STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Remediation and Waste Management
State House Station #17
Augusta, Maine 04333-0017
Telephone: (207) 287-7826

NOTICE OF VIOLATION

PART I: GENERAL INFORMATION

ALLEGED VIOLATOR'S NAME:
Mallinckrodt US LLC/Medtronic

DOCKET NUMBER:

ALLEGED VIOLATOR'S MAILING ADDRESS:
710 Medtronic Parkway LC 300
Minneapolis, MN 55432

DATE ISSUED:
March 19, 2025

PHYSICAL LOCATION OF VIOLATIONS:
99 Industrial Way
Orrington, ME 04474

CERTIFIED MAIL NUMBER:
7015 1520 0001 0964 9657

POINT OF CONTACT AND TITLE:
Ashley Foster Pinnock, Sr. Legal Director and Managing EHS Counsel

TELEPHONE NUMBER:
(763) 526-0924

PART II: INFORMATION CONCERNING THE ALLEGED VIOLATION

This Notice of Violation (NOV) is in reference to Mallinckrodt US LLC's (Mallinckrodt) ongoing failure to meet remediation requirements at its contaminated property that is subject to orders issued by the Department of Environmental Protection and the Board of Environmental Protection.

SUMMARY OF FACTS ALLEGED AS BASIS FOR VIOLATION(S):

1. Mallinckrodt owned and operated a chloralkali manufacturing facility located adjacent to the Penobscot River in Orrington, Maine (Site), and identified on the town of Orrington tax map at 005, lot 068.
2. On November 24, 2008, pursuant to 38 M.R.S. § 1365, the Commissioner of the Maine Department of Environmental Protection (Department or DEP) issued a Designation of Uncontrolled Hazardous Substances Site and Order (the Commissioner's Order) to Mallinckrodt,[1] which required Mallinckrodt to remediate the Site, including specified hazardous wastes such as mercury and chloropicrin.
3. On December 19, 2008, Mallinckrodt filed an administrative appeal of the Commissioner's Order with the Board of Environmental Protection (BEP).
4. On August 19, 2010, the BEP issued its Order on Appeal (the BEP Order), which made additional findings, denied Mallinckrodt's appeal, and affirmed and incorporated the

[1] Mallinckrodt US LLC is a wholly owned subsidiary of United States Surgical Corporation. *Mallinckrodt US LLC v. Dep't of Env't Prot.*, 2014 ME 52, ¶ 1 n.1, 90 A.3d 428.

DISTRIBUTION:	Case File	X	Enforcement Director	X	AG's Office	X	EPA		Other:	

Commissioner's Order in its entirety with certain modifications set forth in the BEP Order. Among other things, the BEP Order recognized the necessity of the Commissioner's requirement of Media Protection Standards (MPSs) to achieve a standard of remediation that is "protective of public health, safety and the environment,"[2] affirmed the applicable MPS for mercury of 2.2 ppm for the remediation of the Site, and, except for a limited exception not applicable here, mandated the removal by Mallinckrodt of all on-site soils and other media that do not meet that standard.[3] Collectively, the Commissioner's Order, as affirmed with modifications by the BEP Order, are the legally binding Orders governing remediation work at the Site (henceforth, the DEP Orders).

5. On September 17, 2010, Mallinckrodt filed a judicial appeal of the DEP Orders, along with raising an independent claim pursuant to 42 U.S.C. § 1983, in Penobscot County Superior Court, which action was subsequently transferred to the Maine Business and Consumer Docket (the BCD).
6. On October 31, 2012, the BCD affirmed the DEP Orders and dismissed Mallinckrodt's section 1983 claim.
7. On February 15, 2013, Mallinckrodt filed a further notice of appeal of the DEP Orders to the Maine Supreme Judicial Court sitting as the Law Court (the Law Court).
8. On April 3, 2014, the Law Court issued a decision, *Mallinckrodt US LLC v. DEP*, 2014 ME 52, 90 A.3d 428, affirming the DEP Orders, which have remained final and not subject to further appeal and have governed all of Mallinckrodt's remediation work at the Site since that time.
9. The DEP Orders require Mallinckrodt to submit Corrective Measures Implementation Plans (CMIPs), or work plans, in prioritized phases[4] and delegates to the DEP the authority to determine the priority of tasks for Mallinckrodt's removal of all soil and other media over the mercury MPS from the Site. The Commissioner's Order, §§ 3(a), (c), and (r) (at pp. 32-33), required Mallinckrodt to submit a CMIP to the DEP for its review and approval for the excavation, removal, and off-site disposal of all solid media exceeding the applicable MPS, including soils in the Plant Area,[5] by January 31, 2009. The BEP Order, issued in mid-2010 after Mallinckrodt appealed the Commissioner's Order, cited to its requirements regarding the removal of **all solid media including soils** that exceed the MPS, explained that this "includes the plant area soils . . . as well as any other area on-site of soils in excess of the media protection standards," and found that "this requirement is necessary to address a danger or likelihood of danger to public health and safety and the environment.[6] The BEP Order further noted the importance of Mallinckrodt implementing such excavation and removal work as expeditiously as possible to reduce the risks to human health and the environment posed by the Site.[7]
10. Remediation work began at the site in 2014. Removal of soil above the applicable MPS followed a process by which the area to be excavated would be identified and sub-divided into cells based on the results of prior soil investigation that determined the depth of

[2] BEP Order § 6(D)(1) (at p. 15).
[3] BEP Order §§ 6(D)(4) (at pp. 15-16) and 12(E) (at p. 47). A limited exception to the removal requirement for soils that do not attain the MPS in Landfill areas only is included in the BEP Order at §§ 10(C)-10(D) (at pp. 30-39).
[4] Commissioner's Order at pp. 32-33; BEP Order §§ 12(B) (at p. 46) and 13 (at p. 49).
[5] The "Plant Area" is the contiguous 12-acre section within the 235-acre site upon which the former Cell Building was built. BEP Order § 8(b)(1) (at p. 18) and Aerial Plant Area Boundary (Ex. *X*).
[6] BEP Order § 12(E) (at p. 47).
[7] BEP Order § 13 (at p. 49).

excavation and then confirmation sampling would be used to document that soil above the applicable MPS had been removed.[8]

11. After completion of work on the Landfill 1 area of the Site, Mallinckrodt petitioned the DEP Commissioner on June 19, 2018, seeking relief from the requirements of the DEP Orders. That petition was denied by the Commissioner on August 7, 2018.
12. Mallinckrodt subsequently submitted a CMIP to remediate the Cell Building area, within the larger Plant Area, following the existing process approved by the Department and used by Mallinckrodt during the previous phased remediation work. This CMIP was approved and remediation of the Cell Building area began in August 2019.
13. On March 13, 2023, DEP informed Mallinckrodt in a progress meeting that the DEP's highest priority at the Site was the unremediated portion of the Plant Area and requested a work plan from Mallinckrodt to complete Plant Area remediation as the next prioritized remediation phase for the Site. DEP approved a CMIP for the paved sump/catch basin #6 as an interim operation.[9]
14. On June 2, 2023, the DEP notified Mallinckrodt by letter that Mallinckrodt's existing work plans did not yet cover the DEP's identified highest priority for the Site, i.e., remediating the remainder of the Plant Area. The DEP requested that a work plan meeting be held and that Mallinckrodt submit to the DEP, within 45 days of the June 2 letter,[10] a work plan to remediate the remainder of the Plant Area (except for the Maintenance Building) consistent with the applicable MPS.
15. The requested Plant Area work plan is required to delineate the process of locating and removing all soil and other material with mercury concentrations above the MPS of 2.2 ppm in the entirety of the Plant Area, which removal has been determined to be necessary for the protection of public health, safety and the environment and is required by the DEP Orders.
16. In a letter dated July 20, 2023, Mallinckrodt acknowledged receipt of the DEP's June 2, 2023, letter, raised concerns with locating and removing all soils above the required mercury MPS of 2.2 ppm at the Site, and requested a meeting with the DEP to discuss "flexibility" in meeting that requirement of the DEP Orders.
17. In a letter dated July 31, 2023, the DEP responded to Mallinckrodt's July 20, 2023, letter. The DEP emphasized that although meeting the 2.2 ppm mercury MPS for soil remediation at the Site may present technical challenges for Mallinckrodt, the MPS of 2.2 ppm for mercury in soils is a requirement of the DEP Orders and is therefore non-negotiable.
18. After several additional meetings and calls with the DEP, Mallinckrodt eventually submitted a Plant Area remediation CMIP (Plant Area CMI Plan, Concrete and Utility Removal, Addendum 4) to the DEP by letter dated November 2, 2023, 108 days after the 45-day deadline of July 17, 2023, set forth in the DEP's June 2, 2023, letter requesting such a CMIP.
19. Mallinckrodt's CMIP submission included 38 soil and boring samples over the MPS spread over 11 yet to be remediated cells within the Plant Area.[11] Analysis of excavation soil samples by TechLaw, the DEP remediation contractor overseeing the remediation work, identified 12

[8] This process was followed for the Nitromethane building (2014), Landfills 3-5 (2015-6), Scrap metal yard (2016), Northern Drainage Ditch (2016-17), Southerly Stream (2017), Landfill 2 (2017), Southern Cove (2017-18), and Landfill 1 (2018).

[9] The remediation of the paved sump/catch basin #6 was completed in November 2023.

[10] Although 30 days is the standard response time under multiple provisions of the DEP Order, the DEP in its discretion provided additional time for Mallinckrodt to respond to its June 2, 2023, letter considering the complexity of the requested work plan for the remediation of the remainder of the Plant Area.

[11] *See* Table "Mallinckrodt's Plant Area Soils with Hg>MPS and Planned for Remedial Excavation" citing Drawing #6 of Mallinckrodt's Plant Area CMI Plan, Concrete and Utility Removal, Addendum 4.

additional areas of media above the MPS for mercury requiring further remediation within the Plant Area.[12]

20. The DEP determined that Mallinckrodt's November 2, 2023, Plant Area CMIP was non-compliant with the DEP Orders and the DEP's June 2, 2023, letter because the Plant Area CMIP did not address remediation of all soils exceeding the mercury MPS at the Site, as required by the DEP Orders.[13]
21. Mallinckrodt's proposed November 2, 2023, Plant Area CMIP is inconsistent with the DEP Orders and departs from the DEP's approved remediation practices at the Site in several ways. Specifically, Mallinckrodt's proposed Plant Area CMIP artificially limits the locations where excavations would be performed by proposing to excavate small areas (20 ft X 20 ft) rather than entire cells as had been done with all previous excavations at the Site. The proposed Plant Area CMIP also limits the depth of excavation to no more than two feet below the depths of soil exceedances in boring samples, rather than continuing excavation until all sample results are less than the MPS of 2.2 ppm, as required by the DEP Orders and as has been done at all previous excavations at the Site other than Landfills 1 & 2. Mallinckrodt also proposes limiting excavations to a depth of 15 feet below ground surface, even though previous investigations and excavations have determined that soils exceeding the Site's MPS of 2.2 ppm for mercury have been found at greater depths in the Plant Area.
22. By letter dated January 4, 2024, the DEP notified Mallinckrodt that its November 2, 2023, Plant Area CMIP was unacceptable as proposed because it did not meet the conditions of the DEP Orders, which require the removal of all soil and other materials from the Site that exceed the mercury MPS of 2.2 ppm and which provided the DEP with authority to set the priority of tasks under CMIPs. Mindful of the ongoing delays at the Site, and rather than outright rejecting the November 2, 2023, Plant Area CMIP as non-compliant with the DEP Orders, the DEP approved Mallinckrodt's Plant Area CMIP but with modifications necessary to meet the requirements of the DEP Orders. Pursuant to paragraph 14[14] of the Commissioner's Order, Mallinckrodt was then required to incorporate the DEP's modifications of the non-compliant November 2, 2023, Plant Area CMIP into a new work plan within 30 days.
23. By letter dated February 5, 2024, Mallinckrodt requested a meeting with the DEP to present a new work plan. On March 6, 2024, during this requested meeting, Mallinckrodt presented a work plan for the Plant Area that did not incorporate the DEP's modifications to the Plant Area CMIP and that still limited the depths and locations of excavations in the Plant Area.
24. On numerous occasions, DEP has informed Mallinckrodt that, to be approved, any CMIP or work plan for the Plant Area at the Site must comply with the requirements of the DEP Orders, including the removal of all soils that the exceed the MPS of 2.2 ppm for mercury to protect public health, safety and the environment.[15]
25. Despite the requirement of the DEP Orders and repeated reminders by the DEP that Mallinckrodt remove all soils at the Site that the exceed the MPS of 2.2 ppm for mercury to protect public health, safety and the environment, Mallinckrodt has repeatedly attempted to

[12] *See* Table "Locations where bottom of excavation soil sample results are > MPS for mercury and the cells are not completed as of March 2025".
[13] *See* Plant Area Site Plan of Approximate Locations of Visible Hg and Soil with HG > MPS compiled by TechLaw, March 7, 2025.
[14] Commissioner's Order § 14 (at p. 36): "For every approval with modification, DEP will specify the nature of the required modification. DEP's modification shall be deemed incorporated into and enforceable under this Order, and Mallinckrodt shall incorporate such modification into the relevant work plan, proposal or report within thirty (30) days of receipt of such approval with modification unless DEP agrees in writing to an extended period."
[15] The DEP informed Mallinckrodt of this in writing on June 29, 2019; July 23, 2023; October 2, 2023; and January 4, 2024, and verbally at meetings with Mallinckrodt, including meetings held on September 26, 2023, and March 6, 2024.

evade this clear requirement. Indeed, on December 20, 2024, after failing to comply with the DEP Orders since at least February 5, 2024, when it was required to submit a compliant Plant Area CMIP, Mallinckrodt sent a petition to the BEP requesting that it be relieved of its responsibilities under the DEP Orders, including its responsibility to meet the MPS set by the DEP Orders. Contrary to Mallinckrodt's contentions, the Site is still a threat to human health, safety and the environment. Soil in the unremediated portion of the Plant Area presently contains visible elemental mercury and is above the required MPS.[16]

26. As of the date of this Notice, Mallinckrodt has not submitted a CMIP to the DEP that incorporates the DEP's January 4, 2024, modifications or otherwise addresses the excavation and removal from the Plant Area of all soil and other media with mercury levels above the 2.2 ppm MPS, as required by the DEP Orders.
27. As of the date of this Notice, Mallinckrodt has failed to excavate and remove all solid media and soils exceeding applicable MPS in the Plant Area, including all soil and other media with mercury levels above the 2.2 ppm MPS, as required by the Commissioner's Order, §§ 3(a), (r) (at pp. 32-33) and as upheld and required by the final BEP Order, §§ 6(D)(4) (at pp. 15-16) and 12(E) (at p. 47).
28. In addition to the violations identified above, Mallinckrodt's failure to submit a plan to excavate and remove all solid media and soils exceeding applicable MPS in the Plant Area, including all soil and other media with mercury levels above the 2.2 ppm MPS, as required by the DEP Orders, and its failure to remove all such soils as required by the DEP Orders, has resulted in ongoing, daily violations since at least February 5, 2024, or the deadline for Mallinckrodt to have submitted a compliant Plant Area CMIP.[17]

AUTHORITY

38 M.R.S. § 347-A(1) authorizes the Commissioner to initiate an enforcement action through one or more steps "whenever it appears to the commissioner, after investigation, that there is or has been a violation of this Title, . . . or of the terms or conditions of a license, permit or order issued by the board or the commissioner ." All orders of the department may be enforced by the Attorney General or the department. 38 M.R.S. § 347-A(5).

