



QUANTUM FREDRICK – PHASE 1A SOIL MOVEMENT CONSTRUCTION SUMMARY

11/03/2022 – 05/25/2023

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Executive Summary

This report provides a detailed summary of all construction activities involving soil movement and/or soil stockpiling that occurred at the Quantum Frederick site beginning with the pre-construction meeting for Mass Grading of Area 1 in November 2022 through May 25, 2023. As reflected in this report, no construction activities were performed inside the Environmental Covenant (EC) area until after the Environmental Management Plan (EMP) was approved by the Land Restoration Program (LRP) on March 16, 2023.

This report was prepared in response to LRP's request for a formal report summarizing the movement of soil on-site during Infrastructure Phase 1a construction activities and includes the following information as requested by the LRP Program: (i) a description of the construction activity that occurred, (ii) dates that the construction activity occurred, including a chronology of events; (iii) approving personnel prior to the start of each construction scope of work; (iv) whether environmental personnel were present when the soil movement and/or soil stockpiling occurred; and (v) photographs taken during construction activities and figures/maps showing where the work occurred on-site.

This report is intended to supplement the reports, plans, and additional information that have been provided to the Maryland Department of the Environment (MDE), including but not limited to, the Response to Information Request – Land Use Controls dated June 21, 2023, the response to LRP's withdrawal of Environmental Management Plan Approval dated June 28, 2023, the Soil Disposition Memorandum prepared by GTA and submitted on June 30, 2023, the information provided to MDE during the July 6, 2023 site visit and the July 20, 2023 site visit, the North Borrow Area Soil Sampling Plan submitted on July 27, 2023, the Railroad Bed at Happy Landing Road Sampling Plan submitted on July 31, 2023, and the Quantum Place South Roadway Sampling Plan Eastern Portion submitted on July 31, 2023. In addition, the June 30, 2023 Site Stabilization Work Plan and subsequent correspondence with the Land Restoration Program throughout July and August 2023 provides a complete picture of all site stabilization activities and soil movement that have taken place at the Quantum Maryland project site after the site-wide work stoppage on May 25, 2023.

Organization of Report

This report begins with an overview and chronology of Quantum Frederick Phase 1a construction activities, organized by scope of work, that included soil movement and/or soil stockpiling. Following the overview, the report contains detailed descriptions of each Phase 1a scope of work as well as photographs taken during construction and illustrated plans. For each scope of work, there are three illustrated plans provided. The first plan is an overall site plan showing where the work occurred on the overall Quantum Frederick site and in relation to the EC and Soil Management Area (SMA) boundaries. The second plan is a detailed view showing soil movement associated with the specific scope of work, and the third plan shows stockpile locations. Appendix A contains the Soil Disposition Memorandum submitted to MDE on June 30, 2023 that documented the disposition and sources of soil stockpiled or utilized as fill during Infrastructure Phase 1a construction activities.

Overview of Quantum Frederick Phase 1a Construction – Soil Movement and Stockpiling

The following table summarizes the scopes of work contracted through Structure Tone that involved movement and/or stockpiling of soils for Phase 1a utility and roadway construction.

Summary table for Phase 1a of Quantum Frederick development construction scopes of work

| Scope of Work | Location of Scope | Permit Numbers | | | | | | Pre-construction Meeting Date | Sediment and Erosion Controls Implemented | Clearing / Grading |
|----------------------------------------------------|--------------------------|----------------|------------------|------------------|-------------|-----------------------------|---------------------------------|-------------------------------|------------------------------------------------|-------------------------|
| | | MDE NOI [1] | MDE Wetlands [2] | FFCP [3] | Grading [4] | PI – Roads and Drainage [5] | PI – Water and Sewer (DWSU) [6] | | | |
| Area 1 Mass Grading | Outside EC and SMA areas | MDRCK06AA | N/A | F271158 | MJ-419595 | N/A | N/A | 11/03/2022 | See Happy Landing Road – Grading Scope of Work | |
| Happy Landing Road - Grading | Outside EC and SMA areas | MDRCK06FS | N/A | F271158 | MJ-419595 | PI-436351 | 601A-W | 11/03/2022 | 11/04/2022 – 11/30/2022 | 11/21/2022 – 05/25/2023 |
| Sewer Pump Station | Outside EC and SMA areas | | 0907/22-NT-3124 | F271158 | MJ-452655 | N/A | 601-S | 02/22/2023 | 02/27/2023 – 03/06/2023 | 04/18/2023 – 05/22/2023 |
| Quantum Place South | Inside EC, Outside SMA | MDRCK06FO | 0907/22-NT-3124 | F274907 | MJ-444944 | PI-444971 | 603A-SW | 02/22/2023 | 04/20/2023 – 04/27/2023 | 05/04/2023 – 05/25/2023 |
| Outfall A.1 - 24" Sewer – Happy Landing Rd to MH10 | Inside EC, Outside SMA | MDRCK06BN | 0706/22-NT-3094 | F271158, F274907 | MJ-444927 | N/A | 602A-S | 03/09/2023 | 03/20/2023 – 04/06/2023 | 04/11/2023 – 05/02/2023 |
| Outfall A.2 – Sewer – MH10 to Quantum Place South | Inside EC, Outside SMA | MDRCK06BW | 0706/22-NT-3094 | F274907 | MJ-444942 | N/A | 602B-S | 04/11/2023 | 03/20/2023 – 04/06/2023 | 05/01/2023 – 05/22/2023 |

Note 1: Notice of Intent – General Permit for Stormwater Associated with Construction Activities (14-GP) obtained through MDE

Note 2: Nontidal Wetlands and Waterways Permit obtained through Army Corps of Engineers and MDE

Note 3: Final Forest Conservation Plan obtained through Frederick County

Note 4: Major Grading Permit obtained through Frederick County

Note 5: Public Improvement Permit for roads and drainage obtained through Frederick County

Note 6: Public Improvement Permit for water and sewer utilities obtained through Frederick County

Detailed Description for Each Scope of Work

A. Area 1 Mass Grading

All Mass Grading in Area 1 is outside of the EC and SMA areas.

The following permits specific to Area 1 Mass Grading were obtained prior to the start of construction activities:

- 14-GP NOI #: MDRCK06AA
- FFCP #: F271158
- Grading Permit #: MJ-419595

After obtaining the required permits referenced above, Quantum Loophole directed Structure Tone to schedule a pre-construction meeting which took place on 11/03/2022. This pre-construction meeting also included the Happy Landing Road Grading work described in the next section. Representatives from Quantum Loophole, Structure Tone, Petillo, GTA, and Frederick County attended the pre-construction meeting. With all approvals from Frederick County received, including the required pre-construction meeting, Structure Tone began permitted construction activities.

Area 1, as designated by the construction drawings and permits referenced above, includes the entire area for Happy Landing Road, the Sewer Pump Station, and lots 301 through 304. Specific construction dates and durations for each scope of work that involved soil movement and/or stockpiling within Area 1 follow in Sections B and C.

B. Happy Landing Road – Grading

Happy Landing Road is located outside of the EC and SMA areas.

The following permits specific to grading for Happy Landing Road were obtained prior to the start of construction activities:

- 14-GP NOI #: MDRCK06FS
- FFCP #: F271158
- Public Improvement – Road and Drainage Permit #: PI-436351
- Grading Permit #: Covered by MJ-419595

After obtaining the required permits referenced above, Quantum Loophole directed Structure Tone to schedule a pre-construction meeting which took place on 11/03/2022. Representatives from Structure Tone, Petillo, GTA, and Frederick County attended the pre-construction meeting. With all approvals from Frederick County received, including the required pre-construction meeting, Structure Tone began permitted construction activities.

Sediment and erosion control measures associated with grading and utility installation for Happy Landing Road were initiated 11/04/2022 and completed 11/30/2022. The perimeter of the area for this scope of work is shown in the Happy Landing Road Grading plans located below in this section.

Per Structure Tone, grading for Happy Landing Road took place between 11/21/2022 and the site wide work stoppage on 05/25/2023. Initial Grading was complete for Happy Landing Road on 01/20/2023 with final grading proceeding between 01/20/2023 and 05/25/2023. During these times, materials were taken from 3 separate locations (Basin 2, Basin 3, and the removed railroad bed) and used for the development of the roadway to subgrade. Basin 2, Basin 3, and the former railroad bed are outside of the EC and SMA areas.

Based on information received from Structure Tone and GTA, the following are estimates of the amount of material for removed from each of the three locations noted above. The origins and destination for soil movement associated with Happy Landing Road grading are shown on Plan B.2 in this section.

- Basin 2
 - Estimated 5,000 cubic yards excavated between approximately 04/04/2023 until 05/25/2023 when work stopped.
- Basin 3
 - Estimated 8,500 cubic yards excavated between approximately 04/11/2023 until 05/25/2023 when work stopped.
- Railroad Bed
 - Estimated 465 cubic yards excavated and distributed within Happy Landing Road from former railroad bed. This work began on approximately December 9, 2022 and was completed by December 16, 2022.
 - An additional 1,400 cubic yards was removed and distributed within Happy Landing Road from the area adjacent to the former railroad bed. This work began on approximately April 24, 2023 and was completed May 17, 2023.

Soils not yet utilized for the grading activities for Happy Landing Road were stockpiled in Stockpile 16 per the Stockpile Designation in the Soil Disposition Memorandum submitted to MDE on 06/30/2023. This material was stockpiled between 05/23/2023 and 05/25/2023 when the site wide work stoppage occurred.

Oversight for construction activities was provided by Structure Tone and their applicable sub-contractors. Where utility installation was part of the on-going scope of work, GTA provided daily 3rd party inspections on behalf of Frederick County. GTA also provided regular compliance inspections of sediment erosion and control measures along with the required Sediment and Erosion Controls inspection within 48 hours following a storm event.

As referenced in the Soil Disposition Memorandum submitted to MDE on 06/30/2023, two soil samples from Basin 3 as well as additional soils from locations along Happy Landing Road were previously characterized as part of the November 2022 Phase II Environmental Site Assessment, Initial Infrastructure Phase. These soil samples did not contain contaminants above the applicable regulatory limits.

Regarding the excavation activities that took place in the existing railroad bed, the plans for Happy Landing Road call for a cut of 4-5 feet from the top of the former railroad bed to achieve site grades. According to Structure Tone, this results in approximately 1865 cubic yards (465 CY of the former railroad bed and 1400 CY of area adjacent to the railroad bed) cut from the former railroad bed area on Happy Landing Road and the area immediately west of Happy Landing Road. This cut material was utilized as fill along Happy Landing Road in the area immediately adjacent to the cut areas as shown in blue on Plan B.2 in this section. An environmental consultant was not present during the excavation activities in the former railroad bed.

A Sampling Plan for the former railroad bed at Happy Landing Road was submitted to the LRP program on July 31, 2023 to evaluate the areas where the former railroad bed was cut and used as fill material along Happy Landing Road.

The following photographs were taken by Structure Tone during Happy Landing Road grading activities.

Happy Land Road – Grading Photographs



Figure 1: Initial Grading activities along Happy Landing Road from week of 12/09/2022



Figure 2: Initial Grading activities along Happy Landing Road from week of 12/16/2022



Figure 3: Initial Grading activities along Happy Landing Road from week of 12/16/2022



Figure 4: Initial Grading activities along Happy Landing Road from week of 12/23/2022



Figure 5: Initial Grading activities along Happy Landing Road from week of 01/13/2023



