

Prepared for New York City Department of Environmental Protection

Hunts Point Wastewater Treatment Plant New Anaerobic Digester Facilities

Site Management Plan Addendum



July 2021 | Contract: HP-238-DES | PIN: 82614WP01294



1350 Broadway, Suite 2000
New York, NY 10018

T: 646.367.0631



July 6, 2021

Letter Report

Mr. Ronnie E. Lee
Project Manager
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, NY 12233-7011

BC Project 148526

Subject: Site Management Plan Addendum, Barretto Point Site, DEC Site No. B00032-2
Design Services and Design Services During Construction for the New
Anaerobic Digesters at Hunts Point WWTP
Contract: HP-238-DES, Contract Reg. No.: CTC 826 20161412692

Dear Mr. Lee:

This letter will, when approved by the New York State Department of Environmental Conservation (DEC), constitute an addendum to the Site Management Plan ([SMP], URS Corporation, 2013) for the Barretto Point Site, Site No. B00032-2 (hereinafter, Site). The changes described herein will not apply to the portion of the Site that is now Barretto Point Park. The addendum specifies the following four changes:

1. A new permissible off-site use of certain soils to be excavated from a portion of the Site. The changes result from a Beneficial Use Determination ([BUD] No. 1462-03) that was approved by DEC on March 4, 2021.
2. On-site re-use of potentially contaminated soils for regrading purposes.
3. Reduction of the minimum required thickness of imported clean cover material from 24 inches to 12 inches in accordance with 6 NYCRR Part 375 and DER-10.
4. A provision for alternative cover material to be used for trees and shrubs planted in conjunction with landscaping of the new digestion facilities.

The intent of this addendum is to preserve all original SMP requirements for the Barretto Point Park portion of the Site.

Site Description

The Site is an approximately 13-acre property owned by the City of New York and located in the Hunts Point section of Bronx County, New York (Figure 1). The Site is bounded by Viele Avenue to the north, Manida Street to the east, and the East River to the south and west. The Site includes an approximately 2.5-acre area referred to as the Primary Remediation Area (Figure 2). This area is bounded by Ryawa Avenue to the south and the de-mapped length of Barretto Street to the west. The northwest portion of the Site (Block 2777, Lot 901) is now Barretto Point Park, operated by the New York City Department of Parks and Recreation (DPR). With the exception of Barretto Point Park, the area surrounding the Barretto Point Site is primarily commercial/industrial in nature, including waste transfer stations, warehouses, and the Hunts Point Wastewater Resource Recovery Facility (WRRF). The nearest residences are located approximately 1,500 feet north of the Site.

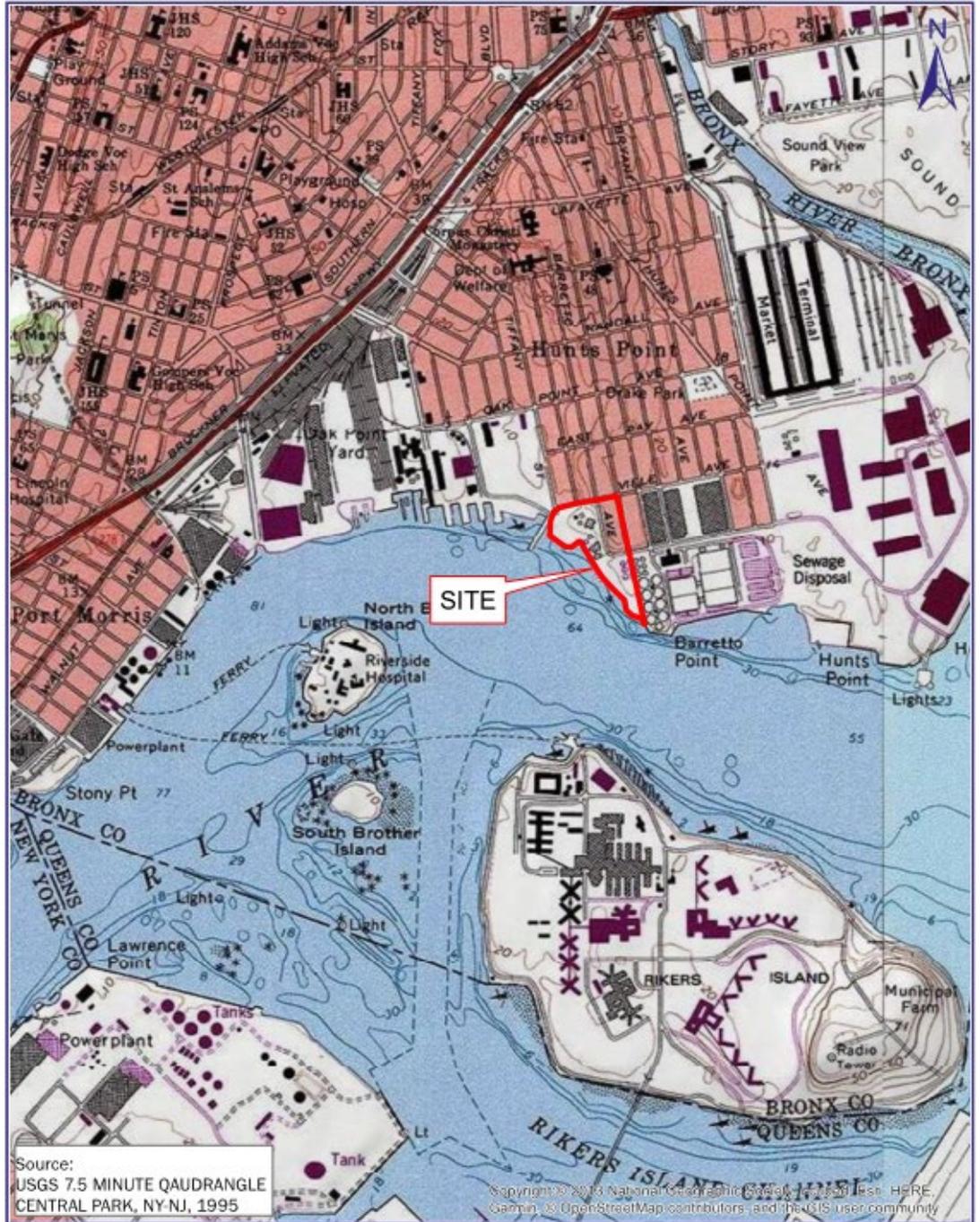


FIGURE 1
SITE LOCATION MAP
BARRETTO POINT SITE, BRONX COUNTY, NEW YORK



Figure 1. Site location



Figure 2. Area subject to Site Management Plan

Site Remedial History

A Site Investigation was conducted from 1999 to 2002. The DEC issued a Record of Decision (ROD) in December 2003. Remedial action included the excavation and removal of contaminated soil (approximately 14,500 cubic yards) from an approximately 0.7-acre portion of the 2.5 acre Primary Remediation Area parcel that was contaminated by operations of a former paint and varnish facility (Figure 2). The location of this remediated area is also illustrated on Figure 16 of the SMP. The entire excavation area was backfilled with imported clean fill from two sources: the Thalle Elmsford Recycling facility and “mole rock” from the Long Island Railroad’s East Side Access Tunnel Project. Remediation of the 2.5-acre area was completed by installing a cover system consisting of 18 inches of clean fill overlain by six inches of crushed stone to prevent human exposure to remaining contaminated soil and fill. The cover material was placed over a demarcation layer.

The western part of the Site (now Barretto Point Park) was remediated by placing a minimum of two feet of clean soil cover over an approximately five-acre area to limit potential exposure to residually contaminated soil. The soil cover, which was placed over a demarcation layer, consisted of 18 inches of clean general fill and six inches of a vegetative medium comprised of topsoil and grass over the surface of the fill. The so-called Staging Area, an approximately 1.2-acre area west of the de-mapped length of Barretto Street and north of Ryawa Avenue, was remediated by placing a demarcation layer and soil cover consisting of 18 inches of clean general fill and six inches of a vegetative medium comprised of topsoil and grass over the surface of the fill. Control of the Staging Area was transferred from New York City Department of Environmental

Protection (DEP) to DPR in February 2018 and annexed as part of Barretto Point Park, bringing the total area of the park to approximately 6.2 acres (Figure 2).

In November 2010, the DEC issued an Explanation of Significant Difference for a change to the original remedy allowing the remaining 4.3 acres of the Site (hereinafter, 4.3 acre Remaining Site Area) to be covered with vegetation or the existing layer of fill, asphalt, and/or gravel, instead of two feet of clean soil as per the ROD. These materials were determined to meet industrial use criteria, limit direct exposures to any remaining contamination in the subsurface soils and be suitable for the future expansion of the Hunts Point WRRF.

Beneficial Use Determination

In December 2020, DEP petitioned DEC's Division of Materials Management (DMM) for a case-specific BUD to facilitate construction of new anaerobic digester facilities at the Hunts Point WRRF and at the Site.

New anaerobic digester facilities include an equipment gallery and four 3.2 million gallon digester tanks will be constructed on the vacant 2.5 acre Primary Remediation Area immediately north of the Hunts Point WRRF. Upon project completion, when new fencing and site security controls are in place, the 2.5 acre area used for the new digester facility will be fully incorporated into the Hunts Point WRRF.

In its petition, DEP proposed to beneficially reuse certain Barretto Point soils as backfill material following demolition of four existing digesters at the Hunts Point WRRF (Figure 3). The soil proposed for beneficial reuse will be excavated from the approximately 0.7-acre footprint where the aforementioned former paint and varnish manufacturing facility soil contamination was remediated (Figure 2). This area is also shown on Figure 4 as the approximate footprint of the former paint and varnish facility. The soil in this area consists of imported clean fill that was used to backfill the remedial excavation. The vertical and horizontal limits of the backfill were previously demarcated with fabric. DEP proposed to use approximately 14,500 cubic yards (CY) of the demarcated clean fill as backfill above the seasonal highwater table in the digester demolition area. The backfill will be covered with one foot of clean soil and ballast. Before placement of the one foot of clean soil, a demarcation layer will be installed to identify the top of the reused backfill.

In June 2018, the imported clean fill that was proposed for reuse was sampled as part of a subsurface investigation conducted by DEP (Bidwell, 2019). The report of this investigation was included with the BUD Petition. The results of the 2018 investigation indicated marginal metals exceedances of Part 375-6 Unrestricted Use Soil Cleanup Objectives (SCO) for Chromium, Nickel and Iron in borings MR1(P), MR3 and MR5, and one exceedance for Copper in Boring MR-5. The metals are naturally occurring and were present in the backfill that was imported to the Site during remediation and are not related to the historic paint/varnish manufacturing activities. The 2018 investigation also reported the presence of acetone, a common laboratory contaminant, which is not indicative of site contamination or considered to be a contaminant of concern.

Excavated clean fill approved for reuse will be staged during construction at the north end of the 2.5 acre Primary Remediation Area and segregated from other excavated materials. Stockpiles will be covered with an impermeable, woven polyethylene fabric, secured to prevent uplift by wind. Straw bales covered with filter fabric or silt fences will be placed downgradient of the stockpiles to capture any silt or sediment laden runoff during inclement weather. Inspections of the stockpiles will be performed regularly, in accordance with an approved Erosion and Sediment Control Plan.

On March 4, 2021 DEC DMM issued BUD No. 1462–03 and approved DEP’s petition subject to the conditions listed below. The approval letter is provided in Attachment A.

1. Approximately 14,500 CY are approved under this BUD.
2. Only clean fill used as backfill above the seasonal high water table in the existing digester demolition area at the Hunts Point WRRF is approved under this BUD. All fill material must meet the chemical requirements of Restricted Use Fill in 6 NYCRR Part 360, Section 360.13(f), Table 2: Fill Material Beneficial Use except for the very slight Chromium exceedances in the fill material represented by samples MR-1, MR-3, MR-5, and MR-10.
3. The fill material is allowed up to 40 percent by volume inert, non-putrescible non-soil constituents where inert, non-putrescible materials exclude plastic, gypsum wallboard, wood, paper, and other material that may readily degrade or produce odors, whether recognizable or not. However, no hazardous waste, municipal solid waste, ash, slag, or pieces of metal (e.g., pipes, etc.) may be present in any amount.
4. Fill material represented by sample MR-9 (Figure 4) may not be reused. The concentration of benzo(a)pyrene in this sample was greater than the Part 375-6 SCO for Commercial Use.
5. The fill material backfill shall be covered with one foot of clean soil and ballast. The clean soil cover shall be General Fill as per Part 360.13(f) and the ballast shall be gravel, rock or stone, consisting of virgin material from a permitted mine or quarry as per NYSDEC DER-10, 5.4(e)5.i. Prior to placement of the one foot of clean soil, a demarcation layer will be installed to identify the top of the reused imported clean fill.
6. Excavated material is required to be placed in its final destination within four years of excavation as long as the stormwater controls, hay bales, silt fencing and covers, are continuously in place to prevent, to the maximum extent practicable, run-off from the pile of fill material.