"In the event of a violation of any provision of the laws administered by the department or of any order, regulation, license, permit, approval, administrative consent agreement or decision of the board or commissioner . . . the Attorney General or the department may institute injunction proceedings to enjoin any further violation thereof, a civil or criminal action or any appropriate combination thereof without recourse to any other provision of law administered by the department." 38 M.R.S. § 348(1). Courts may order restoration of any affected areas in such actions. 38 M.R.S. § 348(2).

38 M.R.S. § 349(2) further provides, in pertinent part, that **"**[e]xcept as otherwise specifically provided, a person who violates a law administered by the department, *including, without limitation, a violation of the terms or conditions of an order, rule, license, permit, approval or*

[16] Furthermore, entire areas of the Site have not even been characterized or fully assessed for contamination, such as the TSSA-1 area.

[17] This NOV solely provides notice of Mallinckrodt's ongoing violations of the DEP Orders in relation to remediation of the Plant Area and does not address or preclude future Department notice and action regarding necessary remediation at the Site beyond the unremediated portions of the Plant Area or regarding other ongoing violations by Mallinckrodt of the DEP Orders.

decision of the board or commissioner . . . is subject to a civil penalty, payable to the State, of not less than $100 and not more than $10,000 for each day of that violation or, if the violation relates to hazardous waste, of not more than $25,000 for each day of the violation. This penalty is recoverable in a civil action." (*Emphasis added.*)

SPECIFIC VIOLATIONS

The Department has identified the following violations of the DEP Orders by Mallinckrodt:

Violations of Sections 3(a), 3(c), and 3(r) of the Commissioner's Order (at pp. 32-33) and Sections 6(D)(4) and 12(E) of the BEP Order (at pp. 15-16, 47): Failure to Excavate, Remove and Dispose of All Mercury Contaminated Soils in the Plant Area Consistent with the Mercury MPS.

By failing to excavate, remove, and dispose of all mercury-contaminated soils in the Plant Area consistent with the mercury MPS, Mallinckrodt has violated the DEP Orders on an ongoing, daily basis since, at the latest, February 5, 2024.

Violations of Sections 3(a) and of the Commissioner's Order (at pp. 32-33) and Sections 6(D)(4) and 12(E) of the BEP Order: Failure to Timely Provide a CMIP for the Excavation, Removal, and Off-Site Disposal of All Mercury Contaminated Soils in the Plant Area Consistent with the Mercury MPS.

By failing to provide a timely CMIP for the excavation, removal, and disposal of all mercury-contaminated soils in the Plant Area consistent with the mercury MPS, Mallinckrodt has violated the DEP Orders on an ongoing, daily basis since, at the latest, February 5, 2024.

Violation of Section 14 of the Commissioner's Order (at p. 36): **Failure to Incorporate DEP Modifications Into Relevant Work Plan for the Plant Area.**

Section 14 of the BEP Order (at p. 36) states and requires: "For every approval with modification, DEP will specify the nature of the modification. DEP's modification shall be deemed incorporated into and enforceable under this Order, and Mallinckrodt shall incorporate such modification into the relevant work plan, proposal or report within thirty (30) days of receipt of such approval with modifications unless DEP agrees in writing to an extended period."

By failing to incorporate the modifications to the Plant Area CMIP approved by the DEP on January 4, 2024, Mallinckrodt violated Section 14 of the Commissioner's Order (at p. 36) on an ongoing, daily basis since, at the latest, February 5, 2024.

CONCLUSION

In summary, remediation work at the Mallinckrodt site began in 2014 utilizing the standards and practices required by DEP Orders as affirmed by the Maine Law Court. The DEP Orders require removal of all soils present at the site that exceed the MPS of 2.2 ppm for mercury as necessary for the protection of human health and the environment. The DEP Orders also require that Mallinckrodt submit CMIPs to ensure, to the satisfaction of DEP, that the remedial operations will effectively achieve the standards required by order.

Beginning in March of 2023, Mallinckrodt was informed by the DEP that the remainder of the Plant Area was the highest remaining remediation priority and that the submission of a CMIP to address the removal of all soils exceeding the mercury MPS within the Plant Area was required. The CMIP submitted by Mallinckrodt on November 2, 2023 was both 108 days in excess of the deadline required by order and technically insufficient to achieve the requisite soil remediation standard. Mallinckrodt has refused to incorporate the DEP's modified approvals necessary to sufficiently address this priority. To date, Mallinckrodt has not submitted a CMIP that meets the requirements of the DEP Orders. As a result, no significant remediation work has been performed in the prioritized section of the Mallinckrodt site.

COMPLIANCE SCHEDULE

1. Within 30 days of receipt of this NOV, submit for the DEP's review and approval a detailed work plan to remove all solid material above the Site MPS from all unremediated areas within the Plant Area.

2. Within 15 days of receiving DEP approval or approval with modification, implement the approved plan.

Timely cooperation on implementing the corrective actions requested in this NOV and contacting the case manager in writing within thirty (30) days of receiving this NOV are two significant factors that may affect whether, or the extent to which, the Department pursues further enforcement action. Your reply should document all corrective actions taken to address each of the violations cited in this NOV and to ensure that compliance is achieved and maintained. Any relevant documentation of compliance (e.g. analytical results, work orders, manifest copies or other documents) should be included in your response. The Department offers technical assistance which may help you in correcting violations and preventing future violations. If you need technical assistance concerning this NOV or have questions regarding the Hazardous Waste Management Rules, please contact the Enforcement Case Manager identified below.

PART III: DEPARTMENT ENFORCEMENT CONTACT

ENFORCEMENT CASE MANAGER:
Joshua Biermann
Department of Environmental Protection
17 State House Station
Augusta, ME, 04333-0017

TELEPHONE NUMBER:
207.408.3748

State of Maine, Department of Environmental Protection

Issued By: _____
Melanie Loyzim, Commissioner

Enclosure(s) (4):

ENCLOSURES

Plant Area CMI Plan, Concrete and Utility Removal, Addendum 4
Plant Area Site Plan of Approximate Locations of Visible Hg and Soil with HG MPS
Table of Plant Area Soil with Hg above MPS and Mallinckrodt Plans for Remediation
Table of Plant Area Soils with Hg above the MPS and Planned for Excavation

VIA E-MAIL

Max J. Luick, Project Manager
Bureau of Remediation and Waste Management
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017
Max.J.Luick@maine.gov

RE: Plant Area CMI Plan, Concrete and Utility Removal, Addendum 4
Orrington Remediation Site. Orrington, Maine

Dear Max,

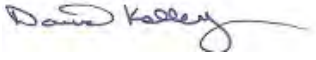
Thank you for meeting with us on September 26, 2023, to discuss challenges of completing the corrective measures in the Plant Area. This letter is in response to your follow up letter dated October 2, 2023 in which you requested that Mallinckrodt submit a Work Plan for remedial excavations in the Plant Area by Thursday November 2nd and serves as a transmittal letter for the attached addendum (Addendum 4) to the Plant Area Corrective Measures Implementation (CMI) Plan – Concrete and Utility Removal (CUR) scope of work (Plant Area CUR CMI Plan), approved by the Maine Department of Environmental Protection (DEP) on July 24, 2020.

Addendum 4 addresses residual soils with mercury concentrations that are greater than the media protection standard (MPS), west of the former Cell Building. An additional addendum will be submitted to address residual soils with mercury concentrations that are greater than the media protection standard (MPS) for areas east of the former Cell Building, as necessary. We expect the timing for submittal of any subsequent addenda for areas east of the former Cell Building to be in the next few months.

As stated during our discussion on September 26, 2023, Mallinckrodt US, LLC(Mallinckrodt) does not believe that the site currently poses a risk to human health and the environment pursuant to the Uncontrolled Hazardous Substances Site Law (38 MRSA 1365.Furthermore, Mallinckrodt has demonstrated that the average concentrations of mercury residuals are currently under the media protection standards. Nevertheless, Mallinckrodt has agreed to proceed with this work in an effort to close out the site and the order.

We look forward to the Departments prompt approval of this plan.

Regards,



Dave Kelley

Sr. Remediation Program Manager

November 2, 2023
Mr. Max Luick
Bureau of Remediation and Waste Management
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333

Subject: Plant Area CMI Plan, Concrete and Utility Removal, Addendum 4
Orrington Remediation Site
Orrington, Maine

Dear Mr. Luick:

This letter presents an addendum (Addendum 4) to the Plant Area Corrective Measures Implementation (CMI) Plan – Concrete and Utility Removal (CUR) scope of work (Plant Area CUR CMI Plan), approved by the Maine Department of Environmental Protection (DEP) on July 24, 2020, that is being completed at the Orrington Remediation Site (Site). This scope of work is being completed in accordance with the State of Maine Board of Environmental Protection (BEP) Order (Order) effective April 13, 2014.

As stated during our discussion on September 26, 2023, Mallinckrodt US, LLC (Mallinckrodt) does not believe that the Site currently poses a risk to human health and the environment pursuant to the Uncontrolled Hazardous Substances Site Law (38 MRSA 1365.Furthermore, Mallinckrodt has demonstrated that the average concentrations of mercury residuals are currently under the media protection standards. Nevertheless, Mallinckrodt has agreed to proceed with this work in an effort to close out the Site and the order.

Addendum 4 addresses residual soils with mercury concentrations that are greater than the media protection standard (MPS), west of the former Cell Building, below previous excavation areas defined in the Plant Area CUR CMI Plan (**Drawing 3).** These previous excavation areas, completed between 2020 and 2022, removed soils greater than the MPS to depths between 4 and 10 feet below ground surface and removed the industrial sewer in these areas, concrete and other utilities. The Addendum 4 residual excavation areas are centered around post-excavation confirmation and record samples from the Plant Area CUR CMI Plan excavations that exceeded the MPS for mercury or discrete pre-design investigation (PDI) samples below the bottom of the Plant Area CUR CMI Plan excavations that exceeded the MPS for mercury.

Excavation Locations

Five residual excavation areas are located in excavation areas PA2-2 and PA6-3 from the Plant Area CUR CMI Plan. These areas are centered around post-excavation bottom confirmation samples that exceeded the MPS for mercury during implementation of the Plant Area CUR CMI Plan. Excavations were terminated at the confirmation sample elevation due to site conditions at the time of sampling. Additional excavations to address the bottom confirmation exceedances will be performed under this Addendum. These additional excavations will be performed to a minimum depth of 1-foot below the sample elevation (**Table 1**) to remove soils greater than the MPS. The lateral extents of the excavation areas are shown on **Drawing 5** and tabulated on **Drawing 6** and **Drawing 7**.

Table 1. Summary of Bottom Confirmation Samples that Exceeded the MPS

Excavation Area/Location ID	Sample Elevation (ft)	Mercury Concentration (mg/kg)	Excavation Bottom Elevation (ft)
BS-PA-102	62.9	**3.63**	61.9
BS-PA-104A	63.6	**5.02**	62.6
BS-PA-106	63.0	**12.8**	62.0
BS-PA-93A-DEP	61.7	**3.08**	60.7
BS-PA-147A-DEP	60.6	**9.4**	59.6

Notes:
1. Bold indicates an exceedance of the MPS for mercury (2.2 mg/kg)
ft: feet
mg/kg: milligram per kilogram

One residual excavation area is located in excavation area PA2-7 also performed during the Plant Area CUR CMI Plan implementation. This excavation area is centered around record sample RS-PA-01A-DEP. Material in PA2-7 was previously removed to a depth of 5 feet below ground surface to facilitate the removal of subsurface concrete and utilities. Additional excavation to address the record sample exceedance is included in this Addendum. The excavation will be performed to a minimum depth of 1 foot below the sample elevation (**Table 2**) and within the lateral extents shown on **Drawing 5** and tabulated in **Drawing 6** and **Drawing 7**.

Table 2. Summary of Record Samples that Exceeded the MPS

Excavation Area/Location ID	Sample Elevation (ft)	Mercury Concentration (mg/kg)	Excavation Bottom Elevation (ft)
RS-PA-01A-DEP	62.1	**2.51**	61.1

Finally, residual excavations will be performed to remove 25 discrete PDI sample locations below the bottom of the Plant Area CUR CMI Plan excavations that exceeded the MPS for mercury. The excavations will be centered around the soil boring locations in which the samples were obtained. At these sample locations the vertical extent of mercury was delineated in 22 of the 25 locations. At these locations, the excavation will be extended to the top elevation of the interval at which mercury no longer exceeded the MPS criteria.

At sample locations where the vertical extent of mercury was not delineated (e.g., SB-PA-219, SB-PA-223, and SB-PA-226) the bottom of excavation will extend a minimum of 1-foot below the lowest elevation sample interval which exceeded the MPS. Residual excavations will be

performed to the design elevations defined in **Table 3** and within the lateral extents shown on **Drawing 5** and tabulated in **Drawing 6** and **Drawing 7**.