Figure 6: Happy Landing Road – Former railroad bed and Basin 2 – 03/05/2023



Figure 7: Happy Landing Road –Former railroad bed and Basin 2 – 04/04/2023



Figure 8: Happy Landing Road –Former railroad bed and Basin 2 – 04/25/2023



Figure 9: Happy Landing Road –Former railroad bed and Basin 2 – 05/17/2023



Figure 10: Happy Landing Road – Basin 3 – 03/05/2023



Figure 11: Happy Landing Road – Basin 3 – 04/11/2023



Figure 12: Happy Landing Road – Basin 3 – 04/25/2023



Figure 13: Happy Landing Road – Basin 3 – 05/10/2023



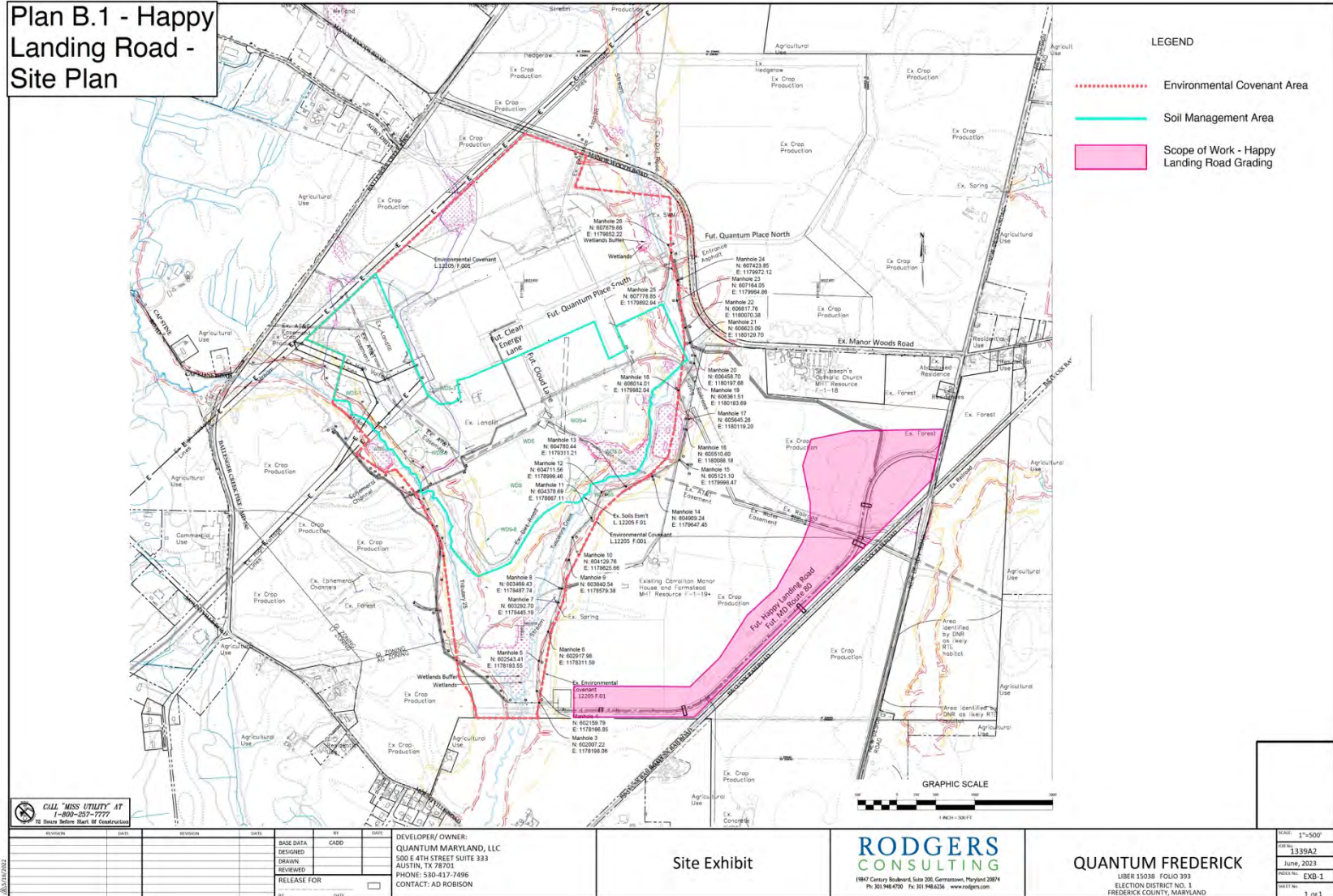
Figure 14: Happy Landing Road – Basin 3 – 05/23/2023



Figure 15: Happy Landing Road - Stockpile 16 - 05/30/2023

Plan B.1 – Happy Landing Road – Grading Site Plan

Plan B.1 - Happy Landing Road - Site Plan



- LEGEND**
- Environmental Covenant Area
 - Soil Management Area
 - Scope of Work - Happy Landing Road Grading

CALL "MISS UTILITY" AT 1-800-251-7777 72 Hours Before Start of Construction

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DEVELOPER/ OWNER:
QUANTUM MARYLAND, LLC
 500 E 4TH STREET SUITE 333
 AUSTIN, TX 78701
 PHONE: 530-417-7496
 CONTACT: AD ROBISON

Site Exhibit

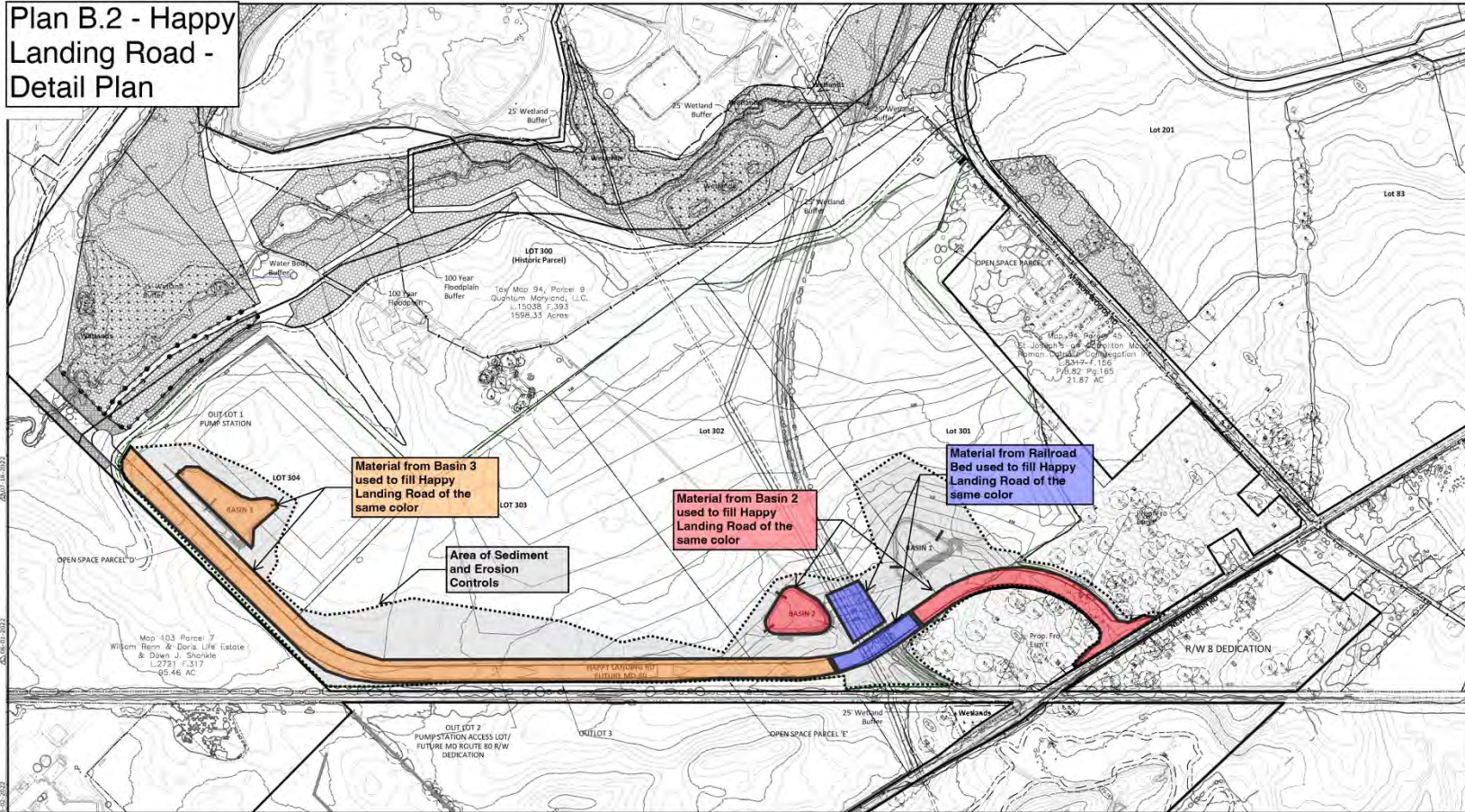
RODGERS CONSULTING
1801 Century Boulevard Suite 200 Germantown, Maryland 20874
 Ph: 301.948.4700 Fx: 301.948.6234 www.rodgers.com

QUANTUM FREDERICK
LIBER 15038 FOLIO 393
 ELECTION DISTRICT NO. 1
 FREDERICK COUNTY, MARYLAND

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| DATE | 1339A2 |
| DATE | June, 2023 |
| INDEX NO. | EXB-1 |
| SHEET NO. | 1 of 1 |

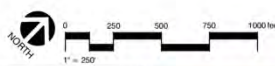
Plan B.2 – Happy Landing Road – Detail Plan

**Plan B.2 - Happy
Landing Road -
Detail Plan**



04/11/2022
 04/11/2022
 04/11/2022

CALL "MISS UTILITY" AT
1-800-257-7777
72 Hours Before Start of Construction



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QUANTUM MARYLAND, LLC
500 E 4TH STREET SUITE 333
AUSTIN, TX 78701
CONTACT: AD ROBISON
PHONE: 530-417-7496

Overall Grading Plan

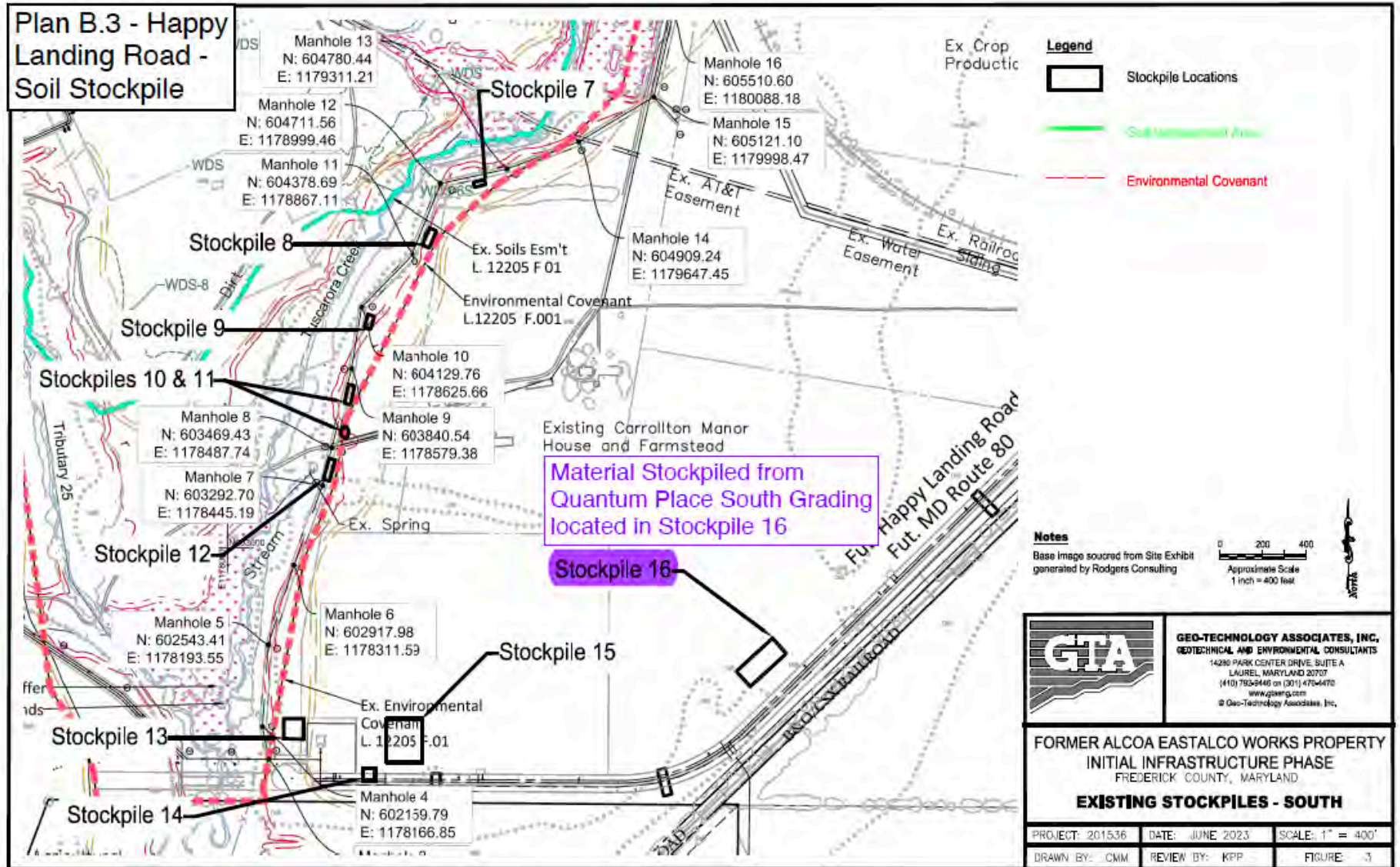


Area 1 Mass Grading
Quantum Frederick

Liber 15038, Folio 393
ELECTION DISTRICT NO. 1
FREDERICK COUNTY, MARYLAND

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| SCALE | 1"=250' |
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Plan B.3 – Happy Landing Road – Soil Stockpile Plan



C. Sewer Pump Station

The Sewer Pump Station (also referred to as the 1 MGG Pump Station) is located outside of the EC and SMA areas. Two soil samples were collected from the Sewer Pump Station as part of the November 2022 Phase II Environmental Site Assessment. These soil samples did not contain contaminants above applicable regulatory limits.