7. Any excavated materials which cannot be used pursuant to this BUD are subject to all applicable 6 NYCRR Part 360 series regulations for transport, storage, processing and disposal.
8. DEP must submit an annual report, by March 1, summarizing the quantity of fill material used pursuant to this BUD during the previous calendar year.
9. The DEC reserves the right to modify, suspend, or revoke this BUD at any time, upon notice and opportunity to be heard, if it finds pursuant to 6 NYCRR Part 360.12(d)(5) any of the following: that one or more factors serving as the basis for this BUD is incorrect or no longer valid; or the DEC finds there has been a violation of the conditions of this BUD; or if necessary to prevent adverse impacts to the public health or the environment or to control nuisances.
10. This determination does not relieve DEP or its contractors from responsibility to comply with applicable local, state or federal requirements.
11. This BUD will expire on February 28, 2026. A renewal may be granted upon written request and justification.

Soil Regrading Outside Paint and Varnish Remediation Area

The construction of new digesters on the 2.5 acre Primary Remediation Area will require excavation and regrading of soils beyond the limits of the 0.7 acre former paint and varnish facility. These excavations will extend into potentially contaminated soil beneath the two feet of clean fill and demarcation layer installed during the remediation in 2009. DEP will use this excavated soil to fill and regrade lower areas in the vicinity of the new digesters on the 2.5 acre Primary Remediation Area and also on the 4.3 acre Remaining Site Area south and west of the Primary Remediation Area (Figure 2). This on-site reuse of excavated soils would contravene the current Excavation Work Plan in the SMP (Appendix A). Section A-7 of the Excavation Work Plan (Materials Reuse On-Site) states, "Due to the contamination remaining on site, any soil outside of the excavated area of the former paint and varnish manufacturing shall not be reused on site. All material excavated shall be properly disposed of."

The SMP is hereby modified to permit the on-site reuse of soil for regrading. Following regrading, the potentially contaminated soil will be covered with a demarcation layer and a minimum of 12 inches of imported clean fill. This will be consistent with past DEC practice on the Barretto Point Site. During the remediation of the Barretto Point Park, DEC allowed potentially contaminated soil to be graded from higher to lower areas, compacted, demarcated and covered with two feet of imported clean fill to achieve final elevations (SMP Section 1.4). On-site reuse is also supported by the soil sampling conducted by Bidwell in 2018, which indicates only marginal impacts. Bidwell's soil sampling included four locations outside the paint and varnish facility. The samples from borings MR-6, MR-10 and MR-12 contained slight exceedances of the DEC's Residential SCOs for cadmium and/or chromium¹.

¹ The soil represented by boring MR-9 was apparently impacted by petroleum constituents and contained exceedances of the Residential SCOs for two PAH compounds. As noted in the DEC's BUD approval letter, the soil represented by boring MR-9 will not be reused.

Minimum Thickness of Imported Cover Material

In accordance with the ROD, the 2009 remediation of the Site included placement of 2 feet of imported clean cover material on both park and non-park portions of the Site. Section 2.2.1 of the SMP currently states, "Exposure to remaining contamination in soil/fill at the site is prevented by a cover consisting of either a minimum of 18 inches of clean soil and 6 inches of crushed stone in the 2.5 acre portion of the site; a 2 foot clean soil cover in the Barretto Point Park portion of the site (6.2 acres); or a layer of existing fill, asphalt, gravel or vegetation in the remaining site area (4.3 acres)."

A Site-wide requirement for 2 feet of cover is unnecessary. The regulations in 6 NYCRR Part 375 as well as established DEC policy allow a minimum of 1 foot of clean cover material on the non-park portion of the Site. DER-10 Section 4.1(f) - Soil Cover indicates the required soil cover will be dependent on the use of the site and, for commercial or industrial use, is to be 1 foot. Given the lack of public access to the non-park portion of the Site and the lack of ecological resources, a minimum cover thickness of 1 foot is appropriate.

Landscaping – Substitution of Cover Material

The construction of the new digestion facilities will include landscaping as required by the Final Environmental Impact Statement. The landscaping areas and methods are specified in HP-238 90% Design Landscape Drawings (Attachment B). The landscaping will include planting of trees and shrubs along the west, north and east sides of the 2.5 acre Primary Remediation Area (Figure 5). As shown on Drawing I-700 in Appendix C, the planting areas will vary in size depending on the variety of the particular plant, the size of the root ball, plant spacings, etc. If plantings are closely spaced, an area may encompass more than a single plant.

Trees and shrubs will be planted by excavating the six inch layer of crushed stone and up to 18 inches of the underlying clean fill that were installed during remediation of the Barretto Point Site. The crushed stone and clean fill will be segregated and stockpiled for on-site reuse in accordance with the SMP. At each planting location, the exposed portion of the original demarcation layer will be cut, removed and properly disposed of. The underlying, potentially contaminated soil, may be de-compacted as needed by roto-tilling, disking or ripping to a depth of six to eight inches minimum and preferably a depth of 12 inches to 18 inches (Attachment B, Drawing L-001). Except in small planting areas, the roto-tilling, disking or ripping will be conducted in place (i.e., within the excavation). De-compaction of small planter areas may require removal of the compacted soil to a depth of 18 inches or more and then re-installing the soil loosely with required amendments. If soil is removed for decompaction, it will be placed on plastic sheeting or in suitable containers such as a wheelbarrow for mixing with amendments. All removed soil will be returned to the excavation. Care will be taken to avoid spilling soil on the surrounding ground surface. Once de-compaction is completed, each planting location will receive the root ball of the tree or shrub along with imported clean planting media including soil, topsoil and mulch (Appendix C, Drawing L-700). The combined thickness of the imported clean soil/topsoil and any remaining original clean fill will be a minimum of 1 foot. In the planting areas the final clean cap will not include a 6 inch layer of gravel as currently exists elsewhere in the clean cap that was installed in

2009. The requirement for a demarcation layer (e.g., orange snow fencing material or equivalent material) will not apply in holes in which trees or shrubs are to be planted because the demarcation layer may interfere with root growth.

In addition to the area shown on Figure 5, landscaping will also address the 4.3 acre Remaining Site Area of the Barretto Point Site south and west of the 2.5 acre Primary Remediation Area (Attachment B, Drawings C-014 and C-015). As shown on Figure 2, the surface of this area currently consists of existing fill, gravel, asphalt or vegetation. Portions of the 4.3 acre Remaining Site Area will be graded using soil from the 2.5 acre Primary Remediation Area, covered with a demarcation layer and a minimum of 1 foot of imported clean fill and topsoil, and then hydroseeded.

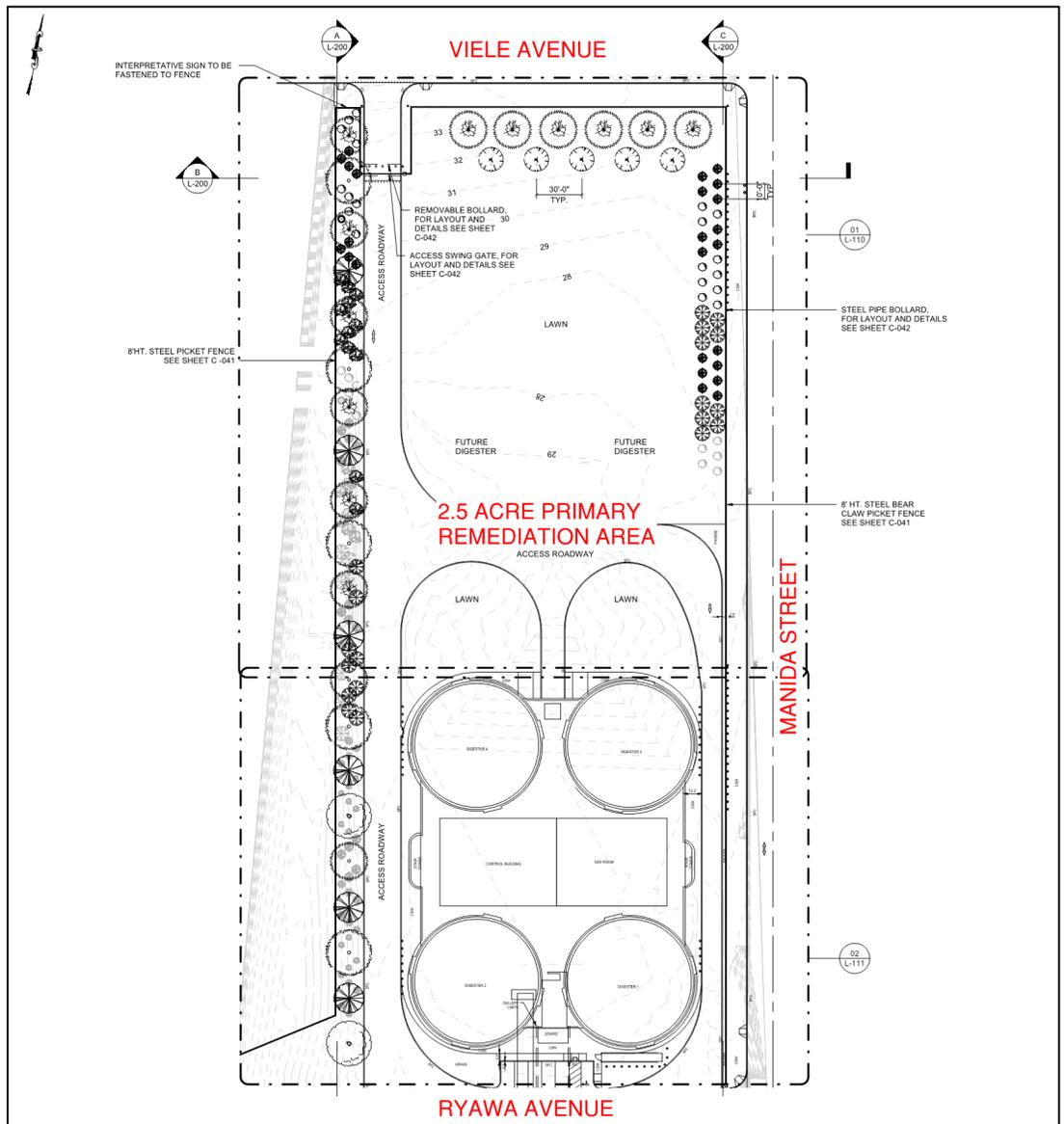


Figure 5. Landscape Layout Plan

Modification of Site Management Plan

The below sections specify certain modifications of the SMP to align its requirements with the provisions of BUD No. 1462–03 and accommodate on-Site regrading, a minimum of 1 foot of clean cover, and the landscaping requirements of HP-238 Construction phase. None of these modifications apply to the Barretto Point Park portion of the Site. The modifications pertaining to BUD No. 1462–03 apply only to the excavation of the specified soils from the above-described 0.7 acre former remediation area, and the reuse of those soils as backfill in the existing digester demolition area.

Engineering Controls (SMP Section 2.2)

SMP Section 2.2 currently indicates that exposure to remaining contamination in soil/fill on the 2.5 acre Primary Remediation Area of the Site is prevented by a cover consisting of a minimum of 18 inches of clean soil and six inches of crushed stone. This addendum modifies Section 2.2 to indicate that cover in the 2.5 acre Primary Remediation Area consists of imported clean soil/topsoil and any remaining original clean fill, with a combined minimum thickness of 1 foot.

SMP Section 2.2 currently indicates that exposure to remaining contamination in soil/fill on the “remaining site area (4.3 acres)” is prevented by a layer of existing fill, asphalt, gravel or vegetation. This addendum modifies Section 2.2 to indicate that the 4.3 acre Remaining Site Area of the Barretto Point Site south and west of the 2.5 acre Primary Remediation Area will be graded after removal of pavement, then covered by a demarcation layer, then covered with a minimum of 1 foot of imported clean fill and/or topsoil, and then hydroseeded or paved with asphalt.

Site Monitoring Plan (SMP Section 3)

Two new monitoring requirements are added under SMP Section 3, as follows:

1. On a yearly basis, a qualified professional engineer will inspect stockpiles of the excavated clean fill staged at the north end of the 2.5 acre Primary Remediation Area awaiting reuse. The inspector will verify that the excavated clean fill is segregated from other excavated materials and covered with an impermeable, woven polyethylene fabric, secured to prevent uplift by wind. The inspector will verify that straw bales covered with filter fabric or silt fences are in place downgradient of the stockpiles to capture any silt or sediment laden runoff. The inspector will verify that the stockpiles comply with the approved Erosion and Sediment Control Plan. The stockpile inspection requirement expires upon completion of the digester construction project and removal of the stockpiles.
2. On a yearly basis, a qualified professional engineer will inspect the backfill material that was placed pursuant to BUD No. 1462–03 at the locations of the demolished former digesters at the Hunts Point WRRF. The inspector will verify that the backfill is covered with 1 foot of clean soil and ballast.

