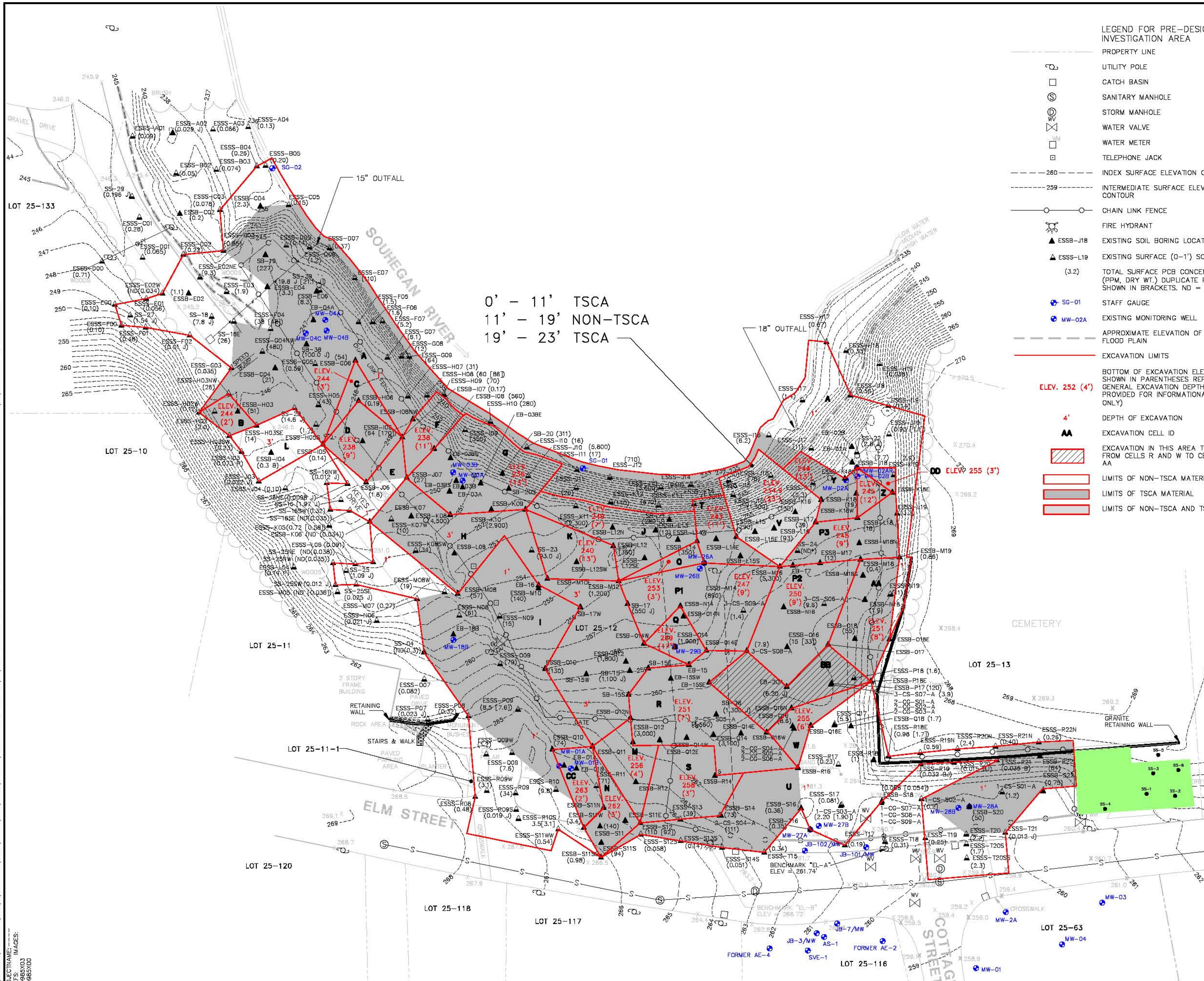
GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - PROPOSED FUTURE UTILITY CORRIDOR LOCATIONS

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
8

SYR-85-JHR LAF AMS LAYER: ON=*; OFF=*REF*; |X01 TEXT*|, |XUST, |XOUTFALL, |XUSTORM, |XUWATER
V:\ENVCAD\SYRACUSE\ACT\C\B0020985\0002\00006\DWG\FINAL\OFFSITE\20985G02.DWG SAVED:1/14/2011 2:37 PM BY:LFORAKER
PROJECTNAME:-----
XREFS: IMAGES:
20985X03
20985X05
PLTFULL.CTB PRINTED:1/14/2011 2:37 PM BY:LFORAKER
PAGESETUP:DL2B-PDF PENTABLE:PLTFULL.CTB LAYOUT:8



LEGEND FOR PRE-DESIGN INVESTIGATION AREA

- PROPERTY LINE
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- 260 INDEX SURFACE ELEVATION CONTOUR
- 259 INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- ESSB-J18 EXISTING SOIL BORING LOCATION
- ESSS-L19 EXISTING SURFACE (0-1') SOIL LOCATION
- (3.2) TOTAL SURFACE PCB CONCENTRATION (PPM, DRY WT.) DUPLICATE RESULTS SHOWN IN BRACKETS. ND = NON-DETECT
- SG-01 STAFF GAUGE
- MW-02A EXISTING MONITORING WELL
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- ELEV. 252 (4') BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY)
- 4' DEPTH OF EXCAVATION
- AA EXCAVATION CELL ID
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R AND W TO CELLS P2 AND AA
- LIMITS OF NON-TSCA MATERIAL
- LIMITS OF TSCA MATERIAL
- LIMITS OF NON-TSCA AND TSCA MATERIAL

LEGEND FOR HISTORIC SOIL REMEDIATION AREA

- SS-1 ESE GRAB SAMPLE LOCATION
- PRIOR 1-FOOT REMOVAL

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. A SAND AND GRAVEL CAP WAS PREVIOUSLY INSTALLED OVER THE MAJORITY OF THE ELM STREET AREA BY USEPA. DURING THE PDI, THE CAP WAS OBSERVED TO BE APPROXIMATELY ONE FOOT THICK AT MOST LOCATIONS ACROSS THE PROPERTY. AT OTHER LOCATIONS, APPROXIMATE CAP THICKNESSES WERE MEASURED AS FOLLOWS: 1.5 FEET AT EB-15SE, G06, M12, N18, O16, Q10, Q12E, Q15N, Q18, AND S14; TWO FEET AT O14, O18, AND Q12; FOUR FEET AT M16; FIVE FEET AT S18; AND UP TO SIX FEET ALONG THE CEMETERY WALL AS MEASURED AT P18E. THE SAND AND GRAVEL CAP WILL BE REMOVED DURING THE SITE PREPARATION PHASE.
6. EXCAVATION CELLS WITH NO ELEVATION REFERENCE SHALL BE EXCAVATED TO THE DESIGNATED DEPTH AS MEASURED FROM GROUND SURFACE OR THE GEOTEXTILE LAYER (IF WITHIN THE SAND CAP).
7. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.
8. REFER TO FIGURE 14 FOR WELLS TO BE DECOMMISSIONED/PROTECTED DURING IMPLEMENTATION OF REMEDIAL ACTION AND NEW WELLS TO BE INSTALLED FOLLOWING PERFORMANCE OF THE REMEDIAL ACTION.

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - SOIL REMOVAL LIMITS TO ACHIEVE NON-CORRIDOR SCLs

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE 9

SYR-85-JHR NES AMS LAYER: ON=*, OFF=*REF*
V:\ENVCAD\SYRACUSE\ACT\C\B0020985\0002\00006\DWG\FINAL\OFFSITE\20985G17.DWG SAVED:1/14/2011 2:40 PM LAYOUT:9 PAGESETUP:DL2B-PDF PENTABLE:PLTFULL.CTB PRINTED:1/14/2011 2:40 PM BY:LFORAKER
PROJECTNAME: ---- XREFS: IMAGES:
20985X03
20985X00

SEE NOTE 6

15" OUTFALL

18" OUTFALL

SOUHEGAN RIVER

LOT 25-133

LOT 25-10

LOT 25-12

LOT 25-11

LOT 25-11-1

LOT 25-120

LOT 25-118

LOT 25-117

LOT 25-116

LOT 25-63

LOT 25-13

KEYES DRIVE

ELM STREET

COTTAGE STREET

10" CAST IRON PIPE

2 STORY FRAME BUILDING

SPRINKLER CAPPED OFF

SEE NOTE 5

ELEV. 244 (2') B

ELEV. 238 (9') D

ELEV. 238 (11") F

ELEV. 236 (13') G

ELEV. 249 (7') JJ

ELEV. 240 (13') K

ELEV. 243 (11') T

ELEV. 249 (7') II

ELEV. 234.9 (23') V

ELEV. 244 (13') Y

ELEV. 245 (12') Z

ELEV. 248 (9') P4

ELEV. 248 (9') P2

ELEV. 247 (9') P1

ELEV. 250 (9') P3

ELEV. 251 (8') AA1

ELEV. 239 (17') Q

ELEV. 256 (4') R

ELEV. 251 (7') S

ELEV. 255 (6') W1

ELEV. 255 (6') W2

ELEV. 256 (4') M1

ELEV. 262 (3') LL

ELEV. 263 (2') KK

ELEV. 258 (3') MM

ELEV. 258 (3') U

ELEV. 255 (3') RR

ELEV. 251 (8') AA2

WW2 12'

12' WW1

2.5' SS

TT 40"

40" L

40" T

40" U

M2

CC1

CC2

DD

HH1

HH2

NN

LEGEND FOR PRE-DESIGN INVESTIGATION AREA

- PROPERTY LINE
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- INDEX SURFACE ELEVATION CONTOUR
- INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY).
- 4' — DEPTH OF EXCAVATION
- A — EXCAVATION CELL ID
- APPROXIMATE AREA OF PROPOSED COVER SYSTEM
- PROPOSED UTILITY CORRIDORS
- PROPOSED REPLACEMENT STORM SEWER
- POTENTIAL TREE PLANTING CORRIDOR ALREADY SUBJECT TO AT LEAST 4 FEET OF EXCAVATION TO ACHIEVE SUBSURFACE SCL
- POTENTIAL TREE PLANTING CORRIDOR WHERE LESS THAN 4 FEET OF EXCAVATION REQUIRED TO MEET SCLs, SO ADDITIONAL EXCAVATION PROPOSED DEPTH OF 4 FEET
- POTENTIAL TREE CORRIDOR WHERE, BASED ON EXISTING DATA, ADDITIONAL EXCAVATION IS NOT REQUIRED TO ACHIEVE 25 ppm
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1 AND W2 TO CELLS P3, AA1 AND AA2

LEGEND FOR HISTORIC SOIL REMEDIATION AREA

- PRIOR 1-FOOT REMOVAL

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. TITLE TO SHADED AREA IS UNCERTAIN AT THIS TIME. NO BOUNDARY LINE AGREEMENT (REFERRED TO IN THE CHAIN OF TITLE) HAS BEEN FOUND.
6. SHADED AREA AT THE NORTHWEST CORNER OF THE LOT DEPICTS AREA WHICH IS PART OF THE ROAD TO THE KEYES FIELD PARCEL. NO CONVEYANCE TO THE TOWN FOR THIS AREA HAS BEEN FOUND.
7. A SAND AND GRAVEL CAP WAS PREVIOUSLY INSTALLED OVER THE MAJORITY OF THE ELM STREET AREA BY USEPA. DURING THE PDI, THE CAP WAS OBSERVED TO BE APPROXIMATELY ONE FOOT THICK AT MOST LOCATIONS ACROSS THE PROPERTY. AT OTHER LOCATIONS, APPROXIMATE CAP THICKNESSES WERE MEASURED AS FOLLOWS: 1.5 FEET AT EB-15SE, G06, M12, N18, O16, Q10, Q12E, Q16N, Q18, AND S14; TWO FEET AT O14, O18, AND Q12; FOUR FEET AT M16; FIVE FEET AT S18; AND UP TO SIX FEET ALONG THE CEMETERY WALL AS MEASURED AT P18E. THE SAND AND GRAVEL CAP WILL BE REMOVED DURING THE SITE PREPARATION PHASE.
8. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.
9. EXCAVATION CELLS WITH NO ELEVATION REFERENCE SHALL BE EXCAVATED TO THE DESIGNATED DEPTH AS MEASURED FROM GROUND SURFACE OR THE GEOTEXTILE LAYER (IF WITHIN THE SAND CAP).

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - COMBINED LIMITS OF EXCAVATION

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
11

SYR-BS-JHR LAF AMS LAYER: 0\|=*, OFF=*REF*, \|X01 TEXT*, \|XUST*, \|XMISC*, \|XOUTFALL*, \|X-U-INFERRED*, \|XUSTORM, \XUWATER
V:\ENVCAD\SYRACUSE\ACT\G\B0026985\0002\D0006\DWG\FINAL\OFFSITE\209885G10.DWG SAVED:1/14/2011 2:38 PM LAYOUT:11 PAGESETUP:DL2B-PDF
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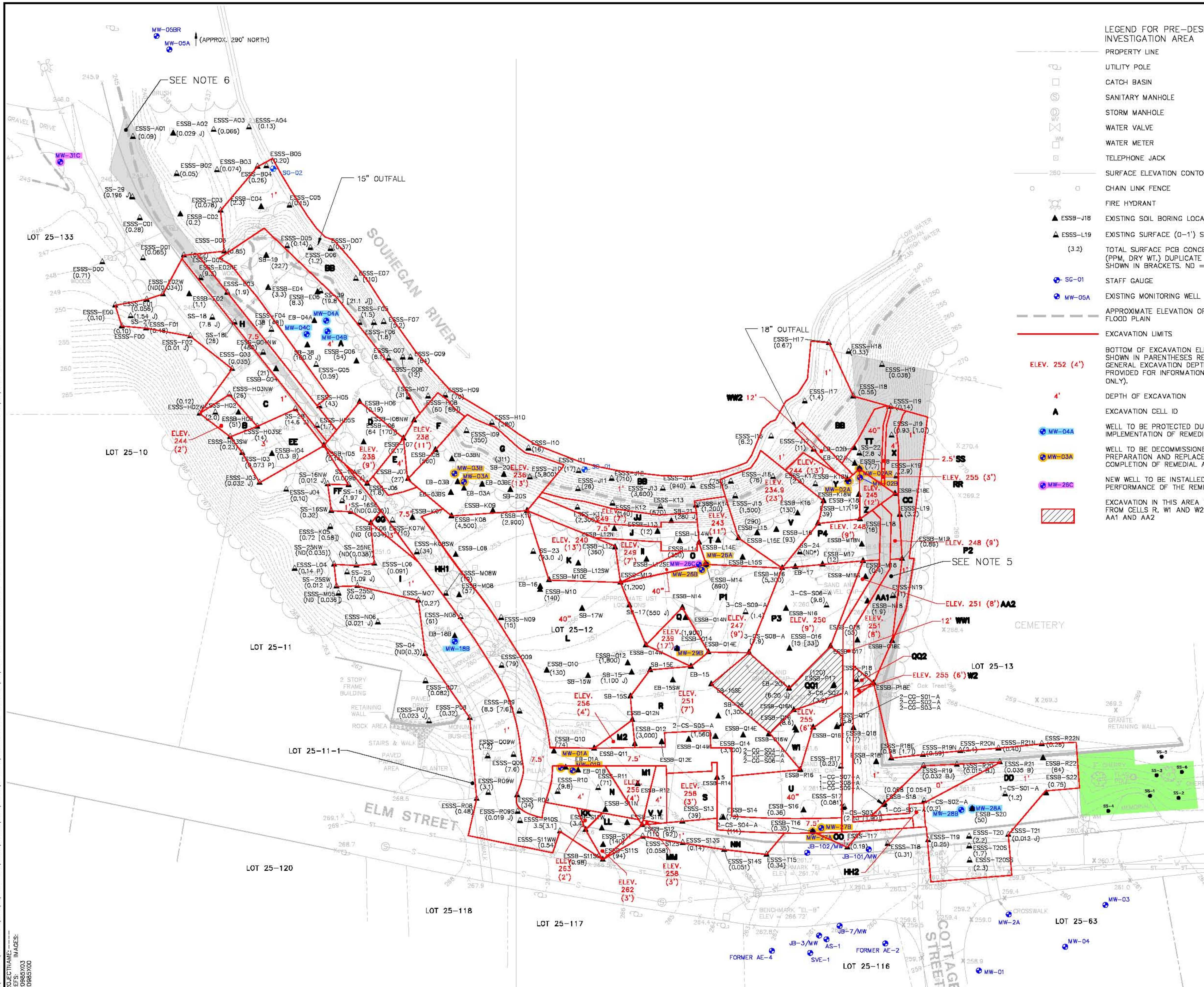
209885X00



DRAFT
FOR EPA REVIEW

LEGEND FOR PRE-DESIGN INVESTIGATION AREA

- PROPERTY LINE
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- 280 SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- ESSB-J18 EXISTING SOIL BORING LOCATION
- ESSS-L19 EXISTING SURFACE (0-1') SOIL LOCATION
- (3.2) TOTAL SURFACE PCB CONCENTRATION (PPM, DRY WT.) DUPLICATE RESULTS SHOWN IN BRACKETS. ND = NON-DETECT.
- SG-01 STAFF GAUGE
- MW-05A EXISTING MONITORING WELL
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- ELEV. 252 (4') BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY).
- 4' DEPTH OF EXCAVATION
- A EXCAVATION CELL ID
- MW-04A WELL TO BE PROTECTED DURING IMPLEMENTATION OF REMEDIAL ACTION
- MW-03A WELL TO BE DECOMMISSIONED DURING SITE PREPARATION AND REPLACED UPON COMPLETION OF REMEDIAL ACTION
- MW-26C NEW WELL TO BE INSTALLED FOLLOWING PERFORMANCE OF THE REMEDIAL ACTION
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1 AND W2 TO CELLS P3, AA1 AND AA2

LEGEND FOR HISTORIC SOIL REMEDIATION AREA

- SS-1 ESE GRAB SAMPLE LOCATION
- 1-FOOT REMOVAL

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. TITLE TO SHADED AREA IS UNCERTAIN AT THIS TIME. NO BOUNDARY LINE AGREEMENT (REFERRED TO IN THE CHAIN OF TITLE) HAS BEEN FOUND.
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7. A SAND AND GRAVEL CAP WAS PREVIOUSLY INSTALLED OVER THE MAJORITY OF THE ELM STREET AREA BY USEPA. DURING THE PDI, THE CAP WAS OBSERVED TO BE APPROXIMATELY ONE FOOT THICK AT MOST LOCATIONS ACROSS THE PROPERTY. AT OTHER LOCATIONS, APPROXIMATE CAP THICKNESSES WERE MEASURED AS FOLLOWS: 1.5 FEET AT EB-15SE, G06, M12, N18, O16, Q10, Q12E, Q16N, Q18, AND S14; TWO FEET AT O14, O18, AND Q12; FOUR FEET AT M16; FIVE FEET AT S18; AND UP TO SIX FEET ALONG THE CEMETERY WALL AS MEASURED AT P18E. THE SAND AND GRAVEL CAP WILL BE REMOVED DURING THE SITE PREPARATION PHASE.
8. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - MONITORING WELLS SUBJECT TO DECOMMISSIONING/PROTECTION/INSTALLATION ACTIVITIES

ARCADIS BBL
infrastructure, environment, facilities

FIGURE
14

SYR-85-NEW LAF AMS LAYER: ON=*, OFF=*REF* [X01 TEXT* [XOUTFALL*
V:\ENVCAD\SYRACUSE\ACT\C\B0020985\0002\00006\DWG\FINAL\OFFSITE\20985G18.DWG SAVED:1/14/2011 2:41 PM LAYOUT:14 PAGESETUP:DL2B-PDF PENTABLE:PLTFULL.CTB PRINTED:1/14/2011 2:42 PM BY:LFORAKER
PROJECTNAME: ---- XREFS: IMAGES: 20985X03 20985X00

Each composite confirmation soil sample will be submitted for PCB analysis using EPA Method 8082A. Each composite soil sample will be submitted to the analytical laboratory with a quick turn-around-time. The data for the confirmation soil samples will be evaluated using the procedures specified in Section 4 for the applicable analyses.

2.5 Elm Street Area Confirmation Sampling Plan – Excavation Bottoms

This section provides specific details regarding the scope of the confirmation soil sampling activities for excavation bottoms at the Elm Street Area, based upon the design of the confirmation sampling plan, as described in Section 2.4. It should be noted that the excavation bottom sampling proposed in this section represents a conceptual approach and is based on the assumption that such sampling can be performed in a safe manner. Should conditions at the Site result in concerns regarding the ability of sample collection personnel to safely enter an excavation to perform the specified sampling, the scope of sampling activities will need to be modified accordingly, which could include the elimination of certain samples.

2.5.1 Overview

The Elm Street Area consists of 57 individual excavation cells (Figure A-1), totaling approximately 100,300 square feet. As indicated in Section 2.3, several excavation cells will not require confirmation soil sampling since those cells are either proposed for excavation to the seasonal low water table (the maximum depth for which excavation activities are required at the Elm Street Area under the ROD) or at least 2 feet of additional excavation (beyond that proposed to achieve the SCLs) is proposed to facilitate installation of the engineered cover system, establishment of the utility and tree planting corridors, and/or excavation sloping. The areas which are not subject to confirmation soil sampling are shaded in purple on Figure A-3. After eliminating these excavation cells, or portions thereof, 41 excavation cells remain with a total surface area of approximately 72,020 square feet subject to confirmation soil sampling activities at Elm Street Area (Table A-1). This square footage indicates the total excavation bottoms subject to confirmation soil sampling.

2.5.2 Identification of Verification Areas

Upon determination of the excavation cell bottoms that are subject to confirmation soil sampling, the excavation cells (or portions thereof) were grouped to form verification areas with approximately the same excavation bottom square footage, as indicated in

Section 2.4.1. To utilize the equal area weighting approach, 10 verification areas were developed, with each verification area representing approximately 10% of the total square footage of excavation bottoms subject to confirmation sampling. These verification areas are illustrated on Figure A-6.

2.5.3 Sample Size Determination

The number of samples required for each verification area is 10, as indicated in Table A-2. Therefore, 100 total confirmation soil samples are proposed for the excavation cell bottoms at the Elm Street Area, as illustrated on Figure A-7.

2.5.4 Area Weighting

As indicated in Section 2.4.2, the excavation cells comprising each verification area were weighted based upon the percentage of the total excavation cell bottom square footage within the verification area that the bottom of each excavation cell represented. This weighting of the excavation cells, presented in Table A-2, was the basis for determining the quantity of confirmation soil samples that are required within each excavation cell.

2.5.5 Random Sample Selection

The starting point for the identification of the locations subject to confirmation sampling was randomly determined using the procedures specified in Section 2.4.3. Upon determination of this starting point, the sampling grid utilized for each excavation cell was determined as further discussed below.

2.5.6 Sample Grids

The next step in the identification of the confirmation soil sampling locations involved the development of sampling grids in accordance with the procedures specified in Section 2.4.4. Table A-2 presents the results of the calculations related to the sample grids for the excavation cells within each verification area. Figures A-8 through A-17 present the sampling grids that were overlain upon each excavation cell within each verification area.