The following permits specific to the Sewer Pump Station were obtained prior to the start of construction activities:

- Nontidal Wetlands Permit USACE: 0907/22-NT-3124
- FFCP #: F271158
- Grading Permit #: MJ-452655,
- Storm Water Management Permit #: SWM-452745
- DWSU Permit #: 601-S

After obtaining the required permits referenced above, Quantum Loophole directed Structure Tone to call for a pre-construction meeting which took place on 02/22/2023. Representatives from Structure Tone, Clark Construction, Petillo, GTA, and Frederick County attended the pre-construction meeting. With all approvals from Frederick County received, including the required pre-construction meeting, Structure Tone began permitted construction activities.

Sediment and erosion control measures associated with the Sewer Pump Station were initiated on 02/27/2023 and completed 03/06/2023. The perimeter of the area for this scope is shown on Plans C.1 and C.2 in this section.

Per Structure Tone, clearing and excavation for the Sewer Pump Station began on 04/18/2023 and continued until work was halted on 05/22/2023 due to concerns regarding dewatering. During this time, soils excavated from the Sewer Pump Station site were stockpiled in Stockpiles 14 and 15 adjacent to the Sewer Pump Station excavation as detailed in the Soil Disposition Memorandum submitted to MDE on 06/30/2023 and as shown in the photographs below. Stockpiles 14 and 15 are located outside of the EC and SMA. Stockpile 13 is also shown in the photographs below but is not associated with the Sewer Pump Station Excavation. Stockpile 13 was generated on approximately 04/11/2023 during the sewer outfall section A.1 installation discussed in Section E below.

Oversight for construction activities was provided by Structure Tone and their applicable sub-contractors. Where utility installation was part of the on-going scope of work, GTA provided daily 3rd party inspections on behalf of Frederick County. GTA also provided regular compliance inspections of sediment erosion and control measures along with the required Sediment and Erosion Controls inspection within 48 hours following a storm event.

Per Structure Tone, an estimated 12,000 cubic yards of material has been removed from the Sewer Pump Station excavation and stockpiled adjacent to the Sewer Pump Station. The following photographs were taken by Structure Tone during the excavation activities associated with the Sewer Pump Station.

Sewer Pump Station – Site Photographs



Figure 16: Sewer Pump Station Sediment and Erosion Control Measures – 03/05/2023

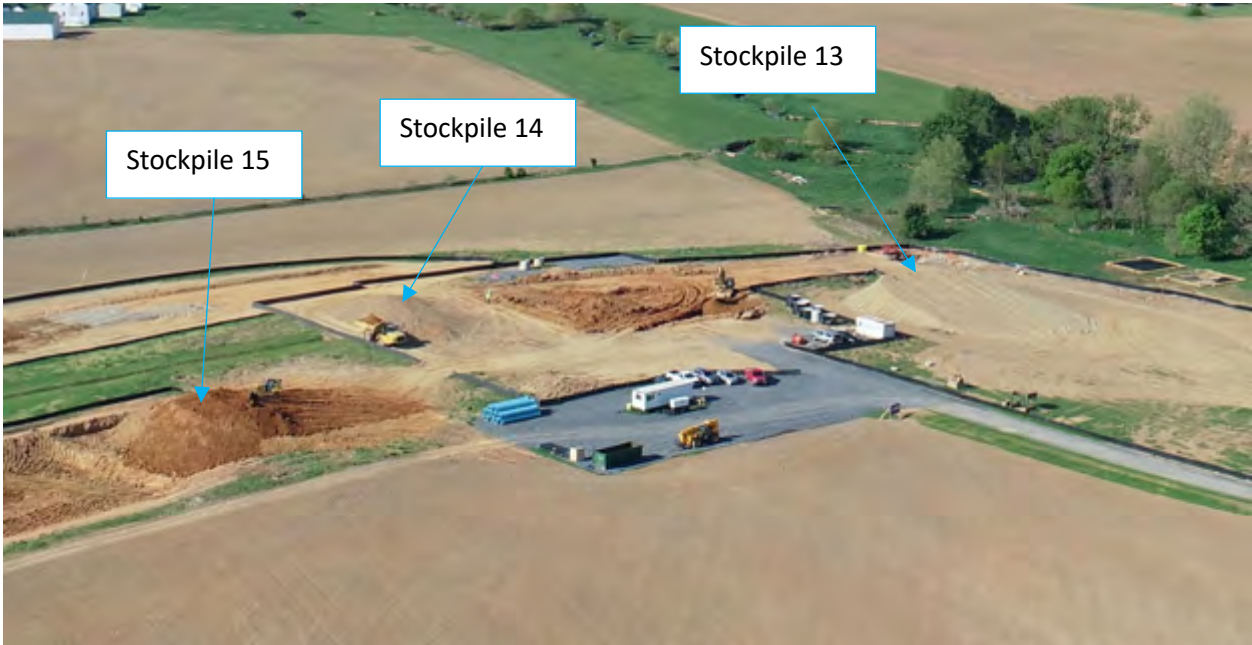


Figure 17: Sewer Pump Station Excavation – 04/25/2023

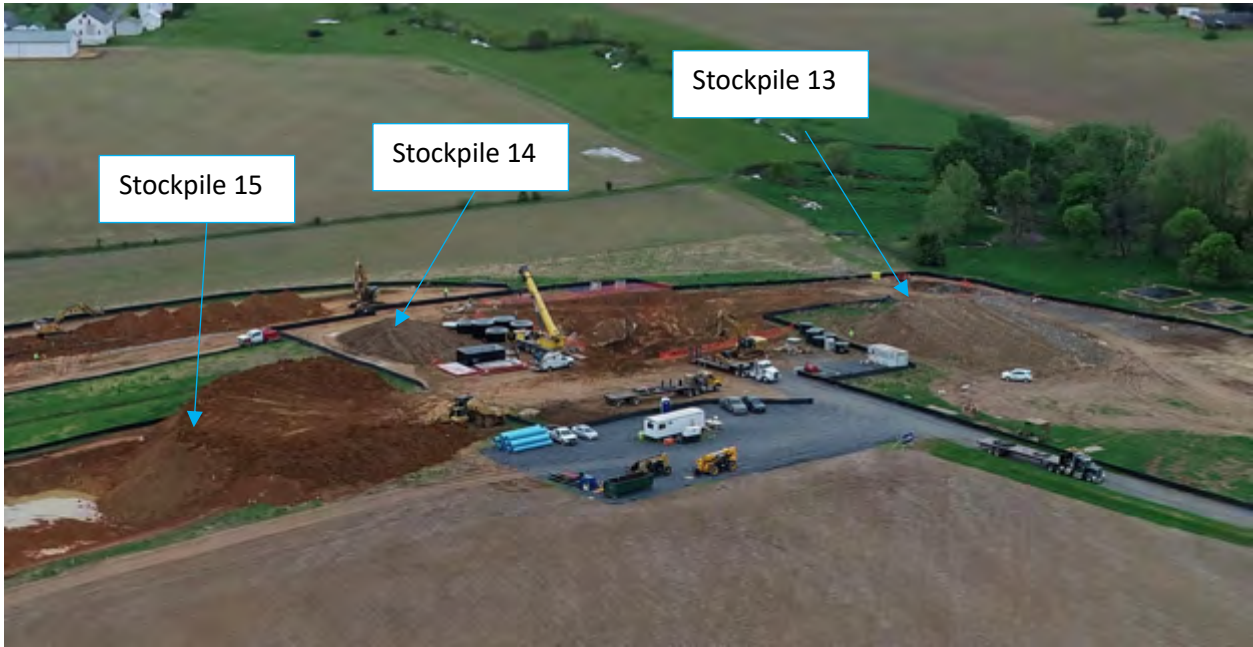


Figure 18: Sewer Pump Station Excavation – 05/04/2023



Figure 19: Sewer Pump Station Excavation – 05/10/2023



Figure 20: Sewer Pump Station Excavation – 05/17/2023



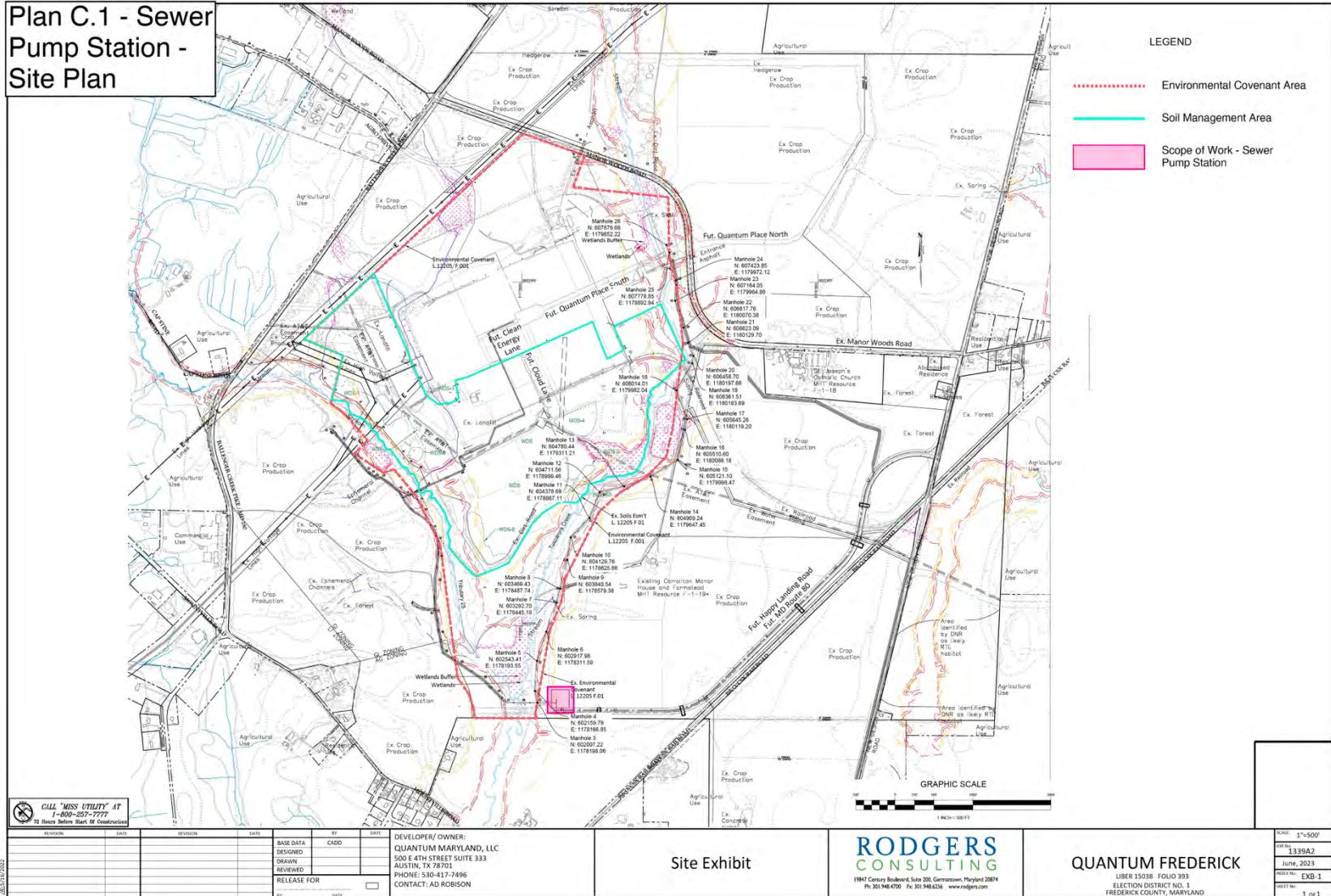
Figure 21: Sewer Pump Station Excavation – 05/23/2023



Figure 22: Sewer Pump Station Excavation – 05/30/2023

Plan C.1 – Sewer Pump Station Site Plan

Plan C.1 - Sewer Pump Station - Site Plan



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DEVELOPER/ OWNER:
QUANTUM MARYLAND, LLC
 500 E 4TH STREET SUITE 333
 AUSTIN, TX 78701
 PHONE: 530-417-7496
 CONTACT: AD ROBISON