Table 3. Summary of PDI Samples Used to Define Excavation Bottom Elevations

Excavation Area/Location ID	Top Elevation of Sample (ft)	Bottom Elevation of Sample (ft)	Mercury Concentration (mg/kg)	Excavation Bottom Elevation (ft)
MW-805-O2	59.0	58.0	**5.21**	58.0
	58.0	57.0	2.18	
SB-LF1-61	54.4	53.4	**2.84**	53.4
	53.4	52.4	0.75	
SB-PA-08	54.1	53.1	**3.06**	53.1
	53.1	52.1	<0.27	
SB-PA-10	58.1	57.1	**2.51**	57.1
	57.1	56.1	0.95	
SB-PA-105	62.1	61.1	**17**	61.1
	61.1	60.1	1	
SB-PA-106	63.8	62.8	**2.8**	62.8
	62.8	60.8	0.73	
SB-PA-108	58.9	57.9	**2.6**	57.9
	57.9	56.9	0.95	
SB-PA-116	51.7	50.7	**7.12**	50.7
	50.7	49.7	1.5	
SB-PA-14	56.7	55.7	**2.47**	55.7
	55.7	54.7	<0.27	
SB-PA-144	55.9	54.9	**9.04**	53.9
	53.9	52.9	<0.27	
SB-PA-148	57.3	56.3	**6.99**	55.3
	55.3	54.3	<0.28	
SB-PA-149	51.2	50.2	**2.3**	49.2
	49.2	48.2	0.43	
SB-PA-167	51.3	50.3	**4.68**	49.3
	49.3	48.3	1.09	
SB-PA-168	61.8	60.8	**12.86**	59.8
	59.8	58.8	1.06	
SB-PA-235	62.6	61.6	**11.7**	60.6
	60.6	59.6	1.45	
SB-PA-29	62.5	60.5	**3.54**	60.5

Excavation Area/Location ID	Top Elevation of Sample (ft)	Bottom Elevation of Sample (ft)	Mercury Concentration (mg/kg)	Excavation Bottom Elevation (ft)
	60.5	58.5	0.47	
SB-PA-30	58.8	56.8	**25**	56.8
	56.8	54.8	1.30	
SB-PA-31	63.1	61.1	**7.3**	61.1
	61.1	59.1	<0.28	
SB-PA-42	65.2	63.2	**2.68**	63.2
	63.2	61.2	<0.28	
SB-PA-55	60.0	58.0	**16**	58.0
	58.0	56.0	1.5	
SB-PA-56	60.9	58.9	**3.05**	58.9
	58.9	56.9	0.77	
SB-PA-59	56.2	54.2	**4.2**	54.2
	55.2	54.2	<0.27	
SB-PA-219	56.8	55.8	**98**	54.8
SB-PA-223	57.5	56.5	**2.32**	55.5
SB-PA-226	56.3	55.3	**6.18**	54.3

Scope of Work

This scope of work will be performed as part of this Addendum and will follow the protocols and procedures described therein and presented in the Plant Area CUR CMI Plan. Additional details on the excavation procedures and confirmation sampling are provided below.

Preconstruction Activities

Before initiating excavation, the Remediation Contractor (CDM Smith, Inc.) will construct temporary decontamination pad(s) (as needed) and establish pertinent erosion and sediment controls (**Drawing 4**). The existing temporary soil stockpile areas (TSSAs) 1 and 3 will be used to stockpile excavated soil. TSSA 2 was removed as part of a previous phase of the Plant Area CUR CMI Plan.

Other Construction Activities

Waste characterization sampling, erosion and sediment control, water management, and backfilling will be conducted in accordance with the procedures discussed in the Plant Area CUR CMI Plan and as discussed below.

Waste Characterization

Waste characterization will be conducted after the soil is excavated and placed in the TSSAs. Materials with visible mercury will be segregated from other material prior to testing. Based on other waste characterization testing results from the Plant Area, it is anticipated that soil that does not contain visible mercury will be nonhazardous. Samples will be obtained from stockpiles of soil that will be approximately 300 cubic yards in volume and do not contain visible mercury. Most samples for waste characterization, except volatile organic compounds (VOCs), will be a

composite of five locations from the stockpile; however, VOC samples will be collected from one location within the stockpile underneath the surface to avoid material that has been in contact with the air for an extended period. Samples will be sent to Alpha Analytical for analysis of waste characterization parameters required by the disposal facility.

Erosion and Sediment Controls

Temporary erosion and sediment controls including silt fence, diversion berms, and stabilization measures will be implemented prior to any earth disturbing activities to be performed under this scope of work. The locations of erosion and sediment controls are shown on **Drawing 4.** Erosion and sediment control measures will be installed in accordance with the Maine DEP Erosion and Sediment Control Best Management Practices. Inspections of erosion and sediment control measures will be performed throughout construction activities and as defined in the Plant Area CUR CMI Plan. Maintenance on erosion and sediment control measures will be performed as needed. Additional erosion and sediment controls may be installed throughout the excavation and restoration area depending on Site conditions.

Water Management

The typical groundwater elevation in the Plant Area is approximately 7-feet below ground surface. Groundwater will likely be encountered in the majority of excavation area. Localized sumps will be installed and pumped to maintain the water level at least 1-foot below the bottom of excavation. Groundwater and surface water that accumulate in the excavation areas will be directed to a sump and pumped as needed to fractionation tanks or a TSSA for temporary storage, or directly to the onsite Groundwater Treatment Plant to keep the bottom of the excavation dry.

Utility Removal

Concrete structures and known utilities were removed from the excavation areas during implementation of the Plant Area CUR CMI Plan between 2020 and 2022, with the exception of a portion of drainpipe that remains in PA2-7 and PA2-13, as shown on **Drawing 5**. This pipe was previously encountered at an elevation of 55 feet in PA2-8, approximately 1-foot above the bottom of excavation around SB-PA-144. When encountered, the drain pipe will be inspected and removed in accordance with the procedures described in the Plant Area CUR CMI Plan. Additional utilities are not anticipated to be encountered during excavation; nevertheless, if utilities are encountered, they will be removed in accordance with the procedures discussed in the Plant Area CUR CMI Plan.

The Addendum 4 excavation area centered around MW-805-O2 is proposed to a depth of 11-feet below ground surface (**Drawing 5**). The monitoring well will be abandoned in accordance with the Maine DEP Guidance for Well and Boring Abandonment (Maine DEP, 2009) prior to excavation.

Excavation

The limits of excavation in this Addendum were defined using boring data from PDI activities, subsequent sampling events in the Plant Area, and as-built excavation information from the Plant Area CUR CMI Plan excavation and backfilling activities. Excavations will be performed around 31 sample locations to remove soil with mercury concentrations greater than the MPS (**Drawing 5)**.

Excavation will initiate at the existing ground surface and remove the clean fill placed during the implementation of the Plant Area CUR CMI Plan. These clean materials will be stockpiled for use as backfill when the excavation is completed. On average, 4-feet of clean fill will be encountered prior to the demarcation fabric. Soils below the demarcation fabric will be stockpiled for offsite disposal or potential reuse, as described below. The approximate limits of soils that require excavation and off-site disposal are shown on **Drawing 5** and tabulated on **Drawing 6** and **Drawing 7**.

Two excavation areas, centered around sample locations SB-PA-14 and SB-PA-42, are located immediately west of the former Cell Building along the sheet pile alignment. Excavation at SB-PA-14 and SB-PA-42 will extend to an elevation of 55.7 and 63.2 feet, respectively (**Drawing 6**). Design elevations in these areas range from 2 to 10 feet above the sheet pile tip elevations located within the extent of the excavation areas. Excavation will remain above the bottom of the sheet piles around SB-PA-14 and SB-PA-42.

Additional Excavations

Stability of the excavation will be maintained by sloping or benching in compliance with applicable OSHA regulations and the Site Health and Safety Plan. Additional excavation beyond the lateral limits shown on **Drawing 5** may be required to maintain safe excavation conditions and will be evaluated in the field. Soils encountered above the demarcation fabric will be stockpiled for reuse as backfill. Soils encountered below demarcation fabric but are outside of the limits of excavation will be tested for reuse in accordance with the Soil and Concrete Use Plan submitted as part of the Plant Area CUR CMI Plan.

Additional excavation may also be required if a confirmation sampling locations has concentrations above the MPS. The additional excavations will consist of excavating to a depth of 1-foot centered on the sample locations. Confirmation samples will be collected at the bottom of the additional excavations and submitted to Alpha Analytical for mercury analysis. Provided excavation stability can be maintained with benching and slope, this process will be repeated to a maximum depth of 2-feet below the design elevation or until the mercury concentrations in the bottom confirmation samples are below the MPS, whichever is encountered first.

On-Site Reuse Material

During excavation activities clean backfill placed as part of the Plant Area CUR CMI Plan implementation above the demarcation fabric will be stockpiled for reuse. Excavated material below demarcation fabric that does not exceed the MPS and/or is outside the Addendum 4 excavation area limits (i.e. bench material) will be stockpiled and sampled for potential reuse in accordance with the Soil and Concrete Use Plan presented in the Plant Area CUR CMI Plan.

Confirmation Sampling

Confirmation sampling will be conducted in accordance with the General Guidelines for Confirmation Sampling and Split Sampling Protocols, Data Validation Protocol, and the Plant Area CUR CMI Plan.

The total Addendum 4 excavation area is 12,400 square feet at the design depth of excavation areas shown on **Drawing 5** (i.e., this area does not include benching or sloping needed to maintain safe

excavation conditions). The confirmation sampling plan includes 9 post-excavation bottom samples and 22 pre-design bottom samples in these areas, which results in a frequency of 1 sample per 400 square feet. This sampling frequency is similar to the sampling frequency used in the Phase 1, Phase 1A, Cell Building, and CUR excavation areas. Post-excavation bottom samples will be collected at locations were PDI sampling did not vertically delineate soils with mercury concentrations greater than the MPS, as shown on **Drawing 8** and summarized in **Table 4.** The locations and elevations of post-excavation bottom confirmation samples are provided below in **Table 5**. Predesign bottom samples collected during PDI activities are summarized in **Table 3** above.

Table 4: Summary of Confirmation Samples

Number of Pre-excavation Confirmation Samples (complete)	22
Number of Post-Excavation Confirmation Samples	9
Area	12,400 sq ft
Total Confirmation Samples	31
Sample Frequency	1 per 400 sq ft

Table 5: Excavation Bottom Samples to be Completed after Excavation

Location ID	Soil Boring Location	Northing (USSurveyFoot)	Easting (USSurveyFoot)	Elevation (ft)
BS-PA-93D-DEP	-	391708.40	899458.57	60.7
BS-PA-102A	-	391689.65	899463.37	62.9
BS-PA-104D	-	391665.65	899431.37	62.6
BS-PA-106A	-	391667.65	899457.37	62.0
BS-PA-147D-DEP	-	391799.78	899458.81	61.8
RS-PA-01D-DEP	-	391483.45	899410.45	59.6
BS-PA-179	SB-PA-219	391476.41	899537.45	54.8
BS-PA-180	SB-PA-223	391751.22	899512.61	55.5
BS-PA-181	SB-PA-226	391671.75	899557.75	54.3

If a bottom confirmation sample indicates mercury concentrations in soil are greater than or equal to the MPS, an additional excavation will be excavated 1-foot deep around the sample, and the area will be resampled. This procedure will be repeated until sample results indicate that mercury concentrations are below the MPS or to a depth of 2-feet below the excavation area, whichever occurs first. Additional excavations will be performed as described in the General Guidelines for Confirmation and Split Sampling Protocol, dated July 11, 2019.

Backfilling and Grading

Once soil removal and sampling activities are completed, common fill or reuse soil will be used as backfill. The backfill will be placed and compacted in 1-foot lifts and tested for density and moisture. Testing requirements are provided in the Construction Quality Assurance Plan included

as an attachment to the Plant Area CUR CMI Plan. The top of backfill will match the existing grade and promote positive drainage, as shown on **Drawing 9**. Completed areas will be covered with topsoil and seeded. Other surface covering (e.g., asphalt or gravel) may be used depending on the anticipated use of the area.

Schedule

The anticipated schedule for the PA2 excavation areas included in this Addendum is included in **Table 6** below.

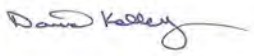
Table 6: Schedule for Plant Area PA2 Activities

Task	Anticipated Start Date	Anticipated End Date
Submit Plant Area CUR CMI Plan Addendum 4 Scope of Work to Maine DEP	November 2, 2023	November 2, 2023
Review and Approval of Plant Area CUR CMI Plan Addendum 4 Documents by Maine DEP	November 2, 2023	December 7, 2023
Mobilize for Construction Activities in Plant Area for Addendum 4 Scope of Work	December 7, 2023	December 7, 2023

Mallinckrodt appreciates the opportunity to reach agreement with the Maine DEP regarding separating the Plant Area CUR CMI into stages. This allows contractors to continue working and avoids interruptions to the progress of the work. Mallinckrodt looks forward to starting the work as soon as possible.

If you have any questions during your review, please feel free to contact me at 774-284-2207.

Sincerely,



David Kelley
Remediation Program Manager

cc:

Dean Carter, CDM Smith
Chris Greene, Geosyntec
Pat Duft, Mallinckrodt US LLC

Attachments:
Attachment 1: Plant Area CUR CMI Plan Addendum 4 Drawings

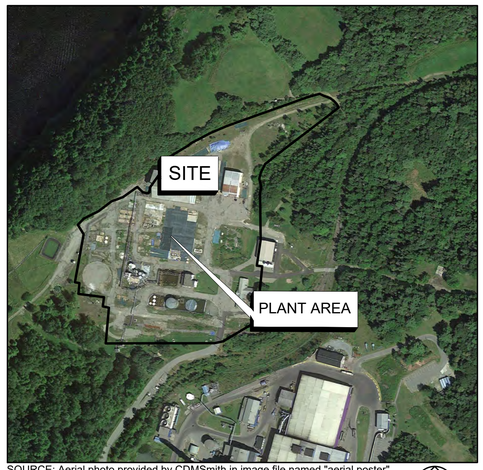
PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL ADDENDUM 4
ORRINGTON REMEDIATION SITE
ORRINGTON, MAINE

NOVEMBER 2023

SOURCE: BY BING MAPS.