Inspections, Reporting and Certifications (SMP Section 4)

One new reporting requirement is added under SMP Section 4, as follows:

The New York City Department of Environmental Protection will submit an annual report, by March 1st of each year, summarizing the quantity of fill material used pursuant to BUD No. 1462–03 during the previous calendar year. The annual report will be sent to:

Kenneth B. Brezner, P.E.
Regional Materials Management Engineer
NYSDEC Region 2
47-40 21st Street
Long Island City, NY 11101-5407

Kathleen Prather, P.E.
Bureau of Solid Waste Management
Division of Materials Management
NYSDEC
625 Broadway, 9th Floor
Albany, NY 12233-7260

This new requirement to report fill material used pursuant to BUD No. 1462–03 will expire upon completion of filling in the digester demolition area. The aforementioned inspection of the backfill material that was placed pursuant to BUD No. 1462–03 at the locations of the demolished former digesters does not expire.

Excavation Work Plan (SMP Appendix A)

Certain sections of the Excavation Work Plan, contained in the SMP as Appendix A, are modified as described in the following subsections.

A-2 Soil Screening Methods

This section lists categories of excavated soil for the purposed segregation. A new category of excavated soil is added: soil qualifying for reuse under BUD 1462-03 will be segregated from all other excavated materials.

A-6 Materials Disposal Off-Site

The requirements of Section A-6 will not apply to soils subject to BUD No. 1462-03 if those soils are transported to the aforementioned digester demolition area and reused as backfill. Such reuse will not be considered off-site disposal. The requirements of Section A-6 will apply to any stockpiled soils excavated from the former paint and varnish facility that are disposed of off-site rather than reused at the digester demolition area pursuant to BUD No. 1462-03.

A-7 Materials Reuse On-Site

The first paragraph of this section and the Imported Backfill Limits table are replaced with the following paragraph:

Potentially contaminated soil in the 2.5 acre Primary Remediation Area and in the 4.3 acre Remaining Site Area to the south and west of the 2.5 acre Primary Remediation Area may be reused in these areas for regrading purposes. No such reuse or regrading is permitted on the Barretto Point Park. Regraded potentially contaminated soils will be covered with a demarcation layer and a minimum of 1 foot of imported clean fill and/or top soil or pavement in accordance with Section A-9. All imported fill must comply with Section A-10.

A-9 Cover System Restoration

This section currently states that after the completion of soil removal and any other invasive activities, the cover system will be restored in a manner that complies with the Record of Decision, and that a demarcation layer, consisting of orange snow fencing material or equivalent material, will be replaced to provide a visual reference to the top of the 'Remaining Contamination Zone'.

The cover system on the regraded portions of the 2.5 acre Primary Remediation Area and the regraded portions of the 4.3 acre Remaining Site Area will be a minimum of 1 foot of imported clean fill, soil and/or top soil. A demarcation layer will be placed over any regraded areas before placing the imported clean fill, soil and/or top soil. The requirement for a demarcation layer will not apply in holes in which trees or shrubs are to be planted because the demarcation layer would interfere with root growth. The cover material in the holes will consist of imported clean soil/topsoil, with a combined minimum thickness of 1 foot. The imported clean fill will comply with the requirements of Section A-10 Backfill From Off-Site Sources.

A-10 Backfill From Off-Site Sources

Section A-10 requires that all imported soils meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Section A-10 is amended to clarify this requirement as it applies to the 2.5 acre Primary Remediation Area and the 4.3 acre Remaining Site Area. Under 6NYCRR 375-6.7(d), soil brought to a site for use as soil cover or backfill must not exceed the applicable Part 375-6 SCOs. For industrial use sites, the applicable SCOs are those for Protection of Groundwater and Protection of Public Health Commercial Use. Because the Environmental Easement restricts the non-park portion of the Site to industrial use, soils imported to the 2.5 acre Primary Remediation Area and the 4.3 acre Remaining Site Area must not exceed the lower of the SCOs for Protection of Groundwater and Protection of Public Health Commercial Use.

A-11 Stormwater Pollution Prevention

The requirements of this section apply to stockpiles of material subject to BUD No. 1462-03, including the cover and silt barrier measures specified in the BUD Petition and in the Site Monitoring Plan section above.

A-15 Dust Control Plan

The dust control measures in Section A-15 will apply when excavating and stockpiling soils subject to BUD No. 1462-03, and when transporting those soils and placing them on the digester demolition area.

References

Bidwell Environmental, LLC, *Subsurface Investigation Report, In Support of Contract HP-238*, April 2019.

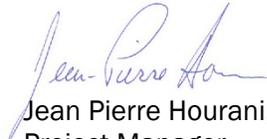
URS Corporation, *Barretto Point, Bronx County, New York, Site Management Plan, NYSDEC Site Number: B00032-2*, New York City Department of Environmental Protection, July 2013.

Mr. Ronnie Lee
Division of Environmental Remediation
New York State Department of Environmental Conservation
July 6, 2021
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If you have any questions during your review or would like further information, please contact me at 646-367-0583.

Very truly yours,

Brown and Caldwell Associates


Jean Pierre Hourani, P.E.
Project Manager

JH:vb

Attachments (2)

- Attachment A: DEC Approval, BUD No. 1462-03
- Attachment B: Landscape Drawings

Limitations:

This document was prepared solely for New York City Department of Environmental Protection in accordance with professional standards at the time the services were performed and in accordance with the contract between New York City Department of Environmental Protection and Brown and Caldwell Associates dated December 1, 2015. This document is governed by the specific scope of work authorized by New York City Department of Environmental Protection; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by New York City Department of Environmental Protection and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

Attachment A: DEC Approval, BUD No. 1462-03



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Region 2
47-40 21st Street, Long Island City, NY 11101
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ELECTRONIC MAIL ONLY

March 4, 2021

Ana Barrio
Deputy Commissioner
Bureau of Engineering Design & Construction
New York City Department of Environmental Protection
96-05 Horace Harding
Expressway
Corona, NY 11368

Re: BUD No. 1462-2-03
New Anaerobic Digester Facilities
Hunts Point Wastewater Resource Recovery Facility (WRRF)

Dear Ms. Barrio:

The New York State Department of Environmental Conservation (Department) has reviewed the New York City Department of Environmental Protection (DEP) January 25, 2021 request for a case-specific Beneficial Use Determination for the upcoming construction (Contract HP-238) at the Hunts Point Wastewater Resource Recovery Facility (WRRF) and the Barretto Point Site. Specifically, DEP proposes to beneficially use approximately 14,500 cubic yards of demarcated clean fill from Barretto Point fill material as backfill material following demolition of four of the existing digesters at the Hunts Point WRRF. Both properties are owned and controlled by the City of New York and all material will be controlled and maintained under New York City ownership throughout and following completion of the construction project.

Based on the January 25, 2021 submission and sample results, BUD No. 1462-2-03 hereby approved subject to the following conditions:

1. Approximately 14,500 cubic yards are approved under this BUD.
2. Only clean fill used as backfill above the seasonal high water table in the existing digester demolition area at the Hunts Point WRRF is approved under this BUD. All fill material must meet the chemical requirements of Restricted Use Fill in 6 NYCRR Part 360, Section 360.13(f), Table 2: Fill Material Beneficial Use except for the very slight Chromium exceedances in the fill material represented by samples MR-1, MR-3, MR-5, and MR-10.
3. The fill material is allowed up to 40 percent by volume inert, non-putrescible non-soil constituents where inert, non-putrescible materials exclude plastic, gypsum wallboard, wood, paper, and other material that may readily degrade or produce odors, whether recognizable or not. However, no hazardous waste, MSW, ash, slag, or pieces of metal (e.g., pipes, etc.) may not be present in any amount.
4. Fill material represented by sample MR9 may not be reused.
5. Within (timeframe) of placement in its final location of use, the fill material shall be covered with 1 foot, after compaction, of clean soil and ballast. The clean soil cover shall be General Fill as per Part 360.13(f) and the ballast shall be gravel, rock, or stone, consisting of virgin material from a permitted mine or quarry as per NYSDEC



Department of
Environmental
Conservation

DER-10, 5.4(e)5.i. Prior to placement of the 1 foot of clean soil, a demarcation layer will be installed to identify the top of the reused imported clean fill.

6. Excavated material is required to be placed in its final destination within four years of excavation and may be stockpiled at the generating site during this period of time as long as the stormwater controls, including but not limited to hay bales, silt fencing, and covers, are continuously in place to prevent, to the maximum extent practicable, run-off from the stockpile(s) of fill material or any nuisance conditions.
7. Any excavated materials which cannot be used pursuant to this BUD are subject to all applicable 6 NYCRR Part 360 series regulations for transport, storage, processing and disposal.
8. The New York City Department of Environmental Protection must submit an annual report, by March 1st, summarizing the quantity of fill material used pursuant to this BUD during the previous calendar year. The annual reports, and other correspondence related to this BUD, should be sent to:

Kenneth B. Brezner, P.E.
Regional Materials Management
Engineer
NYSDEC Region 2
47-40 21st Street
Long Island City, NY 11101-5407

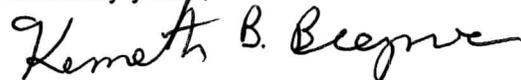
Kathleen Prather, P.E.
Bureau of Solid Waste Management
Division of Materials Management
NYSDEC
625 Broadway, 9th Floor
Albany, NY 12233-7260

Submission may be made electronically upon arrangement with the above addressees.

9. The Department reserves the right to modify, suspend, or revoke this BUD at any time, upon notice and opportunity to be heard, if it finds pursuant to 6 NYCRR Part 360.12(d)(5) any of the following: that one or more factors serving as the basis for this BUD is incorrect or no longer valid; or the Department finds there has been a violation of the conditions of this BUD; or if necessary to prevent adverse impacts to the public health or the environment or to control nuisances.
10. This determination does not relieve the New York City Department of Environmental Protection or its contractors from responsibility to comply with applicable local, state or federal requirements.
11. This BUD will expire on February 28, 2026. A renewal may be granted upon written request and justification.

Please contact me if you have any questions regarding this determination.

Sincerely yours,



Kenneth B. Brezner, P.E.
Regional Materials Management Engineer

ec: K. Prather, NYSDEC

J. O'Connell, NYSDEC
R. Lee, NYSDEC
Nayan Shah, Portfolio Manager, NYCDEP [Nayans@dep.nyc.gov]

1462-2-03_NYCDEP_Hunt's_Point_New_Anaerobic_Digester_BUD.2021-03-05.Letter

Attachment B: Landscape Drawings



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GENERAL NOTES

- 1. WORK PERFORMED SHALL COMPLY WITH THE FOLLOWING:
A. THESE GENERAL NOTES, AND CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
B. ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES, REGULATIONS AND REQUIREMENTS ADOPTED BY THE CITY OF NEW YORK, INCLUDING ALL AMENDMENTS.
2. VERIFY LOCATIONS OF EXISTING UTILITIES AND STRUCTURES ON SITE. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT ENGINEER FOR INSTRUCTIONS PRIOR TO COMMENCING WORK.
3. CONTACT LOCAL UNDERGROUND UTILITY SERVICES FOR UTILITY LOCATION AND IDENTIFICATION, PRIOR TO COMMENCING WORK.
4. PERFORM EXCAVATION IN THE VICINITY OF UNDERGROUND UTILITIES WITH CARE AND BY HAND, IF NECESSARY, CONTRACTOR BEARS FULL RESPONSIBILITY FOR DAMAGE AND DISRUPTION. DAMAGE TO UTILITIES SHALL BE REPAIRED IMMEDIATELY AND AT NO COST TO DEP.
5. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING STRUCTURES, PAVEMENT, WALLS AND PLANTINGS TO REMAIN DURING CONSTRUCTION, AND FOR THE DURATION OF THE PROJECT, ANY STRUCTURES FOUND TO BE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THE DISCRETION OF THE ENGINEER TO THE COMPLETE SATISFACTION OF DEP.
6. DIMENSIONS AND LOCATIONS OF EXISTING ABOVE AND BELOW GROUND STRUCTURES SHOWN IN THESE CONSTRUCTION DOCUMENTS ARE ACCORDING TO BEST INFORMATION AVAILABLE AT THE TIME. CONTRACTOR SHALL VERIFY THE LOCATIONS AND DIMENSIONS OF ALL STRUCTURES AFFECTED BY THE WORK AS FOUND IN THE FIELD PRIOR TO THE COMMENCEMENT OF WORK. IF ANY DISCREPANCIES / INTERFERENCES EXIST THE CONTRACTOR SHALL IMMEDIATELY BRING THIS TO THE ENGINEER'S ATTENTION, FAILURE TO PROVIDE THE AFOREMENTIONED NOTIFICATIONS SHALL RESULT IN THE CONTRACTOR BEING HELD RESPONSIBLE TO COMPLETE ALL WORK TO MEET THE INTENT OF THE CONTRACT DOCUMENTS WITH NO ADDITIONAL COST TO DEP.
7. ANY MATERIAL DELIVERED, STORED, HANDLED, CONTRARY TO THE DRAWINGS AND SPECIFICATIONS AND APPROVED SHOP DRAWINGS, SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND THE SAME SHALL BE REPLACED WITH OTHER MATERIALS OR WORK SATISFACTORY TO THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ALSO ASSUME THE COST OF REPLACING THE WORK WHICH MAY BE DISTURBED.
8. CONTRACTOR SHALL INFORM THE DEP OF THE PROGRESS OF WORK, NO WORK SHALL BE CLOSED OR COVERED UNTIL IT HAS BEEN DULY INSPECTED AND APPROVED. SHOULD UNINSPECTED WORK BE COVERED, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, UNCOVER ALL SUCH WORK SO IT CAN BE PROPERLY INSPECTED AND AFTER SUCH INSPECTION, SHALL PROPERLY REPAIR AND REPLACE ALL WORK INTERFERED WITH.
9. ALL WORK SHALL BE SUBJECT TO FINAL INSPECTION BY THE ENGINEER AND ACCEPTANCE BY THE DEP.
10. THE PROJECT HAS BEEN DESIGNED AND DETAILED FOR THE SPECIFIC MATERIALS AND EQUIPMENT SPECIFIED. NO SUBSTITUTIONS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT AND DEP. IF THE SPECIFIED MATERIAL IS NOT AVAILABLE, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE MATERIAL AND SHALL PROVIDE DRAWINGS, SAMPLES, SPECIFICATIONS, MANUFACTURER'S LITERATURE, PERFORMANCE DATA, ETC. IN ORDER THAT THE ENGINEER CAN EVALUATE THE PROPOSED SUBSTITUTION, IF THE SUBSTITUTION AFFECTS A CORRELATED FUNCTION, ADJACENT CONSTRUCTION, THE NECESSARY CHANGES AND MODIFICATIONS TO THE AFFECTED WORK SHALL BE ACCOMPLISHED BY THE CONTRACTOR AT NO ADDITIONAL COST TO DEP. NO REQUESTS FOR SUBSTITUTES WILL BE ENTERTAINED BY THE ENGINEER DUE TO CONTRACTOR'S FAILURE TO ORDER MATERIALS IN A TIMELY MANNER.
11. COORDINATION OF ALL THE WORK UNDER THIS CONTRACT SHALL BE MAINTAINED BY THE CONTRACTOR TO ENSURE THE QUALITY AND TIMELY COMPLETION OF WORK.
12. ALL GENERAL NOTES, ABBREVIATIONS AND SYMBOLS ON SHEET G-007 SHALL GOVERN UNLESS SPECIFICALLY NOTED OTHERWISE.