Site Exhibit

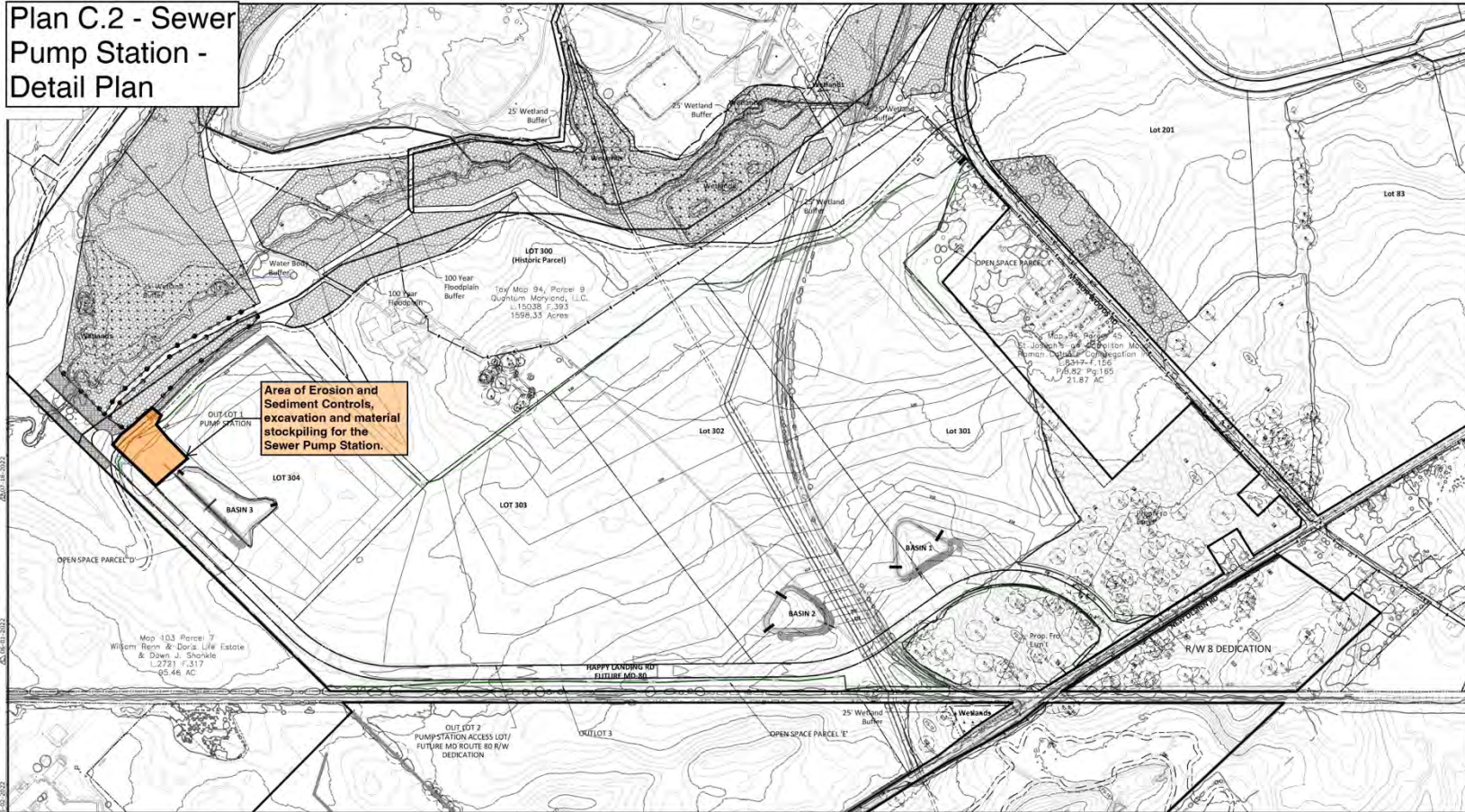
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| INDEX NO. | EXB-1 |
| SHEET NO. | 1 of 1 |

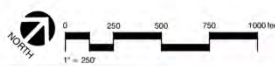
Plan C.2– Sewer Pump Station-Detail Plan

Plan C.2 - Sewer Pump Station - Detail Plan



04.01.2022
04.01.2022
04.01.2022

CALL "MISS UTILITY" AT 1-800-257-7777 72 Hours Before Start of Construction



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 CONTACT: AD ROBISON
 PHONE: 530-417-7496

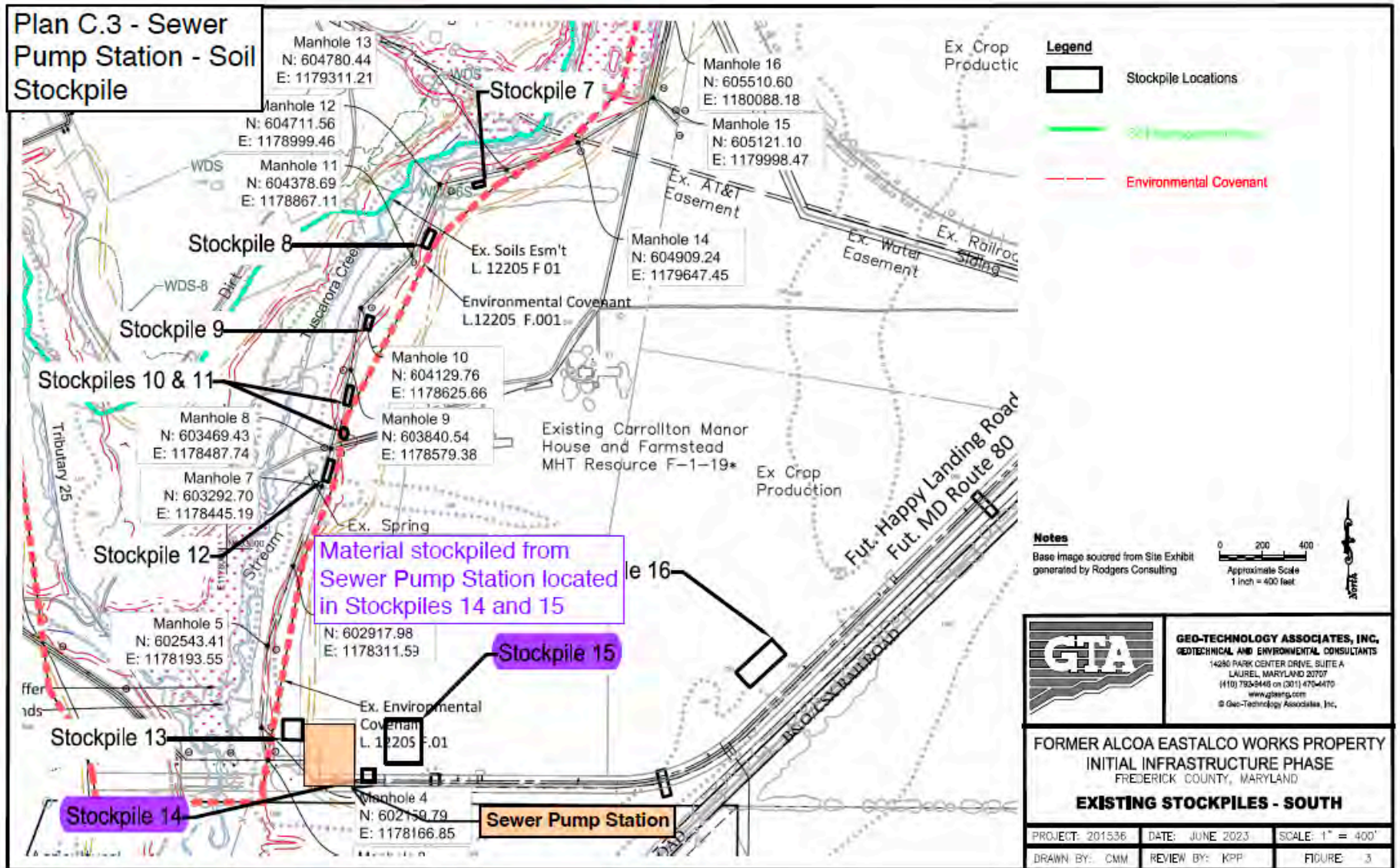
Overall Grading Plan



Area 1 Mass Grading
Quantum Frederick
 Liber 15038, Folio 393
 ELECTION DISTRICT NO. 1
 FREDERICK COUNTY, MARYLAND

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| SCALE | 1"=250' |
| JOB NO. | 1339A |
| PROJECT NO. | GP-1 |
| SHEET NO. | 7 of 40 |

Plan C.3– Sewer Pump Station – Soil Stockpile Plan



D. Quantum Place South

Quantum Place South is located inside the EC area, but outside the SMA area. The North Borrow Area (BA-1) associated with Quantum Place South grading activities is located outside the EC and SMA areas.

The following permits specific to Quantum Place South grading were obtained prior to their respective construction activities beginning:

- 14-GP NOI MDE #: MDRCK06FO
- Nontidal wetlands permit USACE: 0907/22-NT-3124
- FFCP #: F274907
- Grading Permit #: MJ-444944
- Public Improvement – Road and Drainage Permit #: PI-444971

After obtaining the required permits referenced above, Quantum Loophole directed Structure Tone to call for a pre-construction meeting for Quantum Place South Mass Grading which took place on 02/22/2023. Representatives from Structure Tone, Clark Construction, Petillo, GTA, and Frederick County attended the pre-construction meeting. With all approvals from Frederick County received, including the required pre-construction meeting, Structure Tone began permitted construction activities.

Sediment and erosion control measures associated with Quantum Place South and the North Borrow Area were initiated on 04/20/2023 and completed 04/27/2023. The perimeter of the area for this scope is shown on Plans D.1 and D.2 of this section.

Per Structure Tone, grading for Quantum Place South took place from 05/04/2023 until the site wide work stoppage on 05/25/2023. During this time, materials were taken from 3 separate locations (Sage Substation, the North Borrow Area on Lot 110 and DA-2) and used for the development of the roadway to subgrade. Additional soils not yet utilized for grading of Quantum Place South were stockpiled in Stockpiles 1 and 2 per the Stockpile Designation in the Soil Disposition Memorandum submitted to MDE on 06/30/2023 and are shown on Plan D.3 of this section. As detailed in the Soil Disposition Memorandum, Stockpile 2 originated from the expansion of existing rainwater pond 102 and areas adjacently east to create the DA-11 pond configuration. Stockpile 2 is located within EC and the SMA.

Based on information received from Structure Tone, the following are estimates for the amount of soil removed from each of the three locations noted above. These origins and destination for soil movement associated with Quantum Place South grading are shown on Plan D.2 of this section.

- Sage Substation and Clean Energy Lane
 - Soils moved were primary re-distributed within the substation footprint and were not used as fill in other portions of Quantum Place South
- North Borrow Area BA-1

- Estimated 21,000 cubic yards removed. Some of this soil was used as fill in the western portion of Quantum Place South and some of this soil was stockpiled nearby in Stockpile 1.
- DA-2
 - Estimated 8,500 cubic yards removed and used as fill in the eastern portion of Quantum Place South.

Oversight for construction activities was provided by Structure Tone and their applicable sub-contractors. Where utility installation was part of the on-going scope of work, GTA provided daily 3rd party inspections on behalf of Frederick County. GTA also provided regular compliance inspections of sediment erosion and control measures along with the required Sediment and Erosion Controls inspection within 48 hours following a storm event.

As referenced in the Soil Disposition Memorandum submitted to MDE on 06/30/2023, two soil samples from DA-2, soil samples from Sage Substation as well as additional soils from locations along Quantum Place South were all previously characterized as part of the November 2022 Phase II Environmental Site Assessment. These soil samples did not contain contaminants above the applicable regulatory limits.

As noted above, additional fill material for the western portion of Quantum Place South originated from the excavation of topsoil from the North Borrow Area (BA-1) that was historically utilized for agricultural purposes. BA-1 is located outside the EC and SMA areas and was not previously characterized due to the historical agricultural use and its location outside of the EC and SMA areas.

Per Structure Tone, during the week of 05/17/2023, a soil stockpile was generated during the stripping of topsoil from the North Borrow Area. This soil stockpile is located on Lot 111 and measures approximately 4,000 cubic yards. This stockpile has been previously referred to as Stockpile 1 and is located within the EC area but outside the SMA area. An environmental consultant was not present during the movement of soil from the North Borrow Area to the stockpile.

A Soil Stockpile Sampling Plan - North Borrow Area was submitted to MDE on July 27, 2023 to facilitate sampling of the soil stockpile generated during the stripping of topsoil from the North Borrow Area. The soil stockpile is shown in Plan 3.C in this section.