VICINITY MAP
NOT TO SCALE

LIST OF DRAWINGS	
DRAWING NUMBER	DRAWING TITLE
1	COVER SHEET
2	GENERAL NOTES AND LEGEND
3	EXISTING CONDITIONS
4	EROSION AND SEDIMENT CONTROL AND SITE LAYOUT PLAN
5	EXCAVATION PLAN
6	EXCAVATION AND SAMPLE SUMMARY TABLES
7	EXCAVATION CONTROL POINT SUMMARY
8	CONFIRMATION SAMPLING PLAN
9	INTERIM FINAL GRADING AND RESTORATION PLAN
10	EROSION AND SEDIMENT CONTROL DETAILS



SOURCE: Aerial photo provided by CDMSmith in image file named "aerial poster"

LOCATION MAP
NOT TO SCALE

PREPARED FOR:

MALLINCKRODT US LLC

(3in)
(2in)
(1in)
(1in) (2in) (3in) (4in)
SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: COVER SHEET

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

SIGNATURE

DATE

DESIGN BY:	EG	DATE:	NOVEMBER 2023
DRAWN BY:	JHT	PROJECT NO.:	BR0292A-14
CHECKED BY:	RG	FILE:	BR0292A-06-CUR-04 D001
REVIEWED BY:	CMG	DRAWING NO.:	1 OF 10
APPROVED BY:	CMG		

GENERAL NOTES

1. THE SITE IS LOCATED AT 99 INDUSTRIAL WAY, ORRINGTON MAINE 04474.
2. EXISTING TOPOGRAPHY AND SITE FEATURES ARE BASED ON A SURVEY CONDUCTED BY THE JAMES W. SEWALL COMPANY IN 2003 AND PROVIDED IN CDM SMITH DRAWING "38410C_MASTER-SURVEY.DWG". THE HORIZONTAL DATUM IS NAD83 (NORTH AMERICAN DATUM 1983) MAINE STATE PLANE (EAST ZONE) AND THE VERTICAL DATUM IS NAVD 88 (NORTH AMERICAN VERTICAL DATUM 1988).
3. PRE-DESIGN INVESTIGATION LOCATIONS AND PRE-EXCAVATION SAMPLE LOCATIONS WERE SURVEYED BY CES, INC OF BREWER, MAINE BETWEEN JULY 2015 AND MAY 2017.
4. WETLAND DELINEATION AND CLASSIFICATION WERE OBTAINED FROM CDM SMITH DRAWING "38410_WETLAND_CLASSIFICATIONS.DWG" PROVIDED ON 2015.03.17. FLAGGED WETLAND LOCATIONS OBTAINED BY CES, INC OF BANGOR MAINE BETWEEN THE DATES OF NOVEMBER 12, 2014 AND JANUARY 21, 2015.
5. NORMAL SITE HOURS ARE FROM 07:00 AM TO 05:00 PM MONDAY THROUGH FRIDAY. APPROVAL FROM THE REMEDIATION PROJECT MANAGER IS REQUIRED FOR CONSTRUCTION OUTSIDE THE NORMAL OPERATING HOURS.
6. EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE.
7. THE REMEDIATION CONTRACTOR SHALL PERFORM WORK WITHIN THE DESIGNATED LIMITS OF WORK SHOWN ON THE DRAWINGS, UNLESS OTHERWISE APPROVED.
8. REFER TO INDIVIDUAL SHEETS FOR DRAWING-SPECIFIC NOTES.
9. THE STAGING AREAS AND ACCESS ROADS SHALL BE FREQUENTLY INSPECTED BY THE REMEDIATION CONTRACTOR FOR MATERIAL THAT MAY HAVE SPILLED DURING TRANSPORT. SPILLED MATERIAL SHALL BE TRANSPORTED TO THE TEMPORARY SOIL STOCKPILE AREA BY THE REMEDIATION CONTRACTOR FOR DISPOSAL OFF-SITE.
10. WELLS INDICATED ON THE DRAWINGS SHALL BE PROTECTED BY THE REMEDIATION CONTRACTOR USING HIGH VISIBILITY FLAGGING AND PHYSICAL BARRIERS. IF DAMAGED OR DESTROYED, MONITORING WELLS SHALL BE REPLACED BY REMEDIATION CONTRACTOR.
11. STORMWATER AND/OR GROUNDWATER WITHIN THE EXCAVATION AREAS (CONTACT WATER) SHALL BE COLLECTED, STORED TEMPORARILY, AND TREATED TO MEET THE INFLUENT REQUIREMENTS SET BY THE ON-SITE GROUNDWATER TREATMENT PLANT (GWTP). CONTACT WATER SHALL BE TRANSFERRED TO THE ON-SITE GWTP. THE REMEDIATION CONTRACTOR SHALL CONFIRM SUFFICIENT STORAGE CAPACITY IS AVAILABLE BASED ON DESIGN STORM INFORMATION AND GWTP CAPACITY.
12. THE REMEDIATION CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONTACT WATER IS CONTAINED AND DOES NOT FLOW OUTSIDE OF THE EXCAVATION. ADDITIONAL CONTROLS, BEYOND THOSE SHOWN IN THIS DRAWING SET, MAY BE NECESSARY TO CONTROL AND MINIMIZE CONTACT WATER.
13. MATERIALS REMOVED FROM WITHIN THE LIMIT OF WORK WILL BE TRANSPORTED TO AND STOCKPILED AT THE DESIGNATED TEMPORARY SOIL STOCKPILE AREA BY THE REMEDIATION CONTRACTOR. MATERIALS SHALL BE SEGREGATED INTO SEPARATE STOCKPILES (I.E., CLEARING AND GRUBBING MATERIALS SHALL NOT BE MIXED WITH EXCAVATED SOILS). THE REMEDIATION PROJECT MANAGER WILL LOAD THE MATERIALS INTO RAIL CARS FOR TRANSPORTATION AND DISPOSAL AT AN OFF-SITE DISPOSAL FACILITY.
14. CONFIRMATION BOTTOM AND SIDEWALL SAMPLING WILL BE PERFORMED BY THE CQA ENGINEER AFTER EXCAVATION. CONFIRMATION SAMPLING IS NOT THE RESPONSIBILITY OF THE REMEDIATION CONTRACTOR.
15. SITE COCS AND REPRESENTATIVE MEDIA PROTECTION STANDARDS (MPS) ARE PRESENTED IN TABLE 1:

Table 1: Soil Media Protection Standards – Numeric

COC	Soil
	(mg/kg)
Mercury	2.2
Chloropicrin	0.125
PCBs	1.0
Cadmium	8
Ethylbenzene	13
Xylene	190

SEQUENCE OF WORK FOR THE PLANT AREA CONCRETE AND UTILITY REMOVAL

THIS SEQUENCE OF WORK IS INTENDED TO DESCRIBE THE OVERALL CONSTRUCTION PROJECT AND A GENERAL SEQUENCE OF ACTIVITIES. UNLESS OTHERWISE NOTED, IT IS NOT INTENDED TO ESTABLISH A RIGID OR REQUIRED CONSTRUCTION SEQUENCE. ACTIVITIES LISTED BELOW ARE TO BE PERFORMED BY THE REMEDIATION CONTRACTOR UNLESS OTHERWISE NOTED.

SITE PREPARATION

1. VERIFY THE TYPE AND LOCATION OF UTILITIES WITHIN THE LIMITS OF WORK PRIOR TO THE START OF WORK, ESTABLISH SURVEY CONTROL, AND VERIFY EXISTING CONDITIONS SHOWN ON THE PLANS ARE ACCURATE. CONTACT DIGSAFE (811 OR 1-888-340-7233).
2. INSTALL EROSION AND SEDIMENT CONTROLS AT LOCATIONS PERTINENT TO THE CONCRETE AND UTILITY REMOVAL AREAS AND MAINTAIN EXISTING EROSION AND SEDIMENT CONTROLS IN THE PLANT AREA PER THE EROSION CONTROL AND SITE LAYOUT PLAN DRAWING. INSTALL ADDITIONAL TEMPORARY EROSION AND SEDIMENT CONTROLS THAT MAY BE NEEDED.
3. MAINTAIN AND REPAIR ACCESS ROADS IN THE PLANT AREA THROUGHOUT CONSTRUCTION.
4. ESTABLISH AND MAINTAIN APPROPRIATE SUPPORT, CONTAMINATION REDUCTION, AND EXCLUSION ZONES IN ACCORDANCE WITH THE HASP.
5. CONSTRUCT A DECONTAMINATION PAD FOR EQUIPMENT AND PERSONNEL AS NEEDED.
6. INSTALL CONTACT WATER MANAGEMENT EQUIPMENT AND CONTROLS.

EXCAVATION

1. CONDUCT ALL EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS RELATING TO SLOPING AND BENCHING. THE REMEDIATION CONTRACTOR MAY ELECT TO INSTALL TEMPORARY SHORING OR SUPPORT TO FACILITATE EXCAVATION DEWATERING OR STABILIZAE EXCAVATION SIDEWALLS.
2. EXCAVATE MATERIALS WITHIN LIMITS OF EXCAVATION TO THE GRADES SHOWN IN THE DRAWINGS
3. REMOVE UTILITIES ENCOUNTERED IN EXCAVATION AREAS.
4. PERFORM DEWATERING AS NECESSARY DURING EXCAVATION. COLLECT, TREAT, STORE AND CONVEY CONTACT WATER. DISPOSE OF CONTACT WATER AS NECESSAY BY TRANSFERRING TO THE ONSITE GROUNDWATER TREATMENT PLANT (GWTP).
5. DECONTAMINATE VEHICLES EXITING THE ACTIVE EXCAVATION AREA ON THE DECONTAMINATION PAD(S). TREAT WATER COLLECTED IN THE DECONTAMINATION PAD(S) AS CONTACT WATER AND PUMP TO THE ONSITE GWTP. WATER IN THE DECONTAMINATION PAD(S) MUST BE REMOVED PRIOR TO OVERTOPPING THE DECONTAMINATION PAD CONTAINMENT BERMS.
6. INSPECT FOR VISIBLE MERCURY DURING EXCAVATION ACTIVITIES. IF OBSERVED, THE REMEDIATION PROJECT MANAGER SHALL BE NOTIFIED IMMEDIATELY AND THE MATERIAL SHALL BE SEGREGATED SEPERATELY FOR DISPOSAL AT AN APPROVED FACILITY.
7. INSTALL ORANGE PLASTIC SAFTEY FENCE OR APPROVED ALTERNATIVE AROUND OPEN EXCAVATIONS AT THE END OF EACH WORK DAY.
8. PERFORM POST-EXCAVATION CONFIRMATION SAMPLING FOR MERCURY ON THE BOTTOM AND SIDEWALLS OF THE EXCAVATION AT THE LOCATIONS INDICATED ON THE DRAWINGS. THE REMEDIATION CONTRACTOR SHALL COOPERATE WITH AND SUPPORT THE SAMPLING ACTIVITIES.
9. REMEDIATION CONTRACTOR SHALL CONDUCT AS-BUILT SURVEY OF THE VERTICAL AND LATERAL LIMITS OF THE EXCAVATION, CONFIRM THE EXCAVATION ELEVATIONS PER THE EXCAVATION PLAN, AND SHALL SURVEY THE CONFIRMATION SAMPLE LOCATIONS.

SITE RESTORATION

1. BACKFILL, GRADE, AND SHAPE THE EXCAVTION AREAS IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS AFTER OBTAINING APPROVAL FROM THE REMEDIATION PROJECT MANAGER.
2. REMOVE DECONTAMINATION PAD AREA(S) AT THE COMPLETION OF EXCAVATION ACTIVITIES. DECONTAMINATION PAD MATERIALS SHALL BE STOCKPILED IN THE DESIGNATED TEMPORARY SOIL STOCKPILE AREA AS DIRECTED BY THE REMEDIATION PROJECT MANAGER AND DISPOSED OF OFF-SITE.
3. PLACE TOPSOIL AND SEED IN DISTURBED AREAS.
4. MAINTAIN AND LEAVE EROSION CONTROL MEASURES IN PLACE UNTIL VEGETATION HAS BEEN RESTORED AND AS DIRECTED BY THE REMEDIATION PROJECT MANAGER.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

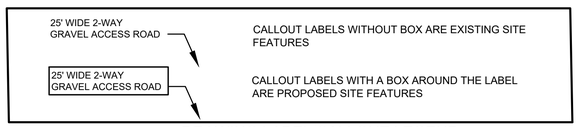
1. WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 7 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND MULCH. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS SHALL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE.
4. PERMANENT VEGETATION SHALL BE SEEDED ON EXPOSED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADING. MULCH AND TACKIFIER OR EROSION CONTROL BLANKET SHALL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
5. A SUB-BASE COURSE (E.G., ¾-INCH STONE, OR EQUIVALENT AS APPROVED BY THE REMEDIATION PROJECT MANAGER) SHALL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING OF TRAVEL AREAS AND INSTALLATION OF IMPROVEMENTS TO STABILIZE ACCESS ROADWAYS.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING OF CRITICAL AREAS SUBJECT TO EROSION (I.E.; STEEP SLOPES) THESE AREAS SHALL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH, EROSION CONTROL BLANKET, OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE.
7. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION WILL BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL BE REQUIRED.
8. ANY CHANGES TO THE EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED EROSION AND SEDIMENT CONTROL PLANS TO THE REMEDIATION PROJECT MANAGER.
9. THE REMEDIATION CONTRACTOR IS RESPONSIBLE FOR KEEPING ADJACENT ROADS CLEAN FROM SEDIMENT TRACK-OUT DURING THE LIFE OF THE CONSTRUCTION PROJECT.
10. THE REMEDIATION CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE REMEDIATION PROJECT MANAGER.