LANDSCAPE PLANTING NOTES

- 1. REFER TO CIVIL DRAWINGS FOR UTILITY LOCATION, DRAINAGE AND GRADING INFORMATION. IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS SHOWN ON THE PLANS OR IF THERE ARE DISCREPANCIES BETWEEN THE PLANS, CONTACT THE ENGINEER FOR DIRECTIONS AS HOW TO PROCEED.
2. VERIFY LOCATIONS OF PERTINENT SITE IMPROVEMENTS INSTALLED UNDER OTHER SECTIONS. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT ENGINEER FOR INSTRUCTIONS PRIOR TO COMMENCING WORK.
3. EXACT LOCATIONS OF PLANT MATERIALS TO BE APPROVED BY THE ENGINEER IN THE FIELD PRIOR TO INSTALLATION. PRIOR TO THE START OF PLANTING OPERATIONS THE CONTRACTOR SHALL STAKE OUT THE LOCATIONS OF ALL PLANTS FOR APPROVAL BY THE ENGINEER. ENGINEER RESERVES THE RIGHT TO ADJUST PLANS TO EXACT LOCATION IN FIELD.
4. CONTRACTOR SHALL VERIFY PLANT COUNTS AND SQUARE FOOTAGES. QUANTITIES ARE PROVIDED AS OWNER INFORMATION ONLY. THE QUANTITY OF PLANT MATERIALS THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHALL BE THE GRATER NUMBER AS SHOWN ON THE PLANS OR CALLED FOR IN THE PLANTING SCHEDULE. IF QUANTITIES ON PLANT LIST DIFFER FROM GRAPHIC INDICATIONS, THEN GRAPHICS SHALL PREVAIL.
5. ALL PLANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS AND SPECIFICATIONS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF THE PLANTING AND THE ON-SITE WATER AVAILABILITY. WATER, IF NOT AVAILABLE SHALL BE FURNISHED BY THE CONTRACTOR. ALL HOSES AND EQUIPMENT REQUIRED FOR WATERING SHALL BE FURNISHED BY THE CONTRACTOR AS NEEDED.
7. AREAS THAT BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING.
8. TREES TO BE PLANTED A MINIMUM OF 4 FEET FROM FACE OF BUILDING, OR PAVEMENT, EXCEPT AS APPROVED BY ENGINEER.
9. PROVIDE MATCHING FORMS AND SIZES FOR PLANT MATERIAL WITHIN EACH SPECIES AND SIZE DESIGNATED ON THE DRAWINGS.
10. PRUNE NEWLY PLANTED TREES ONLY AS DIRECTED BY ENGINEER. DO NOT PRUNE PRIOR TO DELIVERY.
11. ALIGN AND EQUALLY SPACE IN ALL DIRECTIONS TREES AND SHRUBS SO DESIGNATED PER THESE NOTES AND DRAWINGS.
12. REMOVE ENTIRE WIRE CAGE FROM ROOTBALL.
13. FULLY REMOVE ALL BURLAP, NON-BIODEGRADABLE TWINE AND OTHER MATERIALS.
14. ENGINEER TO REVIEW PLANT MATERIALS AT SOURCE OR BY PHOTOGRAPHS PRIOR TO DIGGING OR SHIPPING OF PLANT MATERIAL. ENGINEER MAINTAINS THE AUTHORITY TO REJECT ANY PLANT MATERIAL AFTER IT ARRIVES ON SITE THAT DOES NOT MEET THE REQUIREMENTS OF THE PLANTING SCHEDULE.
15. ALL NEW PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF 18 MONTHS AFTER THE DATE OF SUBSTANTIAL COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE PROTECTION MEASURES FOR ALL PLANTED AREAS THROUGH THE GUARANTEED PERIOD.
16. APPROXIMATELY ONE MONTH PRIOR TO THE EXPIRATION OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL ARRANGE A SITE INSPECTION BY THE ENGINEER.

SOIL PREPARATION NOTES

- 1. SOIL PREPARATION OF LANDSCAPE DESIGN IS A CRITICAL FACTOR IN CREATING A HEALTHY LONG-LASTING LANDSCAPE. REMOVE EXISTING TOP SOIL AND STOCKPILE ON SITE. TOPSOIL TO BE INCORPORATED BACK INTO THE SOIL AT A LATER DATE. CONTRACTOR TO CONDUCT A SOIL EVALUATION TO DETERMINE THE SOIL COMPOSITION, COMPACTION RATE, NUTRIENT QUALITIES, ORGANIC CONTENT, PH LEVELS, AND WATER HOLDING CAPABILITIES. THE IDEAL PARTICLE SOIL MIX IS APPROXIMATELY 45% SAND, 40% SILT, 10% CLAY AND 5% ORGANIC MATERIAL WITH A PH LEVEL NEAR 7. SEE SPECIFICATIONS FOR DETAILS.
2. PRIOR TO INSTALLATION, CONTRACTOR SHALL PREPARE THE SOIL TO ENSURE A PROPER ENVIRONMENT FOR PLANT ROOT DEVELOPMENT.
3. CONTRACTOR TO DE-COMPACT SOILS IN PLANTING AREAS BY ROTO-TILLING, DISKING OR RIPPING TO A DEPTH OF 6" TO 8" MINIMUM AND PREFERABLY A DEPTH OF 12"-18". DE-COMPACT OF SMALL PLANTER AREAS, MAY REQUIRE REMOVAL OF THE COMPACTED SOIL TO A DEPTH OF 18" OR MORE AND THEN RE-INSTALLED LOOSELY WITH REQUIRED AMENDMENTS. ALWAYS REMOVE DEBRIS OVER 2" IN SIZE FROM THE SOIL.
4. WHEN PERFORMING SOIL DE-COMPACT, MULTIPLE PASSES ACROSS THE AREA WILL BE REQUIRED AND, WHEN POSSIBLE, SHOULD BE AT VARYING ANGLES TO ENSURE ADEQUATE COVERAGE. WHEN USING DISC OR RIPPING EQUIPMENT, IT IS REQUIRED THAT THE FINAL PASSES OVER THE AREA BE MADE WITH A ROTO-TILLER TO BREAK UP ANY LARGE CLUMPS TO MAKE FINAL GRADING EASIER.
5. AFTER INITIAL SOIL DE-COMPACT PROCEDURE ARE PERFORMED, SOIL AMENDMENTS SHALL BE ADDED. THE ADDITION OF SOIL AMENDMENTS IS DETERMINED FROM SOIL TESTS CONDUCTED PRIOR TO WORK COMMENCING. SOIL AMENDMENT MAY INCLUDE ORGANIC MATERIALS SUCH AS SAND, SILT AND CLAY, WHICH HELP IMPROVE SOIL TEXTURE. ORGANIC MATERIAL SUCH AS COMPOST, MANURE, AND PEAT MOSS MAY ALSO BE USED AND HELP IMPROVE SOIL STRUCTURE. OTHER AMENDMENTS SUCH AS FERTILIZER IMPROVE NUTRIENT CONTENT AND SULFUR ADJUSTS THE SOIL PH LEVEL. SEE SPECIFICATIONS.
6. ALL AMENDMENTS SHOULD BE MIXED THOROUGHLY WITH EXISTING SOIL AND AN ADDITIONAL SOIL TEST WILL BE TAKEN TO ENSURE PROPER SOIL CONDITIONS PRIOR TO PLANTING.
7. DURING THE REMAINDER OF THE CONSTRUCTION, VARIOUS AREAS OF THE SITE MAY BE RE-COMPACTED DUE TO USE OF EQUIPMENT AND VEHICLES. THIS COMPACTION IS TYPICALLY LIMITED TO THE UPPER 4-6" OF THE SOIL. PRIOR TO THE INSTALLATION OF PLANT MATERIAL IN THIS AREAS, THE COMPACTION SHALL BE REDUCED TO 80% OR LESS USING PREVIOUSLY DESCRIBED METHODS. IF THERE IS A DISCREPANCY BETWEEN THESE NOTES AND THE SPECIFICATIONS, THE SPECIFICATIONS SHALL PREVAIL.

ABBREVIATIONS

Table with 3 columns: Abbreviation, Description, Abbreviation, Description. Includes entries like AIR (BAR AIR BARRIER), AD (AREA DRAIN), ADJ (ADJACENT), etc.

LANDSCAPE LAYOUT NOTES

- 1. CONTRACTOR SHALL VERIFY LAYOUT AND DIMENSIONS WITH ENGINEER PRIOR TO CONSTRUCTION. THE LANDSCAPE LAYOUT PLAN SHOWS DIMENSIONS FOR TREE PLACEMENT, ANY DISCREPANCIES OR CONFLICTS WITH EXISTING CONDITIONS OR OTHER DRAWINGS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY FOR PROPER CLARIFICATION OR ADJUSTMENTS.
2. FOR DIMENSIONS OF EXISTING BUILDINGS, PROPOSED BUILDINGS AND IMPROVEMENTS, AND RELATED WORK, REFER TO THE CIVIL AND ARCHITECTURAL DRAWINGS.
3. WHERE DIMENSIONS ARE CALLED AS EQUAL, SPACE REFERENCED ITEMS EQUALLY, MEASURED TO THEIR CENTER LINES.