TABLE A-1
ELM STREET AREA - VERIFICATION SAMPLING AREAS

VERIFICATION SAMPLING PLAN
FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE

Excavation Cell	Post Excavation Area (sq. feet)	% Site Area	Excavation Cell Designation	Verification Area Designation	Cell Area	% of Verification Area	Verification Area % of Site[1]
A	12,225.49	16.4	A1	1	8,693.26	NA	12.1
			A2	2	3,532.23	49.1	
B	459.50	0.6	B	2	459.50	6.4	
C	617.66	0.8	C	2	617.66	8.6	
D	1,247.28	1.7	D	2	1,247.28	17.3	
E	606.85	0.8	E	3	606.85	8.7	
F	914.30	1.2	F	3	914.30	13.1	
G	3,499.60	4.7	G	3	3,499.60	50.0	
H	6,045.70	8.1	H1	4	5,558.88	88.6	
			H2	3	486.82	6.7	
I	6,657.71	8.9	I	5	6,657.71	91.9	9.2
J	1,541.62	2.1	J	6	1,541.62	22.2	
K	1,491.50	2.0	K	3	1,491.50	21.3	9.7
L	1,338.94	1.8	L	2	1,338.94	18.6	10.0
M	713.74	1.0	M1	4	140.78	2.2	
			M2	4	572.95	9.1	8.7
N	251.62	0.3	N	7	251.62	3.8	
O	182.01	0.2	O	6	182.01	2.6	
P1	3,405.60	4.6	P1	6	3,405.60	48.9	
P2	3,052.13	4.1	P2	8	3,052.13	41.3	
P3	1,439.37	1.9	P3A	8	1,194.25	16.1	
			P3B	8	245.12	3.3	
Q	687.12	0.9	Q	6	687.12	9.9	
R	4,125.80	5.5	R	7	4,125.80	63.0	
S	1,177.53	1.6	S	7	1,177.53	18.0	
T	1,142.19	1.5	T	6	1,142.19	16.4	9.7
U	8,177.78	11.0	U1	7	1,148.55	17.5	
			U2	10	6,897.40	98.1	
			U3	10	131.83	1.9	9.8
V	2,627.54	3.5	V	--	--	--	--
W	732.55	1.0	W1	8	701.16	9.5	
			W2	8	31.40	0.4	
X	4,843.09	6.5	X1	9	3,589.06	44.8	
			X2	9	1,254.03	15.6	
Y	1,049.95	1.4	Y	9	1,049.95	13.1	
Z	335.79	0.4	Z	9	335.79	4.2	
AA	1,589.08	2.1	AA1	9	381.98	4.8	
			AA2	9	1,207.10	15.1	
BB	2,171.90	2.9	BB1	8	2,080.16	28.1	
			BB2	8	91.74	1.2	10.3
CC	97.09	0.1	CC	7	97.09	1.5	9.4
DD	199.11	0.3	DD	9	199.11	2.5	11.1
Total Area:	**74,647.12**				**72,019.58**		

Notes:
1. The values in this column represent the sum of all excavation cells within a verification area, expressed as a percentage of the total excavation area subject to confirmation sampling at the Elm Street Area.
2. ft = Feet.
3. sq. feet = Square feet.
4. -- = Excavation cell V is not required to have confirmatory sampling performed and is not considered in this evaluation.
5. NA = Not applicable, as this excavation cell only has one sample required.

TABLE A-2
ELM STREET AREA - COMPOSITE SAMPLE GRID SIZES

VERIFICATION SAMPLING PLAN
FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE

Excavation Cell	Post Excavation Area (sq. feet)	10% Area (sq. feet)	Square Grid Length (ft)	Grid Area (sq. feet)	Number of Sample Grids	% Area Sampled
A1	8,693.26	869.33	10	100	10	11.5
A2	3,532.23	353.22	10	100	4	11.3
B	459.50	45.95	7	49	1	10.7
C	617.66	61.77	6	36	2	11.7
D	1,247.28	124.73	12	144	1	11.5
E	606.85	60.69	8	64	1	10.5
F	914.30	91.43	7	49	2	10.7
G	3,499.60	349.96	10	100	4	11.4
H1	5,558.88	555.89	9	81	8	11.7
H2	486.82	48.68	7	49	1	10.1
I	6,657.71	665.77	9	81	10	12.2
J	1,541.62	154.16	9	81	2	10.5
K	1,491.50	149.15	9	81	2	10.9
L	1,338.94	133.89	9	81	2	12.1
M1	140.78	14.08	4	16	1	11.4
M2	572.95	57.30	8	64	1	11.2
N	251.62	25.16	6	36	1	14.3
O	182.01	18.20	5	25	1	13.7
P1	3,405.60	340.56	9	81	5	11.9
P2	3,052.13	305.21	10	100	2	6.6
P3A	1,194.25	119.43	11	121	1	10.1
P3B	245.12	24.51	5	25	1	10.2
Q	687.12	68.71	9	81	1	11.8
R	4,125.80	412.58	11	121	4	11.7
S	1,177.53	117.75	8	64	2	10.9
T	1,142.19	114.22	11	121	1	10.6
U1	1,148.55	114.86	8	64	2	11.1
U2	6,897.40	689.74	9	81	9	10.6
U3	131.83	13.18	4	16	1	12.1
V	--	--	--	--	--	--
W1	701.16	70.12	9	81	1	11.6
W2	31.40	3.14	2	4	1	12.7
X1	3,589.06	358.91	11	121	3	10.1
X2	1,254.03	125.40	12	144	1	11.5
Y	1,049.95	104.99	11	121	1	11.5
Z	335.79	33.58	6	36	1	10.7
AA1	381.98	38.20	7	49	1	12.8
AA2	1,207.10	120.71	8	64	2	10.6
BB1	2,080.16	208.02	9	81	3	11.7
BB2	91.74	9.17	4	16	1	17.4
CC	97.09	9.71	4	16	1	16.5
DD	199.11	19.91	5	25	1	12.6
Total Area:	**72,019.58**					

Notes:
1. ft = Feet.
2. sq. feet = Square feet.
3. -- = Excavation cell V is not required to have confirmatory sampling performed and is not considered in this evaluation.
4. Grid size was rounded to the nearest foot.

SEE NOTE 6

15" OUTFALL

18" OUTFALL

SEE NOTE 5

SOUHEGAN RIVER

LOT 25-133

LOT 25-10

LOT 25-12

LOT 25-11

LOT 25-11-1

LOT 25-120

LOT 25-118

LOT 25-117

LOT 25-116

LOT 25-63

LOT 25-13

KEYES DRIVE

ELM STREET

COTTAGE STREET

10" CAST IRON PIPE

2 STORY FRAME BUILDING

SPRINKLER CAPPED OFF

A 4'
B ELEV. 244 (2')
C 1'
D ELEV. 238 (9')
E 4'
F ELEV. 238 (11')
G ELEV. 236 (13')
H 7.5'
I 1'
J 7.5'
K ELEV. 240 (13')
L 40"
M1 ELEV. 256 (4')
M2
N 4'
O 7'
P1
P2 ELEV. 248 (9')
P3 ELEV. 250 (9')
P4 ELEV. 248 (9')
Q ELEV. 239 (17')
R ELEV. 251 (7')
S ELEV. 258 (3')
T
U 40"
V ELEV. 234.9 (23')
W1
W2 ELEV. 255 (5')
X 4"
Y ELEV. 244 (13')
Z ELEV. 249 (12')
AA1 ELEV. 251 (8')
AA2 ELEV. 251 (8')
BB
CC
DD
EE 3'
FF 1'
GG 3'
HH1
HH2
II
JJ ELEV. 240 (7')
KK
LL ELEV. 262 (3')
MM ELEV. 258 (3')
NN 1'
OO 1'
PP
QQ1
QQ2
RR ELEV. 255 (3')
SS 2.5'
TT 40"
WW1 12'
WW2 12'

LEGEND:

- PROPERTY LINE
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- INDEX SURFACE ELEVATION CONTOUR
- INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- PRIOR 1-FOOT REMOVAL
- EXCAVATION LIMITS
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY).
- 4' — DEPTH OF EXCAVATION
- A — EXCAVATION CELL ID
- APPROXIMATE AREA OF PROPOSED COVER SYSTEM
- PROPOSED UTILITY CORRIDORS
- PROPOSED REPLACEMENT STORM SEWER
- POTENTIAL TREE PLANTING CORRIDOR ALREADY SUBJECT TO AT LEAST 4 FEET OF EXCAVATION TO ACHIEVE SUBSURFACE SCL
- POTENTIAL TREE PLANTING CORRIDOR WHERE LESS THAN 4 FEET OF EXCAVATION REQUIRED TO MEET SCLs, SO ADDITIONAL EXCAVATION PROPOSED TO A DEPTH OF 4 FEET
- POTENTIAL TREE CORRIDOR WHERE, BASED ON EXISTING DATA, ADDITIONAL EXCAVATION IS NOT REQUIRED TO ACHIEVE 25 ppm
- SOLDIER PILE AND LAGGING SUPPORT
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1 AND W2 TO CELLS P3, AA1 AND AA2

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. TITLE TO SHADED AREA IS UNCERTAIN AT THIS TIME. NO BOUNDARY LINE AGREEMENT (REFERRED TO IN THE CHAIN OF TITLE) HAS BEEN FOUND.
6. SHADED AREA AT THE NORTHWEST CORNER OF THE LOT DEPICTS AREA WHICH IS PART OF THE ROAD TO THE KEYES FIELD PARCEL. NO CONVEYANCE TO THE TOWN FOR THIS AREA HAS BEEN FOUND.
7. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - EXCAVATION LIMITS AND STRUCTURAL SUPPORTS

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
A-1

SYR-85-4HR LAF AMS LAYER: ON=*; OFF=*REF*
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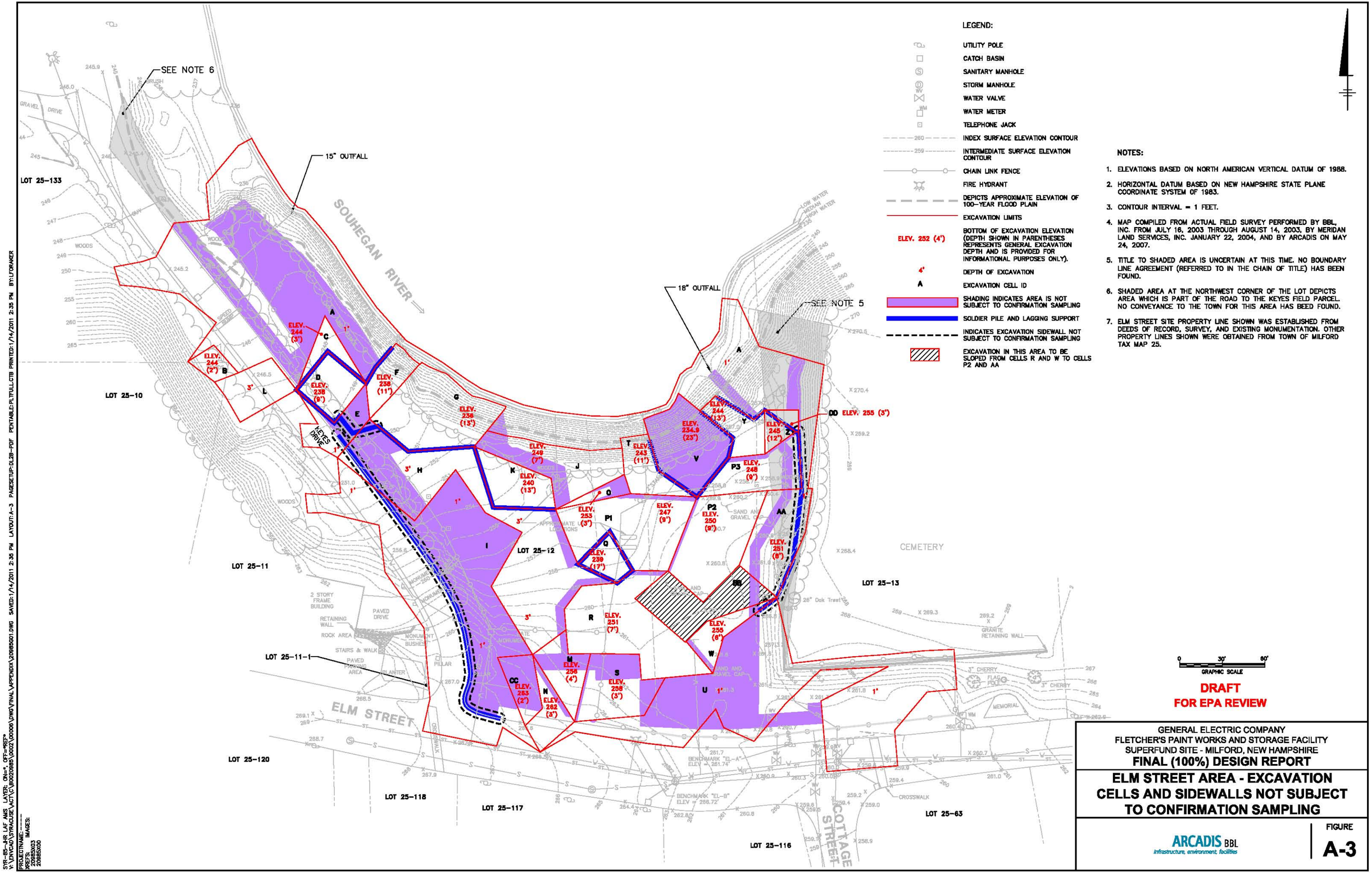

LEGEND:

- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- INDEX SURFACE ELEVATION CONTOUR
- INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- DEPICTS APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY).
- 4' — DEPTH OF EXCAVATION
- A — EXCAVATION CELL ID
- SHADING INDICATES AREA IS NOT SUBJECT TO CONFIRMATION SAMPLING
- SOLDIER PILE AND LAGGING SUPPORT
- INDICATES EXCAVATION SIDEWALL NOT SUBJECT TO CONFIRMATION SAMPLING
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R AND W TO CELLS P2 AND AA

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. TITLE TO SHADED AREA IS UNCERTAIN AT THIS TIME. NO BOUNDARY LINE AGREEMENT (REFERRED TO IN THE CHAIN OF TITLE) HAS BEEN FOUND.
6. SHADED AREA AT THE NORTHWEST CORNER OF THE LOT DEPICTS AREA WHICH IS PART OF THE ROAD TO THE KEYES FIELD PARCEL. NO CONVEYANCE TO THE TOWN FOR THIS AREA HAS BEED FOUND.
7. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - EXCAVATION CELLS AND SIDEWALLS NOT SUBJECT TO CONFIRMATION SAMPLING

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
A-3

SYR-85-JHR LAF AMS LAYER: ON(*), OFF(*REF*)
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LOT 25-133

LOT 25-10

LOT 25-11

LOT 25-11-1

LOT 25-12

LOT 25-13

LOT 25-120

LOT 25-118

LOT 25-117

LOT 25-116

LOT 25-63

15" OUTFALL

18" OUTFALL

SOUHEGAN RIVER

ELM STREET

KEYES DRIVE

COTTAGE STREET

CEMETERY

A1 A2 B C D E F G H1 H2 I J K L M1 M2 N O P1 P2 P3A P3B Q R S T U1 U2 U3 V W1 W2 X1 X2 Y Z AA1 AA2 BB1 BB2 CC DD

LEGEND:

- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- 260 INDEX SURFACE ELEVATION CONTOUR
- 259 INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- DEPICTS APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- A EXCAVATION CELL ID
- INDICATES AREA IS NOT SUBJECT TO CONFIRMATION SAMPLING
- SOLDIER PILE AND LAGGING SUPPORT
- INDICATES EXCAVATION SIDEWALL NOT SUBJECT TO CONFIRMATION SAMPLING
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1 AND W2 TO CELLS P2, AA1 AND AA2
- VERIFICATION AREA 1
- VERIFICATION AREA 2
- VERIFICATION AREA 3
- VERIFICATION AREA 4
- VERIFICATION AREA 5
- VERIFICATION AREA 6
- VERIFICATION AREA 7
- VERIFICATION AREA 8
- VERIFICATION AREA 9
- VERIFICATION AREA 10

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - VERIFICATION AREAS

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
A-6

SYR-BS-JHR LAF AMS LAYER: ON=*; OFF=*REF*
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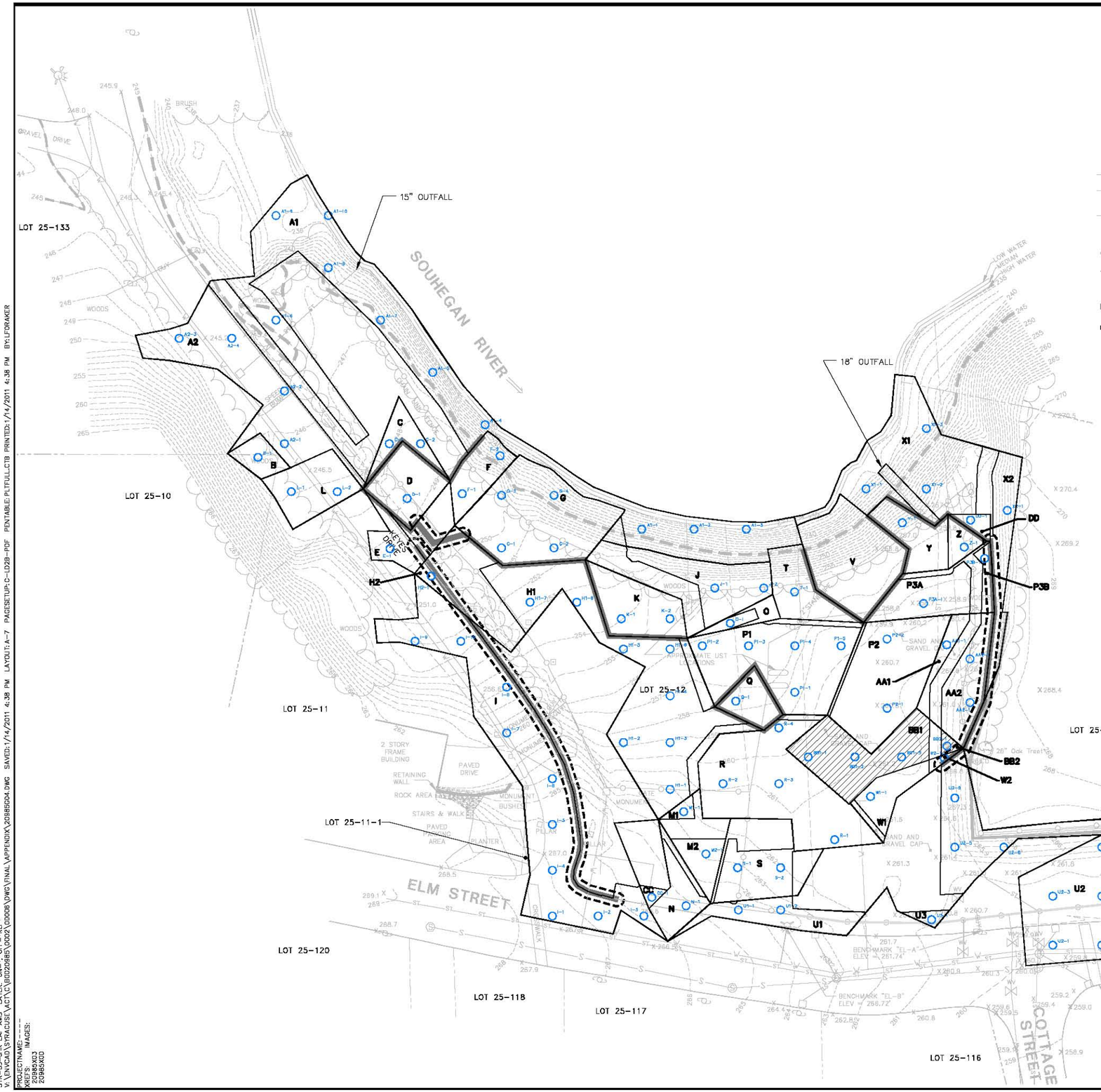

LEGEND:

- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- 260 — INDEX SURFACE ELEVATION CONTOUR
- 259 — INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- DEPICTS APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- A — EXCAVATION CELL ID
- SOLDIER PILE AND LAGGING SUPPORT
- INDICATES EXCAVATION SIDEWALL NOT SUBJECT TO CONFIRMATORY SAMPLING
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1 AND W2 TO CELLS P2, AA1 AND AA2
- PROPOSED SAMPLE LOCATION

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - SAMPLE GRID AND PROPOSED CONFIRMATORY SAMPLE LOCATIONS

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
A-7

SYR-85-JHR LAF AMS LAYER: ON=*; OFF=*REF*
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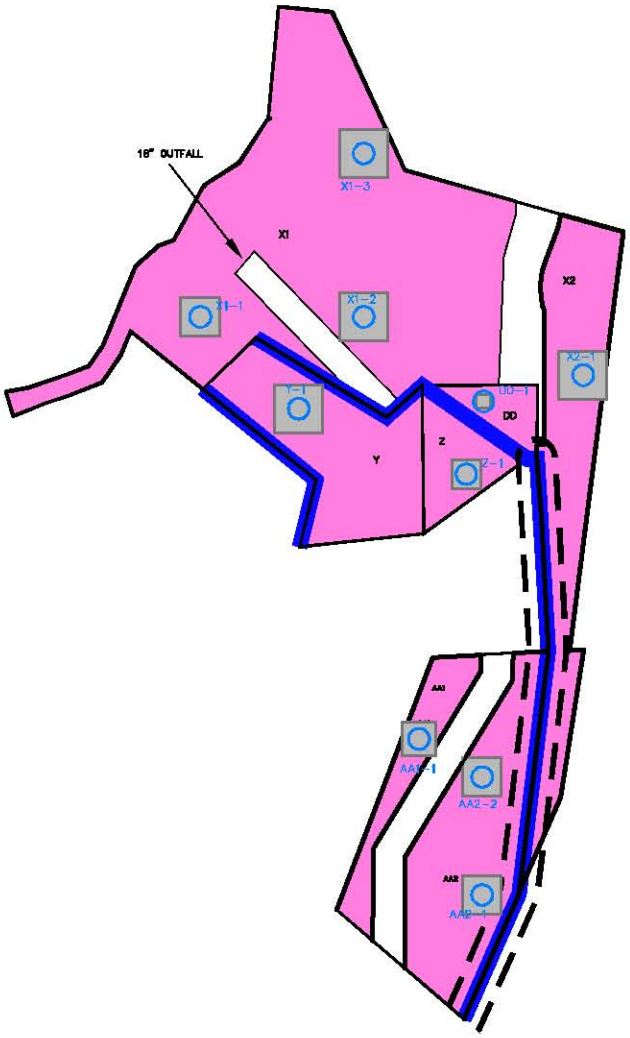


LEGEND:

- EXCAVATION LIMITS
- SOLDIER PILE AND LAGGING SUPPORT
- INDICATES EXCAVATION SIDEWALL NOT SUBJECT TO CONFIRMATORY SAMPLING
- X2 — EXCAVATION CELL ID
- PROPOSED SAMPLE LOCATION

DRAFT
FOR EPA REVIEW

0 40' 80'

GRAPHIC SCALE

NOTES:

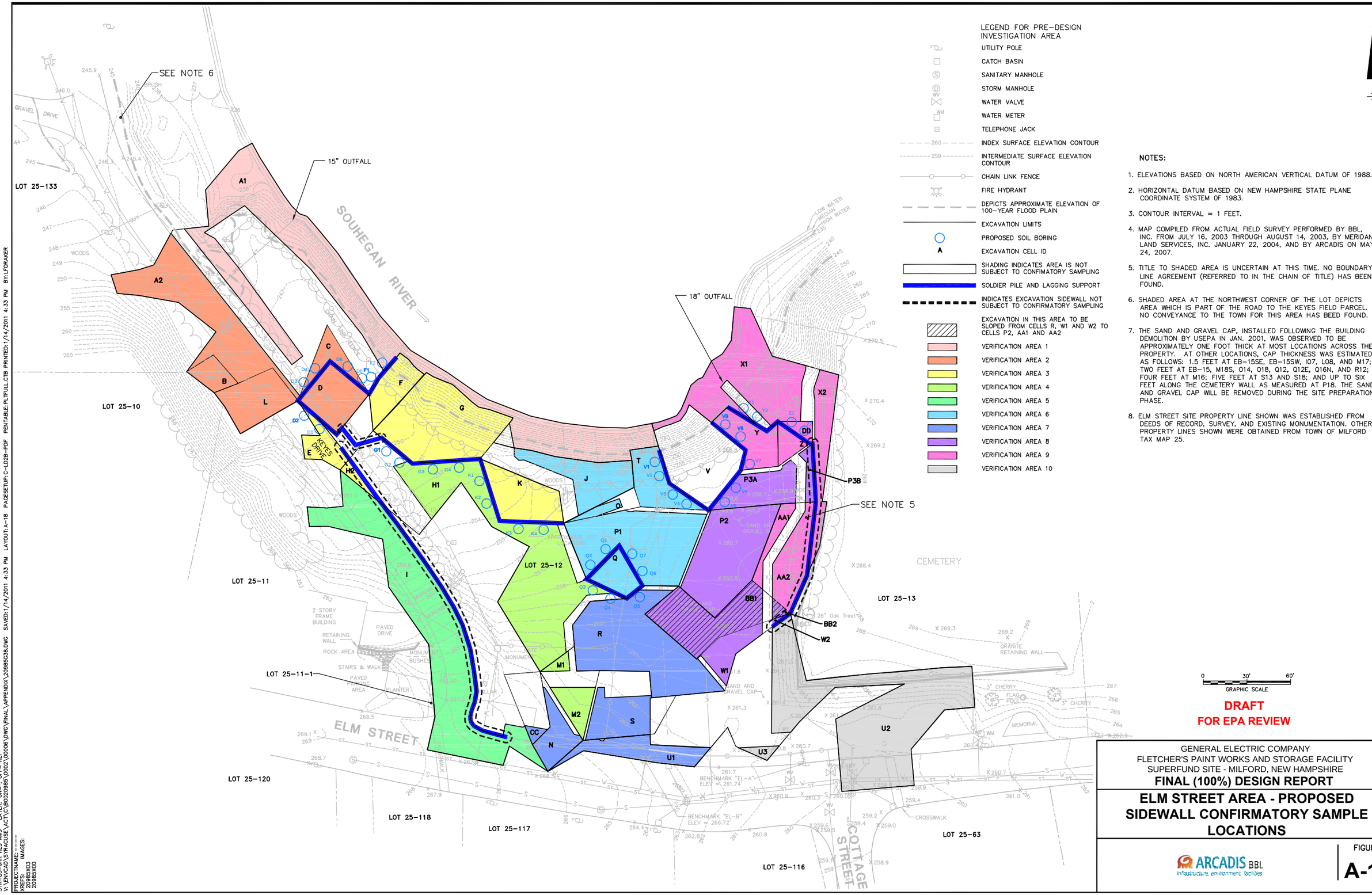
1. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
2. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHITE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - VERIFICATION AREA 9

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
A-16



LEGEND FOR PRE-DESIGN INVESTIGATION AREA

- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- 260 INDEX SURFACE ELEVATION CONTOUR
- 259 INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- DEPICTS APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- PROPOSED SOIL BORING
- A EXCAVATION CELL ID
- SHADING INDICATES AREA IS NOT SUBJECT TO CONFIMATORY SAMPLING
- SOLDIER PILE AND LAGGING SUPPORT
- INDICATES EXCAVATION SIDEWALL NOT SUBJECT TO CONFIRMATORY SAMPLING
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1 AND W2 TO CELLS P2, AA1 AND AA2
- VERIFICATION AREA 1
- VERIFICATION AREA 2
- VERIFICATION AREA 3
- VERIFICATION AREA 4
- VERIFICATION AREA 5
- VERIFICATION AREA 6
- VERIFICATION AREA 7
- VERIFICATION AREA 8
- VERIFICATION AREA 9
- VERIFICATION AREA 10

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. TITLE TO SHADED AREA IS UNCERTAIN AT THIS TIME. NO BOUNDARY LINE AGREEMENT (REFERRED TO IN THE CHAIN OF TITLE) HAS BEEN FOUND.
6. SHADED AREA AT THE NORTHWEST CORNER OF THE LOT DEPICTS AREA WHICH IS PART OF THE ROAD TO THE KEYES FIELD PARCEL. NO CONVEYANCE TO THE TOWN FOR THIS AREA HAS BEED FOUND.
7. THE SAND AND GRAVEL CAP, INSTALLED FOLLOWING THE BUILDING DEMOLITION BY USEPA IN JAN. 2001, WAS OBSERVED TO BE APPROXIMATELY ONE FOOT THICK AT MOST LOCATIONS ACROSS THE PROPERTY. AT OTHER LOCATIONS, CAP THICKNESS WAS ESTIMATED AS FOLLOWS: 1.5 FEET AT EB-15SE, EB-15SW, I07, L08, AND M17; TWO FEET AT EB-15, M18S, O14, O18, Q12, Q12E, Q16N, AND R12; FOUR FEET AT M16; FIVE FEET AT S13 AND S18; AND UP TO SIX FEET ALONG THE CEMETERY WALL AS MEASURED AT P18. THE SAND AND GRAVEL CAP WILL BE REMOVED DURING THE SITE PREPARATION PHASE.
8. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.

0 30' 60'
GRAPHIC SCALE

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET AREA - PROPOSED SIDEWALL CONFIRMATORY SAMPLE LOCATIONS

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
A-18

SYR-85--JHR KLS AMS LAYER: ON=*, OFF=*REF*
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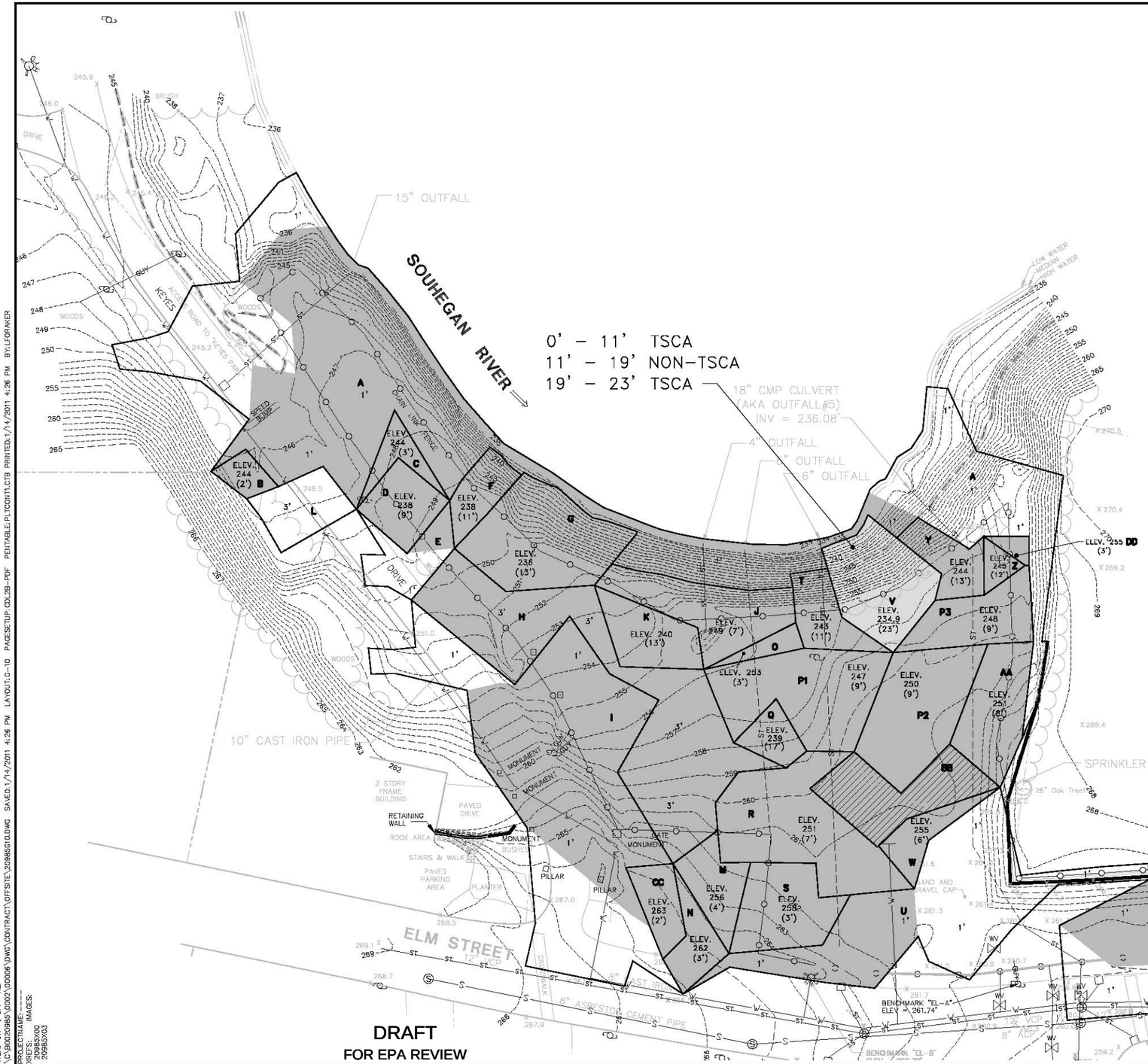

LEGEND:

- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- 260 — INDEX SURFACE ELEVATION CONTOUR
- 259 — INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- FIRE HYDRANT
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- EXCAVATION LIMITS
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY)
- 4' — DEPTH OF EXCAVATION (AS MEASURED FROM BOTTOM OF SAND CAP) (SEE NOTES 6 AND 7)
- A — EXCAVATION CELL ID
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R AND W TO CELLS P2 AND AA
- LIMITS OF NON-TSCA MATERIAL
- LIMITS OF TSCA MATERIAL
- LIMITS OF NON-TSCA AND TSCA MATERIAL

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. SEE DRAWING G-12 FOR FINAL SOIL REMOVAL LIMITS.
6. A SACRIFICIAL GEOTEXTILE LAYER AND A SAND CAP EXISTS OVER A MAJORITY OF THE SITE. CONTRACTOR SHALL REMOVE SAND CAP (TO WITHIN 3-INCHES OF THE GEOTEXTILE) AND STOCKPILE SAND ON-SITE FOR CONFIRMATION SOIL SAMPLING AND USE AS BACKFILL. THE THICKNESS OF THE SAND CAP VARIES ACROSS THE SITE AND IS DISCUSSED ON FIGURE 9 OF THE FINAL (100%) DESIGN REPORT.
7. EXCAVATION CELLS WITH NO ELEVATION REFERENCE SHALL BE EXCAVATED TO THE DESIGNATED DEPTH AS MEASURED FROM GROUND SURFACE OR THE GEOTEXTILE LAYER (IF WITHIN THE SAND CAP).
8. FOR CLARITY, NOT ALL EXISTING FEATURES ARE SHOWN. SEE DRAWING G-2 FOR ALL EXISTING SITE FEATURES AND CONDITIONS.
9. SEE S-SERIES DRAWINGS FOR SLOPING AND EXCAVATION SUPPORT REQUIREMENTS.

DRAFT
FOR EPA REVIEW

ORIGINAL SCALE APPLIES TO 22"X34" DRAWING
30' 0 30' 60'
1"=30'

THIS DRAWING WAS PREPARED AT THE SCALE(S) INDICATED. INACCURACIES IN THE STATED SCALE(S) MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED.
USE THE GRAPHIC SCALE BAR(S) TO DETERMINE THE ACTUAL SCALE(S) OF THIS DRAWING.

No.	Date	Revisions	Init

Professional Engineer's Name	LOWELL W. McBURNEY
Professional Engineer's No.	10767
State	NEW HAMPSHIRE
Date Signed	
Project Mgr.	CRA
Designed by	ACB
Drawn by	LAF

ARCADIS BBL
Infrastructure, environment, facilities

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

SOIL REMOVAL LIMITS (TO ACHIEVE NON-CORRIDOR SCLs) - ELM STREET AREA

ARCADIS Project No.	209.85
Date	NOVEMBER 2010

ARCADIS of New York, Inc.
6723 Towpath Road
Syracuse, NY 13214
315-446-9120

G-10

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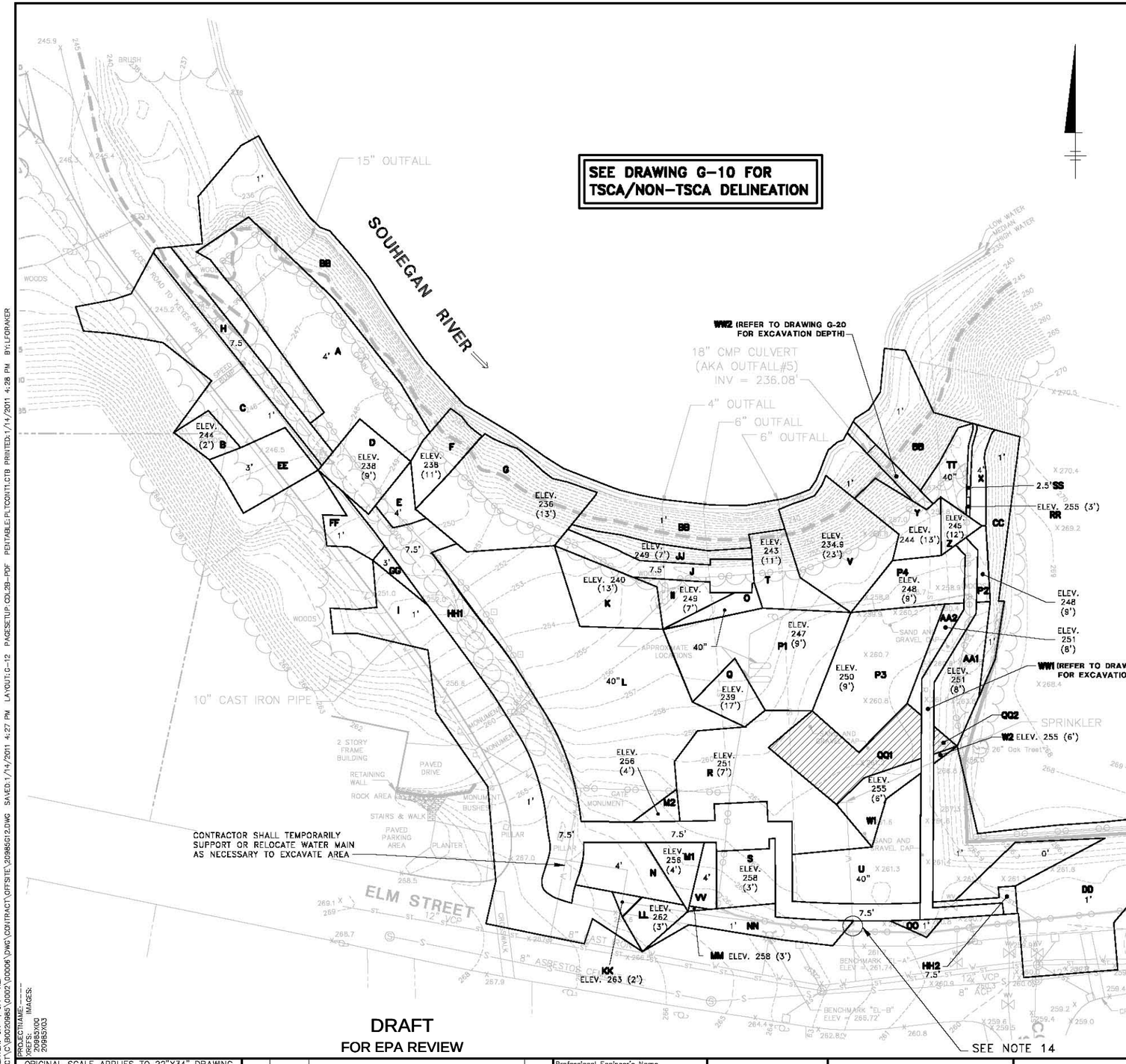


DRAFT

FOR EPA REVIEW

LEGEND:

- INDEX SURFACE ELEVATION CONTOUR
- INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- JERSEY WALL BARRIER WITH CHAIN LINK FENCE
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- INFERRED UTILITY LOCATIONS
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN (245)
- EDGE OF PAVEMENT
- PROPERTY LINE
- RIGHT-OF-WAY
- EXISTING EDGE OF WATER
- EXCAVATION LIMITS
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY)
- 4' — DEPTH OF EXCAVATION (AS MEASURED FROM BOTTOM OF SAND CAP) (SEE NOTES 17 AND 18)
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- FIRE HYDRANT
- ASBESTOS CONCRETE PIPE
- VITRIFIED CLAY PIPE
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1, AND W2 TO CELLS P3, AA1, AND AA2

NOTES:

1. REFER TO SHEETS G-1 AND G-2 FOR GENERAL NOTES PERTAINING TO BASE MAPPING, CONTRACT REQUIREMENTS, AND SITE INFORMATION.
2. LOCATIONS OF EXISTING STRUCTURES AND EXCAVATION AREAS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO CONSTRUCTION ACTIVITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING, PROTECTING, AND RELOCATING (AS NECESSARY) ALL UTILITIES (OVERHEAD AND UNDERGROUND) THAT MAY BE IMPACTED BY CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR SHALL CONTROL DUST, VAPORS, AND ODORS THAT RESULT FROM THE REMEDIAL ACTIVITIES TO MEET ESTABLISHED AMBIENT STANDARDS.
5. THE CONTRACTOR SHALL UTILIZE DRY SOILS EXCAVATED FROM ABOVE THE WATER TABLE TO AUGMENT WET SOIL EXCAVATED FROM BELOW THE WATER TABLE. REFER TO DETAIL 2 ON SHEET G-28.
6. SILT FENCING AND OTHER SEDIMENT AND EROSION CONTROL MEASURES SHALL BE ESTABLISHED AND MAINTAINED BY THE CONTRACTOR AS REQUIRED OR SPECIFIED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEGREGATING EXCAVATED TSCA AND NON-TSCA MATERIAL AS SHOWN ON DRAWING G-10. EXCAVATED SOILS CONTAINING TOTAL PCBS AT CONCENTRATIONS GREATER THAN OR EQUAL TO 50 mg/Kg SHALL BE HANDLED AS TSCA MATERIAL, AND DISPOSED OF AT AN OFF-SITE DISPOSAL FACILITY PERMITTED TO RECEIVE TSCA WASTE (E.G., WMI – MODEL CITY, NY). EXCAVATED SOILS CONTAINING TOTAL PCBS AT CONCENTRATIONS LESS THAN 50 mg/Kg MAY BE HANDLED AS NON-TSCA MATERIAL, AND DISPOSED OF AT AN OFF-SITE DISPOSAL FACILITY PERMITTED TO RECEIVE NON-HAZARDOUS WASTE (E.G., WMI – ROCHESTER, NH). ALL DISPOSAL FACILITIES MUST BE APPROVED BY GE AND EPA PRIOR TO SHIPMENT. IN ADDITION, ALL EXCAVATED MATERIAL SHALL BE PROCESSED/REDUCED IN SIZE, AS NECESSARY, TO FACILITATE PLACEMENT INTO TRANSPORTATION CONTAINERS AND TO MEET THE APPROPRIATE SIZING REQUIREMENTS AS DIRECTED BY THE RESPECTIVE DISPOSAL FACILITIES. FURTHERMORE, UNLESS DIRECT LOADED, EXCAVATED MATERIAL SHALL BE STAGED IN A LINED TEMPORARY STAGING AREA TO FACILITATE MATERIAL MIXING AND DEWATERING, AS NECESSARY TO CONDITION THE MATERIAL FOR OFF-SITE TRANSPORTATION AND DISPOSAL (REFER TO DETAIL 2 ON SHEET G-28).
8. WATER GENERATED DURING EXCAVATION ACTIVITIES INCLUDING, BUT NOT LIMITED TO, THE DEWATERING OF EXCAVATIONS, DEWATERING OF SOILS, AND DECONTAMINATION FLUIDS, SHALL BE COLLECTED AND TREATED AT THE TEMPORARY WATER TREATMENT FACILITY PRIOR TO RELEASE TO AN APPROVED DISCHARGE LOCATION.
9. THE HORIZONTAL LIMITS OF EXCAVATION ACTIVITIES WILL BE PHYSICALLY DELINEATED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF SURVEY CONTROLS, GRID COORDINATE LOCATIONS, LINES, GRADES, AND ELEVATIONS NECESSARY TO VERIFY ELEVATION DEPTHS AND HORIZONTAL LIMITS.
10. REFER TO S-SERIES DRAWINGS FOR INFORMATION REGARDING EXCAVATION SUPPORT AND SLOPING.
11. THE CONTRACTOR MUST MANAGE ALL RAINWATER THAT ENTERS AN IMPACTED EXCAVATION OR IMPACTED SOIL MANAGEMENT AREA AS IF IT IS IMPACTED WATER.
12. CONTRACTOR SHALL REMOVE USTs BEFORE OR DURING EXCAVATION ACTIVITIES. CONTRACTOR SHALL COLLECT, CONTAINERIZE, CHARACTERIZE AND PROPERLY DISPOSE OF ANY MATERIAL (INCLUDING SOIL) WITHIN THE TANKS.
13. CONTRACTOR SHALL NOT BE ALLOWED TO EXCAVATE WITHIN ELM STREET (I.E., PARTIALLY CLOSE ELM STREET) WHEN ANY PORTION OF MILL STREET IS CLOSED.
14. EXISTING SPRINKLE LINE TO BE CUT AND CAPPED AT SOUTHERN EDGE OF EXCAVATION.
15. EXISTING PIPES LOCATED IN THE CENTER OF THE SITE AND HAVING OUTFALLS ALONG THE RIVER BANK, SHALL BE CUT AND PLUGGED (IF ENCOUNTERED) AND THE DOWNGRADIENT PORTION FILLED WITH FLOWABLE FILL OR REMOVED.
16. IN CERTAIN AREAS OF THE SITE, OVEREXCAVATION WILL BE REQUIRED TO INSTALL THE PROPOSED COVER SYSTEM AND UTILITY AND TREE PLANTING CORRIDORS. IN SUCH INSTANCES, MATERIAL EXCAVATED BEYOND THAT REQUIRED TO MEET THE SOIL CLEANUP LEVELS MUST BE USED AS BACKFILL FOR DEEPER EXCAVATIONS THAT ARE UNDER THE COVER (I.E., NOT UNDER UTILITY CORRIDORS, TREE PLANTING AREAS AND RIPRAP SLOPES).
17. A SACRIFICIAL GEOTEXTILE LAYER AND A SAND CAP EXISTS OVER A MAJORITY OF THE SITE. CONTRACTOR SHALL REMOVE SAND CAP (TO WITHIN 3-INCHES OF THE GEOTEXTILE) AND STOCKPILE SAND ON-SITE FOR CONFIRMATION SOIL SAMPLING AND USE AS BACKFILL. THE THICKNESS OF THE SAND CAP VARIES ACROSS THE SITE AND IS DISCUSSED ON FIGURE 9 OF THE FINAL (100%) DESIGN REPORT.
18. EXCAVATION CELLS WITH NO ELEVATION REFERENCE SHALL BE EXCAVATED TO THE DESIGNATED DEPTH AS MEASURED FROM GROUND SURFACE OR THE GEOTEXTILE LAYER (IF WITHIN THE SAND CAP).
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRANSPORTATION VEHICLES AND WILL BE RESPONSIBLE FOR THE PREPARATION OF WASTE PROFILES, HAZARDOUS WASTE MANIFESTS, AND BILLS OF LADING FOR ALL MATERIALS TO BE TRANSPORTED FOR OFF-SITE DISPOSAL. CONTRACTOR SHALL BE RESPONSIBLE FOR LOADING MATERIALS FOR OFF-SITE TRANSPORTATION AND PLACARDING TRANSPORTATION VEHICLES IN ACCORDANCE WITH APPLICABLE REGULATIONS. ALL TRANSPORTATION VEHICLES USED TO TRANSPORT IMPACTED MATERIALS OFF-SITE SHALL BE COVERED WITH TARPS PRIOR TO OFF-SITE TRANSPORT.
20. FOR CLEAN BACKFILL STAGING AREA(S), THE CONTRACTOR SHALL PLACE GRAVEL AND A GEOTEXTILE PRIOR TO THE PLACEMENT OF MATERIALS IN THE STAGING AREA(S) (REFER TO DETAIL 1 ON SHEET G-28). THE CONTRACTOR SHALL PLACE AN IMPERMEABLE COVER OVER THE MATERIALS IN THE STAGING AREA(S) TO LIMIT EXPOSURE TO WIND AND PRECIPITATION. THE IMPERMEABLE COVER SHALL BE ANCHORED BY THE CONTRACTOR, AS NECESSARY, TO RESIST WIND FORCES AND SHALL BE INSTALLED TO MINIMIZE PONDING OF PRECIPITATION. THE CONTRACTOR SHALL NOT BE PERMITTED TO UTILIZE SOIL, DEBRIS, EXCAVATED SOIL, OR OTHER MATERIALS AS ANCHORING MATERIALS THAT COULD CREATE POTENTIAL SEDIMENTATION AND EROSION IMPACTS TO STORM WATER RUN-OFF.