LEGEND

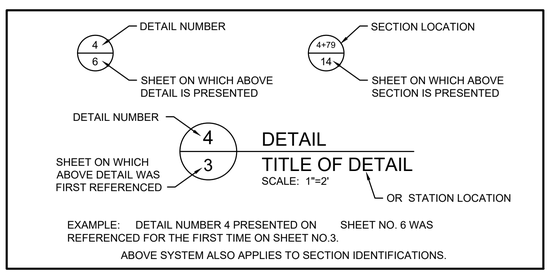
- FENCE LINE
- RAILROAD
- EXISTING GROUND ELEVATION (FEET NAVD 88)
- APPROXIMATE LIMIT OF LANDFILL
- UTILITY POLE LOCATION
- INDUSTRIAL SEWER MANHOLE
- INDUSTRIAL SEWER PIPE
- STORM DRAIN PIPE
- LEACH FIELD PIPE
- WATER PIPE
- FUEL OIL PIPE
- SANITARY SEWER PIPE
- CHLORATE BUILDING UNDERDRAIN PIPE
- GROUNDWATER TREATMENT PLANT PIPE
- CONTACT WATER PIPE
- APPROXIMATE PIPE LOCATION
- CATCH BASIN
- MW-411-B1 — HISTORIC MONITORING WELL/SOIL BORING (THERE MAY BE A CLUSTER OF WELLS IN SOME LOCATIONS)
- SB-PA — PRE-DESIGN SOIL BORING
- TP-PA — PRE-DESIGN TEST PIT
- GB-LF1-02 — PRE-DESIGN GEOTECHNICAL BORING
- MW-411-B1 — HISTORIC MONITORING WELL/PIEZOMETER TO BE MAINTAINED (THERE MAY BE A CLUSTER OF WELLS IN SOME LOCATIONS)
- SURFACE WATER FLOW
- TRAILER
- INLET TO GROUNDWATER TREATMENT PLANT
- TS-ND — STREAM TRANSECT SAMPLE LOCATION
- W — MEAN HIGH WATER (EL 6.62)
- SF — SILT FENCE
- FR — FIBER ROLL
- FIRE HYDRANT LOCATION
- FILTER RING
- CATCH BASIN AND DROP INLET PROTECTION
- FS — FILTER SOCK
- LIMIT OF WORK
- 70 — PROPOSED FINAL GRADE ELEVATION (FEET)
- ACCESS ROAD
- TEMPORARY SOIL STOCKPILE AREA (TSSA)
- ADDENDUM 4 EXCAVATION AREAS
- PRE-EXCAVATION BOTTOM SAMPLE
- PRE-EXCAVATION SIDE WALL SAMPLE
- POST-EXCAVATION BOTTOM SAMPLE
- RECORD SAMPLE
- 2016 SURVEYED AREA BOUNDARY LIMITS
- FM — FORCE MAIN
- UGE — UNDERGROUND ELECTRICAL UTILITY
- WL — WETLAND DELINEATION
- RIP RAP PROTECTION
- CELL BUILDING TEMPORARY SHEET PILE ALIGNMENT
- ABANDONED WELL LOCATION
- WASTE CHARACTERIZATION BORING
- SURVEY MONITORING POINT

(1in) (2in) (3in) (4in)

SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")



DRAWING LABEL/CALLOUT LEGEND



SECTION / DETAIL IDENTIFICATION LEGEND

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: GENERAL NOTES AND LEGEND

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

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DRAWN BY:	JHT	PROJECT NO.:	BR0292A-14
CHECKED BY:	RG	FILE:	BR0292A-06-CUR-04 D002
REVIEWED BY:	CMG	DRAWING NO.:	2 OF 10
APPROVED BY:	CMG		

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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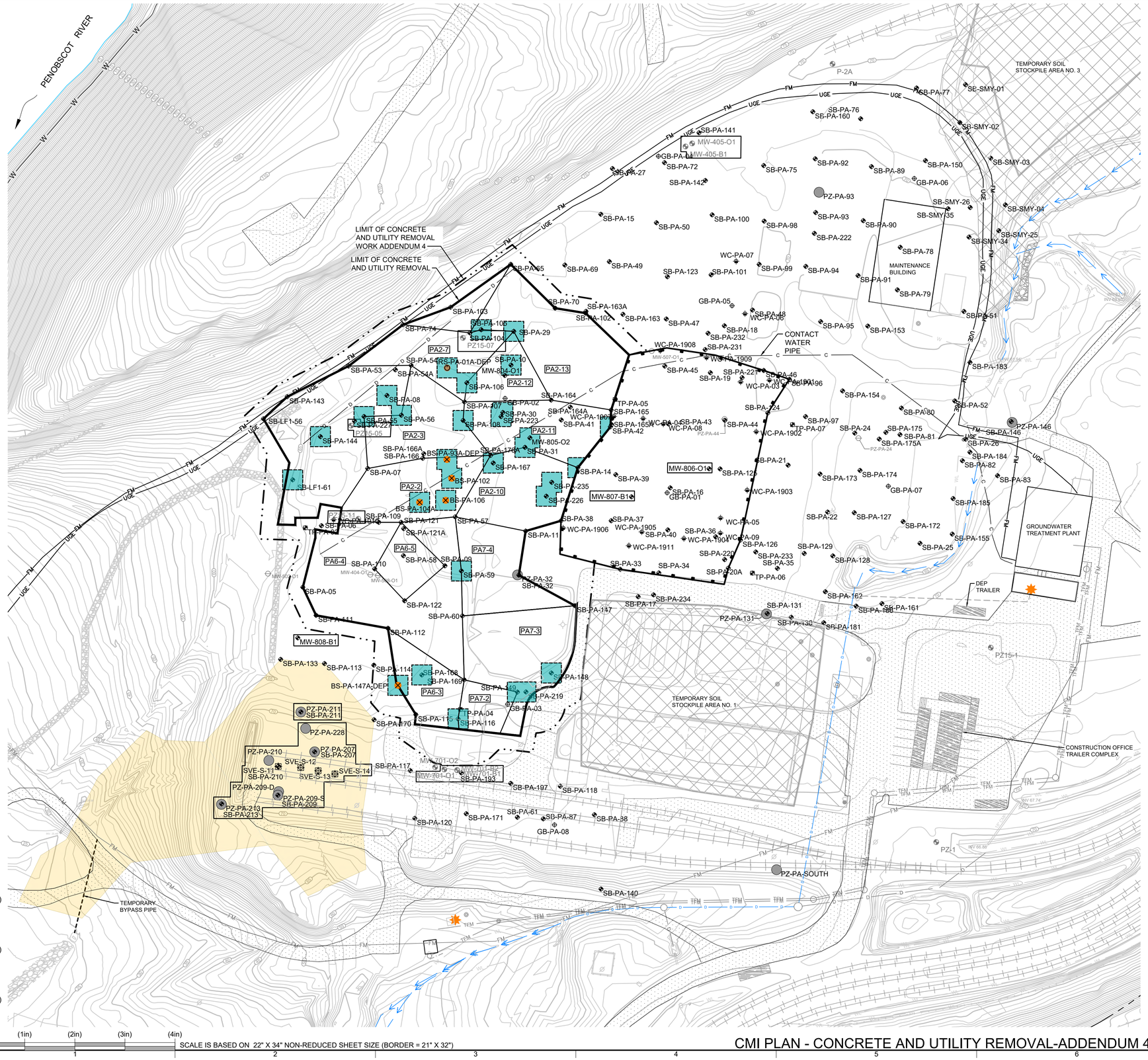

LEGEND

- FIRE HYDRANT LOCATION
- UTILITY POLE LOCATION
- WL — WETLAND DELINEATION
- SB-PA-01 — PRE-DESIGN SOIL BORING
- SSS-PA-21 — PRE-DESIGN SURFACE SOIL SAMPLE
- TP-PA-09 — PRE-DESIGN TEST PIT
- TS-ND-A1 — STREAM TRANSECT BORING LOCATION
- GB-PA-02 — PRE-DESIGN GEOTECHNICAL BORING
- PZ-PA-24 — PRE-DESIGN PIEZOMETER
- WASTE CHARACTERIZATION BORING
- MW-507-01 — MONITORING WELL/PIEZOMETER ABANDONED
- W — MEAN HIGH WATER (EL 6.62)
- MW-502-01 — HISTORICAL MONITORING WELL/PIEZOMETER TO BE MAINTAINED (THERE MAY BE A CLUSTER OF WELLS IN SOME LOCATIONS)
- CHLOROPICRIN TREATMENT AREA
- LIMIT OF WORK
- TEMPORARY BYPASS PIPE
- TEMPORARY SOIL STOCKPILE AREA (TSSA)
- ACCESS ROAD
- LIMIT OF CONCRETE AND UTILITY REMOVAL
- TFM — GROUNDWATER TREATMENT PLANT PIPE
- C — CONTACT WATER PIPE
- FM — FORCE MAIN
- UGE — UNDERGROUND ELECTRICAL UTILITY
- D — D — STORM DRAIN PIPE
- CELL BUILDING TEMPORARY SHEET PILE ALIGNMENT
- ADDENDUM 4 EXCAVATION AREAS
- PA2-2 — CUR EXCAVATION AREAS
- RS-PA-01-DEP — EXISTING RECORD SAMPLE EXCEEDING MPS
- BS-PA-93A1-DEP — EXISTING POST-EXCAVATION BOTTOM SAMPLE EXCEEDING MPS

NOTES:

1. SEE DRAWING NO. 2 FOR GENERAL NOTES AND ADDITIONAL LEGEND INFORMATION.

N

0 50' 100'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: EXISTING CONDITIONS

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

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REVIEWED BY:	CMG	DRAWING NO.:	3 OF 10
APPROVED BY:	CMG		

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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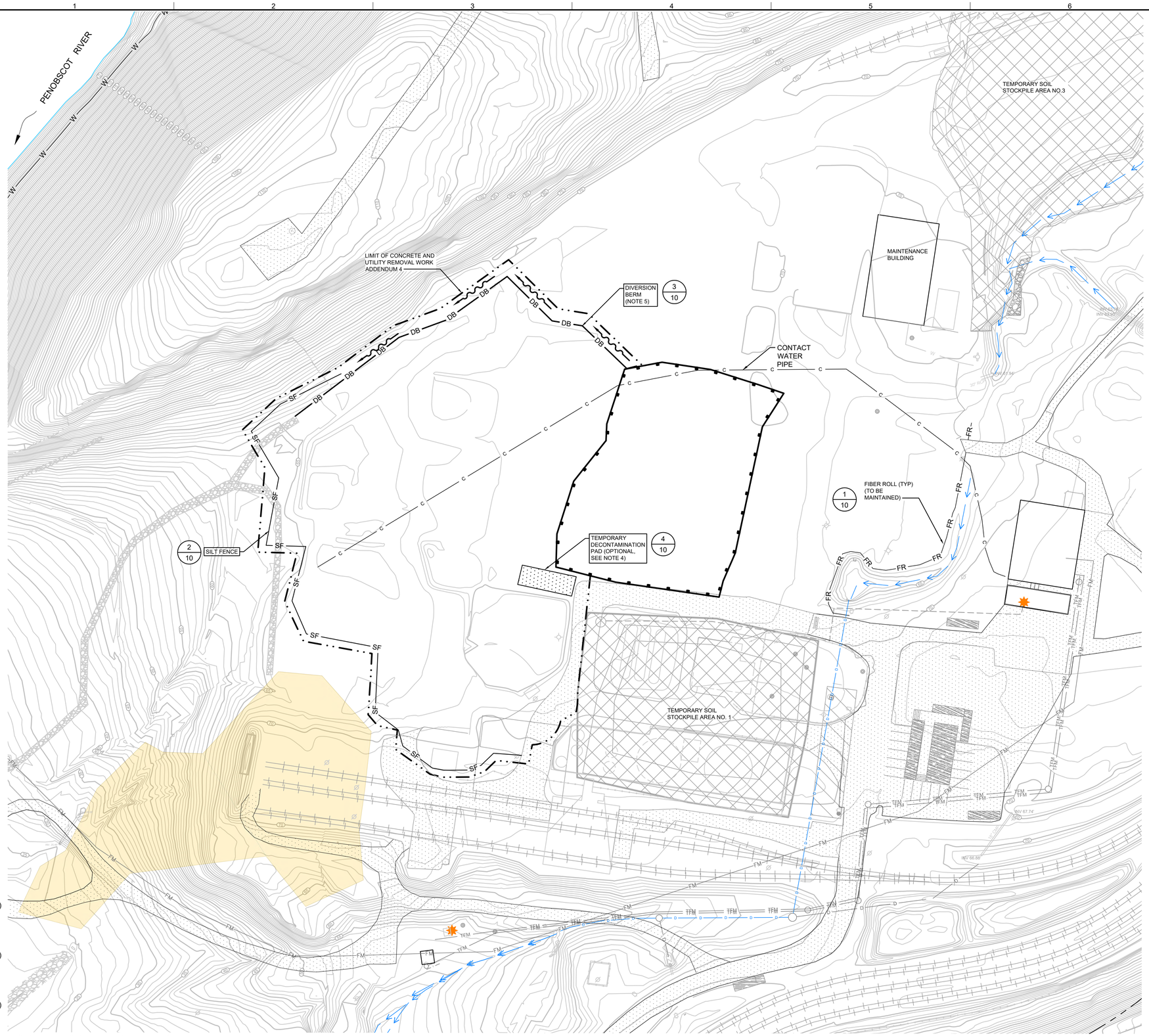

LEGEND

- FR FR — FIBER ROLL
- SF — SILT FENCE
- DB — DIVERSION BERM
- STORMWATER FLOW

NOTES:

1. SEE DRAWING NO. 2 FOR GENERAL NOTES AND ADDITIONAL LEGEND INFORMATION.
2. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS PRIOR TO EARTH DISTURBING ACTIVITIES. TEMPORARY CONTROLS NOT SHOWN ON THE DRAWINGS USED TO CONTROL INTERIM CONSTRUCTION CONDITIONS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT VERSION OF THE MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS. STORMWATER RUNOFF FROM DISTURBED AREAS MUST PASS THROUGH A BEST MANAGEMENT PRACTICE (BMP) BEFORE BEING DISCHARGED TO THE NORTHERN DRAINAGE DITCH OR SOUTHERLY STREAM. MAINTAIN TEMPORARY EROSION AND SEDIMENT CONTROLS UNTIL UPGRADIENT DRAINAGE AREAS ARE STABILIZED WITH A NON-ERODIBLE MATERIAL, EROSION CONTROL BLANKET, OR AT LEAST 70% COVERAGE OF VEGETATION.
3. TEMPORARY SOIL STOCKPILE AREAS NO. 1 AND NO. 3 WILL BE USED TO STORE EXCAVATED MATERIAL PRIOR TO OFFSITE DISPOSAL.
4. TEMPORARY DECONTAMINATION AREAS WILL BE ESTABLISHED PRIOR TO EXCAVATION. DRY DECONTAMINATION WILL BE PERFORMED AT EACH EXCAVATION AREA WITHIN THE LIMIT OF WORK. EQUIPMENT TIRES OR TRACKS WILL BE DECONTAMINATED USING A BRUSH ON POLYETHYLENE SHEETING. AREAS BETWEEN THE EXCAVATION AREAS AND TSSAS WHICH EQUIPMENT TRAVERSES SHOULD BE SCRAPPED OR CLEANED DAILY TO COLLECT ANY MATERIAL THAT IS INADVERTENTLY TRACKED BETWEEN THE EXCAVATION AREA AND TSSAS. BASED ON CONDITIONS ENCOUNTERED DURING WORK ACTIVITIES A TEMPORARY DECONTAMINATION PAD MAY BE CONSTRUCTED IN LIEU OF DRY DECONTAMINATION.