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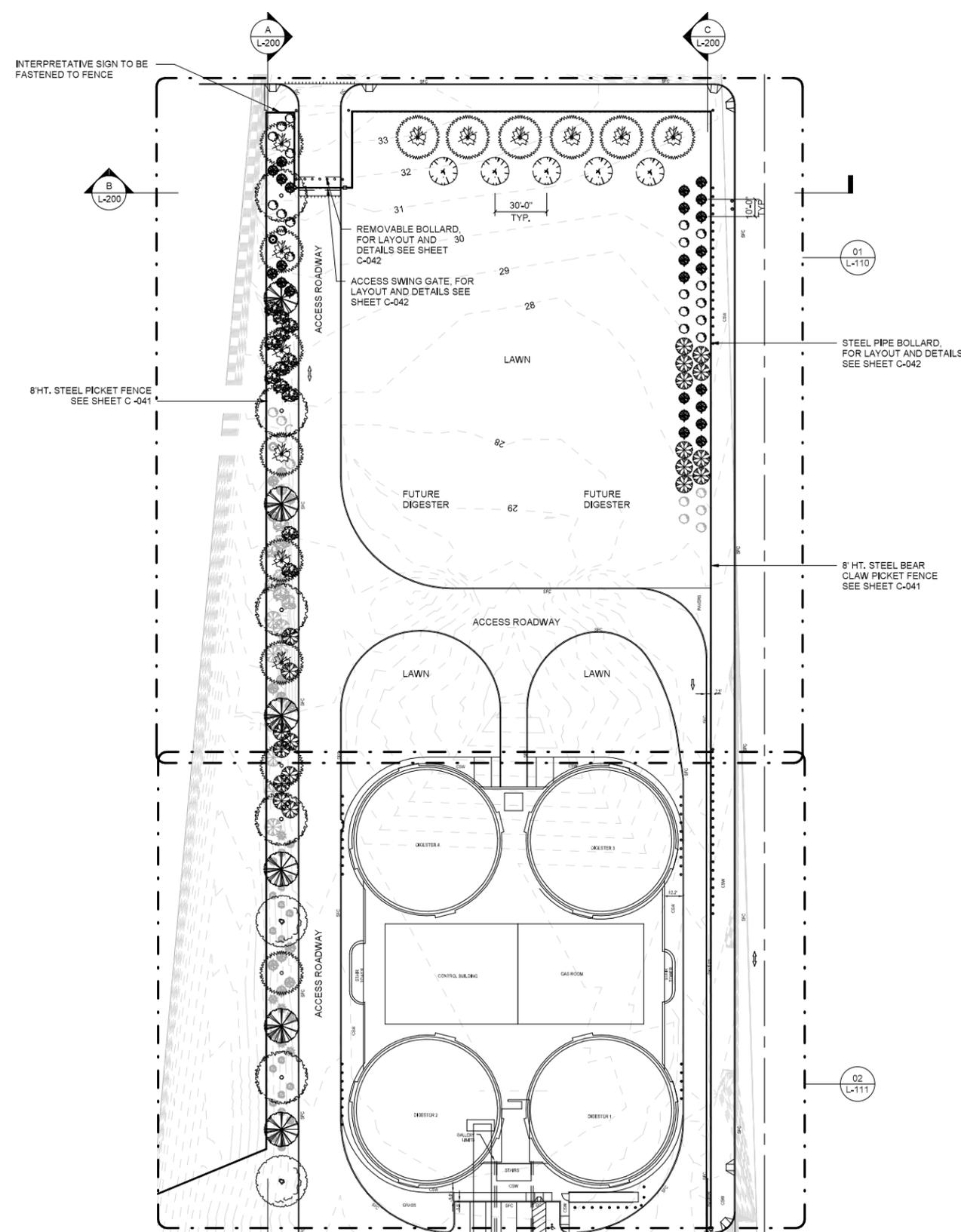
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HP-238 HUNTS POINT WWTP NEW ANAEROBIC DIGESTER FACILITIES LANDSCAPE LEGEND, NOTES, ABBREVIATIONS
DATE: 02/08/2019
SCALE: NTS
SHEET NO: 85 OF 596
DRAWING NO. L-001

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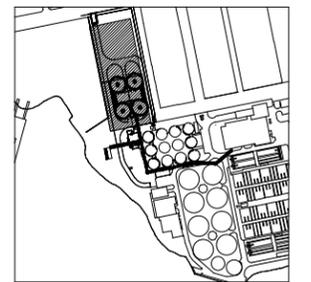


GENERAL NOTES

1. CONTRACTOR SHALL FURNISH AND INSTALL ONE INTERPRETATIVE SIGN ON NEW PERIMETER FENCE. CONTRACTOR SHALL INCLUDE THE COST TO HAVE A 24" X 36" INCH ILLUSTRATIONS PROFESSIONALLY PREPARED ON FIBER BRITE MATERIAL AND MOUNTED ON ANGLE SQUARE BRACKETS. ILLUSTRATIONS FOR INTERPRETATIVE SIGN SHALL BE PROVIDED TO THE CONTRACTOR BY THE ENGINEER DURING THE CONSTRUCTION PERIOD.
2. CONTRACTOR SHALL COORDINATE ACCESS TO BARRETTO POINT PARK PROPERTY THROUGH THE ENGINEER AND SHALL NOT CONTACT DPR DIRECTLY.

LEGEND

- PROPERTY LINE
- ENLARGEMENT
- PROPOSED CURB
- STEEL BEAR CLAW PICKET FENCE
- BOLLARDS



0 40 80 FT.
1"=40'

LANDSCAPE LAYOUT PLAN
1" = 40'-0"

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J.J. TERRASA
CHECKED BY:
T. SILVESTRO
DESIGN LEAD:
A. SEHLOFF
SECTION MANAGER:
G. NEWMAN

DRAWN BY:
M. COLON

Brown and Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK



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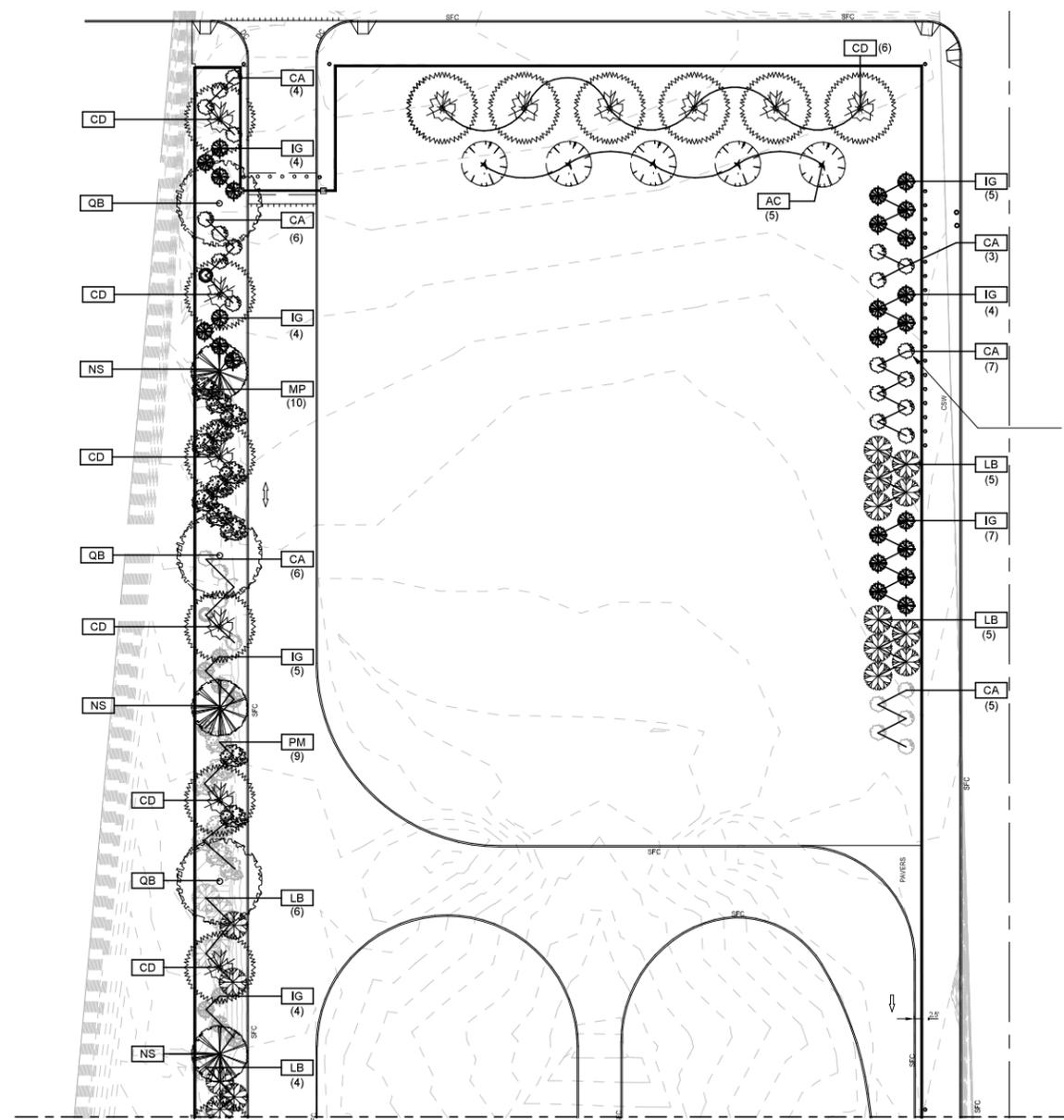
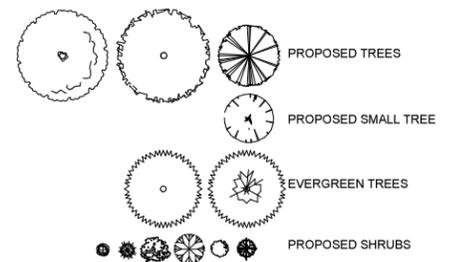
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LANDSCAPE
LANDSCAPE LAYOUT PLAN

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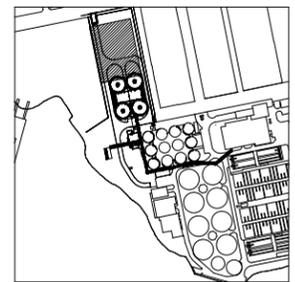
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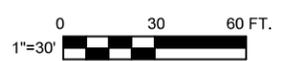
ALL SHRUBS PLANTED 10' O.C., TYP.
LOCATION OF PLANTS TO BE
VERIFIED IN FIELD BY LANDSCAPE ARCHITECT

PLANTING SCHEDULE						
ABBREVIATION	BOTANICAL NAME	COMMON NAME	PLANT CATEGORY	QTY.	SIZE	REMARKS
LT	LIRIODENDRON TULIPIFERA	TULIP TREE	TREES	5	3-3/12' CAL.	B&B BRANCHED 6' FROM THE GROUND
NS	NYSSA SYLVATICA	BLACK GUM	TREES	6	3-3/12' CAL.	B&B BRANCHED 6' FROM THE GROUND
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	TREES	5	3-3/12' CAL.	B&B BRANCHED 6' FROM THE GROUND
AC	AMELANCHIER CANADENSIS	SERVICEBERRY	SMALL TREE	5	8-10' HT	MULTISTEM WITH MIN 4 MAIN STEMS
CA	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	SHRUB	31	24'-30' HT	VAR. 'RUBY SPICE' B&B
IG	ILEX GLABRA	INKBERRY	SHRUB	38	24'-30' HT	VAR. 'SHAMROCK', B&B
LB	LINDERA BENZOIN	SPICE BUSH	SHRUB	27	24'-30' HT	B&B
MP	MYRICA PENNSYLVANICA	BAYBERRY	SHRUB	10	24'-30' HT	B&B
PM	PRUNUS MARITIMA	BEACH PLUM	SHRUB	23	24'-30' HT	B&B
SA	SPIRAEA ALBA	MEADOWSWEET	SHRUB	12	24'-30' HT	B&B
CD	CEDRUS DEODARA	DEODAR CEDAR	EVERGREEN TREE	12	6-8' HT	B&B
PB	PINUS BUNGEANA	LACEBARK PINE	EVERGREEN TREE	2	6-8' HT	B&B



MATCHLINE - SEE SHEET L-111

01 PLANTING PLAN NORTH
L-110 1" = 30'-0"



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J.J. TERRASA
CHECKED BY:
T. SILVESTRO
DESIGN LEAD:
A. SEHLOFF
SECTION MANAGER:
G. NEWMAN

DRAWN BY:
M. COLON
Brown and Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK



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PORTFOLIO MANAGER
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PLANTING PLAN NORTH