Quantum Place South – Site Photographs



Figure 23: Start of E&S Controls for Quantum Place South – Week of 04/25/2023



Figure 24: Mass Grading for Quantum Place South – Week of 05/04/2023

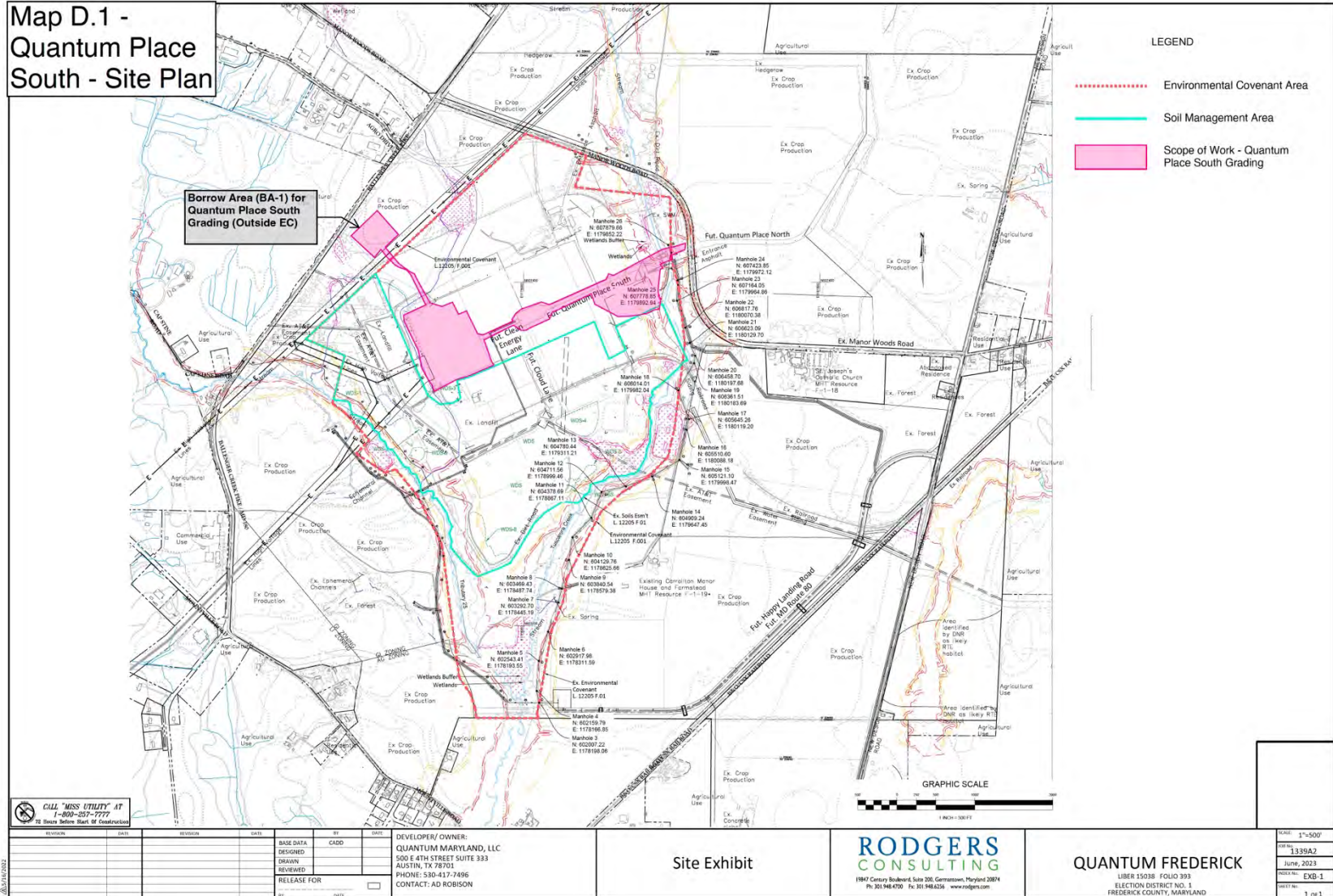


Figure 25: Mass Grading for Quantum Place South – Week of 05/10/2023

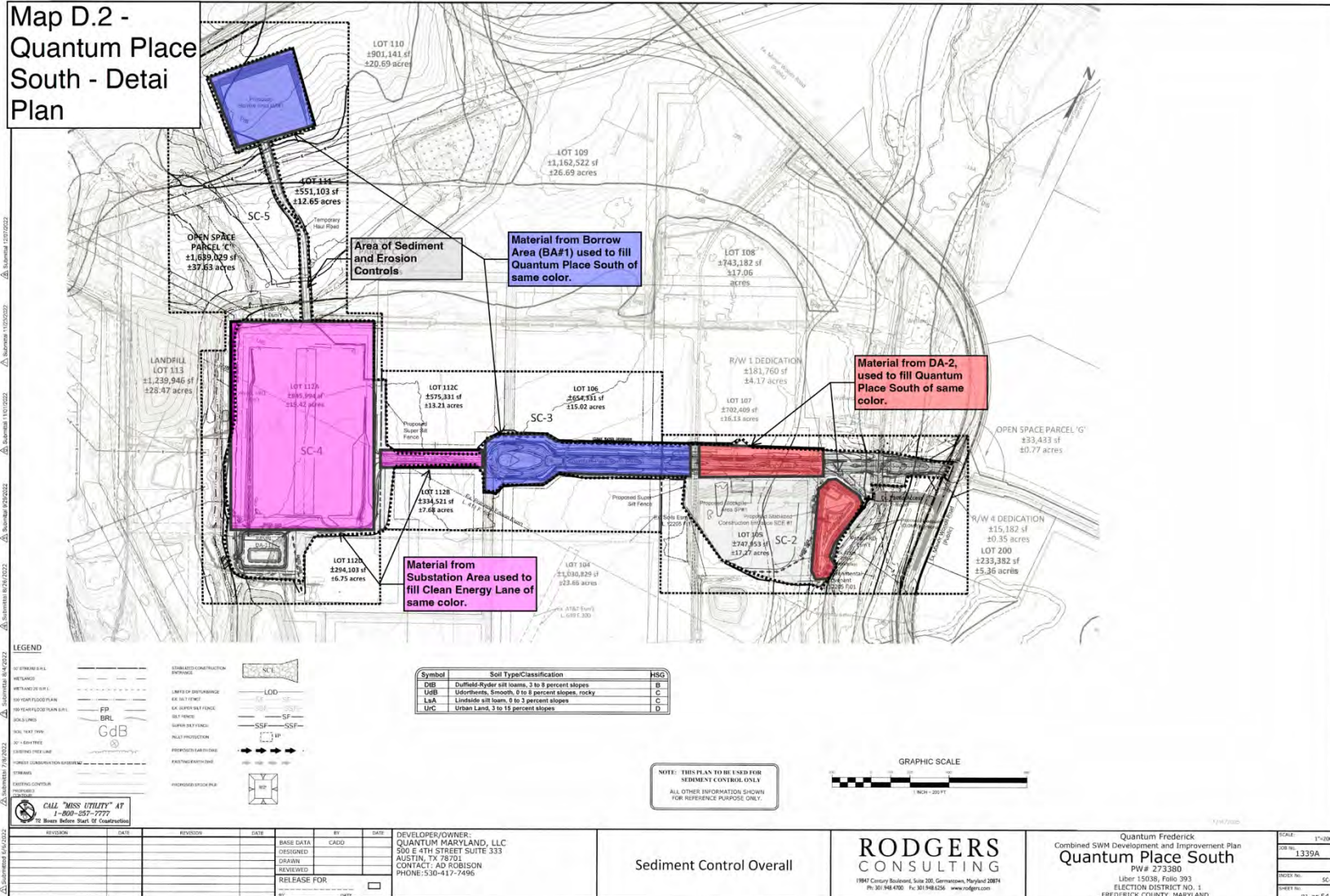


Figure 26: Start of excavation in Borrow Area for Quantum Place South – Week of 05/17/2023

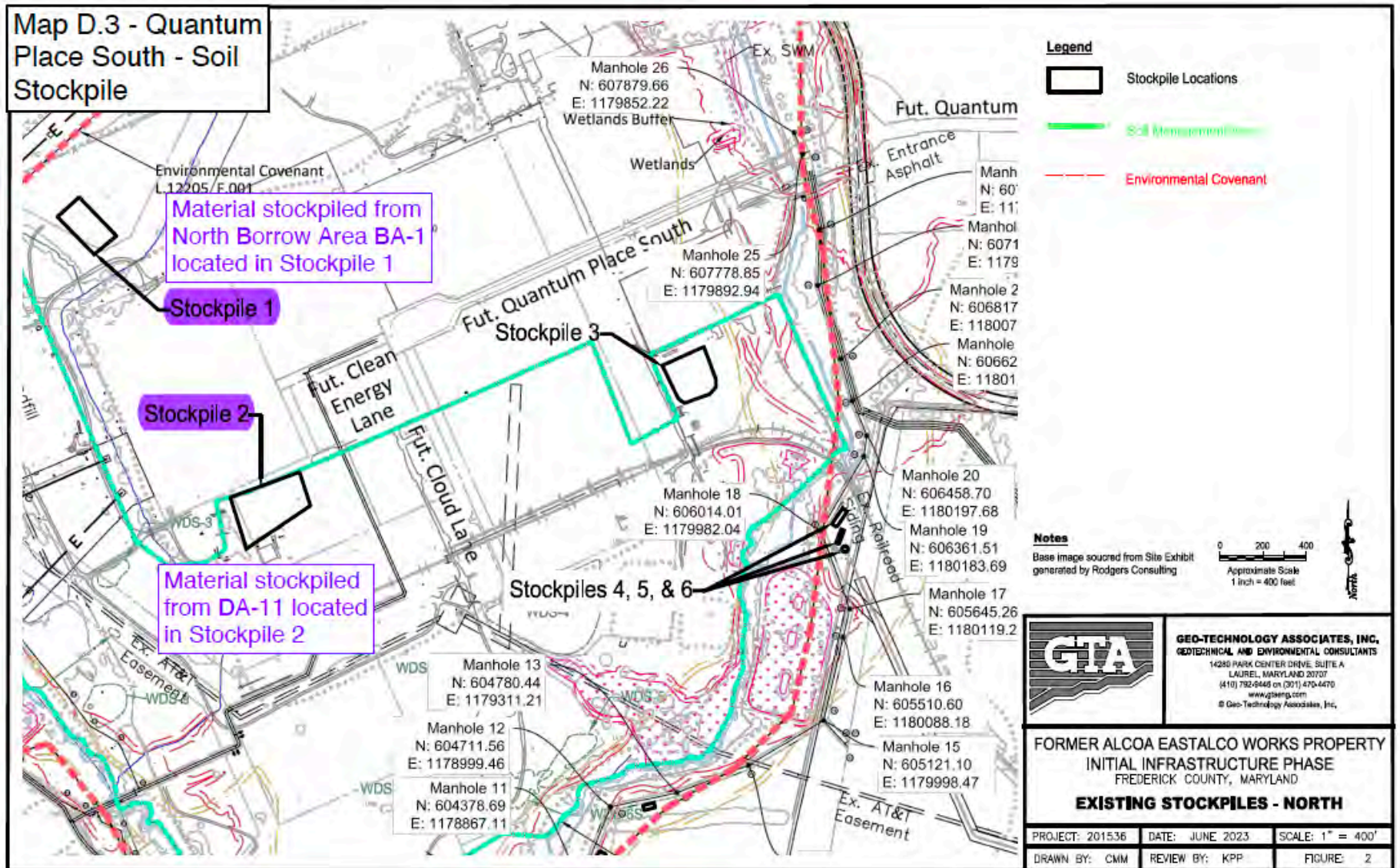
Plan D.1 – Quantum Place South Site Plan



Plan D.2- Quantum Place South- Detail Plan



Plan D.3 – Quantum Place South – Soil Stockpile Plan



E. Outfall A.1 – 24” Sewer – Happy Landing Rd. to MH10

The sewer outfall section A.1 is located primarily inside the EC area, but outside the SMA with portions of the scope outside both EC and SMA areas.

The following permits specific to the 24” Sewer Outfall, section A.1 were obtained prior to the start of construction activities:

- 14-GP NOI MDE #: MDRCK06BN
- USACE: 0706/22-NT-3094
- FFCP #: F271158, F274907
- Grading Permit #: MJ-444927
- DWSU Permit #: 602A-S

After obtaining the required permits referenced above, Quantum Loophole directed Structure Tone to call for a pre-construction meeting which took place on 03/09/2023. Representatives from Structure Tone, Petillo, GTA, and Frederick County attended the pre-construction meeting. With all approvals from Frederick County received, including the required pre-construction meeting, Structure Tone began permitted construction activities.

Sediment and erosion control measures associated with the Section A.1 sewer outfall were initiated on 03/20/2023 and completed 04/06/2023. The perimeter of the area for this scope is shown on Plans F.1 and F.2 in Section F of this document.

Utility installation for section A.1 sewer outfall took place between 04/11/2023 and 05/02/2023. During this time soils were stockpiled along the utility installation route. These stockpiles are designated as Stockpiles 9, 10, 11, 12 and 13 in the Soil Disposition Memorandum submitted to MDE on 06/30/2023. Soil stockpiling began with Stockpile 13 on 04/11/2023 and continued north along installation route through approximately 05/02/2023. The approximate size of soil stockpiles 9, 10, 11, 12, and 13 are provided in the Soil Disposition Memorandum.

Soils along Sections A.1 and A.2 of the sewer outfall were previously characterized as part of the November 2022 Phase II Environmental Site Assessment. These soil samples did not contain contaminants above the applicable regulatory limits.

Oversight for construction activities was provided by Structure Tone and their applicable sub-contractors. Where utility installation was part of the on-going scope of work, GTA provided daily 3rd party inspections on behalf of Frederick County. GTA also provided regular compliance inspections of sediment erosion and control measures along with the required Sediment and Erosion Controls inspection within 48 hours following a storm event.

F. Outfall A.2 – Sewer – MH10 to Quantum Place South

The sewer outfall section A.2 is located primarily inside the EC area, but outside the SMA with portions of the scope outside both EC area and SMA.