ORIGINAL SCALE APPLIES TO 22"X34" DRAWING

1"=30' (30' 0 30' 60')

THIS DRAWING WAS PREPARED AT THE SCALE(S) INDICATED. INACCURACIES IN THE STATED SCALE(S) MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED. **USE THE GRAPHIC SCALE BAR(S) TO DETERMINE THE ACTUAL SCALE(S) OF THIS DRAWING.**

No.	Date	Revisions	Init

THIS DRAWING IS THE PROPERTY OF ARCADIS BBL AND MAY NOT BE REPRODUCED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF ARCADIS BBL

Professional Engineer's Name: **LOWELL W. McBURNEY**
Professional Engineer's No.: 10767
State: NEW HAMPSHIRE
Date Signed:
Project Mgr.: CRA
Designed by: ACB
Drawn by: LAF

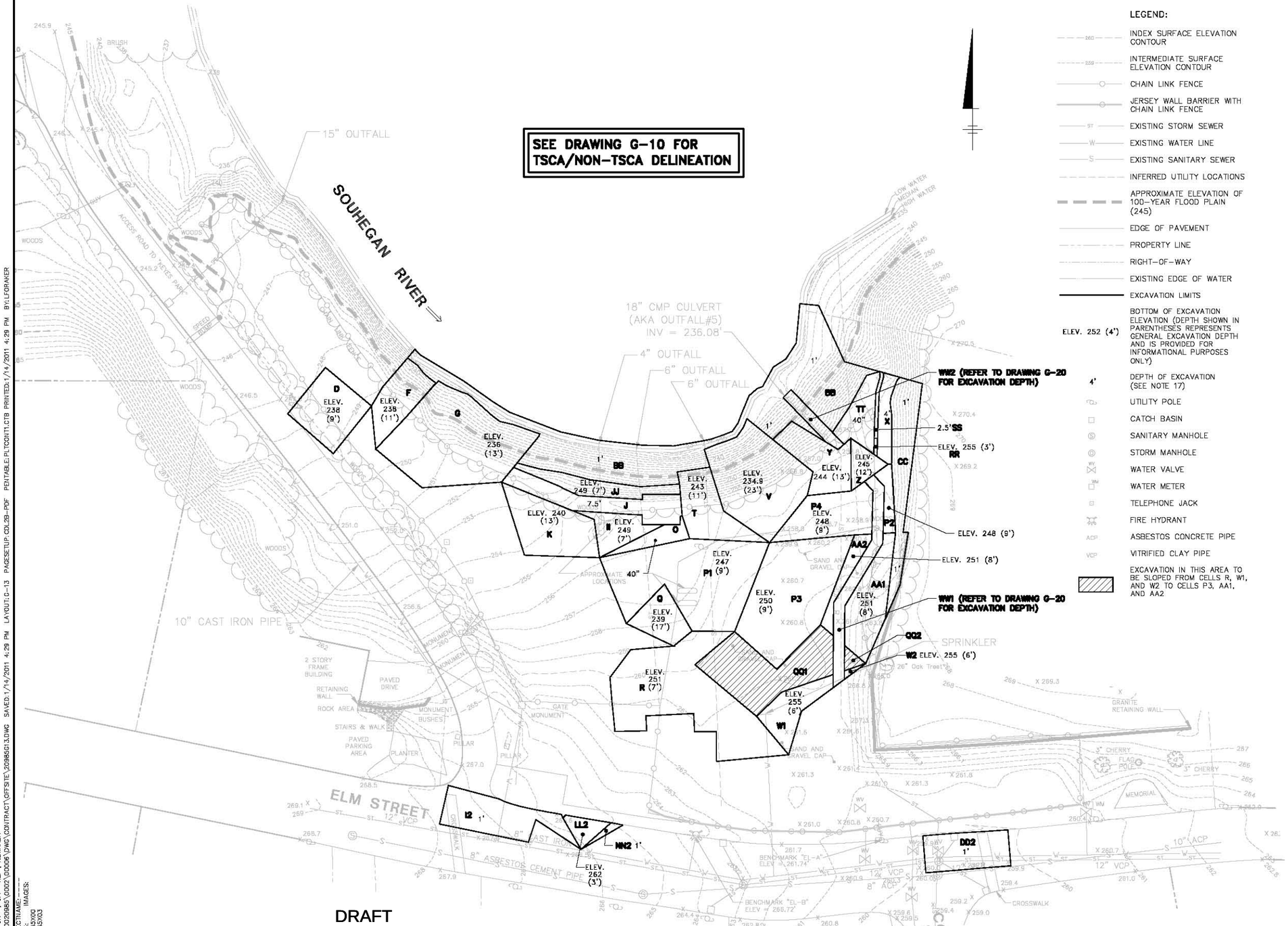
ARCADIS BBL
Infrastructure, environment, facilities

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

FINAL SOIL REMOVAL LIMITS - ELM STREET AREA

ARCADIS Project No.: 209.85
Date: NOVEMBER 2010
ARCADIS of New York, Inc.
6723 Towpath Road
Syracuse, NY 13214
315-446-9120

G-12



LEGEND:

- INDEX SURFACE ELEVATION CONTOUR
- INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- JERSEY WALL BARRIER WITH CHAIN LINK FENCE
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- INFERRED UTILITY LOCATIONS
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN (245)
- EDGE OF PAVEMENT
- PROPERTY LINE
- RIGHT-OF-WAY
- EXISTING EDGE OF WATER
- EXCAVATION LIMITS
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY)
- 4' — DEPTH OF EXCAVATION (SEE NOTE 17)
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- FIRE HYDRANT
- ASBESTOS CONCRETE PIPE
- VITRIFIED CLAY PIPE
- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1, AND W2 TO CELLS P3, AA1, AND AA2

NOTES:

1. REFER TO SHEETS G-1 AND G-2 FOR GENERAL NOTES PERTAINING TO BASE MAPPING, CONTRACT REQUIREMENTS, AND SITE INFORMATION.
2. LOCATIONS OF EXISTING STRUCTURES AND EXCAVATION AREAS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO CONSTRUCTION ACTIVITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING, PROTECTING, AND RELOCATING (AS NECESSARY) ALL UTILITIES (OVERHEAD AND UNDERGROUND) THAT MAY BE IMPACTED BY CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR SHALL CONTROL DUST, VAPORS, AND ODORS THAT RESULT FROM THE REMEDIAL ACTIVITIES TO MEET ESTABLISHED AMBIENT STANDARDS.
5. THE CONTRACTOR SHALL UTILIZE DRY SOILS EXCAVATED FROM ABOVE THE WATER TABLE TO AUGMENT WET SOIL EXCAVATED FROM BELOW THE WATER TABLE. REFER TO DETAIL 2 ON SHEET G-28.
6. SILT FENCING AND OTHER SEDIMENT AND EROSION CONTROL MEASURES SHALL BE ESTABLISHED AND MAINTAINED BY THE CONTRACTOR AS REQUIRED OR SPECIFIED.
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DRAFT
FOR EPA REVIEW

ORIGINAL SCALE APPLIES TO 22"X34" DRAWING
1"=30' (30' 0 30' 60')

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No.	Date	Revisions	Init

Professional Engineer's Name: **LOWELL W. McBURNEY**
Professional Engineer's No.: 10767
State: NEW HAMPSHIRE
Date Signed:
Project Mgr.: CRA | Designed by: ACB | Drawn by: LAF

ARCADIS BBL
Infrastructure, environment, facilities

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

PHASE 1 SOIL REMOVAL AREAS - ELM STREET AREA

ARCADIS Project No.: 209.85
Date: NOVEMBER 2010
ARCADIS of New York, Inc.
6723 Towpath Road
Syracuse, NY 13214
315-446-9120

G-13

SYR-BS-DWW LAF GMS LAYER: ON=*; OFF=*REF*, NEWAREA=*
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PROJECTNAME:----- IMAGES:
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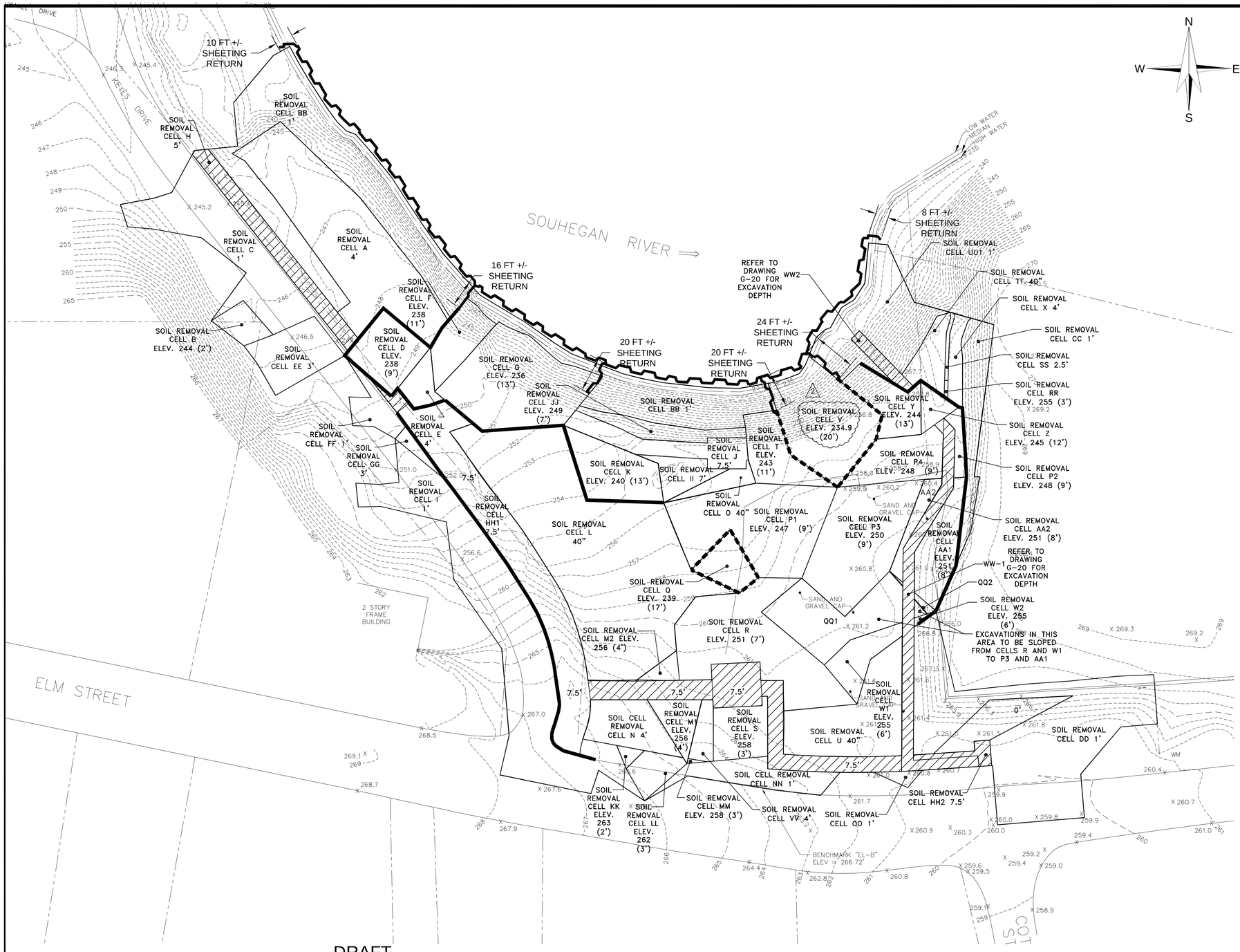

DRAFT

FOR EPA REVIEW

ORIGINAL SCALE APPLIES TO 22"X34" DRAWING

0 30 60 90 FT

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No.	Date	Revisions	Init
2	11/19/10	REVISED SEASONAL LOW WATER EDITS	DRS

Professional Engineer's Name: XXXX

Professional Engineer's No.: XXX

State: XXX | Date Signed

Project Mgr.: DRS | Designed by: DRS | Drawn by: BV

PREPARED BY: HALEY & ALDRICH

FOR: ARCADIS BBL Infrastructure, environment, facilities

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

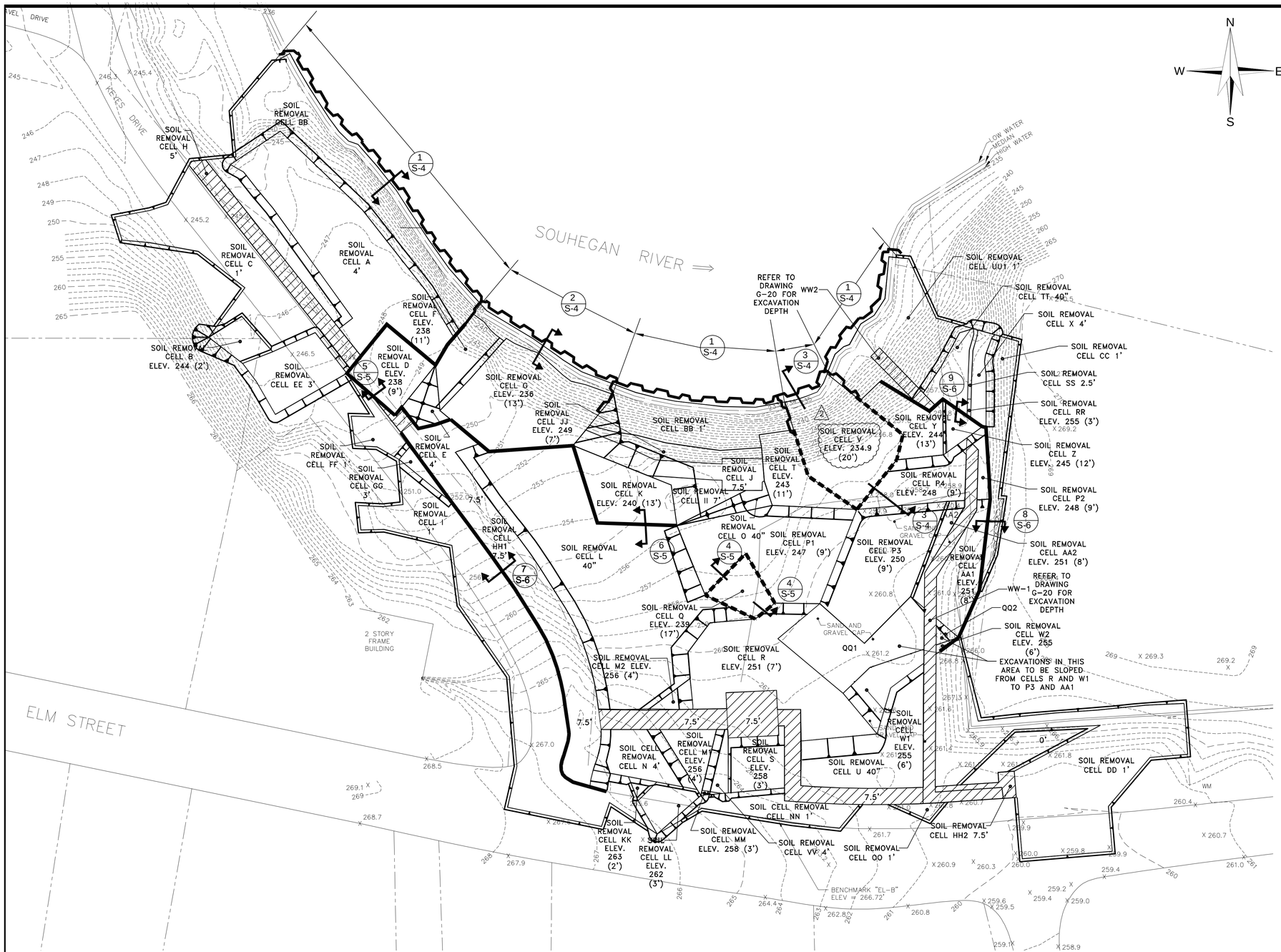
ELM STREET - SOIL REMOVAL LIMITS AND SUPPORT OF EXCAVATION SYSTEM LAYOUT

HALEY & ALDRICH Project No. 32608-003

Date 31 DECEMBER 2007

HALEY & ALDRICH, Inc.
465 Medford Street
Boston, MA 02129
617.886.7400

S-1



LEGEND:

- APPROXIMATE LOCATION OF STEEL SHEETING
- APPROXIMATE LOCATION OF CANTILEVER DRILLED IN SOLDIER PILE AND LAGGING
- APPROXIMATE LOCATION OF DRILLED IN SOLDIER PILE AND LAGGING WITH INTERNAL BRACING
- 7.5' — APPROXIMATE LIMITS OF UTILITY CORRIDOR WITH SUPPORT OF EXCAVATION BY TRENCH BOX OR OTHER METHOD ACCEPTED BY ENGINEER. NUMBER INDICATES APPROXIMATE DEPTH OF EXCAVATION
- ELEV. 252 (5') — BOTTOM OF EXCAVATION ELEVATION. DEPTH SHOWN IN PARENTHESES IS APPROXIMATE. THE CONTRACTOR SHALL EXCAVATE TO SPECIFIED ELEVATION WHERE NOTED. THE CONTRACTOR SHALL EXCAVATE TO THE SPECIFIED DEPTH WHERE ELEVATION IS NOT NOTED.
- 260 — EXISTING INDEX SURFACE ELEVATION CONTOUR
- SOIL REMOVAL CELL LIMITS BASED ON FIGURE 11 BY ARCADIS BBL DATED DECEMBER 2007.

NOTES:

1. BASE PLAN PREPARED FROM A PLAN TITLED "COMBINED LIMITS OF EXCAVATION", PREPARED BY ARCADIS BBL, RECEIVED 1 JUNE 2007.
2. ALL ELEVATIONS ARE IN FEET AND REFERENCE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. EXCAVATED SLOPES ASSUME A 1.5H:1V MAXIMUM SLOPE ANGLE ACCORDING TO OSHA STANDARDS IN ORDER TO ACCOMMODATE PERSONAL ENTRY INSIDE THE EXCAVATIONS. ACTUAL STABLE SLOPE ANGLE TO BE DETERMINED BY THE CONTRACTOR BASED ON SOIL CONDITIONS ENCOUNTERED.
4. THE CONTRACTOR SHALL SEQUENCE REPLACEMENT STORM SEWER INSTALLATION (CELLS WW1 AND WW2) SHOWN ON CONTRACT DRAWING G-20 WITH REMEDIATION EXCAVATION WORK. THE CONTRACTOR, BASED ON THEIR SPECIFIC CONSTRUCTION SEQUENCE, SHALL EMPLOY TRENCH BOXES OR OTHER SUPPORT OF EXCAVATION SYSTEMS AS REQUIRED FOR UTILITY INSTALLATION.
5. SEE DRAWING S-3 FOR SIZE AND LOCATION OF BRACING FOR CELLS V AND Q.
6. SOLDIER PILE SPACING SHALL BE 6 FT ON CENTER FOR SOIL REMOVAL CELLS V AND Q, AND 5 FT ON CENTER FOR ALL OTHER SOIL REMOVAL CELLS.
7. SEE DRAWINGS S-4 THROUGH S-6 FOR MINIMUM REQUIRED SOLDIER PILES EMBEDMENT DEPTH.
8. SEE DRAWING S-4 FOR MINIMUM REQUIRED STEEL SHEETING EMBEDMENT DEPTH.
9. SOLDIER PILE AND LAGGING AND STEEL SHEETING ARE DESIGNED FOR A 30 FT WIDE, 300 PSF, VERTICAL SURCHARGE LOCATED 1 FT BEHIND THE WALL FOR ALL CELLS EXCEPT CELLS QQ2, AA1, AND P2.
10. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (GRADE 50) WITH EXCEPTION OF PIPE SECTIONS THAT SHALL CONFORM TO ASTM A500 (GRADE 46) UNLESS OTHERWISE NOTED.
11. DESIGN GROUNDWATER IS AT ELEVATION 238.
12. THE STEEL SHEETING IS DESIGNED FOR 25 YEAR FLOOD ELEVATION OF EL. 242.9.
13. EXCAVATION IS REQUIRED ON THE OUT-BOARD (ACTIVE) SIDE OF SOLDIER PILE AND LAGGING SUPPORTED EXCAVATIONS PRIOR TO COMPLETING THE REQUIRED EXCAVATION ON THE IN-BOARD (PASSIVE) SIDE.
14. ALL WELDING SHALL CONFORM TO THE AWSD1.1 STRUCTURAL WELDING CODE, ELECTRODES SHALL BE E70XX.