N

0 50' 100'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE:
EROSION AND SEDIMENT CONTROL AND SITE LAYOUT PLAN

PROJECT:
PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE:
ORRINGTON, MAINE

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DRAWN BY:	JHT	PROJECT NO.:	BR0292A-14
CHECKED BY:	RG	FILE:	BR0292A-06-CUR-04 D004
REVIEWED BY:	CMG	DRAWING NO.:	4 OF 10
APPROVED BY:	CMG		

(1in) (2in) (3in) (4in)
SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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LEGEND

- ADDENDUM 4 EXCAVATION AREAS
- CELL BUILDING TEMPORARY SHEET PILE ALIGNMENT
- RS-PA-01-DEP — EXISTING RECORD SAMPLE EXCEEDING MPS
- BS-PA-93A1-DEP — EXISTING POST-EXCAVATION BOTTOM SAMPLE EXCEEDING MPS

EXCAVATION CONTROL POINT LEGEND

EXCAVATION CONTROL POINT A
EXCAVATION CONTROL POINT B
EXCAVATION AREA ID
EXCAVATION CONTROL POINT D
EXCAVATION CONTROL POINT C

ADDENDUM 4 EXCAVATION AREAS

NOTES:

1. REFER TO TABLES ON DRAWING NO. 6 FOR THE ELEVATION OF THE BOTTOM OF SOIL CONTAINING MERCURY GREATER THAN OR EQUAL TO 2.2 MG/KG IN EACH AREA.
2. SOIL WILL BE INSPECTED FOR VISIBLE MERCURY IN ACCORDANCE WITH THE VISIBLE MERCURY PROTOCOL. SOIL CONTAINING VISIBLE MERCURY WILL BE STOCKPILED SEPARATELY FOR OFF-SITE DISPOSAL.
3. MATERIAL REMOVED TO BENCH THE EXCAVATION WILL BE HANDLED IN ACCORDANCE WITH THE SOIL USE PLAN. BACKFILL MATERIAL PLACED ABOVE DEMARCATION FABRIC DURING CUR CMI PLAN ACTIVITIES WILL BE STOCKPILED FOR REUSE. SOIL OUTSIDE OF THE EXCAVATION BOUNDARIES BELOW THE MPS WILL BE STOCKPILED FOR REUSE.
4. THE REMEDIATION CONTRACTOR SHALL PERFORM THE EXCAVATIONS IN A DEWATERED CONDITION. EXCAVATIONS ARE REQUIRED TO BE BENCHED IN ACCORDANCE WITH OSHA.
5. EXCAVATION AREAS ARE CENTERED AROUND SAMPLE LOCATIONS WHERE MERCURY WAS DETECTED ABOVE THE MPS DURING PRE-DESIGN INVESTIGATIONS OR POST EXCAVATION CONFIRMATION SAMPLES OR RECORD SAMPLES COLLECTED DURING THE IMPLEMENTATION OF THE CUR CMI PLAN.
6. MINIMUM BENCHING SHALL BE EQUIVALENT TO 1.25H:1V SLOPE AND CONSISTENT WITH OHSA REQUIREMENTS.

N

0 50' 100'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: EXCAVATION PLAN

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

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APPROVED BY:	CMG		5 OF 10

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SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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EXCAVATION SUMMARY TABLE

EXCAVATION AREA NAME	AREA	EXISTING ELEV OF GS	ELEVATION OF COMMON FILL		ELEVATION OF SOIL WITH HG > 2.2 MG/KG		AVERAGE THICKNESS OF SOILS WITH HG > 2.2 MG/KG
	(SF)	(FT)	TOP, ELEV. (FT)	BOTTOM, ELEV. (FT)	TOP, ELEV. (FT)	BOTTOM, ELEV. (FT)	(FT)
BS-PA-102	400	67.0	67.0	62.9	62.9	61.9	1.0
BS-PA-104A	400	67.0	67.0	63.6	63.6	62.6	1.0
BS-PA-106	400	67.0	67.0	63.0	63.0	62.0	1.0
BS-PA-147A-DEP	400	68.6	68.6	60.6	60.6	59.6	1.0
BS-PA-93A-DEP	400	67.0	67.0	61.7	61.7	60.7	1.0
RSP-PA-01A-DEP	400	67.7	67.7	62.1	62.1	61.1	1.0
MW-805-O2	400	69.1	69.1	60.0	60.0	58.0	2.0
SB-LF1-61	400	65.2	65.2	55.4	55.4	53.4	2.0
SB-PA-08	400	67.1	67.1	61.1	59.1	58.1	1.0
					55.1	53.1	2.0
SB-PA-10	400	69.0	69.0	64.1	61.1	60.1	1.0
					59.1	57.1	2.0
SB-PA-105	400	68.1	68.1	64.1	64.1	61.1	3.0
SB-PA-106	400	68.4	68.4	63.8	63.8	62.8	1.0
SB-PA-108	400	68.2	68.2	63.9	63.9	62.9	1.0
					58.9	57.9	1.0
SB-PA-116	400	69.2	69.2	63.0	63.0	53.7	10.0
					51.7	50.7	1.0
SB-PA-14	400	69.2	69.2	64.7	64.7	55.7	9.0
SB-PA-144	400	66.0	66.0	60.9	59.9	53.9	6.0
SB-PA-148	400	69.0	69.0	58.3	57.3	55.3	2.0
SB-PA-149	400	69.0	69.0	64.2	63.2	59.2	4.0
					57.2	49.2	8.0
SB-PA-167	400	68.8	68.8	64.3	63.3	49.3	14.0
SB-PA-168	400	67.2	67.2	61.8	61.8	59.8	2.0
SB-PA-235	400	69.1	69.1	64.0	64.0	60.6	3.4
SB-PA-29	400	68.7	68.7	64.5	62.5	60.5	2.0
SB-PA-30	400	69.0	69.0	62.8	62.8	56.8	6.0
SB-PA-31	400	69.1	69.1	63.1	63.1	61.1	2.0
SB-PA-42	400	69.4	69.4	65.2	65.2	63.2	2.0
SB-PA-55	400	66.4	66.4	62.0	60.0	58.0	2.0
SB-PA-56	400	67.3	67.3	60.9	60.9	58.9	2.0
SB-PA-59	400	68.9	68.9	62.4	64.2	62.2	2.0
					56.2	54.2	2.0
SB-PA-219	400	69.0	69.0	63.8	63.8	58.8	5.0
					56.8	54.8	2.0
SB-PA-223	400	69.0	69.0	64.0	61.5	60.5	1.0
					59.5	58.5	1.0
					64.0	55.5	8.5
SB-PA-226	400	69.0	69.0	64.0	64.0	54.3	9.7
Totals	12400						

SAMPLE SUMMARY TABLE (SEE NOTE 1)

LOCATION	NORTHING	EASTING	ELEVATION (FT)
BS-PA-102	391689.65	899463.37	62.90
BS-PA-104A	391665.65	899431.37	63.60
BS-PA-106	391667.65	899437.37	63.00
BS-PA-93A-DEP	391708.40	899438.57	60.60
RS-PA-01A-DEP	391799.78	899458.81	6:.70
BS-147A-DEP	391483.45	899410.45	62.10

BORING SUMMARY TABLE

LOCATION	NORTHING	EASTING	GROUND SURFACE ELEVATION (FT)
MW-805-O2	391729.95	899541.41	69.08
SB-LF1-61	391688.07	899304.68	65.19
SB-PA-08	391772.23	899398.73	67.11
SB-PA-10	391802.58	899522.55	69.00
SB-PA-105	391837.85	899492.79	68.09
SB-PA-106	391784.90	899478.47	68.43
SB-PA-108	391747.33	899474.74	68.24
SB-PA-116	391449.55	899469.72	69.19
SB-PA-14	391700.22	899589.29	69.20
SB-PA-144	391731.14	899332.32	66.00
SB-PA-148	391495.35	899562.77	69.00
SB-PA-149	391476.31	899528.94	68.99
SB-PA-167	391704.82	899504.80	68.80
SB-PA-168	391493.37	899433.58	67.15
SB-PA-219	391476.41	899537.45	68.99
SB-PA-223	391751.22	899512.61	69.00
SB-PA-226	391671.75	899557.75	69.01
SB-PA-235	391685.60	899563.20	69.07
SB-PA-29	391836.23	899525.26	68.68
SB-PA-30	391755.27	899514.38	69.00
SB-PA-31	391720.51	899536.49	69.07
SB-PA-42	391740.99	899621.73	69.41
SB-PA-55	391751.23	899375.87	66.39
SB-PA-56	391752.54	899413.12	67.33
SB-PA-59	391597.11	899473.00	68.99

NOTE:

1. SAMPLES BS-PA-102, BS-PA-104A, BS-PA-106, BS-PA-93A-DEP, RS-PA-01A-DEP, AND BS-147A-DEP WERE COLLECTED DURING IMPLEMENTATION OF THE PLANT AREA CONCRETE AND UTILITY REMOVAL (CUR) CMI PLAN BETWEEN DECEMBER 2020 AND SEPTEMBER 2021. MERCURY WAS DETECTED ABOVE THE MPS AT THESE SAMPLE LOCATIONS. ADDITIONAL EXCAVATION TO REMOVE SOIL WITH MERCURY CONCENTRATIONS GREATER THAN THE MPS WILL BE ADDRESSED IN THIS ADDENDUM.

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: EXCAVATION AND SAMPLE SUMMARY TABLES

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

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REVIEWED BY:	CMG	DRAWING NO.:	
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(3in) (2in) (1in) (1in) (2in) (3in) (4in)

SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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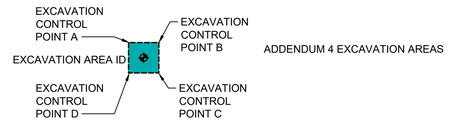
EXCAVATION CONTROL POINTS

EXCAVATION AREA ID	CONTROL POINT ID	NORTHING (USSurveyFoot)	EASTING (USSurveyFoot)	ELEVATION (USSurveyFoot)
BS-PA-102	A	391698.40	899453.37	61.9
	B	391699.65	899473.37	61.9
	C	391679.65	899473.37	61.9
	D	391679.65	899453.37	61.9
BS-PA-104A	A	391675.65	899421.37	62.6
	B	391675.65	899441.37	62.6
	C	391655.65	899441.37	62.6
	D	391655.65	899421.37	62.6
BS PA 106	A	391677.65	899447.37	62.0
	B	391677.65	899467.37	62.0
	C	391657.65	899467.37	62.0
	D	391657.65	899447.37	62.0
BS PA 147A DLP	A	391493.00	899399.70	59.6
	B	391493.00	899419.70	59.6
	C	391473.00	899419.70	59.6
	D	391473.00	899399.70	59.6
BS-PA-93A-DEP	A	391718.40	899448.57	60.7
	B	391718.40	899468.57	60.7
	C	391699.65	899468.57	60.7
	D	391698.40	899448.57	60.7
RSP-PA-01A-DEP	A	391809.78	899448.81	61.1
	B	391809.78	899468.81	61.1
	C	391789.78	899468.47	61.1
	D	391789.78	899448.81	61.1
MW-805-02	A	391739.95	899531.41	58.0
	B	391739.95	899551.41	58.0
	C	391719.95	899551.41	58.0
	D	391719.95	899546.49	58.0
SB-LF1-61	A	391698.07	899294.68	53.4
	B	391698.07	899314.68	53.4
	C	391678.07	899314.68	53.4
	D	391678.07	899294.68	53.4
SB PA 08	A	391782.23	899388.73	53.1
	B	391782.23	899408.73	53.1
	C	391762.54	899408.73	53.1
	D	391762.23	899388.73	53.1
SH-PA-10	A	391812.58	899512.55	57.1
	B	391812.58	899532.55	57.1
	C	391792.58	899532.55	57.1
	D	391792.58	899512.55	57.1
SB-PA-105	A	391847.85	899482.79	61.1
	B	391847.85	899502.79	61.1
	C	391827.85	899502.79	61.1
	D	391827.85	899482.79	61.1
SB-PA-106	A	391794.90	899468.81	62.8
	B	391794.90	899488.47	62.8
	C	391774.90	899488.47	62.8
	D	391774.90	899468.47	62.8
SB-PA-108	A	391757.33	899464.74	57.9
	B	391757.33	899484.74	57.9
	C	391737.33	899484.74	57.9
	D	391737.33	899464.74	57.9
SB PA 116	A	391459.55	899459.72	50.7
	B	391459.55	899479.72	50.7
	C	391439.55	899479.72	50.7
	D	391439.55	899459.72	50.7
SB-PA-14	A	391710.22	899579.29	55.7
	B	391710.22	899597.25	55.7
	C	391690.22	899586.11	55.7
	D	391690.22	899579.29	55.7

EXCAVATION CONTROL POINTS (CONTINUED)

EXCAVATION AREA ID	CONTROL POINT ID	NORTHING (USSurveyFoot)	EASTING (USSurveyFoot)	ELEVATION (USSurveyFoot)
SB PA 144	A	391741.14	899322.32	53.9
	B	391741.14	899342.32	53.9
	C	391721.14	899342.32	53.9
	D	391721.14	899322.32	53.9
SB-PA-148	A	391505.35	899552.77	55.3
	B	391505.35	899572.77	55.3
	C	391485.35	899572.77	55.3
	D	391485.35	899552.77	55.3
SB-PA-149	A	391486.31	899518.94	49.2
	B	391486.31	899527.45	49.2
	C	391466.31	899538.94	49.2
	D	391466.31	899518.94	49.2
SB PA 167	A	391714.82	899494.80	49.3
	B	391714.82	899514.80	49.3
	C	391694.82	899514.80	49.3
	D	391694.82	899494.80	49.3
SB-PA-168	A	391503.37	899423.58	59.8
	B	391503.37	899443.58	59.8
	C	391483.37	899443.58	59.8
	D	391483.37	899423.58	59.8
SB-PA-235	A	391695.60	899553.20	60.6
	B	391695.60	899573.20	60.6
	C	391675.60	899573.20	60.6
	D	391675.60	899567.75	60.6
SB-PA-29	A	391846.23	899515.26	60.5
	B	391846.23	899535.26	60.5
	C	391826.23	899535.26	60.5
	D	391826.23	899515.26	60.5
SB PA 30	A	391765.27	899504.38	56.8
	B	391765.27	899524.38	56.8
	C	391745.27	899524.38	56.8
	D	391745.27	899522.61	56.8
SB-PA-31	A	391730.51	899526.49	61.1
	B	391730.51	899531.41	61.1
	C	391710.51	899546.49	61.1
	D	391710.51	899526.49	61.1
SB-PA-42	A	391750.99	899611.73	63.2
	B	391750.99	899622.19	63.2
	C	391730.99	899613.77	63.2
	D	391730.99	899611.73	63.2
SB PA 55	A	391761.23	899365.87	58.0
	B	391761.23	899385.87	58.0
	C	391741.23	899385.87	58.0
	D	391741.23	899365.87	58.0
SB-PA-56	A	391762.23	899403.12	58.9
	B	391762.54	899423.12	58.9
	C	391742.54	899423.12	58.9
	D	391742.54	899403.12	58.9
SB-PA-59	A	391607.11	899463.00	54.2
	B	391607.11	899483.00	54.2
	C	391587.11	899483.00	54.2
	D	391587.11	899463.00	54.2
SB PA 219	A	391486.41	899527.45	54.8
	B	391486.41	899547.45	54.8
	C	391466.41	899547.45	54.8
	D	391466.41	899538.94	54.8
SB-PA-223	A	391761.22	899502.61	55.5
	B	391761.22	899504.38	55.5
	C	391741.22	899522.61	55.5
	D	391741.22	899502.61	55.5
SB-PA-226	A	391681.75	899547.75	54.3
	B	391681.75	899553.20	54.3
	C	391661.75	899567.75	54.3
	D	391661.75	899547.75	54.3