The following permits specific to section A.2 Sewer Outfall were obtained prior to their respective construction activities beginning:

- 14-GP NOI MDE #: MDRCK06BW
- USACE: 0706/22-NT-3094
- FFCP #: F274907
- Grading Permit #: MJ-444942
- DWSU Permit #: 602B-S

After obtaining the required permits referenced above, Quantum Loophole directed Structure Tone to call for a pre-construction meeting for section A.2 of the sewer outfall which took place on 04/11/2023. Representatives from Structure Tone, Petillo, GTA, and Frederick County attended the pre-construction meeting. With all approvals from Frederick County received, including the required pre-construction meeting, Structure Tone began permitted construction activities.

Sediment and erosion control measures associated with the Section A.2 sewer outfall were initiated on 03/20/2023 and completed 04/06/2023. The perimeter of the area for this scope is shown on Plans F.1 and F.2 of this section.

Utility installation for section A.2 sewer outfall took place between 05/01/2023 and 05/22/2023 with construction being stopped between MH-17 and MH-18. During this time materials were stockpiled along the utility installation route. These stockpiles are designated as Stockpiles 4, 5, 6, 7, and 8 in the Soil Disposition Memorandum submitted to MDE on 06/30/2023. The approximate size of soil stockpiles 4, 5, 6, 7, and 8 are provided in the Soil Disposition Memorandum. Soil stockpiling began with Stockpile 8 on 05/01/2023 and continued north along installation route through 05/22/2023.

Soils along Sections A.1 and A.2 of the sewer outfall were previously characterized as part of the November 2022 Phase II Environmental Site Assessment. These soil samples did not contain contaminants above the applicable regulatory limits.

Oversight for construction activities was provided by Structure Tone and their applicable sub-contractors. Where utility installation was part of the on-going scope of work, GTA provided daily 3rd party inspections on behalf of Frederick County. GTA also provided regular compliance inspections of sediment erosion and control measures along with the required Sediment and Erosion Controls inspection within 48 hours following a storm event.

Outfall A.1 and A.2 – Sewer – Site Photographs



Figure 27: 24" Sewer installation Section A.1 – Week of 04/25/2023



Figure 28: 24" Sewer installation Section A.1 – Week of 04/25/2023



Figure 29: 24" Sewer installation Section A.1 – 04/28/2023



Figure 30: 24" Sewer installation Section A.1 – 04/28/2023



Figure 31: Sewer installation Section A.1 – Week of 05/04/2023



Figure 32: Sewer installation Section A.1 – Week of 05/10/2023

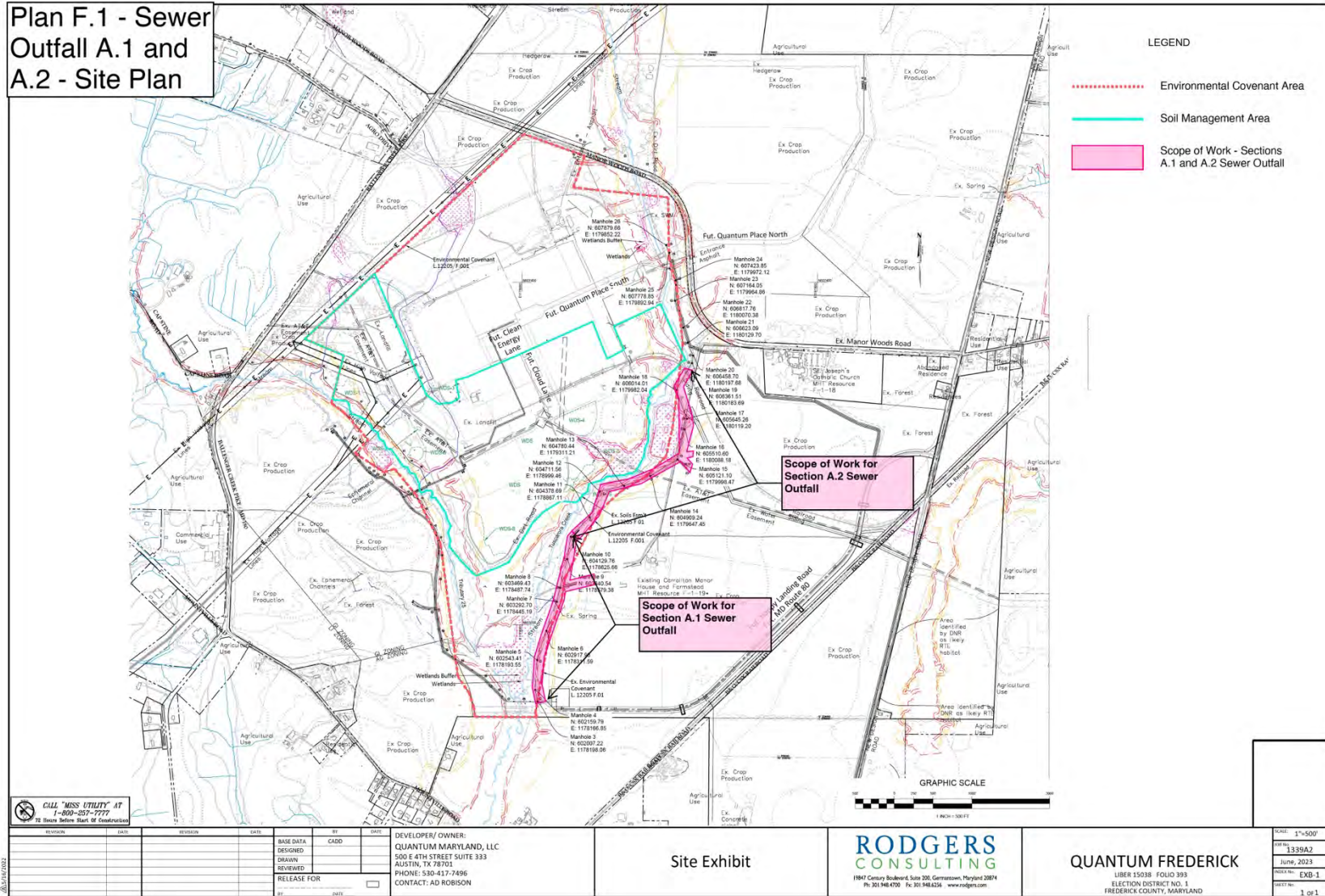


Figure 33: Sewer installation Section A.2 – Week of 05/17/2023

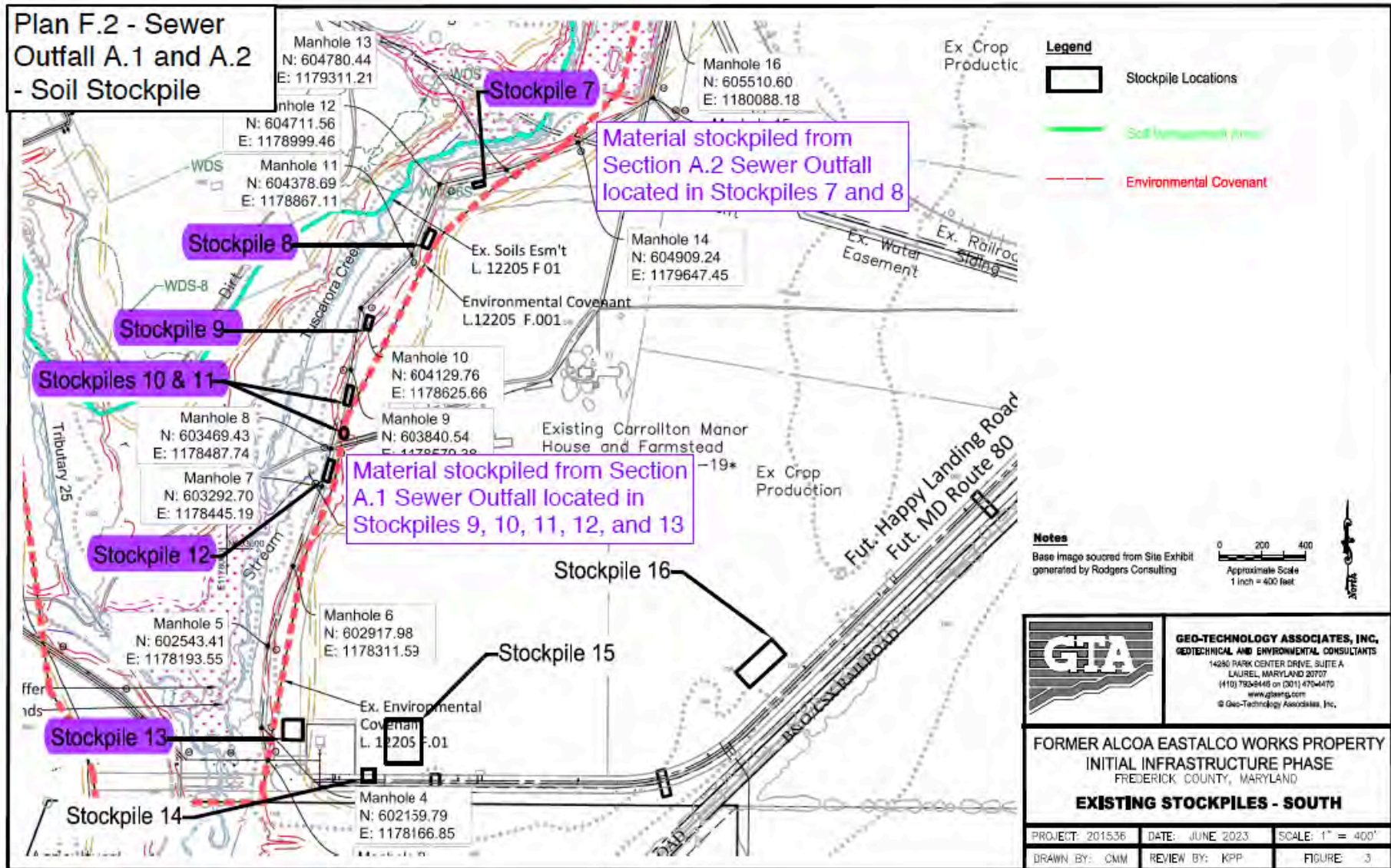


Figure 34: Sewer installation Section A.2 – Week of 05/23/2023

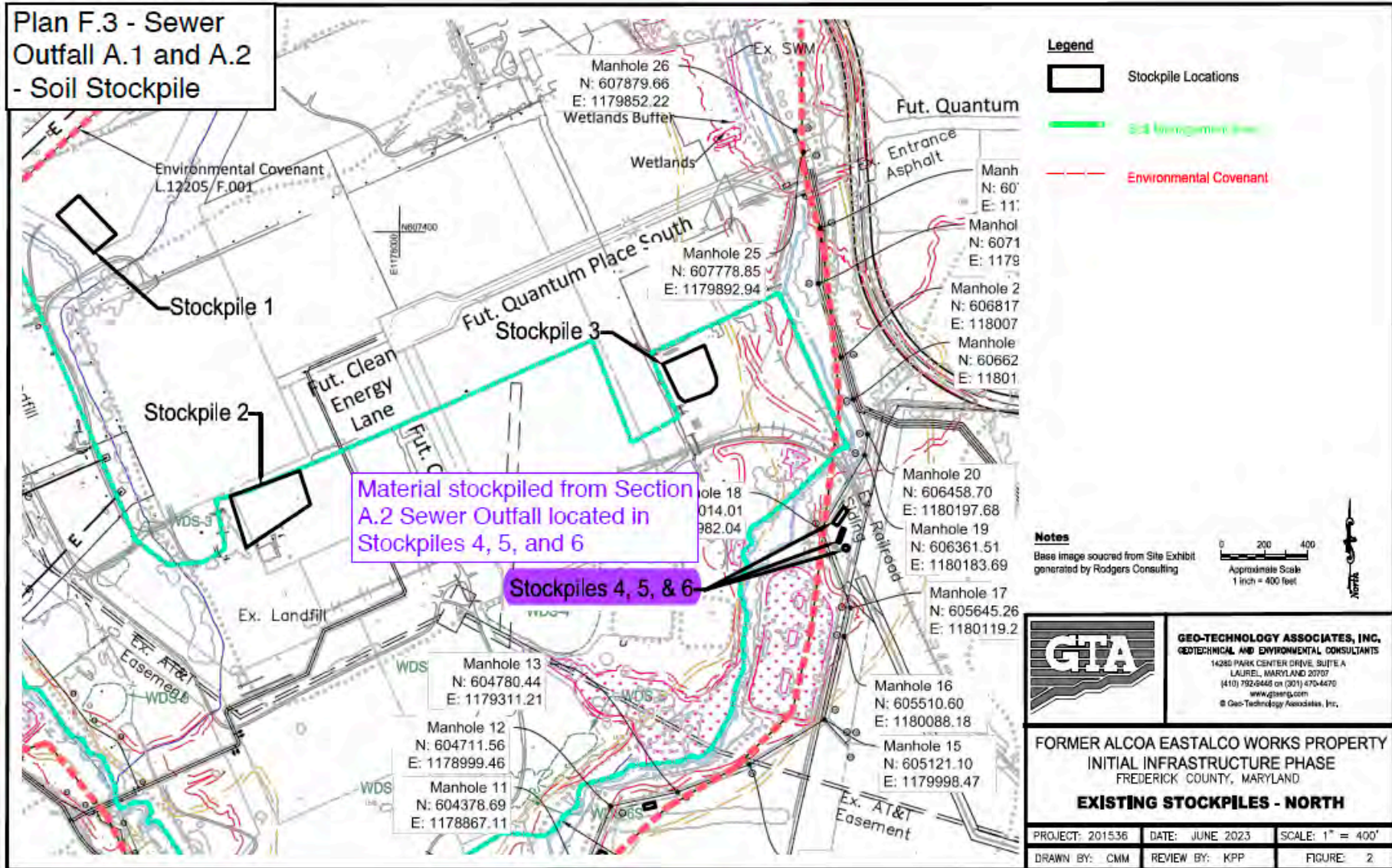
Plan F.1 – Sewer Outfall A.1 and A.2 – Site Plan



Plan F.2 – Sewer Outfall A.1 and A.2 – Soil Stockpile



Plan F.3 – Sewer Outfall A.1 and A.2 – Soil Stockpile





Soil Disposition Memorandum -

Former East Alcoa Property

June 30, 2023

Geo-Technology Associates, Inc. (GTA), on behalf of Quantum Maryland LLC, has prepared the following memorandum to document the current disposition and sources of soils stockpiled or utilized as fill at the Former East Alcoa Property (“Site”) in advance of a July 6, 2023 site meeting.