CONSTRUCTION SEQUENCE:

1. INSTALL SOLDIER PILES OR SHEETING AS SHOWN
2. EXCAVATE AS REQUIRED ON THE OUT-BOARD (ACTIVE) SIDE OF THE SUPPORT OF EXCAVATION SYSTEM
3. EXCAVATE TO PLANNED BOTTOM OF EXCAVATION ON THE IN-BOARD (PASSIVE) SIDE OF THE SUPPORT OF EXCAVATION SYSTEM, STOPPING EXCAVATION AS REQUIRED TO INSTALL BRACING.
4. BACKFILL AND COMPACT IN ACCORDANCE WITH SPECIFICATION SECTION 02201 EARTHWORK

DRAFT
FOR EPA REVIEW

ORIGINAL SCALE APPLIES TO 22"X34" DRAWING
0 30 60 90 FT

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No.	Date	Revisions	Init
2	11/19/10	REVISED SEASONAL LOW WATER	DRS
1	6/3/10	UPDATING NOTES	DRS

Professional Engineer's Name: XXXX
Professional Engineer's No.: XXX
State: XXX
Date Signed:
Project Mgr.: DRS
Designed by: DRS
Drawn by: BV

PREPARED BY: HALEY & ALDRICH
FOR: ARCADIS BBL Infrastructure, environment, facilities

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET - SOIL REMOVAL SLOPES AND SUPPORT OF EXCAVATION SYSTEM LAYOUT

HALEY & ALDRICH Project No. 32608-003
Date 31 DECEMBER 2007
HALEY & ALDRICH, Inc.
465 Medford Street
Boston, MA 02129
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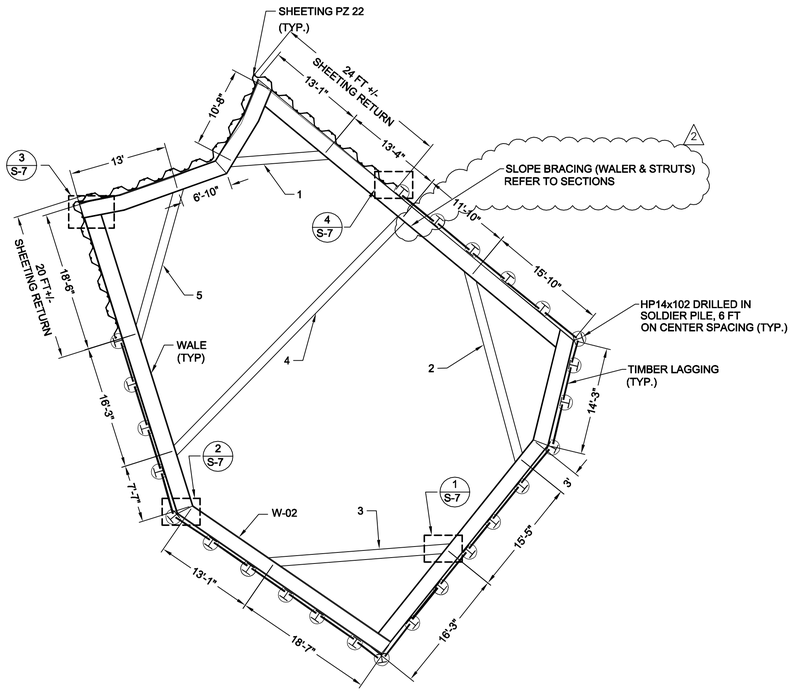
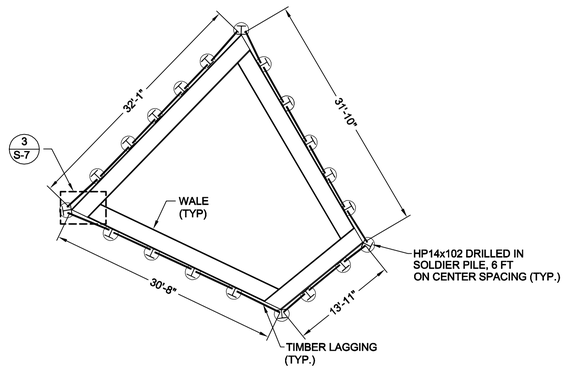
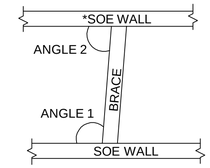
S-2

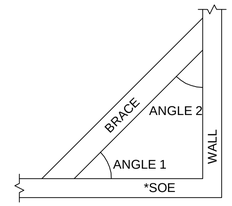


CELL V BRACING LAYOUT



CELL Q BRACING LAYOUT





*SUPPORT OF EXCAVATION (SOE) WALL REFERS TO SOLDER PILE AND LAGGING OR SHEETING WALL AS APPLICABLE

CELL V BRACING SCHEDULE:

MEMBER	LOWER BRACE	ANGLE 1*	ANGLE 2*	CENTER LINE EL.
1	18"Øx1/2" PIPE	44.1°	54.2°	242
2	18"Øx1/2" PIPE	53.7°	35.4°	242
3	18"Øx1/2" PIPE	38.9°	46.8°	242
4	18"Øx1/2" PIPE	61.8°	85.3°	242
5	18"Øx1/2" PIPE	54.8°	33.1°	242
WALE	W 24 X 146	NA	NA	242

*CONTRACTOR TO LOCATE BRACING BASED ON PLAN DIMENSIONS. CONFIRM ANGLES IN BRACING SCHEDULE AND INFORM HALEY & ALDRICH OF ANY DIFFERENCES.

2

REFER TO SECTIONS ON S-4, BRACING TO SLOPE FROM EL. 242 TO EL. 239 AT RIVER.

CELL Q BRACING SCHEDULE:

MEMBER	LOWER BRACE	ANGLE 1	ANGLE 2	CENTER LINE EL.
WALE	W 24 X 207	NA	NA	246

NOTES:

1. SEE DRAWING S-2 FOR GENERAL NOTES AND CELL EXCAVATION DEPTHS.
2. ALL DIMENSIONS AND ANGLES ARE APPROXIMATE AND REFER TO CENTER LINE OF BRACING.
3. CONTRACTOR SHALL CONFIRM ALL BRACING DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION.
4. TIMBER LAGGING SHALL BE SOUTHERN YELLOW PINE, NO. 2 OR BETTER, HAVING A Fb = 850 PSI AND A Fc = 550 PSI, OR APPROVED EQUAL.
5. REFER TO NOTE 8 ON DRAWING S-2 FOR SURCHARGE DETAILS.

DRAFT

FOR EPA REVIEW

ORIGINAL SCALE APPLIES TO 22"X34" DRAWING

0 10 20 30 FT

THIS DRAWING WAS PREPARED AT THE SCALE(S) INDICATED. INACCURACIES IN THE STATED SCALE(S) MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED. USE THE GRAPHIC SCALE BAR(S) TO DETERMINE THE ACTUAL SCALE(S) OF THIS DRAWING.

No.	Date	Revisions	Init
2	11/19/10	REVISED SEASONAL LOW WATER EDITS	DRS

Professional Engineer's Name: XXXX
Professional Engineer's No.: XXX
State: XXX
Date Signed:
Project Mgr.: DRS
Designed by: DRS
Drawn by: BV

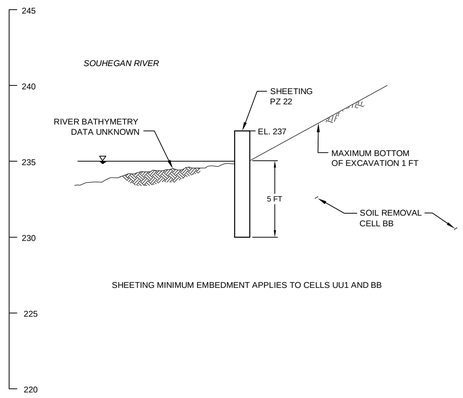
PREPARED BY: HALEY & ALDRICH
FOR: ARCADIS BBL Infrastructure, environment, facilities

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET - BRACING LAYOUT OF SOIL REMOVAL CELLS V AND Q

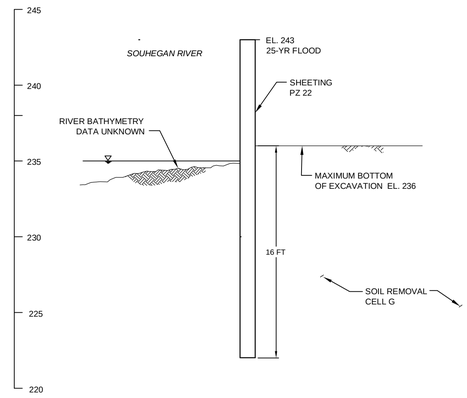
HALEY & ALDRICH Project No.
32608-003
Date
31 DECEMBER 2007
HALEY & ALDRICH, Inc.
465 Medford Street
Boston, MA 02129
617.886.7400

S-3



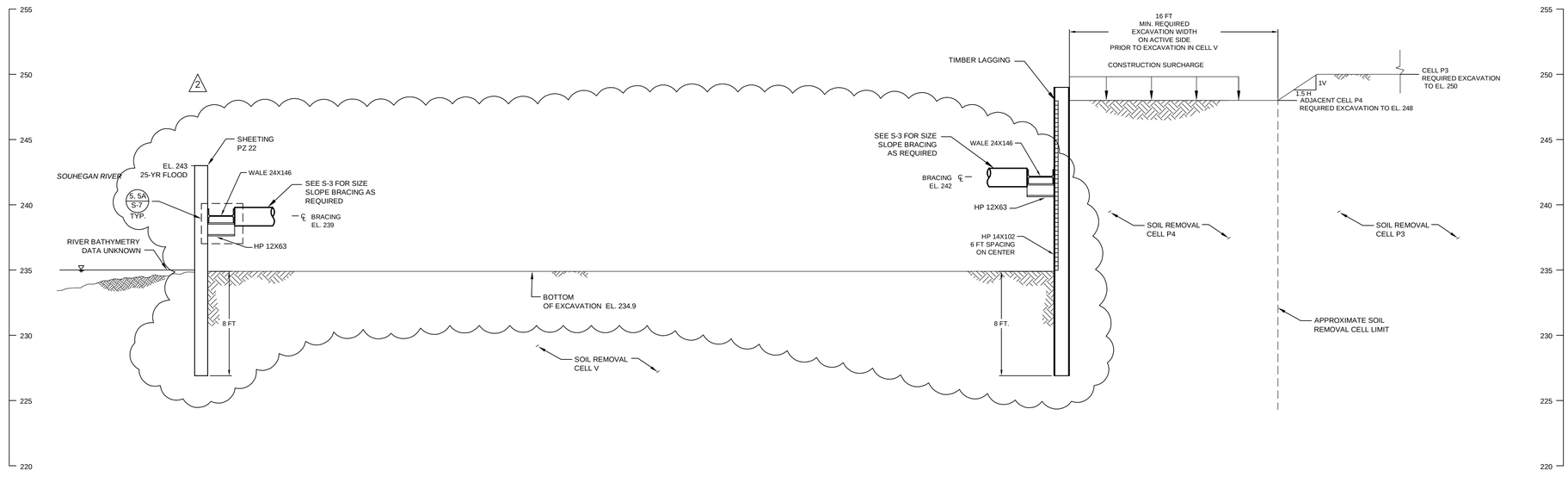
SHEETING MINIMUM EMBEDMENT APPLIES TO CELLS UU1 AND BB

SECTION 1 — 1 / S-2



STEEL SHEETING MINIMUM EMBEDMENT APPLIES TO CELLS F AND G

SECTION 2 — 2 / S-2



NOTES:

1. SEE DRAWINGS S-2 AND S-3 FOR NOTES.
2. REFER TO NOTE 8 ON DRAWING S-2 FOR SURCHARGE DETAILS.

SECTION 3 — 3 / S-2

DRAFT

FOR EPA REVIEW

ORIGINAL SCALE APPLIES TO 22"X34" DRAWING

0 5 10 15 FT

THIS DRAWING WAS PREPARED AT THE SCALE(S) INDICATED. INACCURACIES IN THE STATED SCALE(S) MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED. USE THE GRAPHIC SCALE BAR(S) TO DETERMINE THE ACTUAL SCALE(S) OF THIS DRAWING.

No.	Date	Revisions	Init
2	11/19/10	REVISED SEASONAL LOW WATER EDITS	DRS

Professional Engineer's Name: XXXX
Professional Engineer's No.: XXX
State: XXX
Date Signed:
Project Mgr.: DRS
Designed by: DRS
Drawn by: BV

PREPARED BY: HALEY & ALDRICH
FOR: ARCADIS BBL — Infrastructure, environment, facilities

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

ELM STREET
ELEVATION SECTIONS - SHEET 1 OF 3

HALEY & ALDRICH Project No.
32608–003

Date
31 DECEMBER 2007

HALEY & ALDRICH, Inc.
465 Medford Street
Boston, MA 02129
617.886.7400

S-4

Appendix D
OSD Staging Scenario

General Electric Company
Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

Preliminary Summary of Anticipated Work Activities – OSD Remedy

2. Phase 1 Remediation Activities

- Excavate approximately 135 cubic yards (cy) of material from portions of excavation cells located within Elm Street. Excavated materials may be sent off-site directly, or staged for subsequent off-site disposal with remaining Elm Street Area soils subject to excavation;

- Verify limits of soil removal for excavations beneath Elm Street via survey and backfill excavations with gravel material to restore normal traffic patterns;

- Install excavation support systems for subsurface soil removal areas at both the Elm and Mill Street Areas. Excavation spoils may be sent off-site directly, or staged for subsequent off-site disposal with remaining soils subject to excavation;

- Construct temporary water treatment system at the Mill Street Area and conduct performance testing;

- Segregate and stockpile all but the bottom few inches of the sand cap installed by the United States Environmental Protection Agency (EPA) in January 2001 over the former building slab at the Elm Street Area;

- Perform confirmation sampling of stockpiled sand cap materials for potential re-use as backfill;

- Initiate dewatering activities and full-scale operation of the water treatment facility at the Mill Street Area;

- Excavate approximately 14,285 cy of material from the Elm Street Area Phase 1 excavations shown on Figure D-2 (this includes approximately 11,075 cy to achieve the soil cleanup levels [SCLs] and approximately 3,460 cy of additional excavation associated with construction of the engineered cover system and establishment of the utility and tree planting corridors, as further discussed in Section 4 below [see Tables D-1 and D-2]). These volumes exclude the approximately 135 cy of material previously removed from excavations beneath Elm Street;

- Segregate and stockpile approximately 3,460 cy of excavated material associated with installation of the engineered cover system and establishment of utility and tree planting corridors (which is not subject to off-site disposal), for future use as backfill material as discussed in Section 4 below (see Table D-2);

Appendix D
OSD Staging Scenario

General Electric Company
Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

Preliminary Summary of Anticipated Work Activities – OSD Remedy

- Concurrently with the Phase 1 remedial activities at the Elm Street Area, excavate approximately 8,560 cy of materials from the Phase 1 excavations at the Mill Street Area illustrated on Figure D-3 (see Table D-3);

- Dewater and stabilize saturated materials (if any) excavated in vicinity of seasonal low water table at the Elm Street Area, and excavated below the water table at the Mill Street Area prior to transportation of those materials for off-site disposal at appropriately permitted facilities;

- Perform verification sampling activities for excavation bottoms and sidewalls at the Elm Street Area and excavation bottoms at the Mill Street Area in accordance with the *Verification Sampling Plan* (VSP);

- Place and compact soil from the former sand cap installed by EPA at the Elm Street Area (approximately 1,000 cy) either behind the gabion wall or in excavation areas located within the horizontal limits of the future engineered cover system at the Elm Street Area (this assumes that the required verification sampling indicates that this material meets the applicable SCLs);

- Place and compact stockpiled Phase 1 soils excavated from the Elm Street Area that are not subject to off-site disposal (approximately 3,460 cy) as subsurface backfill in excavation areas located within the horizontal limits of the future engineered cover system at the Elm Street Area;

- Import, place, and compact clean backfill materials in the Phase 1 excavations at the Elm and Mill Street Areas to the specified excavation sub-grades, for subsequent surface restoration as discussed in Section 4 below; and

- Relocate clean backfill, equipment, and materials staging areas, and temporary equipment and personnel decontamination area(s), at the Elm and Mill Street Areas as necessary to accommodate performance of the Phase 2 remedial activities.

3. Phase 2 Remediation Activities

- Excavate approximately 6,920 cy of material from the Elm Street Area Phase 2 excavations illustrated on Figure D-4 (this includes approximately 6,410 cy to achieve the SCLs and approximately 510 cy of additional excavation associated with construction of the engineered cover system and establishment of the utility and tree planting corridors, as discussed in Section 4 below [see Tables D-1 and D-2]);

Appendix D
OSD Staging Scenario

General Electric Company
Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

Preliminary Summary of Anticipated Work Activities – OSD Remedy

- Segregate and stockpile approximately 510 cy of excavated material associated with installation of the engineered cover system and establishment of utility and tree planting corridors (which is not subject to off-site disposal), for future use as backfill material as discussed in Section 4 below (see Table D-2);

- Concurrently with the Phase 2 remedial activities at the Elm Street Area, excavate approximately 1,095 cy of materials from the Phase 2 excavations at the Mill Street Area illustrated on Figure D-5 (see Table D-3);

- Perform verification sampling activities for excavation bottoms in accordance with the VSP.

- Place and compact stockpiled Phase 1 soils excavated from the Elm Street Area that are not subject to off-site disposal (approximately 510 cy) as subsurface backfill in excavation areas located within the horizontal limits of the future engineered cover system at the Elm Street Area; and

- Import, place, and compact clean backfill materials in the Phase 1 excavations at the Elm and Mill Street Areas to the specified excavation sub-grades, for subsequent surface restoration as discussed in Section 4 below.

4. <u>Site Restoration Activities</u>

- Perform equipment decontamination and demobilization of the temporary water treatment system and other miscellaneous heavy construction equipment;

- Remove and dispose of temporary equipment/materials staging areas and equipment decontamination areas (these materials may be used as structural backfill materials, subject to the verification sampling and testing specified in the VSP);

- Construct engineered cover system, install gabion wall and riprap, and perform miscellaneous site restoration (e.g., vegetative restoration for non-cover system/riprap areas at Elm and Mill Street Areas, realign Mill Street, repave Keyes Drive and new parking areas, remove temporary/alternate residential access roads and restore those properties (as necessary), restore/relocate above-grade utilities etc.); and,

- Demobilize from the Site and perform remaining inspection, site restoration, and housekeeping activities.

Appendix D
OSD Staging Scenario

General Electric Company
Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

Preliminary Summary of Anticipated Work Activities – OSD Remedy

5. Key Assumptions

- The Mill Street Area has insufficient space to accommodate staging of equipment, materials, and facilities, with the exception of the temporary water treatment system and the equipment used during implementation of the remedial action (e.g., installation of excavation supports, material excavation and site restoration activities) at the Mill Street Area.

- The temporary water treatment system will be located at the Mill Street Area since: 1) space limitations at the Elm Street Area prevent staging there; 2) the majority of soils excavated from the Elm Street Area will not require dewatering; 3) the majority of the liquids generated during the project will be associated with dewatering the excavations at the Mill Street Area, and 4) discharge to the Souhegan River via the on-site drainage ditch/culvert system is available at the Mill Street Area. Liquids generated during remedial activities at the Elm Street Area will be stored in tanks, and transported to the Mill Street Area for treatment and discharge, as necessary. Alternately, water could be pumped from the Elm Street Area to the temporary water treatment system at the Mill Street Area via piping run through the restored storm sewer and along the on-site drainage ditch/culvert system. (The portion of the storm sewer between Cottage Street and the Elm Street Area would be restored during the site preparation phase of the remedial action, as discussed in Section 1 above.)

- The estimated volume of Toxic Substances Control Act (TSCA) and non-TSCA excavated materials is based upon the pre-design investigation and supplemental investigation data summarized in the Final Design Report. As indicated therein, the estimated volume of excavated materials subject to TSCA disposal regulations is approximately 23,005 cy, which includes approximately 15,905 cy from the Elm Street Area and approximately 7,100 cy from the Mill Street Area. The estimated volume of non-TSCA excavated materials is approximately 4,020 cy, which includes approximately 1,465 cy from the Elm Street Area and approximately 2,555 cy from the Mill Street Area.

- All operations and materials of construction will be located within the limits of the Elm Street Area and/or the Mill Street Area, with the exception that the following facilities may be staged in Keyes Field (see Figure D-1):

  - Clean equipment/backfill staging areas;

  - Site office/support trailers;

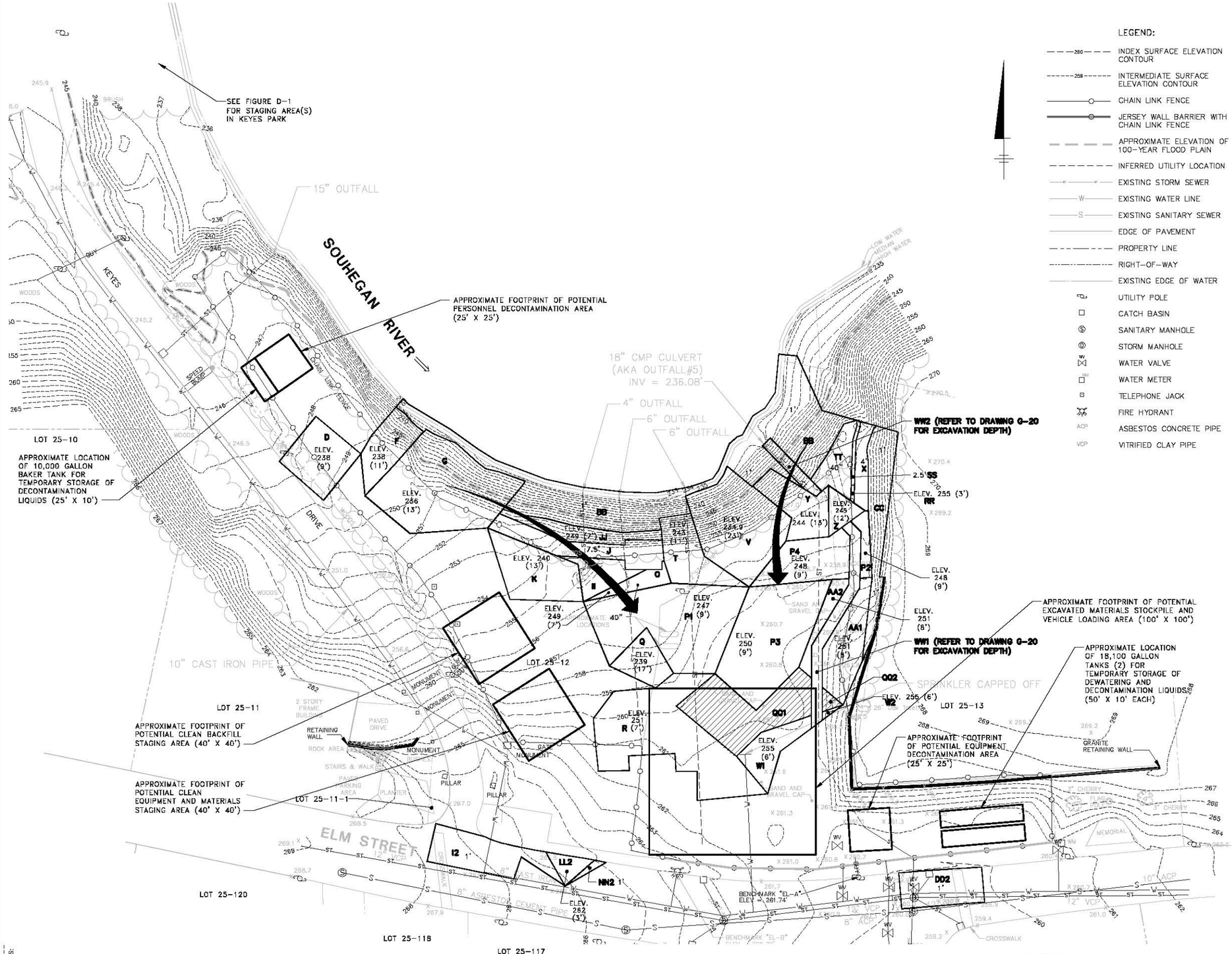
  - Portable sanitary services; and

TABLE D-1
ESTIMATED TOTAL VOLUME OF MATERIAL SUBJECT TO REMEDIAL ACTION AT THE ELM STREET AREA

OSD STAGING SCENARIO
FINAL (100%) DESIGN REPORT
FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
GENERAL ELECTRIC COMPANY - MILFORD, NEW HAMPSHIRE