LEGEND



ADDENDUM 4 EXCAVATION AREAS

NOTE:

1. EXCAVATIONS IN THE WEST PLANT AREA ARE TO BE PERFORMED TO THE LATERAL EXTENTS DEFINED BY CONTROL POINT ELEVATIONS AT THE BOTTOM OF EXCAVATION PROVIDED IN THE EXCAVATION CONTROL POINTS TABLE. LOCATIONS OF THE CONTROL POINTS ARE SHOWN ON DRAWING 5.
2. THE HORIZONTAL DATUM IS NAD83 (NORTH AMERICAN DATUM 1983) MAINE STATE PLANE (EAST ZONE) AND THE VERTICAL DATUM IS NAVD88 (NORTH AMERICAN VERTICAL DATUM 1988).

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: EXCAVATION CONTROL POINT SUMMARY

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

SIGNATURE

DATE

DESIGN BY:	EG	DATE:	NOVEMBER 2023
DRAWN BY:	JHT	PROJECT NO.:	BR0292A-14
CHECKED BY:	RG	FILE:	BR0292A-06-CUR-04 D007
REVIEWED BY:	CMG	DRAWING NO.:	7 OF 10
APPROVED BY:	CMG		

(3in) (2in) (1in) (1in) (2in) (3in) (4in)

SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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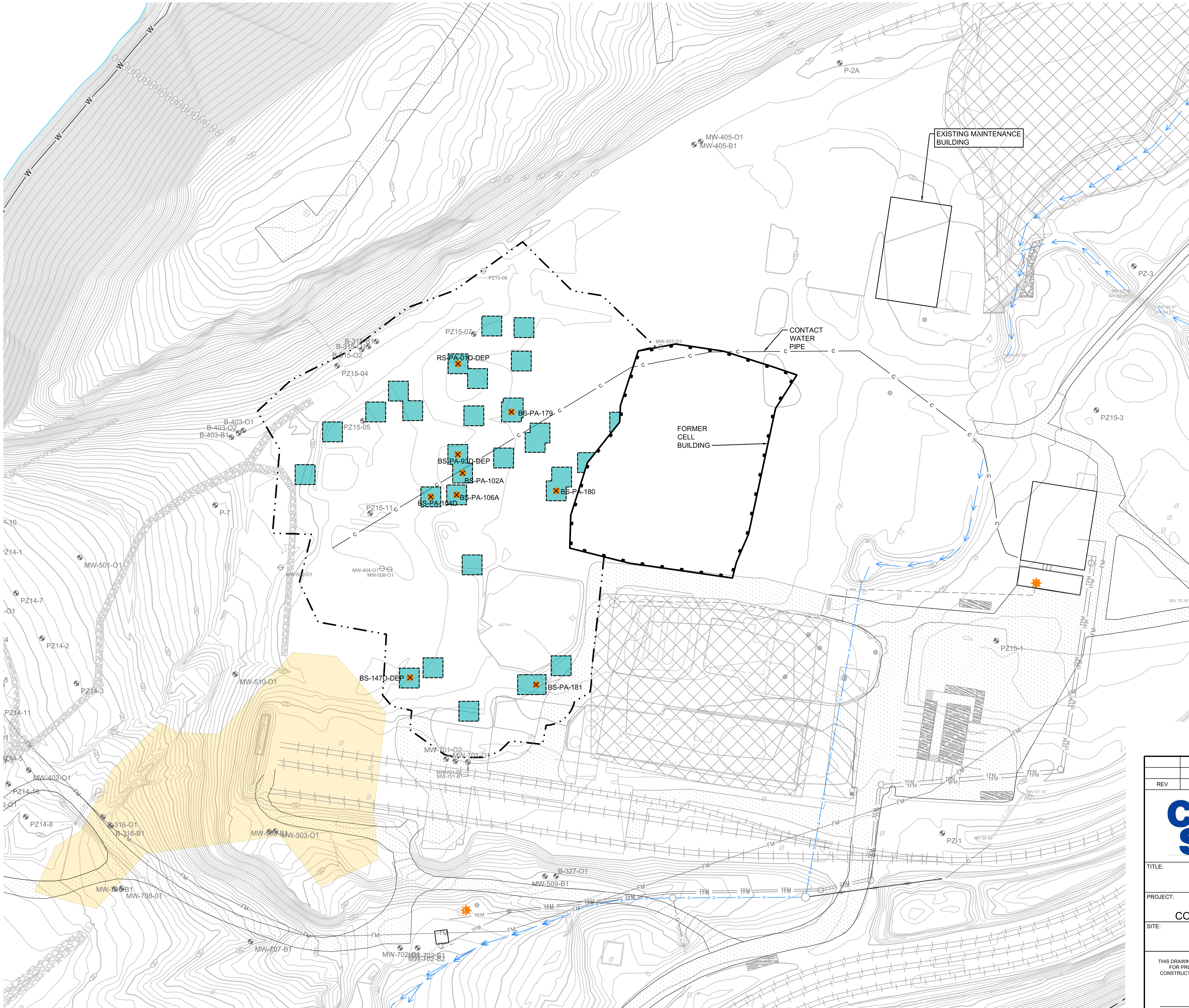

LEGEND

BOTTOM SAMPLE CONFIRMATION SAMPLE POINT

BOTTOM SAMPLE SUMMARY TABLE				
Bottom Sample ID	Northing (USSurveyFoot)	Easting (USSurveyFoot)	Elevation (Ft) \ Depth (FT BGS)	Excavation Area ID
BS-PA-102A	391689.65	899463.37	61.90	BS-PA-102
BS-PA-104D	391665.65	899431.37	62.60	BS-PA-104A
BS-PA-106A	391667.65	899457.37	62.00	BS-PA-106
BS-PA-93D-DEP	391708.40	899458.57	60.70	BS-PA-93A-DEP
BS-PA-179	391751.22	899512.61	56.50	SB-PA-223
BS-PA-180	391671.75	899557.75	55.30	SB-PA-226
BS-PA-180	391476.41	899537.45	55.80	SB-PA-219
RS-PA-01D-DEP	391799.78	899458.81	61.80	RS-PA-01A-DEP
BS-PA-147D-DEP	391483.45	899410.45	59.60	BS-PA-147A-DEP

N

0 50' 100'
SCALE IN FEET

SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: CONFIRMATION SAMPLING PLAN

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

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CHECKED BY:	RG	FILE:	BR0292A-06-CUR-04 D008
REVIEWED BY:	CMG	DRAWING NO.:	8 OF 10
APPROVED BY:	CMG		

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LEGEND

- 70 — APPROXIMATE RESTORATION GRADES (NOTE 2)
- DRAINAGE DIRECTION (APPROXIMATE)

FORMER CELL BUILDING

NOTES

1. SEE DRAWING NO. 2 FOR GENERAL NOTES AND ADDITIONAL LEGEND INFORMATION.
2. THE CONCRETE AND UTILITY REMOVAL ADDENDUM 4 EXCAVATION AREAS SHALL BE RESTORED WITH TOPSOIL, SEEDING, AND EROSION CONTROLS IN ACCORDANCE WITH THE SPECIFICATIONS.

N

0 50' 100'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE: INTERIM FINAL GRADING AND RESTORATION PLAN

PROJECT: PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE: ORRINGTON, MAINE

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CHECKED BY:	RG	FILE:	BR0292A-06-CUR-04 D009
REVIEWED BY:	CMG	DRAWING NO.:	9 OF 10
APPROVED BY:	CMG		

(1in) (2in) (3in)

(1in) (2in) (3in) (4in)

SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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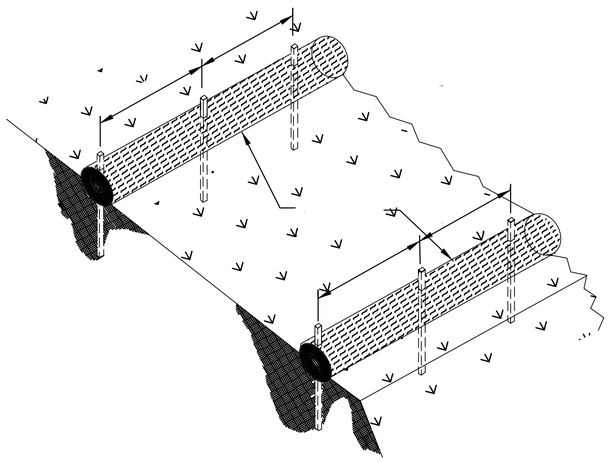
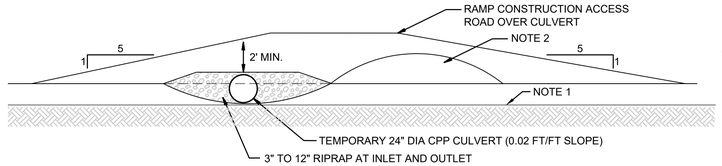
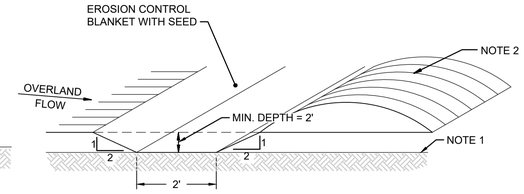


1/4 DETAIL
FIBER ROLL (TYPICAL)
SCALE: N.T.S.
XREF: X067



TYPICAL ACCESS ROAD CROSSING

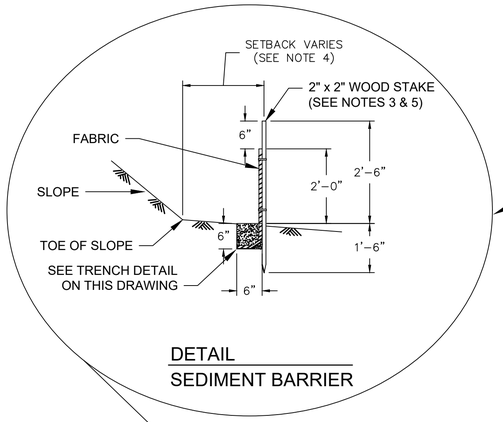


TYPICAL TRAPEZOIDAL DIVERSION

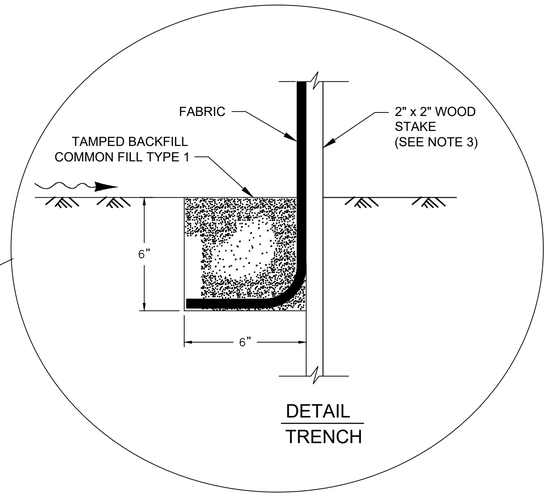
NOTES:

1. DIVERSION BERM SHALL BE CONSTRUCTED ON EXISTING GRADE. EXCAVATION TO CONSTRUCT BERM NOT PERMITTED.
2. BERM MATERIALS MUST BE ADEQUATELY COMPACTED IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION (02200) AND STABILIZED. THE REMEDIATION CONTRACTOR SHALL ADD BERM MATERIAL AS NECESSARY TO ACHIEVE MINIMUM CHANNEL DIMENSIONS.
3. BERM SHALL BE CONSTRUCTED OF ON-SITE RE-USED MATERIAL OR COMMON FILL (AS NEEDED). BERM SHALL NOT BE CONSTRUCTED OF TOPSOIL.
4. CORRUGATED PLASTIC PIPE (CPP) CULVERT AND RAMP DETAIL NOT REQUIRED. HOWEVER, IF USED CPP CULVERT SHALL BE HDPE DOUBLE-WALLED SMOOTH LINED PIPE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
5. MINIMUM SLOPE OF BERM IS 0.01 FT / FT.
6. 3"-12" RIPRAP PROTECTION SHALL BE INSTALLED AT THE CULVERT INLET AND OUTLET AND SHALL EXTEND 8 FT ON THE BOTTOM AND SIDES OF THE CHANNEL.
7. ALTERNATE CHANNEL CONFIGURATIONS MUST HAVE AN EFFECTIVE CROSS SECTIONAL FLOW AREA OF 12 SF.