The following soil stockpiles are currently located at the Site:

| Stockpile Designation | Approximate Size (cubic yards) | Current Location | | | Soil Origins | | |
|-----------------------|--------------------------------|----------------------------------------------|--------|---------|----------------------------------------------|--------|---------|
| | | Location | In EC? | In SMA? | Location | In EC? | In SMA? |
| 1 | 3,500 | Lot 111 Outside Floodplain | Yes | No | Lot 110 North Borrow Area | No | No |
| 2 | 16,000 | Lot 112D Outside Floodplain | Yes | Yes | Rainwater Pond 102 and areas adjacently east | Yes | Yes |
| 3 | 30,000 | Lot 105 Outside Floodplain | Yes | Yes | Unknown | Yes | Yes |
| 4 | 325 | Between MH-18 and MH-19 Inside Floodplain | No | No | Sewer Line 1B | No | No |
| 5 | 125 | Near MH-18 Inside Floodplain | No | No | Sewer Line 1B | No | No |
| 6 | 175 | Between MH-17 and MH-18 Inside Floodplain | No | No | Sewer Line 1B | No | No |



Soil Disposition Memorandum -
Former East Alcoa Property
June 30, 2023

| Stockpile Designation | Approximate Size (cubic yards) | Current Location | | | Soil Origins | | |
|-----------------------|--------------------------------|----------------------------------------------|--------|---------|---------------|--------|---------|
| | | Location | In EC? | In SMA? | Location | In EC? | In SMA? |
| 7 | 300 | Between MH-12 and MH-13 Inside Floodplain | Yes | No | Sewer Line 1B | Yes | No |
| 8 | 800 | Near MH-10 Inside Floodplain | Yes | No | Sewer Line 1B | Yes | No |
| 9 | 200 | Near MH-10 Inside Floodplain | Yes | No | Sewer Line 1A | Yes | No |
| 10 | 275 | Between MH-8 and MH-9 Inside Floodplain | Yes | No | Sewer Line 1A | Yes | No |
| 11 | 175 | Near MH-8 Inside Floodplain | Yes | No | Sewer Line 1A | Yes | No |
| 12 | 375 | Between MH-7 and MH-8 Inside Floodplain | Yes | No | Sewer Line 1A | Yes | No |
| 13 | 4,000 | Lot 304 Inside Floodplain | No | No | Pump Station | Yes | No |
| 14 | 1,000 | Lot 304 Outside Floodplain | No | No | Pump Station | No | No |



Soil Disposition Memorandum -

Former East Alcoa Property

June 30, 2023

| Stockpile Designation | Approximate Size (cubic yards) | Current Location | | | Soil Origins | | |
|-----------------------|--------------------------------|-------------------------------------------------------------------|--------|---------|--------------------|--------|---------|
| | | Location | In EC? | In SMA? | Location | In EC? | In SMA? |
| 15 | 7,250 | Lot 304 Outside Floodplain | No | No | Pump Station | No | No |
| 16 | 1,200 | Lot 303 SP-3, Stockpile / Staging Area 2 Outside Floodplain | No | No | Happy Landing Road | No | No |

Note – approximate cubic yardage was determined by field observations and measurements, actual stockpile cubic yardage may be lesser or greater than estimated.

*=Existing Clean Fill Stockpile previously sampled by GTA

Source material for Stockpile 1 originated from a borrow area that is in an area on the northern portion of the Site that was historically utilized for agricultural purposes. The borrow area is located outside of the Environmental Covenant (EC) and the Soil Management Area (SMA); however, the current stockpile is in the bounds of the EC, within a designated soil stockpile area. Sediment erosion control fencing is currently present.

Source material for Stockpile 2 originated from a former rainwater pond 102 and areas immediate adjacent east of the pond, both of which are in the EC. While the former rainwater pond 102 is not located in the SMA, excavation activities that were conducted adjacently east of former rainwater pond 102 during the expansion of the pond to the DA-11 pond configuration are located within the SMA. The current stockpile is in the bounds of the EC and the SMA, within a designated soil stockpile area. Sediment erosion control fencing is currently present.

The source material for Stockpile 3 is currently unknown, the stockpile is currently vegetated and stabilized, and the stockpile is currently located in the EC. Based on the unknown origin of the materials located in Stockpile 3, GTA previously prepared a clean fill sampling work plan that was approved by the MDE LRP. Sampling was conducted as summarized in GTA's April 25, 2023 *Clean Fill Sampling Report*. This report indicated that the soils within the stockpile qualify as Category 1 material. However, the MDE LRP has not yet concurred with these findings.

Stockpiles 4 through 12 originated from the installation activities associated with sewer line 1A (Stockpiles 4 through 8) and 1B (Stockpiles 4 through 8). Stockpiles 4, 5, and 6 are located outside of the EC and SMA, but within a floodplain. Stockpiles 7 through 12 are located within the EC



Soil Disposition Memorandum -

Former East Alcoa Property

June 30, 2023

and the floodplain. Materials in these stockpiles consist of soil and rock that was displaced from the sewer installation activities. Soils located along the sewer line 1A and 1B alignments were previously characterized as part of a Phase II ESA, dated November 16, 2022. Soils sampled along sewer line 1A and 1B did not contain contaminants above the applicable regulatory limits. These stockpiles are proposed to be relocated into two new stockpiles that are located outside of the EC and floodplain, pending MDE LRP’s review and approval of a *Site Stabilization Work Plan*.

Source material for Stockpile 13 originated from pre-excavation activities associated with future installation of MH-1 and MH-2 and associated sewer line. The stockpile is currently located outside of the SMA and EC but is located within the floodplain. This stockpile is proposed to be relocated to a new area located outside of the floodplain, pending MDE LRP’s review and approval of a *Site Stabilization Work Plan*.

Source material for Stockpile 14 and 15 originated from excavation activities associated with the pump station. The stockpile is currently located outside of the SMA, EC, and floodplain. Two soil samples were previously collected at the pump station as part of a Phase II ESA, dated November 16, 2022. These soil samples did not contain contaminants above the applicable regulatory limits.

Source material for Stockpile 16 originated from excavation activities associated with Basin 3. The stockpile is currently located outside of the SMA and EC, within a designated stockpile area. Two soil samples were previously collected at Basin 3 as part of a Phase II ESA, dated November 16, 2022. These soil samples did not contain contaminants above the applicable regulatory limits. Sediment erosion control fencing is currently present.

The following areas have received fill soils at the Site:

| Approximate Dimensions (Feet) | Current Location | | | Soil Origins | | |
|-----------------------------------------------------------------------------|----------------------------------------------------|--------|---------|---------------------------|--------|---------|
| | Location | In EC? | In SMA? | Location | In EC? | In SMA? |
| Approximately 1,750 feet long, up to 84 feet wide, up to 7 feet of fill | Quantum Place South – East of Existing Access Road | Yes | No | Basin DA-2 | Yes | No |
| Approximately 1,050 feet long, up to 84 feet wide, and up to 7 feet of fill | Quantum Place South – West of Existing Access Road | Yes | No | Lot 110 North Borrow Area | No | No |
| 800 feet long, 1,100 feet | Lot 112A | Yes | No | Lot 110 North | No | No |



Soil Disposition Memorandum -

Former East Alcoa Property

June 30, 2023

| Approximate Dimensions (Feet) | Current Location | | | Soil Origins | | |
|---------------------------------------------------------------------|--------------------|--------|---------|---------------------------|--------|---------|
| | Location | In EC? | In SMA? | Location | In EC? | In SMA? |
| wide, up to 2 feet of fill | Substation Pad | | | Borrow Area | | |
| Approximately 6,550 long, up to 70 feet wide, and up to 7 feet deep | Happy Landing Road | No | No | Lots 303 & 304 Basin 3 | No | No |

Note – Approximate dimensions were determined through review of available site plans and information provided by the site contractor, actual dimensions will need to be field verified. Width and depth dimensions vary dependent on ground elevations prior to the placement of fill, actual fill widths and depths may be less than maximum width/depth measurements provided above.

The eastern portion of Quantum Place South received fill material that originated from the excavation of DA-2, which is located within the EC but not in the SMA. Additional fills consisted of cuts from other portions of Quantum Place South. Two soil samples were previously collected at DA-2 as part of a Phase II ESA, dated November 16, 2022. These soil samples did not contain contaminants above the applicable regulatory limits. In addition, soils located along Quantum Place South were previously characterized as part of the same Phase II ESA. Soils sampled along Quantum Place South also did not contain contaminants above the applicable regulatory limits.

The western portion of Quantum Place South received fill material that originated from the excavation of borrow area on the northern portion of the Site that was historically utilized for agricultural purposes. The borrow area is located outside of the EC and the SMA. Additional fills consisted of cuts from other portions of Quantum Place South. Soils located along Quantum Place South were previously characterized as part of a Phase II ESA, dated November 16, 2022. Soils sampled along Quantum Place South did not contain contaminants above the applicable regulatory limits.

The substation received fill from the same borrow area the soils from the western portion of Quantum Place South. The borrow area is located outside of the EC and the SMA. Additional fills consisted of cuts from other portions of the substation. Soils located along at the substation were previously characterized as part of a Phase II ESA, dated November 16, 2022. Soils sampled at the substation did not contain contaminants above the applicable regulatory limits.

Happy Landing Road received fill materials from the excavation of Basin 3, which is located outside of the EC and the SMA. Additional fills consisted of cuts from other portions of the Happy Landing Road. Soils located along Happy Landing Road were previously characterized as part of a Phase II ESA, dated November 16, 2022. Soils sampled along Happy Landing Road