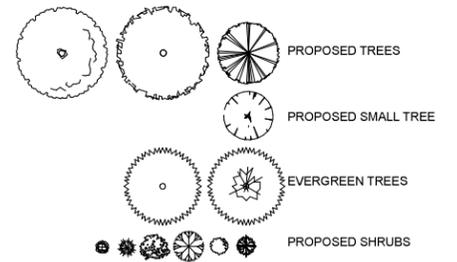
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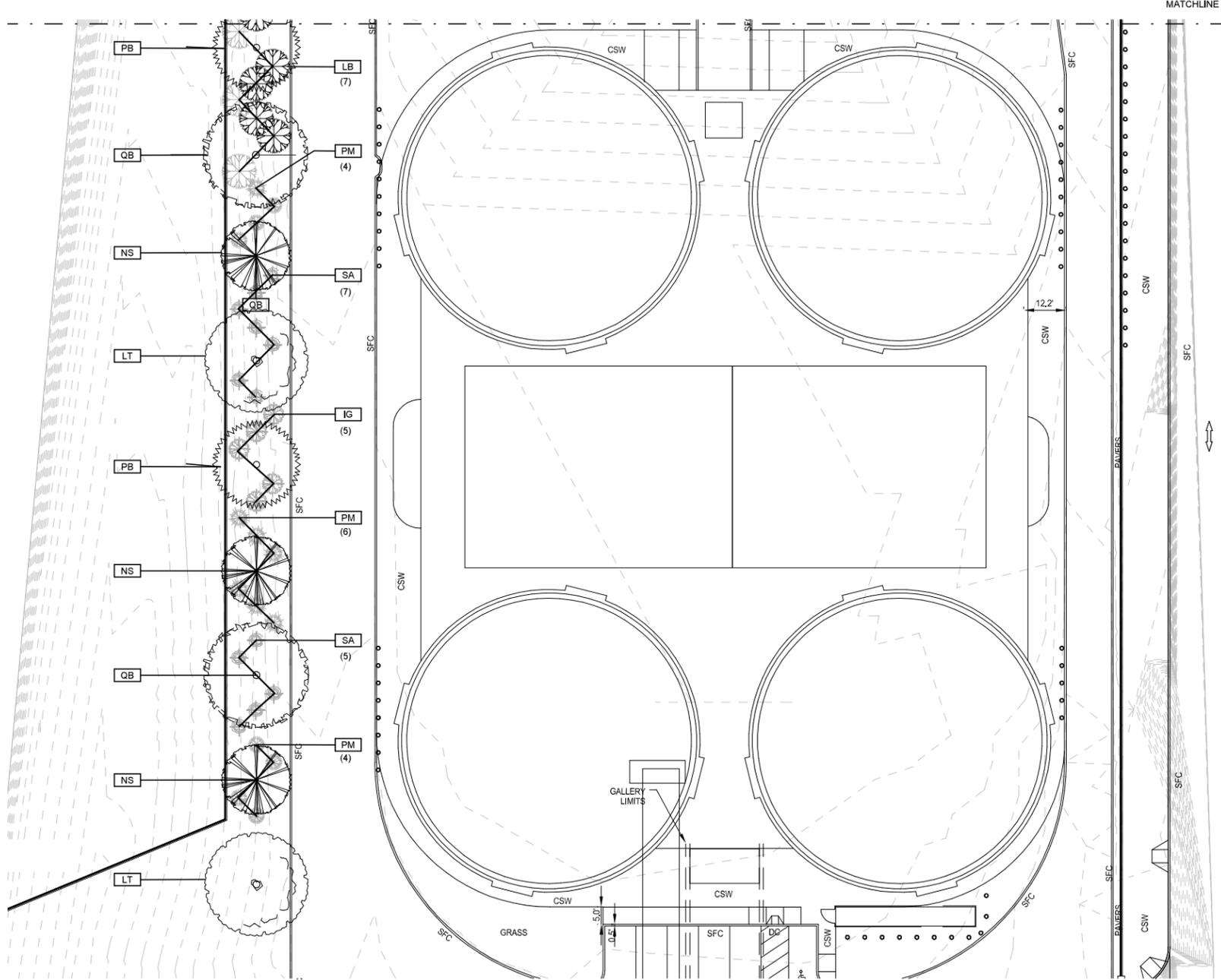
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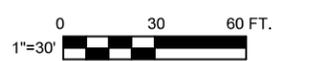
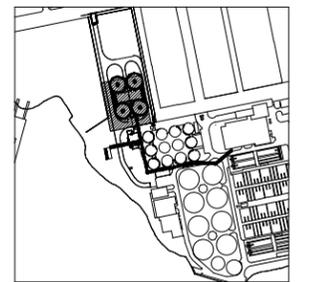
LEGEND



PLANTING SCHEDULE						
ABBREVIATION	BOTANICAL NAME	COMMON NAME	PLANT CATEGORY	QTY.	SIZE	REMARKS
LT	LIRIODENDRON TULIPIFERA	TULIP TREE	TREES	5	3-3/12" CAL.	B&B BRANCHED 6" FROM THE GROUND
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PB	PINUS BUNGEANA	LACEBARK PINE	EVERGREEN TREE	2	6'-8" HT	B&B



02 PLANTING PLAN SOUTH
L-111 1" = 20'-0"



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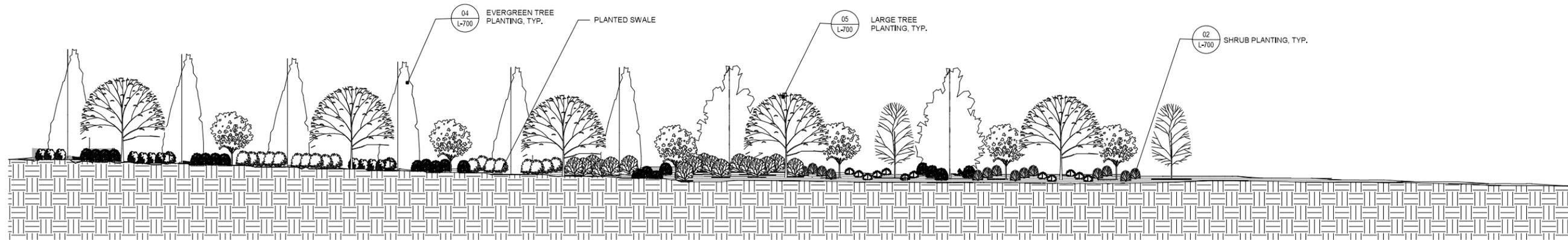
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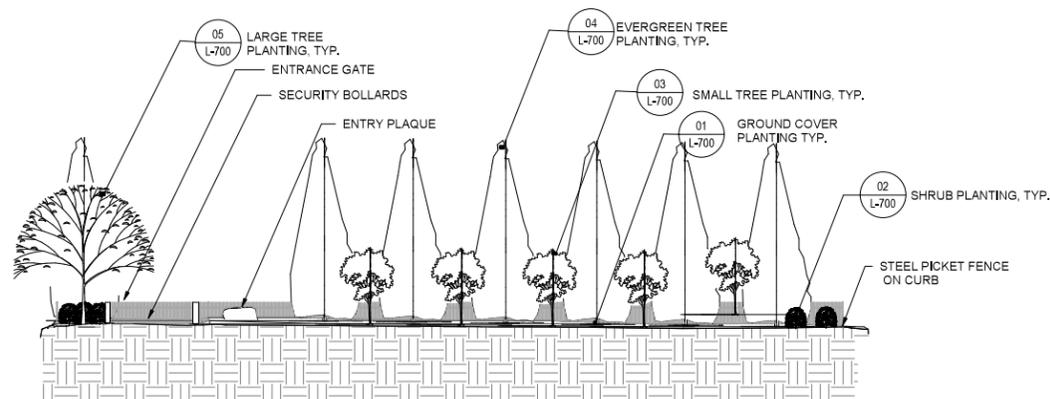
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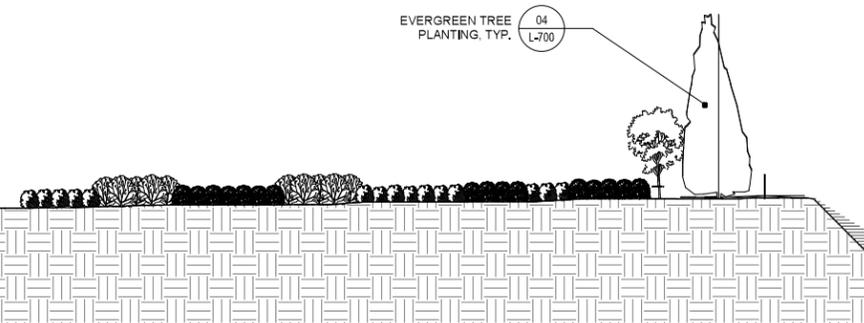
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A SECTION AT WESTERN TREE LINE
1" = 30'-0"



B SECTION AT NORTHERN TREE LINE
1" = 30'-0"



C SECTION AT EASTERN TREE LINE
1" = 30'-0"



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Marvel Architects

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DESIGNED BY:
J.J. TERRASA
CHECKED BY:
T. SILVESTRO
DESIGN LEAD:
A. SEHLOFF
SECTION MANAGER:
G. NEWMAN

DRAWN BY:
M. COLON
Brown and Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK



ACCOUNTABLE MANAGER
N. FEDERICI, P.E.
PORTFOLIO MANAGER
M. OSIT, P.E.

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NEW YORK CITY
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96-05 HORACE HARDING EXPRESSWAY 5th FLOOR
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HP-238 HUNTS POINT WWTP
NEW ANAEROBIC
DIGESTER FACILITIES
LANDSCAPE
SECTIONS

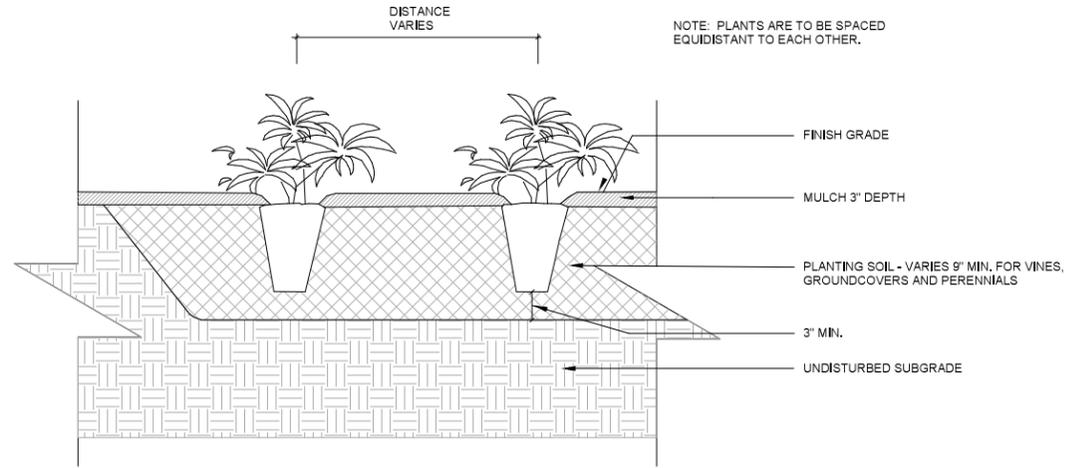
DATE: 02/08/2019
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SHEET NO:
89 OF 596
DRAWING NO.
L-200

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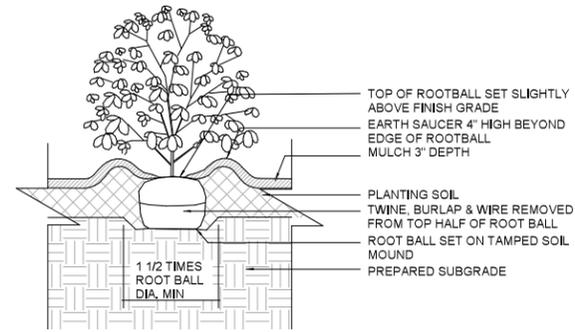
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GENERAL NOTES

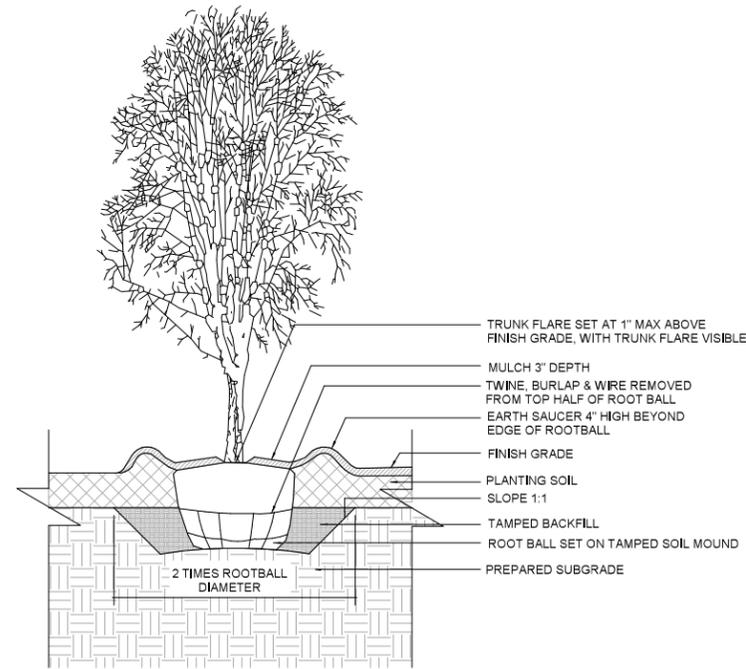
1. SEE CIVIL DRAWINGS FOR SUBGRADE DETAILS
2. SEE SPECIFICATIONS FOR PLANTING SOIL MIX
3. REMOVE WIRE BASKET AND WRAP
4. INSTALL OR CUT STAKES TO WITHIN 4" OF TOP OF GUYING WIRE OR TIE.
5. DETAILS DO NOT PERTAIN EXISTING TREES, NEW TREES ONLY.
6. BACKFILL MATERIAL FOR TREE AND SHRUBS PLANTING SHALL BE EXISTING SOIL UNLESS OTHERWISE DIRECTED.
7. PERENNIAL AND GROUNDCOVER PLANTING BEDS SHALL CONSIST OF A MINIMUM OF 9" OF NEW TOPSOIL FOR PLANTING PITS AND BEDS.