Area	Excavation Cell Identifier	Excavation Depth Below Ground Surface (feet)	Elevation of Excavation Bottom (feet)	Approximate Surface Area (square feet)	Approximate In-Situ Volume (cubic feet)	Approximate In-Situ Volume (cubic yards)
Elm Street Area - Phase 1	D	--	238	1,247	13,093	480
	F	--	238	919	8,272	310
	G	--	236	3,495	41,946	1,550
	I2	1	--	1,355	1,355	50
	J	7.5	--	1,205	9,037	330
	K	--	240	1,506	21,078	780
	O	3.3	--	360	1,187	40
	P1	--	247	3,562	39,185	1,450
	P2	--	248	263	2,888	110
	P3	--	250	3,135	32,918	1,220
	P4	--	248	1,296	14,253	530
	Q	--	239	687	13,055	480
	R	--	251	3,786	26,505	980
	T	--	243	1,136	12,492	460
	V	--	234.9	2,628	45,033	1,670
	W1	--	255	788	4,729	180
	W2	--	255	32	189	10
	X	4	--	406	1,623	60
	Y	--	244	1,050	12,599	470
	Z	--	245	336	4,533	170
	AA1	--	251	1,208	14,494	540
	AA2	--	251	383	3,829	140
	BB	1	--	5,828	5,828	220
	CC	1	--	1,330	1,330	50
	DD2	1	--	1,074	1,074	40
	II	--	249	604	4,230	160
	JJ	--	249	695	2,084	80
	LL2	--	262	270	810	30
	NN2	1	--	66	66	5
	QQ1	7.5	--	2,066	15,494	570
	QQ2	7.5	--	91	685	30
	RR	--	255	20	60	5
	SS	2.5	--	77	193	10
	TT	3.3	--	662	2,186	80
	UU	--	--	--	--	--
	WW1	12	--	848	10,172	380
	WW2	12	--	283	3,400	130
	Additional volume associated with sloping			--	--	700
			Subtotal:	**44,696**	**371,905**	**14,420**
Elm Street Area - Phase 2	A	4	--	5,467	21,868	810
	B	--	244	460	919	30
	C	1	--	3,534	3,534	130
	E	4	--	444	1,778	70
	H	7.5	--	1,279	9,593	360
	I1	1	--	5,394	5,394	200
	L	3.3	--	9,824	32,421	1,200
	M1	--	256	573	2,292	80
	M2	--	256	215	859	30
	N	4	--	1,190	4,762	180
	S	--	258	944	4,720	170
	U	3.3	--	2,618	8,639	320
	BB	1	--	5,872	5,872	220
	DD1	1	--	5,787	5,787	210
	EE	3		1,339	4,017	150
	FF	1	--	612	612	20
	GG	3	--	186	557	20
	HH1	7.5	--	6,929	51,968	1,920
	HH2	7.5	--	226	1,698	60
	KK	--	263	97	194	10
	LL1	--	262	264	791	30
	MM	--	258	16	81	5
	NN1	1	--	1,073	1,073	35
	OO	1	--	131	131	5
	VV	4	--	368	1,471	50
	WW1	12	--	766	9,191	340
	Additional volume associated with sloping			--	--	265
			Subtotal:	**55,608**	**180,219**	**6,920**
			Total:	**100,304**	**554,921**	**21,340**

Notes:
1. Refer to Figures D-2 and D-4 for excavation cell identifiers.
2. Approximate volumes were rounded using computer software.
3. Based on the support of excavation (SOE) design performed by Haley & Aldrich, the sloping of excavations shown on Technical Drawings S-2 and S-9 will require the excavation of an additional approximately 2,040 cy of material. This includes approximately 965 cy from the Elm Street Area as shown in this table.
4. Total volumes shown on this table include the volumes shown on Table D-2.



LEGEND:

- INDEX SURFACE ELEVATION CONTOUR
- INTERMEDIATE SURFACE ELEVATION CONTOUR
- CHAIN LINK FENCE
- JERSEY WALL BARRIER WITH CHAIN LINK FENCE
- APPROXIMATE ELEVATION OF 100-YEAR FLOOD PLAIN
- INFERRED UTILITY LOCATION
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EDGE OF PAVEMENT
- PROPERTY LINE
- RIGHT-OF-WAY
- EXISTING EDGE OF WATER
- UTILITY POLE
- CATCH BASIN
- SANITARY MANHOLE
- STORM MANHOLE
- WATER VALVE
- WATER METER
- TELEPHONE JACK
- FIRE HYDRANT
- ACP ASBESTOS CONCRETE PIPE
- VCP VITRIFIED CLAY PIPE

- EXCAVATION IN THIS AREA TO BE SLOPED FROM CELLS R, W1 AND W2 TO CELLS P3, AA1 AND AA2
- EXCAVATION LIMITS
- ELEV. 252 (4') — BOTTOM OF EXCAVATION ELEVATION (DEPTH SHOWN IN PARENTHESES REPRESENTS GENERAL EXCAVATION DEPTH AND IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY)
- 4' — DEPTH OF EXCAVATION
- A — EXCAVATION CELL ID
- GENERAL EXCAVATION SEQUENCING

NOTES:

1. ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM OF 1983.
3. CONTOUR INTERVAL = 1 FEET.
4. MAP COMPILED FROM ACTUAL FIELD SURVEY PERFORMED BY BBL, INC. FROM JULY 16, 2003 THROUGH AUGUST 14, 2003, BY MERIDAN LAND SERVICES, INC. JANUARY 22, 2004, AND BY ARCADIS ON MAY 24, 2007.
5. ELM STREET SITE PROPERTY LINE SHOWN WAS ESTABLISHED FROM DEEDS OF RECORD, SURVEY, AND EXISTING MONUMENTATION. OTHER PROPERTY LINES SHOWN WERE OBTAINED FROM TOWN OF MILFORD TAX MAP 25.
6. SEE DRAWING G-13 IN APPENDIX B FOR ADDITIONAL INFORMATION ON EXCAVATION LIMITS.
7. EXCAVATION WITHIN ELM STREET MUST BE PERFORMED PRIOR TO INITIATION OF ACTIVE EXCAVATION ACTIVITIES AT THE MILL STREET AREA.
8. INFORMATION SHOWN HEREON IS CONCEPTUAL IN NATURE AND IS INTENDED ONLY TO IDENTIFY POTENTIAL STAGING LOCATIONS AND SIZES. THE CONTRACTOR WILL ULTIMATELY BE RESPONSIBLE FOR PROPOSING ITS OWN APPROACH, WHICH WILL BE SUBJECT TO REVIEW AND APPROVAL PRIOR TO ON-SITE MOBILIZATION.

DRAFT
FOR EPA REVIEW

GENERAL ELECTRIC COMPANY
FLETCHER'S PAINT WORKS AND STORAGE FACILITY
SUPERFUND SITE - MILFORD, NEW HAMPSHIRE
FINAL (100%) DESIGN REPORT

PHASE 1 SOIL REMOVAL AREAS - ELM STREET AREA - OSD REMEDY - SEQUENCING OF REMEDIAL ACTION

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
D-2

1. Introduction and Summary

1.1 Purpose and Objective

The purpose of this *Truck Route and Traffic Analysis Report* (TR/TA Report) is to support the *Final (100%) Design Report for the OSD Remedy* (Final Design Report) by providing information regarding the potential impacts to the vehicular and pedestrian traffic patterns associated with implementation of the off-site disposal (OSD) soil remedy for Operable Unit 1 (OU-1) of the Fletcher's Paint Works and Storage Facility Superfund Site (the Site) located in Milford, New Hampshire. In support of this objective, Section 2 of this TR/TA Report provides an overview of the OSD soil remedy, including: a description of the significant activities associated with implementation of the OSD soil remedy; an overview of the truck traffic associated with implementation of the OSD soil remedy; the identification of potential truck routes; an overview of the potential impacts to properties adjacent to the Site; and the recommended truck routes associated with implementation of the OSD soil remedy for OU-1 soils. Section 3 of this report provides an analysis of the traffic data collected during the remedial design phase of the project, including: recommended truck routes for transportation of materials to and from the Site; a traffic capacity analysis for the recommended truck routes; an evaluation of the potential impacts associated with the implementation of the OSD soil remedy in light of the traffic capacity analysis and an evaluation of the need for measures to mitigate such impacts.

1.2 Previous Related Submittals

The General Electric Company (GE) has previously submitted information related to the identification of preliminary truck routes and traffic counts in several submittals, including:

- *Truck Route and Traffic Analysis Preliminary Report* (Preliminary Traffic Report) prepared by Vannasse, Hangen, Brustlin, Inc. (VHB), presented as Appendix A to the *Preliminary (30%) Design Report Addendum No. 1* (Addendum No.1) submitted on May 11, 2006;

- *Truck Route and Traffic Analysis Report* presented as Appendix E of the *Intermediate (60%) Design Report for the LTTD Remedy* (Intermediate LTTD Design Report) submitted on June 4, 2007; and

- *Truck Route and Traffic Analysis Report* presented as Appendix E of the *Intermediate (60%) Design Report for the OSD Remedy* (Intermediate OSD Design Report) submitted on June 12, 2007.

Concurrent with the Intermediate OSD Design Report, GE also submitted a Remedy Comparison Document on June 12, 2007, which provided a comparison of the traffic information associated with the implementation of the OSD soil remedy (as presented in Intermediate OSD Design Report) and similar information associated with the implementation of the low-temperature thermal desorption (LTTD) soil remedy (as presented in the Intermediate LTTD Design Report).

1.3 Executive Summary

As previously indicated, this document: provides evaluations of the anticipated truck traffic associated with implementation of the OSD soil remedy; summarizes the truck routes proposed for transportation of excavated materials from the Elm and Mill Street Areas through the Town of Milford (Town) to the applicable off-site disposal facilities, and also from off-site sources of backfill to the Elm and Mill Street Areas; and provides an evaluation of the potential impacts to those routes and properties adjacent to the Site based on the information contained herein. As part of the final design for the OSD soil remedy, the study area was refined to focus on the proposed truck routes from the Elm and Mill Street Areas to NH Route 101, and to the Elm and Mill Street Areas from NH Route 101, based on the routes identified in the Preliminary Traffic Report which was prepared for the LTTD soil remedy (and included herein for informational purposes as Attachment A). As a result, this document provides a comparison of traffic in the vicinity of the Site under existing conditions and under projected conditions during implementation of the remedial action to determine the actual impact on the proposed truck routes determined in the Preliminary Traffic Report. Based on those findings, it was determined that the implementation of the OSD soil remedy will have limited or negligible impacts on pedestrian or vehicular traffic in the vicinity of the Site. As a result, it is the conclusion of this TR/TA Report that no measures will be necessary to mitigate potential impacts associated with implementation of the OSD soil remedy.

2. Impact Analysis

This section of the report provides: an overview of the major components of the OSD soil remedy; an estimate of the truck traffic associated with remedy implementation; the identification of truck routes for transportation of materials to and from the Site; and a summary of the potential impacts to the typical pedestrian and vehicular traffic patterns and volumes in the vicinity of the Site resulting from implementation of the OSD soil remedy.

2.1 Off-Site Disposal Remedy Description

In general, the OSD soil remedy includes the following major work activities:

- Site preparation;
- Installation of excavation support systems;
- Concurrent excavation and transportation of soil and debris from the Elm and Mill Street Areas to the appropriate off-site disposal facilities;
- Transportation and placement of clean backfill and restoration materials to the Site; and
- Backfilling and site restoration.

Certain of the above-listed activities are not expected to generate a significant volume of truck traffic on adjacent public streets. As a result, this report focuses on those aspects of the remedial action that will generate the most significant volume of truck traffic impacting the normal pedestrian and vehicular traffic patterns and volumes in the vicinity of the Site. Specifically, the evaluation presented in this report focuses on truck traffic associated with the following activities:

- Concurrent excavation of impacted material from the Elm and Mill Street Areas and transportation to the applicable off-site disposal facilities; and
- Transportation of clean materials to the Site for use in backfilling and site restoration.

Additional details regarding the volume of truck traffic associated with each of these activities is presented in the following section.

2.2 Estimated Truck Traffic Associated with Remedy Implementation

This section provides a summary of the estimated truck traffic associated with each of the components of the OSD soil remedy that are expected to generate the most significant volume of truck traffic on public streets adjacent to the Site. In the course of developing this evaluation, certain assumptions were made, as further discussed below.

As indicated in the staging scenario evaluation included in Appendix D to the Final Design Report, it was assumed for the purposes of this TR/RA Report, that Keyes Drive will be closed to public travel during a significant portion of the remedy implementation. (As further discussed in Section 2.4.2 below, GE and the Town are continuing discussions related to alternate access to Keyes Field to enable the Town to continue using Keyes Field during implementation of the OU-1 soil remedy.) In addition, the evaluation presented herein does not factor in certain ancillary traffic associated with this type of project (e.g., overnight courier deliveries, temporary sanitary facility service, miscellaneous supply deliveries, equipment mobilization/demobilization, the personal vehicles of Site workers, etc.). The remainder of this section provides a summary of the estimated truck traffic associated with each of the components of the OSD soil remedy that are expected to generate the most significant volume of truck traffic on public streets adjacent to the Site.

2.2.1 Concurrent Excavation of Impacted Material from the Elm and Mill Street Areas and Transportation to the Applicable Off-Site Disposal Facility

Section 2.6 of the Final Design Report indicates that the volume of material requiring excavation at the Elm and Mill Street Areas totals approximately 27,025 cubic yards (cy), including 17,370 cy from the Elm Street Area and 9,655 cy from the Mill Street Area. The Final Design Report indicates that an additional 3,970 cy of material will be excavated at the Elm Street Area to facilitate installation of an engineered cover system and to establish utility and tree planting corridors. However, as presented in the Final Design Report, these additional materials will be used as backfill in deeper excavations that are located within the horizontal extent of the cover system. As a result, the additional 3,970 cy of material will not generate any truck traffic on public streets adjacent to the Site.

It is assumed that the 27,025 cy of materials excavated from the Elm and Mill Street Areas will be transported for off-site disposal utilizing dump trucks with a capacity of 20 cy. As a result, it will take approximately 2,703 truck trips to transport the excavated impacted materials from the Elm and Mill Street Areas to the applicable off-site disposal facilities. This estimate of total trips assumes one trip to be one leg of an

operation, such as from an off-site location to the Elm Street Area, with the return leg to the applicable off-site disposal facility counting as another trip. It should be noted that the soil removal volumes presented in the Final Design Report are divided between soils containing polychlorinated biphenyls (PCBs) at concentrations equal to or greater than 50 milligrams per kilogram (mg/kg, or parts per million [ppm]), which represents soils subject to regulation under the Toxic Substances Control Act (TSCA), and soils containing PCBs at concentrations less than 50 mg/kg, which are not subject to TSCA disposal regulations. However, for the purposes of this report, no distinction is necessary between the two types of soil since the potential impacts to public roadways in the vicinity of the Site will be the same regardless of which off-site disposal facility is utilized.

2.2.2 Transportation of Clean Materials for Site Restoration

Implementation of the OSD soil remedy will require the selected remedial contractor (the Remedial Action Contractor) to import clean materials that will be used as part of site restoration. This includes materials associated with the following activities: backfilling of the excavation areas at the Elm and Mill Street Areas; installation of an engineered cover system at the Elm Street Area; installation of riprap materials along the river banks of the Souhegan River and adjacent to the cemetery abutting the Elm Street Area; and miscellaneous site restoration. Additional details regarding the volume of clean material associated with each of these activities and the quantity of truck trips necessary to transport such materials is provided below.

<u>Elm Street Area Surface Restoration</u>

- Engineered cover system – This cover system consists of a 40-inch layer of clean backfill materials (including an 18-inch low-permeability layer, an 18-inch sand layer, and a 4-inch vegetated topsoil layer). The Final Design Report estimates that approximately 0.8 acre of the Elm Street Area will receive this engineered cover system. As a result, a total of approximately 4,300 cy of clean imported material will be transported to the Elm Street Area for the engineered cover system.

- Vegetated topsoil – The portion of the Elm Street Area associated with the utility corridors and tree planting corridors will be restored with a 4-inch layer of vegetated topsoil. It is estimated that this will require the transportation of approximately 435 cy of clean materials to the Elm Street Area.

- Riverbank restoration – The riverbank at the Elm Street Area and the area adjacent to the cemetery will be restored with riprap and gabions to provide flood protection and/or structural support. It is estimated that this will require the transportation of approximately 1,550 cy of clean materials to the Elm Street Area.

- Asphalt/concrete pavement – Portions of Keyes Drive and Elm Street will be restored with asphalt pavement. In addition, the current site restoration plans includes the construction of parking spaces along Keyes Drive. Finally, the sidewalk along Elm Street will be restored with concrete pavement. It is estimated that this will require the transportation of approximately 150 cy of pavement materials (including subbase) to the Elm Street Area.

Mill Street Area Surface Restoration

- Vegetated topsoil – The portion of the Mill Street Area not subject to realignment of Mill Street will be restored with a 4-inch layer of vegetated topsoil. It is estimated that this will require the transportation of approximately 300 cy of clean materials to the Mill Street Area. (Note that GE has continued discussions with Guilford Transportation Industries, Inc., the owner of the railroad adjacent to the Mill Street Area, regarding the scope and performance of the remedial action on railroad property. As a result, the specific restoration activities associated with the railroad have not been determined at the time of submittal of the Final Design Report. As such, for the purposes of this estimate, surface restoration of the railroad was included in this category based upon the area of excavation and an assumed 4-inch restoration layer.)

- Asphalt/concrete pavement – The Final Design Report indicates that an approximate 400-foot-long section of Mill Street will be removed during the remedial action and realigned following completion of the remedial action. As such, it is estimated that approximately 300 cy of clean materials will be required to restore the realigned portion of Mill Street.

General Site Restoration

As indicated in Section 2.2.1, approximately 27,025 cy of material will be excavated from the Elm and Mill Street Areas and sent off-site for disposal at permitted disposal facilities. The Final Design Report indicates that approximately 1,000 cy of material associated with the sand cap installed by the United States Environmental Protection Agency (EPA) over the footprint of the former building at the Elm Street Area will be segregated for use as backfill (assuming that the confirmation sampling required by the Verification Sampling Plan included as Appendix A of the Final Design Report indicates

that this material is acceptable for use as subgrade backfill at the Elm Street Area). However, approximately 1,700 cy of material will be required to restore the riverbank per the remedial design (which requires a modified slope and gabions based on a slope stability analysis). Some of the sand cap materials could be used for this purpose. As a result, the Remedial Action Contractor will be required to import 27,725 cy of clean materials to maintain the pre-excavation surface grades at the Site, as modified by the riverbank restoration design. Since approximately 7,035 cy of clean materials will be required to perform the surface restoration activities specified above for the Elm and Mill Street Area, only 20,690 cy of clean, general fill materials will be needed to maintain the pre-excavation surface grades at the Site. It is assumed that these materials will generally be transported to the Site using 20-cy trucks, requiring approximately 2,773 truck trips (i.e., 704 truck trips for the clean materials needed to perform the surface restoration activities, and 2,069 truck trips for the clean materials needed for general site restoration).

2.2.3 Summary

Based on the information provided in Section 2.2.2 above, it is currently estimated that the truck traffic associated with the implementation of the OSD soil remedy will require approximately 5,476 truck trips, all between the Site and off-site backfill sources or disposal facilities.

2.3 Truck Routes

The trucking routes for the transportation of clean materials to the Site and impacted materials from the Site will be performed using the same highways to/from Milford, New Hampshire. Since the impact to the highway traffic is considered negligible, this TR/TA Report focuses on the trucking routes within Milford and in the vicinity of the Site.

The Preliminary Traffic Report identified two routes from the Site to NH Route 101 (from which the trucks will travel to the applicable off-site disposal facilities) that would be utilized during the OSD soil remedy. Those two routes between the Elm Street Area and NH Route 101 were as follows:

- Elm Street to NH Route 101; or
- Elm Street to NH Route 13 to NH Route 101, with a reverse direction of NH Route 101 to NH Route 13 to Lincoln Street to Union Street to Garden Street to Cottage Street to Elm Street to avoid the downtown traffic circle.

The Preliminary Traffic Report identified two routes from the Mill Street Area to the Elm Street Area. Those two routes included the following:

- North on Cottage Street to Elm Street; or
- West on Mill Street to West Street to Elm Street.

From Elm Street, the trucks would follow one of the routes identified above between the Elm Street Area and NH Route 101.

Further detail and maps of the above-listed truck routes are provided on Figures E-1 and E-2. These figures also display the locations of two Truck Staging Areas, consisting of a Primary Staging Area located on Elm Street and an Overflow Staging Area located on Perry Road. Use of the latter staging area may not be required for implementation of the OSD soil remedy.

2.4 Overview of Impacts Associated with Remedy Implementation

This section provides an overview of the anticipated impacts to the proposed truck routes and properties adjacent to the Elm and Mill Street Areas associated with the truck traffic required to implement the OSD soil remedy, as described in Section 2.2.

2.4.1 Truck Routes

As indicated in Section 2.2.3, approximately 5,476 truck trips will be required on public roadways to implement the OSD soil remedy, all of which will be long distance trips entering and leaving Milford. Approximately 2,703 truck trips are associated with the off-site transportation of impacted materials to applicable off-site disposal facilities, while approximately 2,773 truck trips are associated with the transportation of clean backfill/surface restoration materials to the Site.

It is currently anticipated that inbound trucks will be routed to the Primary Staging Area identified on Figures E-1 and E-2. However, should additional truck staging capacity be required during implementation of the OSD soil remedy, GE anticipates the use of the Overflow Staging Area. The latter staging area was identified by the Town subsequent to the submittal of the *Preliminary (30%) Design Report for the LTTD Remedy* (Preliminary Design Report), along with another potential staging area located on Heron Pond Road that was originally referred to as Staging Area #2 in the Preliminary Traffic Report, and subsequently referred to as Staging Area #3 in the previous revision to this TR/RA Report. As further described below, the staging area on Heron Pond Road has since been eliminated in response to comments provided by

the Town. However, these original two staging areas and trucking routes to the Site were identified in the Preliminary Traffic Report included in Addendum No. 1 (and included for informational purposes in Attachment A herein).

Subsequent to submittal of the Final Design Report on December 31, 2007, the Town identified a third property for use as the potential primary truck staging area: the former Milford Police Department property located on the north side of Elm Street to the west of the Site. Based on the identification of the former Milford Police Department property, as well as comments received by EPA in its April 5, 2007 approval with modification letter for the Preliminary Design Report (regarding the proximity of a school to the staging area located on Heron Pond Road), and a further determination of the quantity of trucks required on a daily basis to implement the OSD soil remedy, it is currently anticipated that the former Milford Police Department property will be utilized as the Primary Staging Area for any trucks that do not travel directly to the Site, with the staging area located on Perry Road utilized as the Overflow Staging Area, if necessary. Finally, the Town indicated a preference that the staging area on Heron Pond Road not be used during implementation of the OSD soil remedy due to the proximity of the school to that staging area. In response to that request, and based on the availability of another truck staging area located directly on Elm Street, the use of the staging area on Heron Pond Road has been eliminated. Since the two remaining staging Areas (i.e., the Primary Staging Area and Overflow Staging Area) are located along the travel route to the Site (i.e., between NH Route 101 and the Site), the routing of the trucks to the staging area(s) and from the staging area(s) to the Site is considered a part of the inbound leg for trucks traveling to the Site.