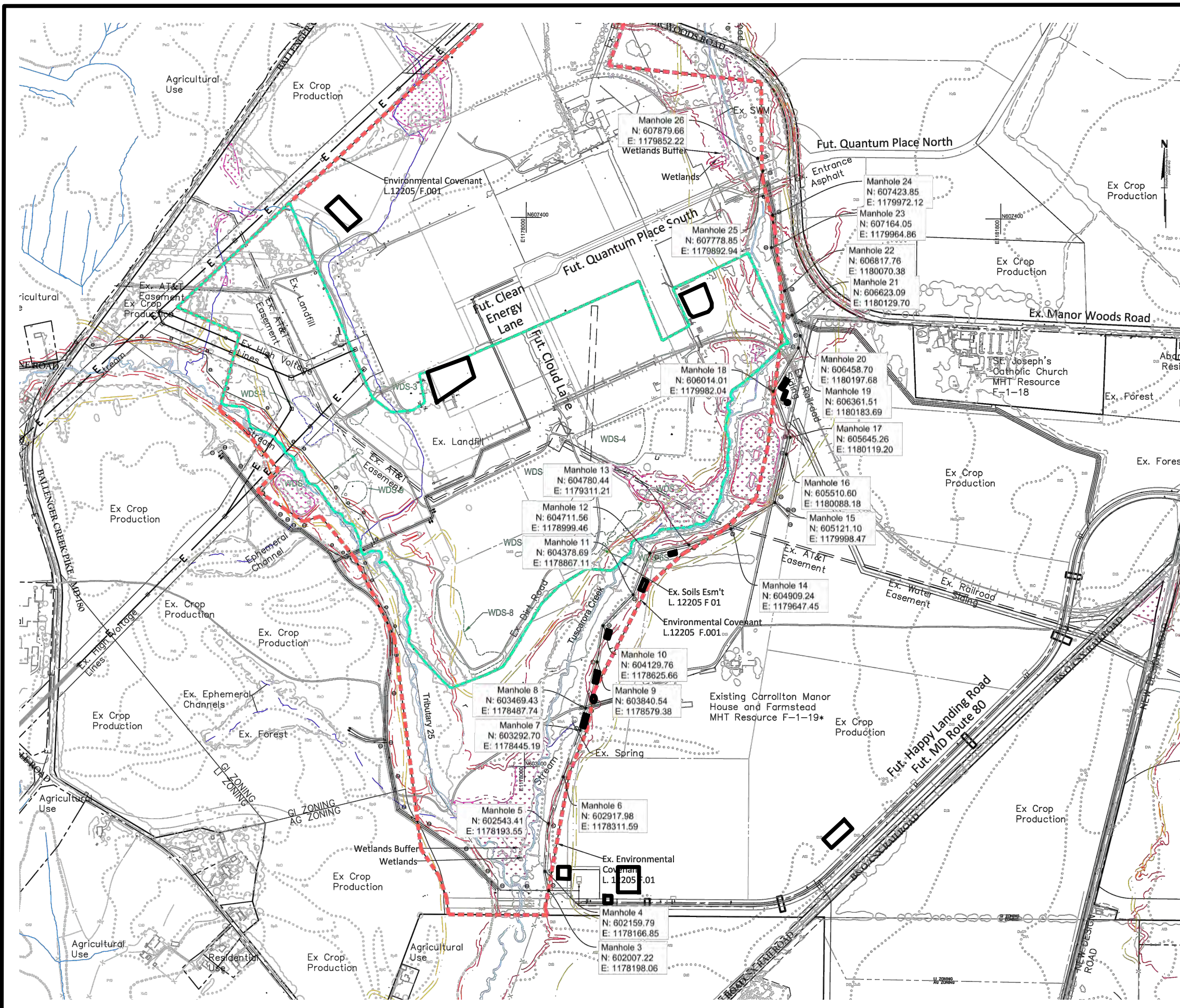


Soil Disposition Memorandum -




Former East Alcoa Property

June 30, 2023

did not contain contaminants above the applicable regulatory limits. A rail line was formerly on a portion of Happy Landing Road. A portion of this rail line was utilized as grading material at and proximate to the former rail line location.



Legend

-  Stockpile Locations
-  Soil Management Area
-  Environmental Covenant

Notes

Base image sourced from Site Exhibit generated by Rodgers Consulting



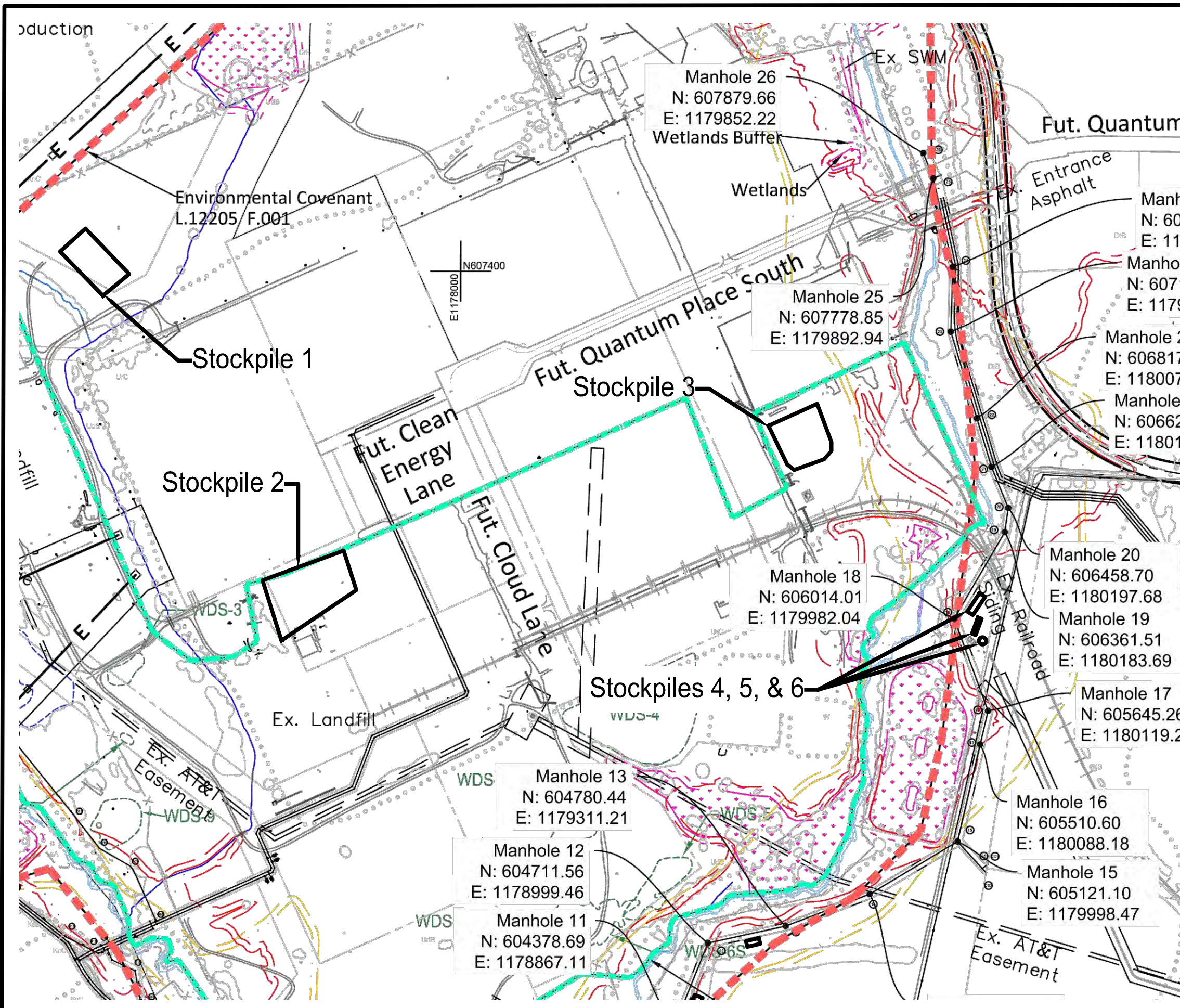
Approximate Scale
1 inch = 800 feet



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 www.gtaeng.com
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**FORMER ALCOA EASTALCO WORKS PROPERTY
 INITIAL INFRASTRUCTURE PHASE
 FREDERICK COUNTY, MARYLAND
 EXISTING STOCKPILES**

| | | |
|-----------------|-----------------|------------------|
| PROJECT: 201536 | DATE: JUNE 2023 | SCALE: 1" = 800' |
| DRAWN BY: CMM | REVIEW BY: KPP | FIGURE: 1 |



Legend

- Stockpile Locations
- Soil Management Area
- Environmental Covenant

Notes

Base image sourced from Site Exhibit generated by Rodgers Consulting

Approximate Scale
1 inch = 400 feet

Scale: 0 200 400

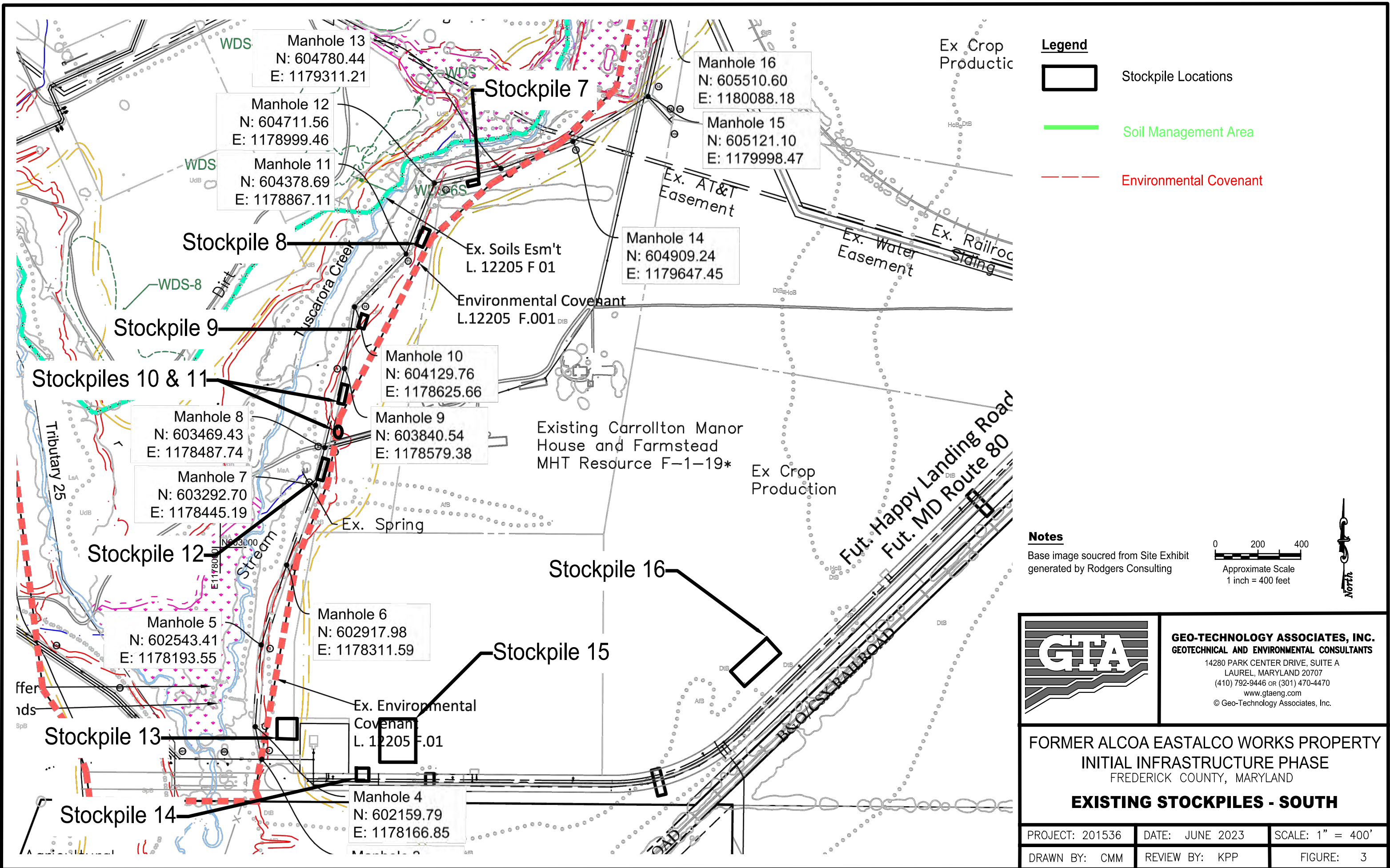
North



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**FORMER ALCOA EASTALCO WORKS PROPERTY
 INITIAL INFRASTRUCTURE PHASE
 FREDERICK COUNTY, MARYLAND
 EXISTING STOCKPILES - NORTH**

| | | |
|-----------------|-----------------|------------------|
| PROJECT: 201536 | DATE: JUNE 2023 | SCALE: 1" = 400' |
| DRAWN BY: CMM | REVIEW BY: KPP | FIGURE: 2 |



Manhole 13
N: 604780.44
E: 1179311.21

Manhole 12
N: 604711.56
E: 1178999.46

Manhole 11
N: 604378.69
E: 1178867.11

Manhole 16
N: 605510.60
E: 1180088.18

Manhole 15
N: 605121.10
E: 1179998.47

Manhole 14
N: 604909.24
E: 1179647.45

Manhole 10
N: 604129.76
E: 1178625.66

Manhole 9
N: 603840.54
E: 1178579.38

Manhole 8
N: 603469.43
E: 1178487.74

Manhole 7
N: 603292.70
E: 1178445.19

Manhole 6
N: 602917.98
E: 1178311.59

Manhole 5
N: 602543.41
E: 1178193.55

Manhole 4
N: 602159.79
E: 1178166.85

Stockpile 7

Stockpile 8

Stockpile 9

Stockpiles 10 & 11

Stockpile 12

Stockpile 16

Stockpile 15

Stockpile 13

Stockpile 14

Ex. Soils Esm't
L. 12205 F 01

Environmental Covenant
L.12205 F.001

Existing Carrollton Manor
House and Farmstead
MHT Resource F-1-19*

Ex. Spring

Ex. Environmental
Covenant
L. 12205 F.01

Ex Crop
Productive

Ex. AT&T
Easement

Ex. Water
Easement

Ex. Railroc
Siding

Ex Crop
Production

Fut. Happy Landing Road
Fut. MD Route 80

WDS

WDS

WDS

WDS-8

Stream

Tributary 25

ffer
nds



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FORMER ALCOA EASTALCO WORKS PROPERTY
 INITIAL INFRASTRUCTURE PHASE
 FREDERICK COUNTY, MARYLAND

EXISTING STOCKPILES - SOUTH

| | | |
|-----------------|-----------------|------------------|
| PROJECT: 201536 | DATE: JUNE 2023 | SCALE: 1" = 400' |
| DRAWN BY: CMM | REVIEW BY: KPP | FIGURE: 3 |