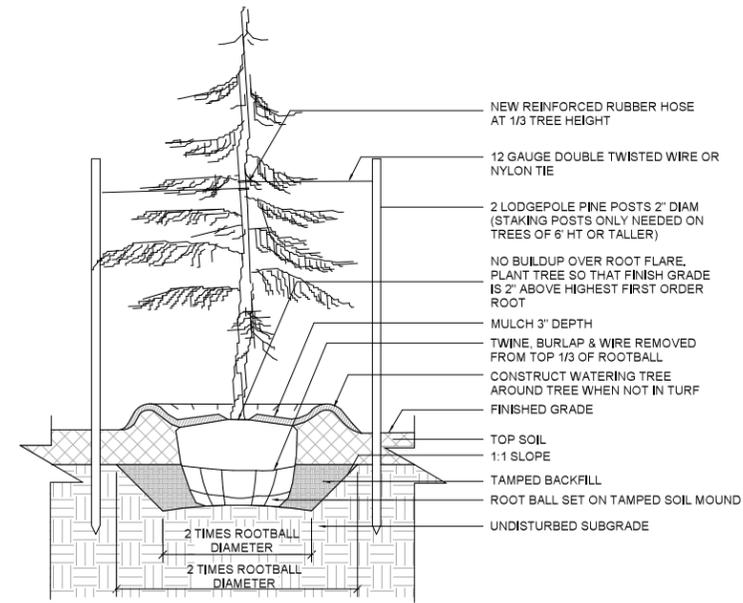
01 GROUND COVER PLANTING
1" = 1'-0"



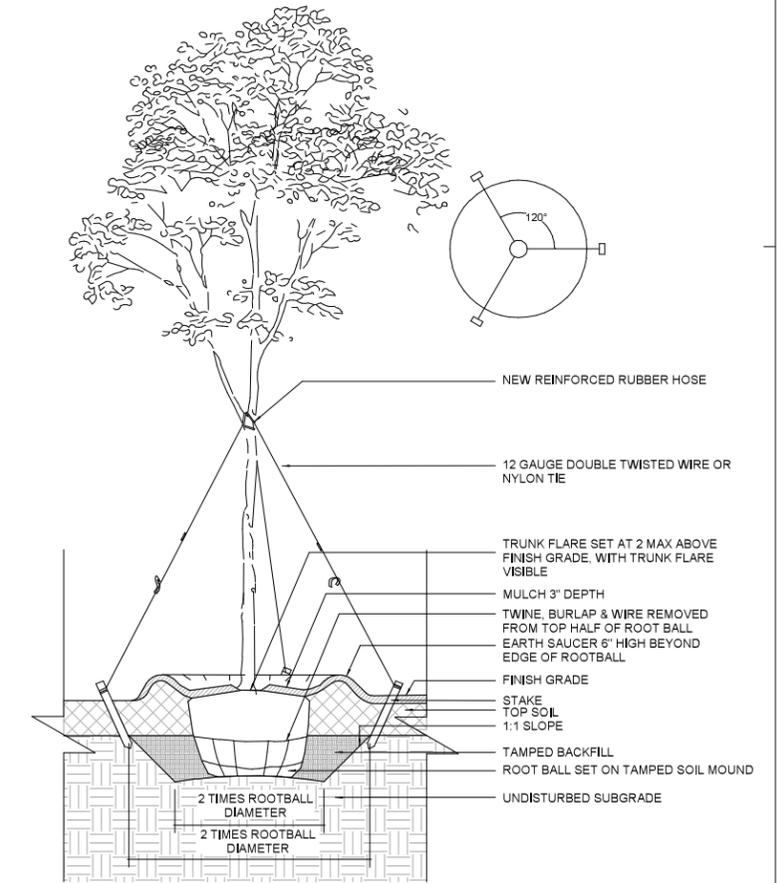
02 SHRUB PLANTING
1/2" = 1'-0"



03 SMALL TREE PLANTING
1/2" = 1'-0"



04 EVERGREEN TREE PLANTING
1/2" = 1'-0"



05 LARGE TREE PLANTING
1/2" = 1'-0"

90% DESIGN SUBMITTAL

DATE SUBMITTED:
FEBRUARY 8, 2019

GRAPHIC SCALES
CHECK BEFORE USE

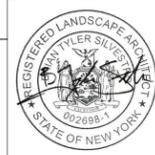
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Marvel Architects

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NEW YORK, NEW YORK



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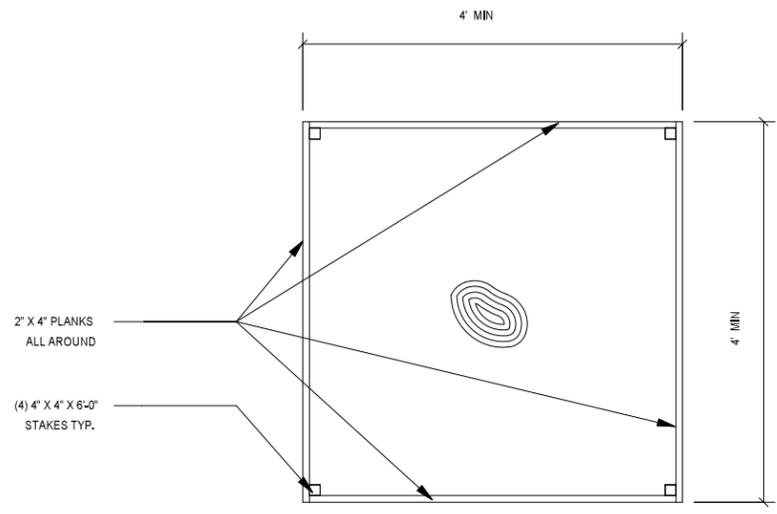
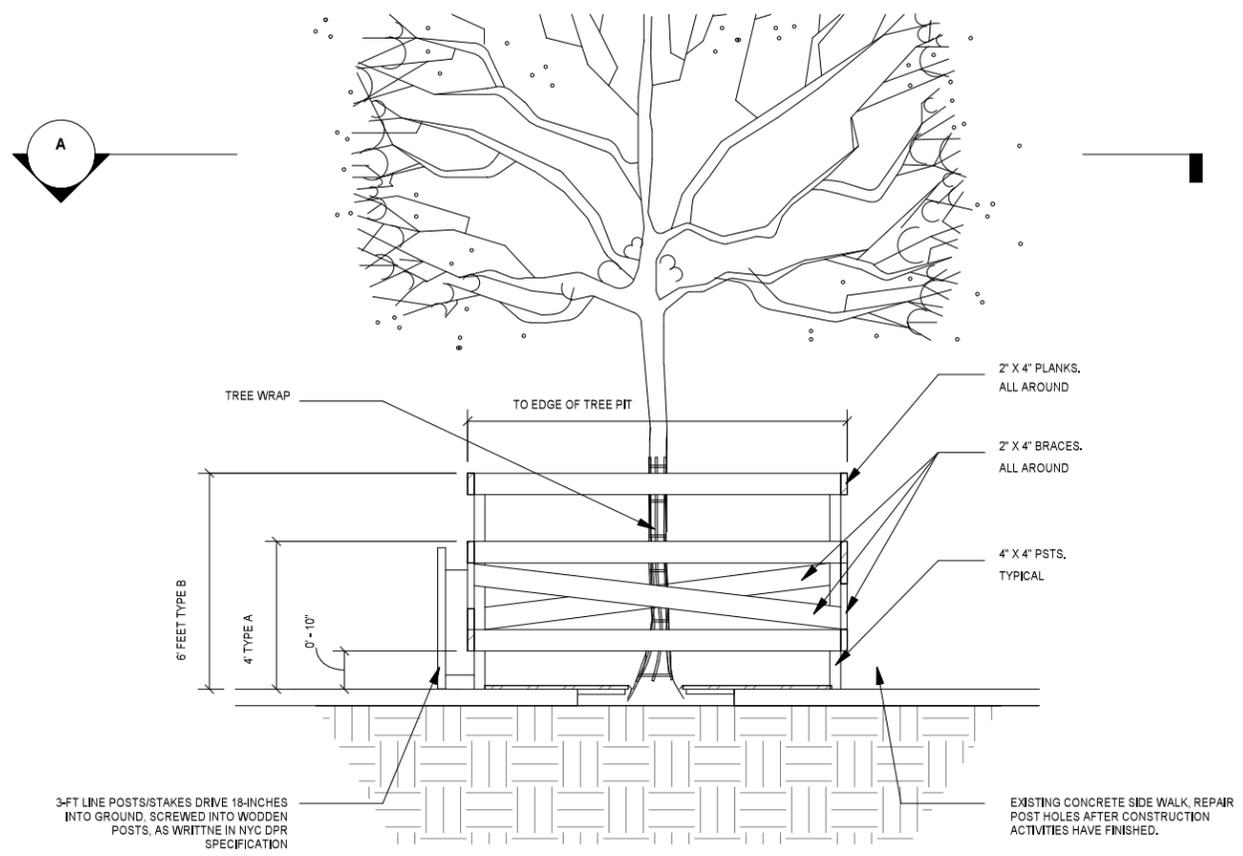
NEW YORK CITY
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NEW ANAEROBIC
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LANDSCAPE
DETAILS

DATE: 02/08/2019
SCALE: As indicated
SHEET NO:
90 OF 596
DRAWING NO.
L-700

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NOTES:

1. TEMPORARY TREE PROTECTION BOX SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION AND MAINTAINED THROUGHOUT THE DURATION OF THE CONTRACT.
2. GRADE SHALL NOT BE ALTERED ITHIN TREE PROTECTION BOX.

NOTES:

1. TREE PROTECTION SHALL BE PROVIDED FOR ALL TREES TO BE PRESERVED DURING AND AFTER CONSTRUCTION.
2. 4' HIGH SNOW FENCE SHALL BE PLACES AT THE DRIP LINE OF THE TREE AND ENCIRCLE THE ENTIRE TREE.
3. BOARDS SHALL NOT BE NATILES TO TREES DURING CONSTRUCTION.
4. ROOTS SHALL NOT BE CUT IN AN AREA INSIDE THE DRIP LINEOF THE TREE BRANCHES.
5. PRUNING OF LIMS IF NECESSARY SHALL BE UNDER SUPERVISION OF A LICENSED NURSERYMAN.
6. TREE PROTECTION MUST BE PER THE NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION STANDARDS.

1 TREE PROTECTION
L-701 1/2" = 1'-0"

90% DESIGN SUBMITTAL

DATE SUBMITTED:
FEBRUARY 8, 2019

GRAPHIC SCALES
CHECK BEFORE USE

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DATE: 06/13/19
SCALE: 1/2" = 1'-0"
SHEET NO:
OF
DRAWING NO.
L-701

NO.	DATE	REVISIONS/DESCRIPTION	APPR D.

DESIGNED BY:
Designer

CHECKED BY:
Checker

DESIGN LEAD:

SECTION MANAGER:
Approver

DRAWN BY:
Author

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
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ACCOUNTABLE MANAGER
N. FEDERICI, P.E.

PORTFOLIO MANAGER
M. OSIT, P.E.

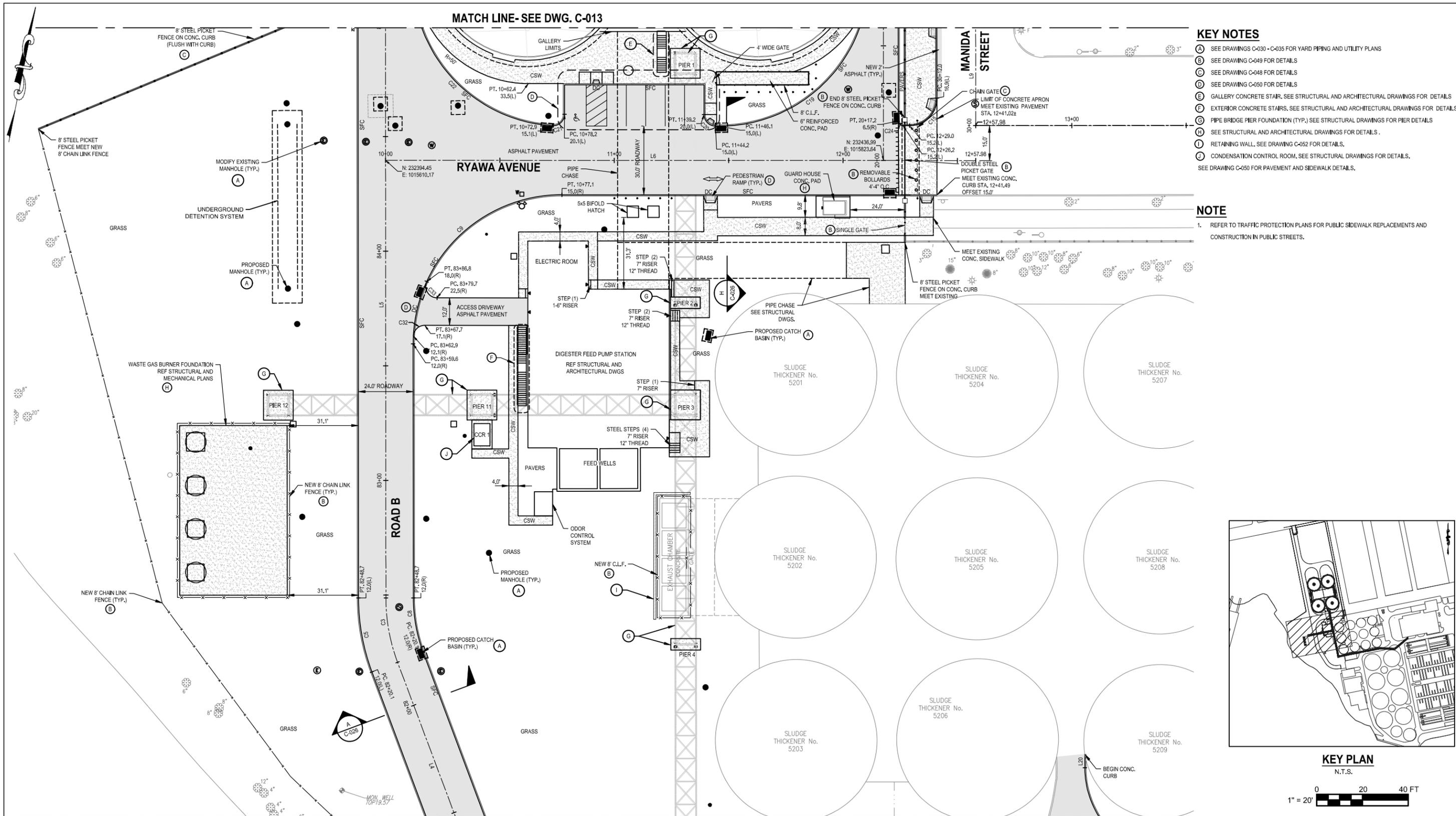
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LANDSCAPE
DETAILS