As indicated later in this section, it is currently estimated that approximately 52 truck trips per day will be required to implement the OSD soil remedy. Since this includes both the inbound and outbound legs of the trip (i.e., one truck makes both an inbound and outbound truck trip to/from the Site), it can be further estimated that implementation of the OSD soil remedy will require approximately 26 trucks visiting the Site each working day. The Remedial Action Contractor will be responsible for phasing the arrival of the trucks to the Site for either loading of impacted materials for off-site disposal or off-loading clean backfill materials for site restoration. As a result, it is anticipated that the approximately 26 trucks traveling to the Site will be phased to arrive at the Site over the course of a 10 hour work day (which includes 8 hours of active trucking operations). Therefore, staging of 26 trucks at any one time will not be required. Instead, it is anticipated that the Primary Staging Area, which is approximately 2.5 acres, including approximately 14,300 square feet of pavement, is sufficiently large to stage 12 to 16 trucks, with another five or six trucks staged on-site (split between Mill Street and the portion of Keyes Drive adjacent to the Elm Street Area) for material loading/off-loading activities. Therefore, by phasing the arrival of

trucks throughout the construction day, it is anticipated that the Primary Staging Area is sufficiently large to accommodate any trucks that need to be staged prior to traveling to the Site and that use of the Overflow Staging Area may not be required to implement the OSD soil remedy. In preparation for using this property as the Primary Staging Area, ARCADIS visited the property and determined that certain modifications will be necessary prior to use as the Primary Staging Area. Those modifications are presented on Figure E-3. In addition, although use of the Overflow Staging Area may not be required to implement the OSD soil remedy, ARCADIS visited that property and determined that certain modifications would be necessary prior to use as the Overflow Staging Area. Those modifications are presented on Figure E-4. Finally, it should be noted that trucks leaving the Site will travel directly to the appropriate off-site locations (i.e., disposal facility/clean fill source). These trucks will not return to the Primary Staging Area or, if used, the Overflow Staging Area, so no capacity is required at either staging area to stage outbound trucks.

Section 4 of the Final Design Report for the OSD soil remedy indicated that the excavation and transportation of the impacted materials at the Elm and Mill Street Areas will be performed in two phases. In general, the excavation activities at both areas will generally proceed from the deeper excavations to the shallower excavations. More specifically, it is anticipated that the excavation activities at the Elm Street Area will proceed from the deeper excavations located in the northeast corner and central portions of the property (Phase 1 – 14,420 cy, which includes approximately 3,460 cy of material excavated for the soil cover and utility/tree planting corridors) to the shallower excavations located along Keyes Drive and Elm Street (Phase 2 – 6,920 cy, which includes approximately 510 cy of material excavated for the soil cover and utility/tree planting corridors), as shown on Figures D-1 and D-2 (included in Appendix D to the Final Design Report). Similarly, it is anticipated that the excavation activities at the Mill Street Area will proceed from the deeper excavations in the central portion of the property (Phase 1 – 8,560 cy) to the shallower excavations located along the western and eastern portions of the property (Phase 2 – 1,095 cy), as shown on Figures D-3 and D-4 (included in Appendix D to the Final Design Report).

The Project Construction Schedule provided in Appendix G of the Final Design Report indicates that the concurrent excavation activities for the Phase 1 excavations at the Elm and Mill Street Areas (approximately 22,980 cy) would be performed over a period of approximately 53 working days (i.e., intrusive activities will be performed 12 hours a day, 6 days a week). Further, the Phase 2 excavations at the Elm and Mill Street Areas (approximately 8,015 cy) would be performed over a period of approximately 26 working days. As also shown on that schedule, the backfilling activities would generally be performed concurrently with the excavation activities at the Site, but finishing slightly behind such excavation activities to accommodate verification of the

limits of removal. Specifically, the limits of soil removal for each excavation area will be surveyed to verify achievement of the required excavation limits to achieve the soil cleanup levels (SCLs) specified in the Record of Decision (ROD) for OU-1. Additionally, confirmation sampling will be required in many completed excavations prior to backfill materials being placed in those excavations. In total, it is estimated that the concurrent excavation and off-site disposal activities at the Elm and Mill Street Areas will be performed over a period of approximately 92 work days, or 107 calendar days. These estimated durations assume that the excavation and transportation activities will be performed to provide sufficient materials to maintain an excavation production rate of approximately 450 tons (i.e., 300 cy) per day. Based on the information provided above, it is assumed that approximately 5,476 truck trips will be spread evenly over 107 days for a total of approximately 52 truck trips per day between the Site and the off-site sources of clean materials and off-site disposal facilities.

Based on the traffic counts taken at the intersection of Elm Street and West Street (approximate average daily traffic [ADT] of 15,250), the addition of 52 trips per day would represent an increase of approximately 0.34% of traffic during any given day. It is not anticipated that this will represent a substantial impact to the overall intersection. This conclusion is supported by the detailed capacity analysis that was performed for the public roads adjacent to the Site and the staging areas as part of the final design of the OSD soil remedy, as further described in Section 3. As discussed therein, the capacity analysis was combined with the traffic data collected for the roads in the vicinity of the Site (provided in Attachments A through D of this report) to develop a detailed evaluation of potential impacts associated with the implementation of the OSD soil remedy and support an evaluation of the need for measures to mitigate such impacts.

2.4.2 Adjacent Properties

During implementation of the OSD soil remedy at the Elm and Mill Street Areas, the normal traffic and pedestrian patterns associated with Elm Street and Mill Street is expected to be impacted. It is anticipated that one lane of Elm Street will have to close for a short duration to facilitate excavation of soils and the replacement of the portion of the storm sewer utility under Cottage Street and Elm Street as described in Section 3.6 of the Final Design Report. As indicated in the Final Design Report, the remedial action will be performed in such a manner that the northern (i.e., west-bound) lane of Elm Street will not be closed concurrently with Mill Street. When the northern lane of Elm Street is closed, two-way traffic on Elm Street will be maintained utilizing one lane with traffic being maintained by flaggers or temporary signals. Pedestrians on Elm Street will have to be re-routed to the opposite (i.e., south) side of the street both east and west of the work area at adjacent intersections. Mill Street traffic will be detoured

during excavation, backfilling and restoration of the Mill Street Area (including reconstruction/realignment of Mill Street). For additional information on the above-referenced maintenance of traffic plans, see Technical Drawings T-1 to T-5, which are included in Appendix B of the Final Design Report.

The adjacent properties that may be impacted the greatest during the remedy are Keyes Field (Parcel 25-133) and the business/residence adjacent to the Elm Street Area (Parcel 25-11), as well as the four residences on Mill Street located immediately across the street from the Mill Street Area (Parcels 25-93, 25-93A, 25-94, and 25-109). As indicated in the Final Design Report, GE and the Town are currently engaged in discussions regarding alternate access to Keyes Field via an easement through the former Permattach property. The business at Parcel 25-11 is accessed directly from Elm Street, and will not be impacted. The Final Design Report contains provisions for maintaining access to residences at Parcels 25-11 and 25-109, and for providing alternate and/or temporary access to the residences at Parcels 25-93, 25-93A, and 25-94.

Properties located along the truck routes may experience some minor impact as the trucks pass by. The impacts are expected to include engine and tire noise, engine exhaust emissions and visual impacts of large dump trucks. These impacts are not considered significant since the anticipated truck volume is low (approximately 52 truck trips per day or approximately 6.5 truck trips per hour).

3. Recommendations and Analysis

This section provides: a recommendation of the truck routes to and from the Site; capacity analyses determining the levels of service and impact to those levels for significant intersections along the truck routes; a description of the potential impacts to the roadways and properties adjacent to the Site; and an evaluation of the need for measures to mitigate potential impacts created by the implementation of the OSD soil remedy at the Elm and Mill Street Areas.

3.1 Truck Route Recommendations

As indicated in Section 2.3, the Preliminary Traffic Report included in Attachment A identified primary and secondary haul routes depicted for each site and the original two staging areas (which now represent the Overflow Staging Area and the former Contingent Overflow Staging Area, the latter of which has now been eliminated). In letters dated May 15 and October 31, 2007, the Town provided comments on the truck routes presented in the Preliminary Design Report and the Intermediate OSD Design Report. Those comments indicated the Town's desire that the "Oval" located in the center of town be excluded from any trucking routes used for the implementation of the OSD soil remedy. As indicated in Section 2.3, one of the routes from the Elm Street Area included travel east on Elm Street to the Oval, turning south on Route 13.

In response to the Town's comments, the truck route through the Oval and the staging area located on Heron Pond Road were eliminated from further consideration. Also, as indicated in Section 2.4.1, a new Primary Staging Area was identified at the location of the former Milford Police Department on Elm Street to the west of the Site, which should be sufficient to handle the truck queues associated with implementation of the OSD soil remedy. Therefore, use of the staging area located on Perry Road (Overflow Staging Area) may not be necessary to implement the OSD soil remedy. In summary, the recommended routes from/to the Site and to/from the Primary Staging Area are as follows (see Figures E-1 and E-2):

- From the Elm Street Area - Exit the Elm Street Area traveling west on Elm Street, turning east on NH Route 101;

- From the Mill Street Area - Exit the Mill Street Area traveling west on Mill Street, turning north on West Street, turning west on Elm Street, turning east on NH Route 101;

- To the Elm Street Area - Traveling west on NH Route 101, turning east on Elm Street, turning north into the Elm Street Area;

- To the Mill Street Area - Traveling west on NH Route 101, turning east on Elm Street, turning south on West Street, turning east on Mill Street to the Mill Street Area;

- To the Primary Staging Area - Trucks would follow the above two routes, stopping at the former Milford Police Department property located on Elm Street on their way to the Site (as previously indicated, the Primary Staging Area will only be used for trucks inbound to the Site);

- To the Elm Street Area from the Primary Staging Area - Traveling east on Elm Street, turning north into the Elm Street Area; and

- To the Mill Street Area from the Primary Staging Area - Traveling east on Elm Street, turning south on West Street, turning east on Mill Street to the Mill Street Area.

3.2 Capacity Analysis

To measure the impact associated with implementing the OSD soil remedy on the existing vehicular traffic in the vicinity of the Site, capacity analyses were performed at key intersections along the truck routes utilizing the computer program Synchro under both projected existing and projected remedial action conditions in 2009. Capacity analyses take into consideration a number of variables in determining delay such as vehicle volume, lane width, number of lanes, vertical grades, signal timing, signal phasing, traffic control, turn lane lengths, and other geometric information. The analyses measured the actual impact in terms of level of service (LOS) at the key intersections. LOS is a measure of delay of the intersection in seconds (sec). Below is a table of the LOS and the delay in seconds for each level, with LOS A being the best in terms of delay and LOS F being the worst in terms of delay.

Table 1 – Levels of Service

LOS	Signalized Intersection	Unsignalized Intersection
A	≤10 sec	≤10 sec
B	10-20 sec	10-15 sec
C	20-35 sec	15-25 sec
D	35-55 sec	25-35 sec
E	55-80 sec	35-50 sec
F	≥80 sec	≥50 sec

Capacity analyses were performed for the four major intersections located along the recommended truck routes that would be impacted by implementation of the OSD soil remedy, including: Mill/Knight Street and West Street; Elm Street and West Street; Elm Street and Old Wilton Road; and Elm Street and NH Route 101. The assumptions for the capacity analyses were that trucks would be traveling to both the Elm and Mill Street Areas concurrently. The analyses were performed for the peak hours identified for weekday mornings, weekday afternoons/evenings, and Saturday midday, as determined through a review of the traffic counts obtained in 2006 during the preliminary design phase (see Attachment C). The existing counts were projected to 2009, which is the anticipated year during which the OSD soil remedy would be implemented, utilizing the existing count information that is located in Attachment D.

The Final Design Report estimated that a total of 5,476 truck trips will be needed over a 107-day period during the implementation of the OSD soil remedy. Of the 5,476 truck trips, 3,554 trips are anticipated trips to/from the Elm Street Area and 1,932 trips are anticipated trips to/from the Mill Street Area. Based on an 8-hour day, this represents approximately 52 truck trips per day with 34 trips to/from the Elm Street Area and 18 trips to/from Mill Street Area. The result is a total of approximately 6.5 trips per hour to/from the Site. The truck trips associated with remedy implementation were distributed along the haul routes per the traffic split diagram located in Attachment D. All of the projected 2009 existing and projected remedial action traffic counts are summarized in tables and charts located in Attachments B through E.

Tables 2 and 3 below summarize the results of the capacity analyses that were completed for the signalized (Table 2) and unsignalized (Table 3) intersections located along the truck routes between NH Route 101 and the Site. Capacity analyses were also performed for the intersection of Elm Street and Old Wilton Road for trucks utilizing the Overflow Staging Area; however, that capacity analysis is also relevant to the Primary Staging Area. As a conservative measure, the analysis for this intersection was completed assuming the five vehicles per hour were traveling to/from the staging area (even though it is not anticipated that the staging area will be needed for each of the 26 trucks traveling to/from the Site on a daily basis, as described in Section 2.4.1). Due to the low hourly volume of truck trips, there is not a significant change in the delay of any intersection and the expected impact to the haul routes will be negligible.

Table 2 - Delay in Seconds/Level of Service at Signalized Intersections

Intersection	Projected 2009 LOS Non-Construction Conditions			Projected 2009 LOS Construction Conditions		
	AM	PM	SAT	AM	PM	SAT
Elm Street/NH Route 101	26.0/C	46.9/D	20.7/C	26.4/C	46.9/D	21.2/C
Elm Street/West Street	13.7/B	14.1/B	10.7/B	13.8/B	14.1/B	10.8/B

Table 3 - Delay in Seconds/Level of Service at Unsignalized Intersections

Stopped Approach	Intersecting Street	Projected 2009 LOS Non-Construction Conditions			Projected 2009 LOS Construction Conditions		
		AM	PM	SAT	AM	PM	SAT
Old Wilton Road NEB	Elm Street	12.6/B	11.8/B	12.9/B	12.7/B	11.9/B	13.0/B
Knight Street EB	West Street	13.2/B	10.9/B	11.3/B	13.3/B	11.0/B	11.3/B
Knight Street WB	West Street	15.1/C	10.9/B	10.7/B	15.1/C	10.9/B	10.7/B

As indicated in the tables above and documented in the capacity analyses located in Attachment E, none of the evaluated intersections will have a significant decrease in LOS during implementation of the OSD soil remedy due to trucks traveling to/from the Site and/or NH Route 101. The complete capacity analyses for the projected existing and remedial action conditions in 2009 during workday morning, workday afternoon/evening and Saturday midday peak hours can be found in Attachment E.

3.3 Impact Summary

The overall impact associated with implementation of the OSD soil remedy to the areas surrounding the truck routes would be negligible. This conclusion is based on the minimal delay differences in the capacity analyses, the minimal truck volumes per hour associated with remedy implementation, the truck routes being located primarily on major thoroughfares and the minimal residential areas adjacent to the haul routes.

All of the intersections that were analyzed will operate at a LOS of B or C except the workday afternoon/evening peak hour at the intersection of Elm Street and NH Route 101 which is projected to have a LOS of D under non-construction conditions in 2009. However, by optimizing the times of the signal phases, the Elm Street/NH Route 101 intersection delay could be reduced from 46.9 seconds (a LOS of D) to 29.8 seconds

(a LOS of C) under non-construction conditions. Most importantly, the projected LOS at each intersection under projected construction conditions in 2009 all fall within the same category as the projected LOS under non-construction conditions. Therefore, implementation of the OSD soil remedy is expected to have negligible impact on the LOS at the intersections along the truck routes.

Elm Street roadway work is expected to have an impact on pedestrians and the motoring public when the crossing near Keyes Field is closed and two-way traffic is maintained in one lane. Mill Street roadway work is expected to have an impact on the motoring public and residential access when the detour of Mill Street is in effect. As a result, a maintenance of traffic plan has been developed to mitigate these expected impacts. Please refer to the T-series of Technical Drawings located in Appendix B of the Final Design Report for the maintenance of traffic plan.

3.4 Impact Mitigation Recommendations

No mitigation is required along any of the truck routes since implementation of the OSD soil remedy will not impact the LOS at any of the intersections along the truck routes, as indicated in Section 3.3. Regarding impacts to adjacent roadways associated with remedy implementation, the Final Design Report indicates that the excavation work proposed for Mill Street and the northern (i.e., west-bound) lane of Elm Street will not be performed concurrently. Further, the Elm Street roadway work shall be in accordance with the T-series of Technical Drawings located in Appendix B of the Final Design Report and, to the extent practicable, will be performed during a period of time that minimizes the inconvenience to pedestrians and motoring public. The Mill Street detour shall also be completed per the T-series of Technical Drawings. In addition, the remedial design includes the possible phasing of the Mill Street remedial action such that access to the adjacent residences might be minimized. In summary, the overall impacts to vehicular and pedestrian traffic in the vicinity of the Site are considered minimal since the impacts associated with implementation of the OSD soil remedy are typical for projects of this size and the impact to the roadway network and traffic flows from the truck traffic associated with the implementation of the OSD soil remedy is negligible.

HALEY& ALDRICH

Calculations

File No. 32608
Sheet of
Client ARCADIS
Date 11/19/10
Project LEE FLETCHER
Computed By DRS
Subject REVISED SEASONAL LOW H_2O
Checked By

SUMMARY

1) BASED ON TWO RECENT BORINGS & REVISED SEASONAL LOW H_2O TABLE REVIEW CALC'S & DRAWINGS.

2) REVISIONS EFFECT CELL V & DESIGN SECTIONS 2 & 5

3) BASED ON ATTACHED CALCULATIONS BRACE LOADS & MOMENTS GO DOWN

4) DRAWINGS HAVE BEEN REVISED TO REFLECT CHANGES, BRACING MEMBERS HAVE NOT BEEN CHANGED. REQUIRED SEE EMBEDMENT HAS BEEN CHECKED & NO CHANGES ARE REQUIRED.

HALEY & ALDRICH

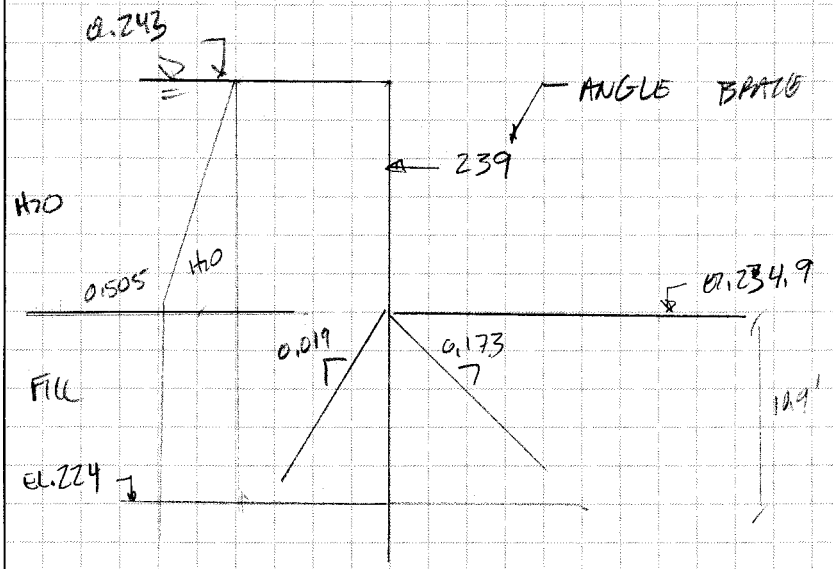
Calculations

File No. 32608-
Sheet of
Client ARCADIS
Date 11/19/20
Project LCC FLOATING
Computed By DDS
Subject REVISED H2O
Checked By

DESIGN SECTION 2

REVISE SECTION 2 BASED ON UPDATED BORING INFORMATION & REVISED H2O TABLE ELEVATION

BASED ON B-4 TOP OF GLACIAL TILL IS AT EL. 224



FILL: $\gamma = 120$, $\phi = 30°$
$K_a = 0.33$, $K_p = 3.0$

PRESSURES

ACTIVE: H_2O $62.4 \times (243 - 234.9) = 0.1505$ PSF

FILL $(120 - 62.4)\,0.33 = 0.019$ PSF

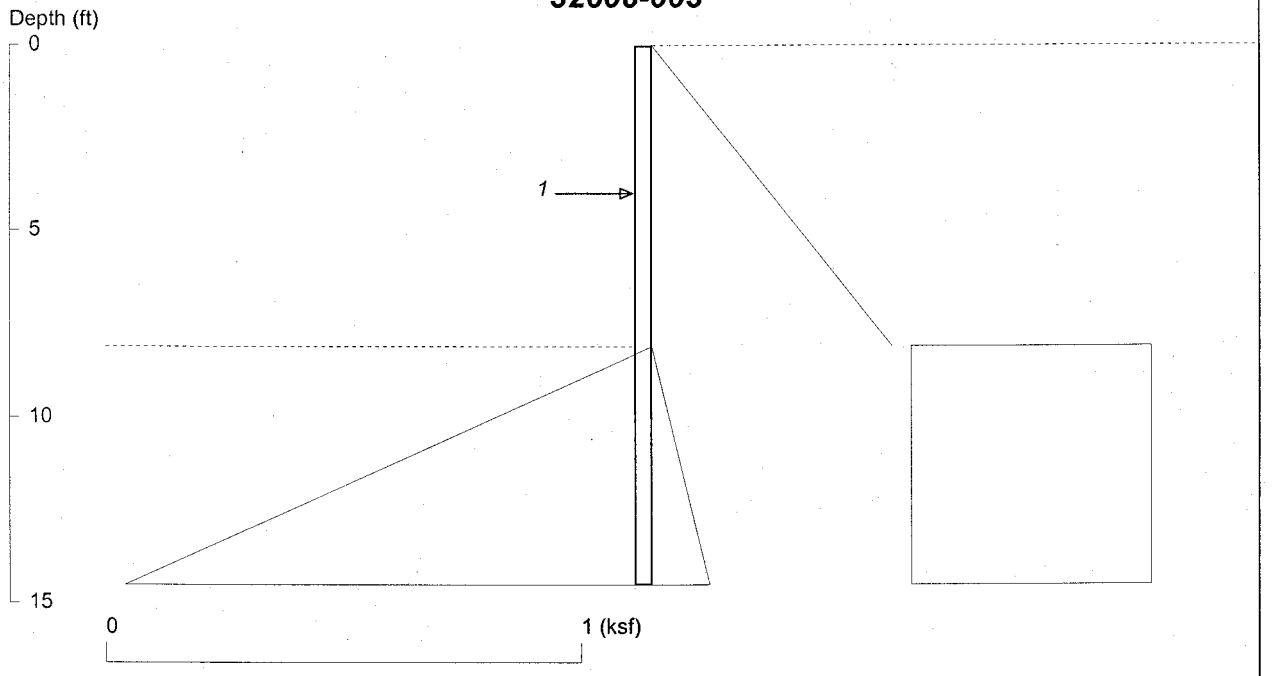
PASSIVE

FILL $(120 - 62.4)\,3 = 0.173$ PSF

SEE CT SHORING RESULTS MIN EMBED = ~~6.9'~~ USE 8' MIN.