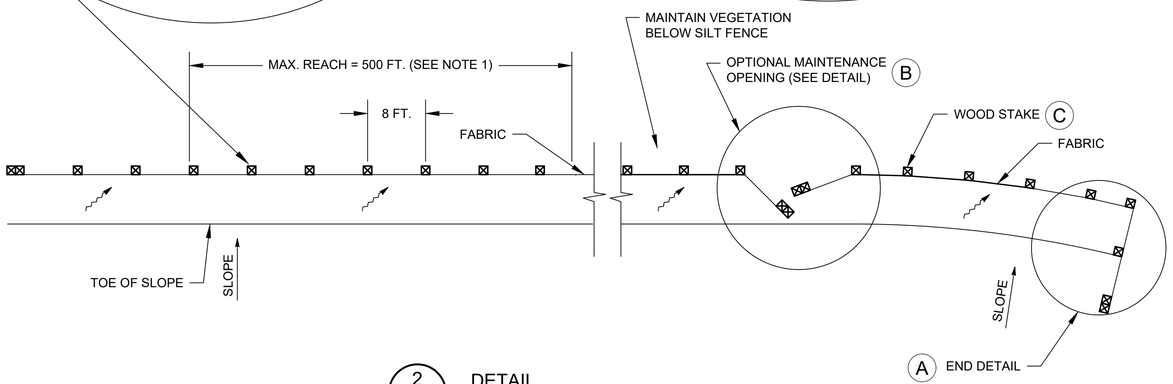
3/4 DETAIL
DIVERSION BERM
SCALE: N.T.S.
XREF: X084



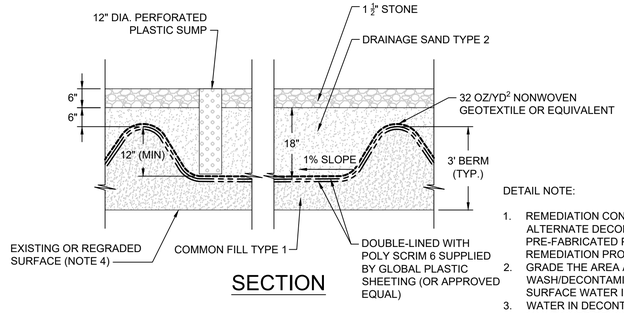
DETAIL
SEDIMENT BARRIER



DETAIL
TRENCH



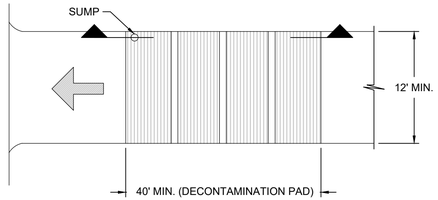
2/4 DETAIL
SILT FENCE
SCALE: N.T.S.
XREF: X059



SECTION

DETAIL NOTE:

1. REMEDIATION CONTRACTOR MAY USE ALTERNATE DECONTAMINATION PAD OR PRE-FABRICATED PAD WITH APPROVAL OF THE REMEDIATION PROJECT MANAGER.
2. GRADE THE AREA AROUND THE WHEEL WASH/DECONTAMINATION PAD SO THAT SURFACE WATER IS NOT COLLECTED.
3. WATER IN DECONTAMINATION PAD SHALL BE MAINTAINED BELOW THE LOWEST ELEVATION OF THE TOP THE 3FT PERIMETER BERM.
4. CONTRACTOR SHALL GRADE SURROUNDING GROUND SURFACE AS NECESSARY TO CREATE ENTRANCE AND EXIT RAMPS INTO AND OUT OF DECONTAMINATION PAD (AS NECESSARY TO CREATE BURIED 3-FT PERIMETER BERMS OVERLAIN BY SAND AND CRUSHED STONE) AS SHOWN.
5. SHEETING SHALL HAVE A MINIMUM PUNCTURE RESISTANCE OF 640 PSF (PER ASTM D2582).



PLAN

4/4 DETAIL
DECON PAD
SCALE: N.T.S.
XREF: X089

NOTES AND LEGEND:

1. CONSTRUCT THE LENGTH OF EACH REACH SO THAT THE CHANGE IN BASE ELEVATION ALONG THE REACH DOES NOT EXCEED 1/3 THE HEIGHT OF THE LINEAR BARRIER, IN NO CASE SHALL THE REACH LENGTH EXCEED 500 FT.
2. THE LAST 10 FT. OF FENCE SHALL BE TURNED UP SLOPE.
3. STAKE DIMENSIONS ARE NOMINAL AND DIMENSIONS SHOWN ARE TYPICAL.
4. DIMENSION MAY VARY TO FIT FIELD CONDITION.
5. STAKES SHALL BE SPACED AT 8 FT. MAXIMUM (10 FT. SPACING FOR END STAKES) AND SHALL BE POSITIONED ON DOWNSTREAM SIDE OF FENCE.
6. STAKES TO OVERLAP AND FENCE FABRIC TO FOLD AROUND EACH STAKE ONE FULL TURN. SECURE FABRIC TO STAKE WITH AT LEAST 4 STAPLES.
7. STAKES SHALL BE DRIVEN TIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT. THE TOPS OF THE STAKES SHALL BE SECURE WITH WIRE.
8. FOR END STAKE, FENCE FABRIC SHALL BE FOLDED AROUND TWO STAKES ONE FULL TURN AND SECURE WITH 4 STAPLES.
9. MAINTENANCE OPENINGS SHALL BE CONSTRUCTED IN A MANNER TO ENSURE SEDIMENT REMAINS BEHIND SILT FENCE.
10. DETAILS ARE DRAWN TO SCALE AS NOTED EXCEPT FOR THE GEOSYNTHETICS WHICH ARE SHOWN AT AN EXAGGERATED SCALE FOR CLARITY.

REV	DATE	DESCRIPTION	DRN	APP

CDM Smith

Geosyntec consultants

TITLE:
EROSION AND SEDIMENT CONTROL DETAILS

PROJECT:
PLANT AREA CORRECTIVE MEASURES IMPLEMENTATION PLAN
CONCRETE AND UTILITY REMOVAL - ORRINGTON REMEDIATION SITE

SITE:
ORRINGTON, MAINE

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DESIGN BY:	EG	DATE:	NOVEMBER 2023
DRAWN BY:	JHT	PROJECT NO.:	BR0292A-14
CHECKED BY:	RG	FILE:	BR0292A-06-CUR-04 D010
REVIEWED BY:	CMG	DRAWING NO.:	
APPROVED BY:	CMG	10 OF 10	

(3in) (2in) (1in) (1in) (2in) (3in) (4in)

SCALE IS BASED ON 22" X 34" NON-REDUCED SHEET SIZE (BORDER = 21" X 32")

CMI PLAN - CONCRETE AND UTILITY REMOVAL-ADDENDUM 4

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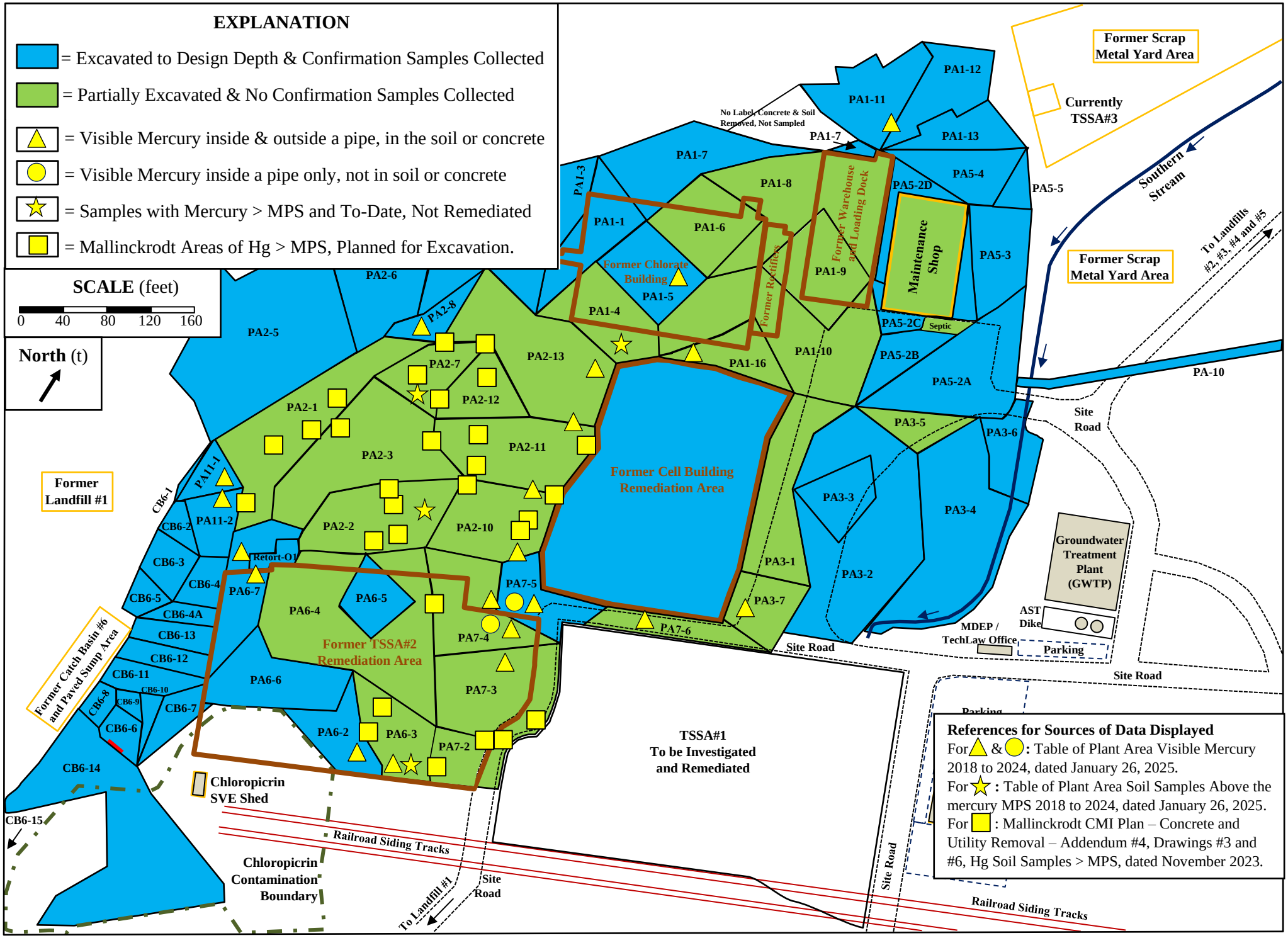
Plant Area Site Plan of Approximate Locations of Visible Hg and Soil with Hg > MPS, Except the Former Cell Bldg Area, March 7, 2025



Locations where bottom of excavation soil sample results are > MPS for mercury and the cells are not completed as of March 2025.

Sample Date	Remedial Cell	Sample Identification and Mercury-in-Soil Analytcial Result
		BS-PA-93A (Geosyntec) 3.08 mg/Kg
		BS-PA-93B (MDEP) 100.0 mg/Kg
December 22, 2020	PA2-2	BS-PA-102 3.63 mg/Kg
		BS-PA-104A (Geosyntec) 5.02 mg/Kg
	Remediation	BS-PA-104B (MDEP) 3.40 mg/Kg
	not complete	BS-PA-106 12.80 mg/Kg
		RS-PA-01A (Geosynetc) 2.51 mg/Kg
January 6, 2021	PA2-7	RS-PA-01B (MDEP) 2.80 mg/Kg
	Remediation	
	not complete	
		BS-PA-142A (Geosyntec) 2.75 mg/Kg
August 26, 2021	PA1-4	BS-PA-142B (MDEP) 2.90 mg/Kg
	Remediation	
	not complete	
		BS-PA-147A (Geosyntec) 9.40 mg/Kg
September 30, 2021	PA6-3	BS-PA-147B (MDEP) 6.50 mg/Kg
	Remediation	
	not complete	

Mallinckrodt's Plant Area Soils with Hg > MPS and Planned for Remedial Excavation

Remedial Cell Id.	Soil Boring Id.	Soil Sample Id.	Depth of Clean Soil to Access > MPS	Thickness of Soil > MPS to Excavate
PA2-1	SB-LF1-61		10.0'	2.0'
	SB-PA-08		8.0' to layer #1 3.0' deeper to layer #2	1.0' 2.0'
	SB-PA-55		6.5'	2.0'
	SB-PA-56		7.0'	2.0'
	SB-PA-144		6.0'	6.0'
PA2-2		BS-PA-93A-DEP	5.5'	1.0' min. then re-sample
		BS-PA-102	4.0'	1.0' min. then re-sample
		BS-PA-104A	3.5'	1.0' min. then re-sample
		BS-PA-106	4.0'	1.0' min. then re-sample
	SB-PA-167		5.5'	14.0'
PA2-3	SB-PA-55		6.5'	2.0'
	SB-PA-56		7.0'	2.0'
	SB-PA-108		4.5' to layer #1 4.0' deeper to layer #2	1.0' 1.0'
PA2-7		RS-PA-01A-DEP	5.6'	1.0' min. then re-sample
	SB-PA-106		4.5'	1.0'
PA2-10	SB-PA-14		4.5'	9.0'
	SB-PA-31		6.0'	2.0'
	SB-PA-167		5.5'	14.0'
	SB-PA-226		5.0'	10.0'
	SB-PA-235		5.0'	3.5'
PA2-11	SB-PA-14		4.5'	9.0'
	SB-PA-30		6.0'	6.0'
	SB-PA-31		6.0'	2.0'
	SB-PA-42		4.0'	2.0'
	SB-PA-223		5.0' to layer #1 2.5' deeper to layer #2 1.0' deeper to layer #3	8.5' 1.0' 1.0'
	MW-805-02		9.0'	2.0'
PA2-12	SB-PA-10		8.0' to layer #1 1.0' deeper to layer #2	1.0' 1.0'
	SB-PA-29		6.25'	2.0'
	SB-PA-105		4.0'	3.0'
PA6-3	SB-PA-116		6.25' to layer #1 2.0' deeper to layer #2	10.0' 1.0'
	SB-PA-168		5.5'	2.0'
		BS-PA-147A-DEP	8.0'	1.0' min. then re-sample
PA7-2	SB-PA-116		6.25' to layer #1 2.0' deeper to layer #2	10.0' 1.0'
	SB-PA-149		6.0' to layer #1 2.0' deeper to layer #2	4.0' 8.0'
PA7-3	SB-PA-148		12.0'	2.0'
	SB-PA-149		6.0' to layer #1 2.0' deeper to layer #2	4.0' 8.0'
	SB-PA-219		5.25' to layer #1 2.0' deeper to layer #2	5.0' 2.0'
PA7-4	SB-PA-59		4.75' to layer #1 6.0' deeper to layer #2	2.0' 2.0'

Source:
CMI Plan-Concrete and Utility Removal-Addendum #4, drawing #6, dated November 2023