GE Fletcher - Elm St River Sheeting Case2

32608-003



<ct-Shoring> CIVILTECH SOFTWARE USA www.civiltech.com

Licensed to

Date: 11/19/2010 File Name: G:\32608\REvised H2O\2010-1119-Case2_P1.sho

WALL HEIGHT: 8.10 MIN. EMBEDMENT: 6.41 (8~10 recommended) MIN. PILE LENGTH: 14.51
MAX. MOMENT: 3.16 AT DEPTH: 8.21

MIN. PILE SIZE AND TOP DEFLECTION - shown in ( ):
PS28 (-0.5) PS32 (-0.5) PSA28 (-0.3) PSA23 (-0.4) PSX32 (-0.4) PMA22 (-0.1) SZ12 (0.0)
SZ14 (0.0) SZ15 (0.0) PDA27 (0.0) 1BXN (0.0) Z65 (0.0) 1N (0.0) CZ84 (0.0)
Required Min. Section Modulus = 1.1 in3/pile, Fy=50 ksi=345 MPa, Fb/Fy=0.66

BRACE, TIEBACK, OR DEADMEN ANCHOR (Spacing = 1):

No.	DEPTH	ANGLE	TOTAL	HORIZ.	VERT.	L_free	L_fixed
1	4.0	0.0	2.1	2.1	0.0	N/A	N/A

TOTAL VERTICAL FORCE: 0.0

DRIVING PRESSURE (ACTIVE, WATER, & SURCHARGE) X -- Depth from wall top

No.	X top	Top Pres.	X bot.	Bot. Pres.	Spacing
1	0.00	0.00	8.10	0.50	1.00
2	8.10	0.50	14.51	0.50	1.00

ACTIVE PRESSURE (BELOW DREDGE LINE) Y - Depth from dredge level

No.	Y top	Top Pres.	Pres. Slope	Width
1	0.00	0.00	0.02	1.00

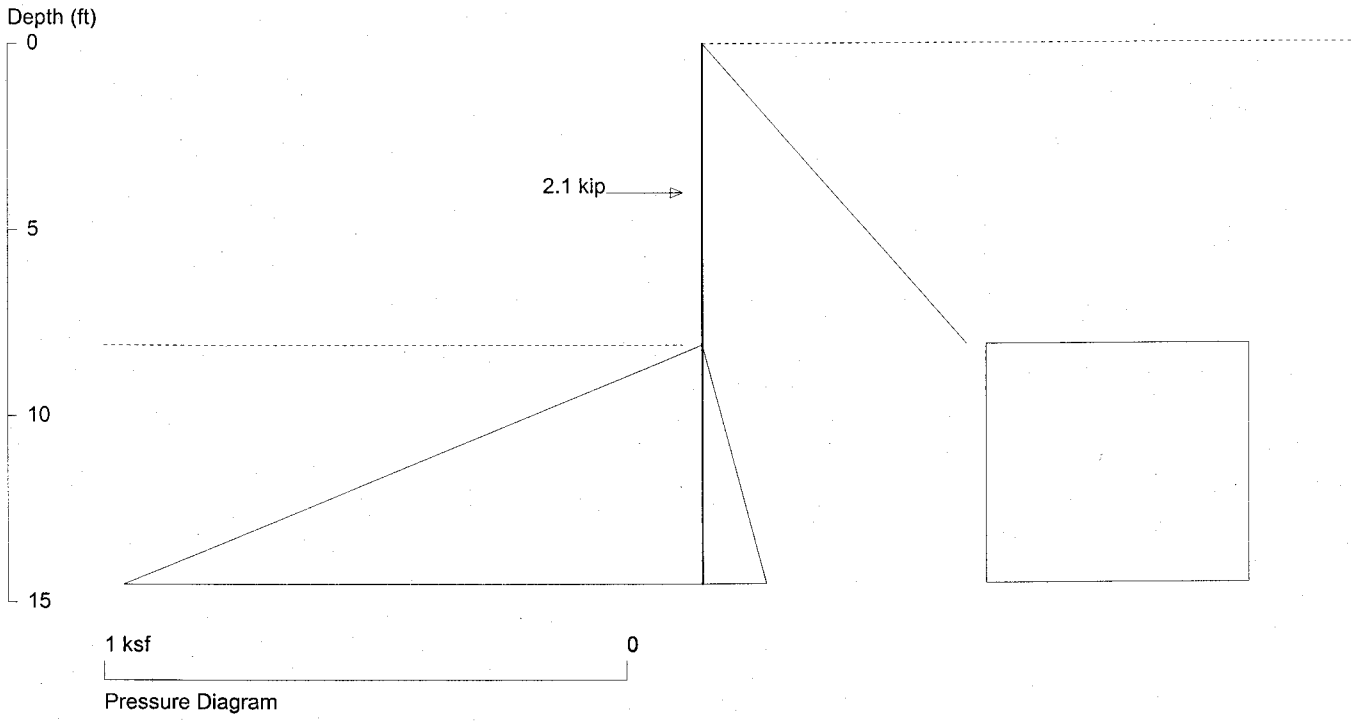
PASSIVE PRESSURE (BELOW DREDGE LINE) Y -- Depth from dredge level
In the calculation, the following passive pressure are divided by a Factor of Safety =1

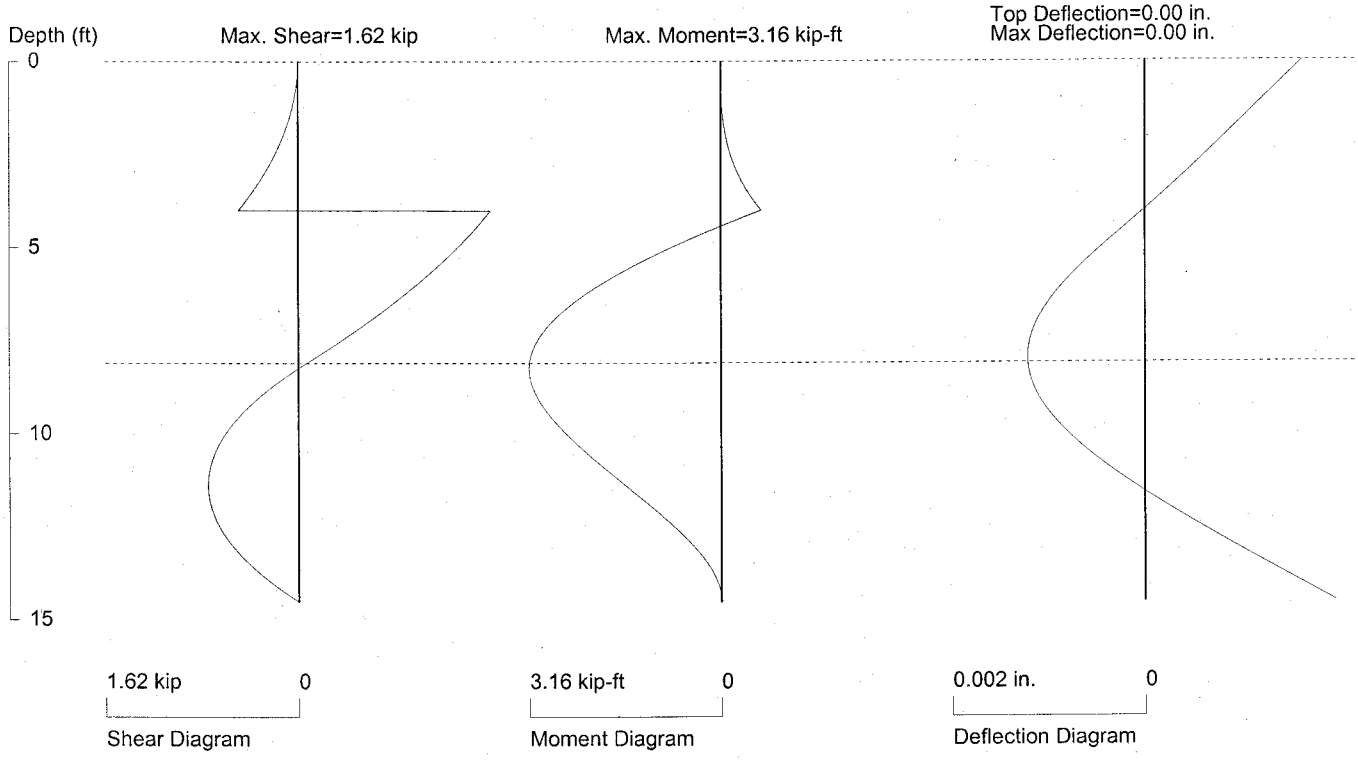
No.	Y top	Top Pres.	Pres. Slope	Width
1	0.00	0.00	0.17	1.00

UNITS: Length/Depth - ft, Force - kip, Moment - kip-ft, Pressure - ksf, Pres. Slope - kip/ft3, Deflection - in

GE Fletcher - Elm St River Sheeting Case2

32608-003





PRESSURE, SHEAR, MOMENT, AND DEFLECTION DIAGRAMS

Based on one soldier pile or one foot spacing of sheet pile

Pile Properties: E (ksi) = 29000, I (in4) = 904

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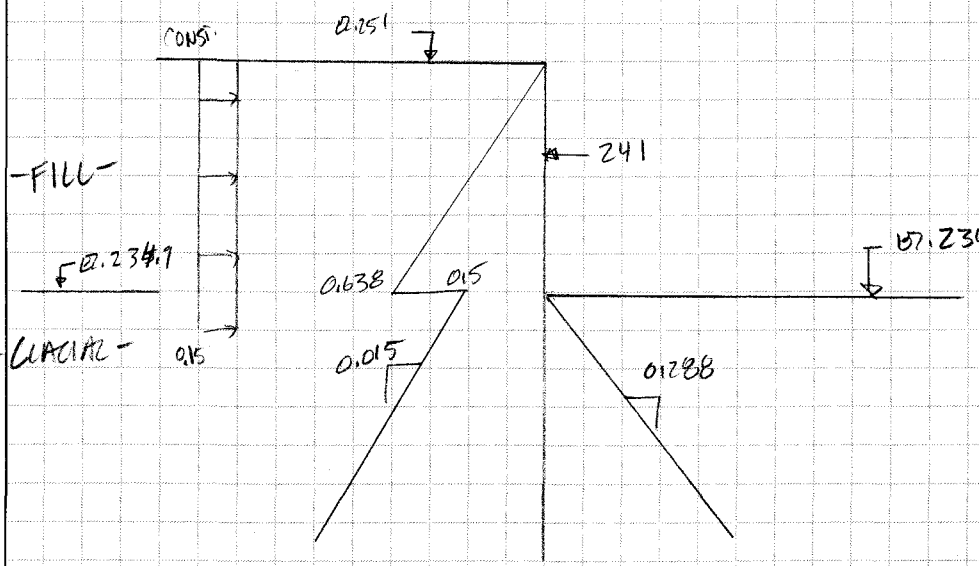
HALEY & ALDRICH

Calculations

File No. 32608-
Sheet 1 of
Client ARCADIS
Date 11/19/20
Project GO FLOTILLA
Computed By DRS
Subject REVISED DESIGN H2O LEVEL
Checked By

DESIGN SECTION 5

CELL V



NOTES:
BASED ON REVISED SEDGWICK LOW WATER TABLE @ EL. 234.9
RE-ANALYZE CELL V W/ BOE @ EL. 234.9

SOIL PROPERTIES
FILL: $\gamma = 120$, $\phi = 30°$, $K_a = 0.33$, $K_p = 3$

FILL: $\gamma = 125$, $\phi = 36$, $K_a = 0.26$, $K_p = 5$

PRESSURE CALCULATIONS

ACTIVE

FILL: $(251 - 234.9) \times .12 \times 0.33 = 0.638$

GLACIAL: $16.1 \times .120 \times 0.26 = 0.15$

INCREASES $(.125 - 0.0624) \times 0.26 = 0.016$

PASSIVE:

$(125 - 62.4) \times 5 = 0.1313$

RESULTS SEE ATTACHED CT-SHORE RESULTS

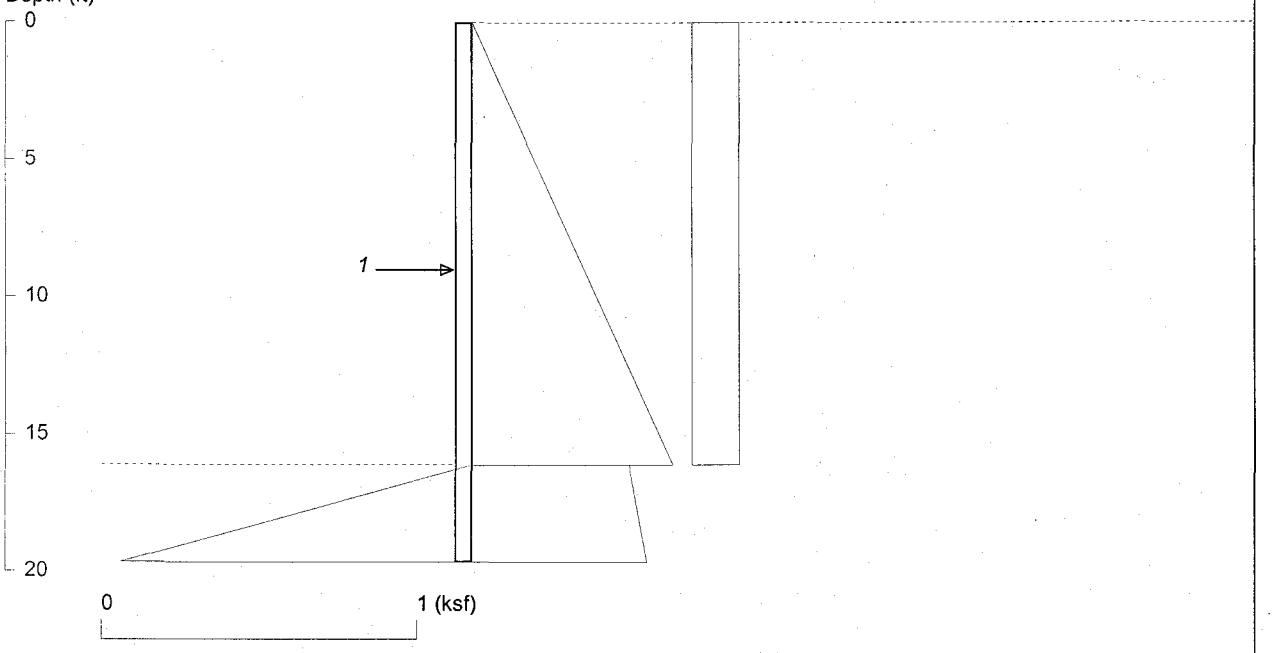
MAX MOMENT = 65 K-FT

REQ SECTION MODULUS $\frac{65 \times 12 \times 6}{0.66 \times 50} = 141.8$ USE HP14X102 $S_x = 1050$ ✓ OK

BRACE LOAD = 6.9 USE 7 K/LF FOR DESIGN.

GE Fletcher - Run 5, Cell V

32608-003



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WALL HEIGHT: 16.10 MIN. EMBEDMENT: 3.56 (8~10 recommended) MIN. PILE LENGTH: 19.66
MAX. MOMENT: 65.34 AT DEPTH: 9.00

HP14X102 has Section Modulus = 150.0 in3/pile. It is greater than Min. Requirement! Top Deflection = 0.11 in.
Required Min. Section Modulus = 23.8 in3/pile, Fy=50 ksi=345 MPa, Fb/Fy=0.66

BRACE, TIEBACK, OR DEADMEN ANCHOR (Spacing = 1):

No.	DEPTH	ANGLE	TOTAL	HORIZ.	VERT.	L_free	L_fixed
1	9.0	0.0	6.9	6.9	0.0	N/A	N/A

TOTAL VERTICAL FORCE: 0.0

DRIVING PRESSURE (ACTIVE, WATER, & SURCHARGE) X -- Depth from wall top

No.	X top	Top Pres.	X bot.	Bot. Pres.	Spacing
1	0.00	0.00	16.10	0.64	6.00
2	0.00	0.15	16.10	0.15	6.00

ACTIVE PRESSURE (BELOW DREDGE LINE) Y - Depth from dredge level

No.	Y top	Top Pres.	Pres. Slope	Width
1	0.00	0.50	0.02	1.00

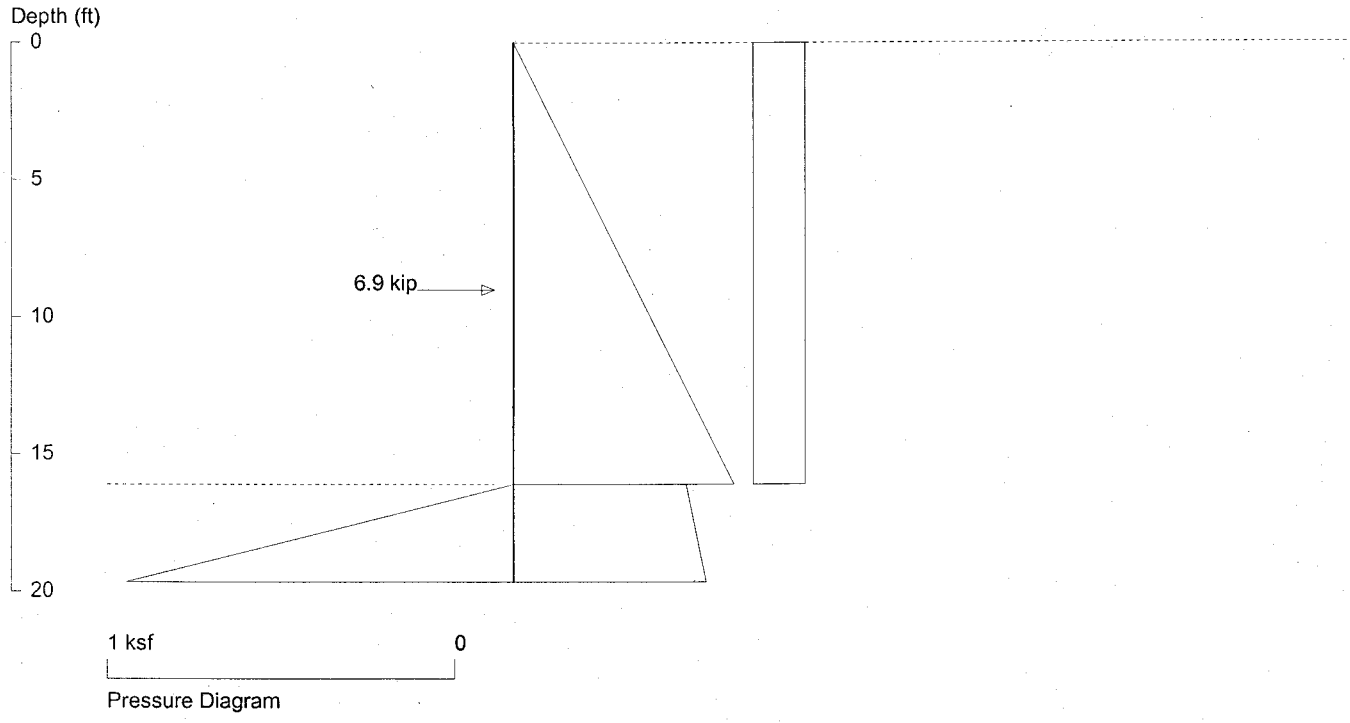
PASSIVE PRESSURE (BELOW DREDGE LINE) Y -- Depth from dredge level
In the calculation, the following passive pressure are divided by a Factor of Safety =1

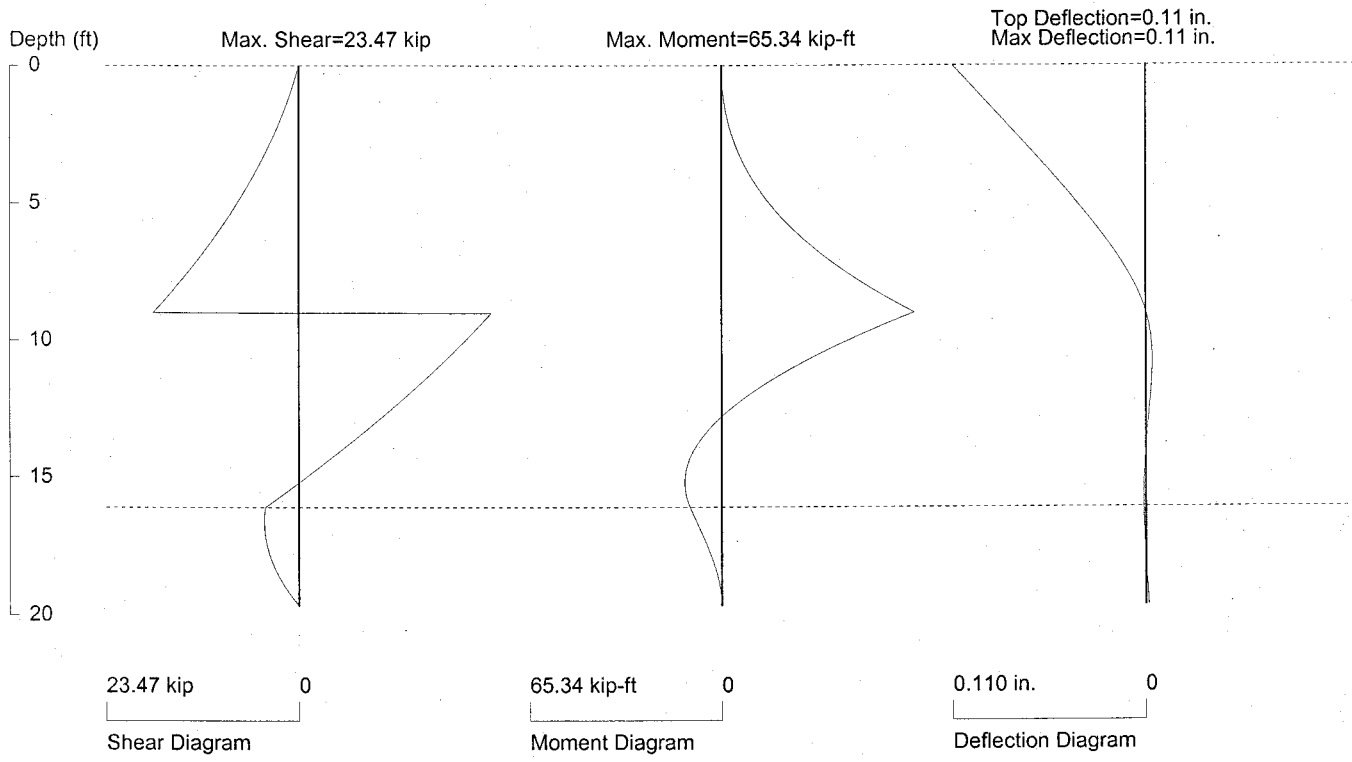
No.	Y top	Top Pres.	Pres. Slope	Width
1	0.00	0.00	0.31	3.00

UNITS: Length/Depth - ft, Force - kip, Moment - kip-ft, Pressure - ksf, Pres. Slope - kip/ft3, Deflection - in

GE Fletcher - Run 5, Cell V

32608-003





PRESSURE, SHEAR, MOMENT, AND DEFLECTION DIAGRAMS

Based on one soldier pile or one foot spacing of sheet pile

Pile Properties: E (ksi) = 29000, I (in4) = 1050

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