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Path: F:\PRJ\CT11504.03\DWG File: C-012_016 [SITE].dwg Plot Date: March 1, 2021 - 6:54 PM CADD User: Kwadwo Yeboah-Acquah



KEY NOTES

- (A) SEE DRAWINGS C-030 - C-035 FOR YARD PIPING AND UTILITY PLANS
- (B) SEE DRAWING C-049 FOR DETAILS
- (C) SEE DRAWING C-048 FOR DETAILS
- (D) SEE DRAWING C-050 FOR DETAILS
- (E) GALLERY CONCRETE STAIR. SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR DETAILS
- (F) EXTERIOR CONCRETE STAIRS. SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR DETAILS
- (G) PIPE BRIDGE PIER FOUNDATION (TYP.) SEE STRUCTURAL DRAWINGS FOR PIER DETAILS
- (H) SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR DETAILS.
- (I) RETAINING WALL. SEE DRAWING C-052 FOR DETAILS.
- (J) CONDENSATION CONTROL ROOM. SEE STRUCTURAL DRAWINGS FOR DETAILS.

NOTE

- 1. REFER TO TRAFFIC PROTECTION PLANS FOR PUBLIC SIDEWALK REPLACEMENTS AND CONSTRUCTION IN PUBLIC STREETS.

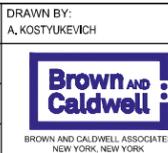


DESIGNED BY:
K. YEOAH-ACQUAH

CHECKED BY:
J. MILLER

DESIGN LEAD:
J. JARAMILLO

SECTION MANAGER:
G. NEWMAN



ACCOUNTABLE MANAGER:
N. FEDERICA, P.E.

PORTFOLIO MANAGER:
N. SHAH, P.E.

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DOB SUBMISSION

DATE SUBMITTED:
AUGUST 28, 2020

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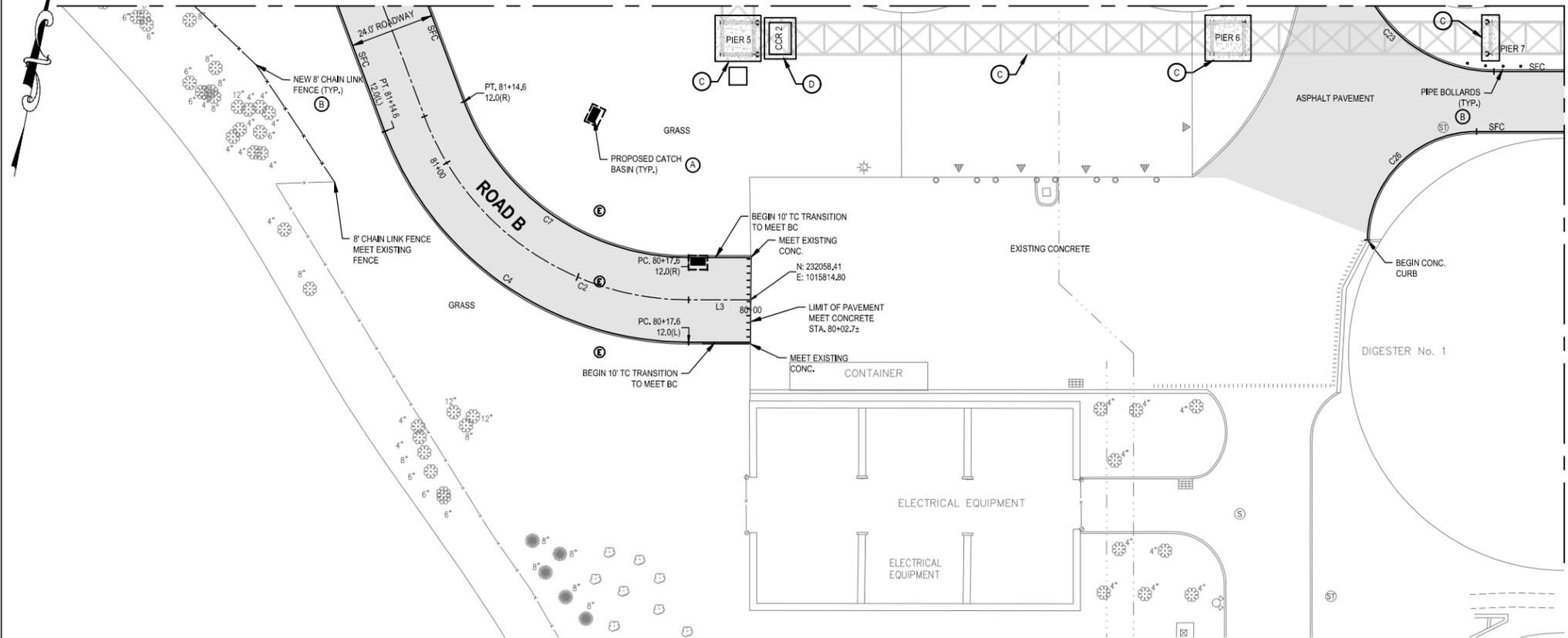
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CIVIL
CIVIL PLAN - 3

DATE: 08/28/2020
SCALE: AS INDICATED
SHEET NO:
28 OF 596
DRAWING NO.
C-014

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MATCH LINE- SEE DWG. C-014



KEY NOTES

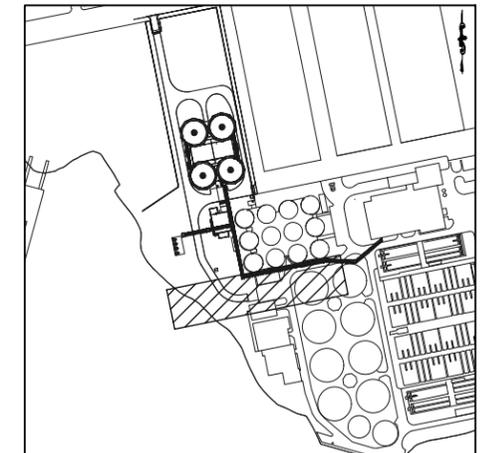
- (A) SEE DRAWINGS C-030 - C-035 FOR YARD PIPING AND UTILITY PLANS
- (B) SEE DRAWING C-049 FOR DETAILS
- (C) PIPE BRIDGE PIER FOUNDATION (TYP.), SEE STRUCTURAL DRAWINGS PIER DETAILS
- (D) CONDENSATION CONTROL ROOM. SEE STRUCTURAL DRAWINGS FOR DETAILS
- (E) SEE DRAWING C-050 FOR PAVEMENT AND SIDEWALK DETAILS.

ROAD A BASELINE								
NUMBER	LENGTH (FT.)	RADIUS (FT.)	LINE/CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT	END POINT	START STATION	END STATION
L1	342.01		N11° 20' 10"W	342.01	N: 232436.99 E: 1015823.64	N: 232772.33 E: 1015756.41	20+00.00	23+42.01
C1	52.74	34.00	N55° 46' 35.98"W	52.74	N: 232772.33 E: 1015756.41	N: 232799.10 E: 1015717.04	23+42.01	23+94.75
L2	184.33		S78° 39' 50"W	184.33	N: 232799.10 E: 1015717.04	N: 232762.87 E: 1015536.21	23+94.75	25+79.08
ROAD B BASELINE								
NUMBER	LENGTH (FT.)	RADIUS (FT.)	LINE/CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT	END POINT	START STATION	END STATION
L3	17.60		S78° 39' 50"W	17.60	N: 232058.41 E: 1015814.80	N: 232054.95 E: 1015797.54	80+00.00	80+17.60
C2	97.00	80.00	N66° 36' 01.41"W	97.00	N: 232054.95 E: 1015797.54	N: 232091.16 E: 1015713.87	80+17.60	81+14.60
L4	105.47		N31° 51' 53"W	105.47	N: 232091.16 E: 1015713.87	N: 232180.73 E: 1015658.19	81+14.60	82+20.07
C3	28.66	80.00	N21° 36' 01.41"W	28.66	N: 232180.73 E: 1015658.19	N: 232207.24 E: 1015647.70	82+20.07	82+48.74
L5	963.68		N11° 20' 10"W	963.68	N: 232207.24 E: 1015647.70	N: 233152.12 E: 1015458.27	82+48.74	92+12.42
L5	963.68		N11° 20' 10"W	963.68	N: 232207.24 E: 1015647.70	N: 233152.12 E: 1015458.27	82+48.74	92+12.42
VIELE AVENUE BASELINE								
NUMBER	LENGTH (FT.)	RADIUS (FT.)	LINE/CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT	END POINT	START STATION	END STATION
L8	397.98		N78° 39' 50"E	397.98	N: 233081.67 E: 1015401.00	N: 233159.90 E: 1015791.22	50+00.00	53+97.98
MANDA STREET BASELINE								
NUMBER	LENGTH (FT.)	RADIUS (FT.)	LINE/CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT	END POINT	START STATION	END STATION
L9	800.00		N11° 20' 10"W	800.00	N: 232458.80 E: 1015860.18	N: 233244.19 E: 1015702.92	30+00.00	38+00.00
L9	800.00		N11° 20' 10"W	800.00	N: 232458.80 E: 1015860.18	N: 233244.19 E: 1015702.92	30+00.00	38+00.00

CURVE TABLE: CURB LINE						
CURVE #	LENGTH (FT.)	RADIUS (FT.)	CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT (PC)	END POINT (PT)
C4	111.55	92.00	N66° 36' 01"W	104.84	N: 232043.19 E: 1015703.88	N: 232094.82 E: 1015703.88
C5	32.96	92.00	N21° 36' 01"W	32.79	N: 232174.40 E: 1015635.93	N: 232204.88 E: 1015635.93
C6	20.42	13.00	N56° 20' 10"W	18.38	N: 233046.24 E: 1015451.96	N: 233056.43 E: 1015451.96
C7	82.45	68.00	N66° 36' 01"W	77.49	N: 232066.72 E: 1015724.06	N: 232097.49 E: 1015724.06
C8	24.36	68.00	N21° 36' 01"W	24.23	N: 232187.07 E: 1015659.46	N: 232209.60 E: 1015659.46
C9	102.18	65.00	N33° 41' 50"E	91.98	N: 23218.28 E: 1015688.70	N: 232394.91 E: 1015688.70
C10	146.30	46.55	S78° 39' 50"W	93.10	N: 232726.11 E: 1015559.58	N: 232707.81 E: 1015559.58
C11	62.64	40.00	N56° 12' 01"W	56.43	N: 232778.48 E: 1015714.71	N: 232810.87 E: 1015714.71
C12	102.10	65.00	N56° 20' 10"W	91.92	N: 232789.77 E: 1015532.94	N: 232840.73 E: 1015532.94
C13	20.42	13.00	N33° 39' 50"E	18.38	N: 233050.95 E: 1015500.98	N: 233066.26 E: 1015500.98
C14	18.85	12.00	S56° 20' 10"E	16.97	N: 233106.36 E: 1015715.17	N: 233096.96 E: 1015715.17
C15	18.85	12.00	S33° 39' 50"W	16.97	N: 232468.24 E: 1015831.81	N: 232454.12 E: 1015831.81
C16	55.00	45.00	S23° 40' 41"W	51.64	N: 232777.88 E: 1015665.28	N: 232730.59 E: 1015665.28
C16	55.00	45.00	S23° 40' 41"W	51.64	N: 232777.88 E: 1015665.28	N: 232730.59 E: 1015665.28
C17	48.00	35.00	N82° 01' 10"W	44.33	N: 232771.73 E: 1015686.01	N: 232777.88 E: 1015686.01
C18	48.07	120.00	N31° 01' 01"W	48.73	N: 232729.97 E: 1015729.91	N: 232771.73 E: 1015729.91
C19	102.18	65.00	N33° 41' 50"E	91.98	N: 232437.71 E: 1015801.52	N: 232514.23 E: 1015801.52
C20	7.85	5.00	S56° 16' 10"E	7.07	N: 232441.27 E: 1015748.67	N: 232437.35 E: 1015748.67

CURVE TABLE: CURB LINE						
CURVE #	LENGTH (FT.)	RADIUS (FT.)	CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT (PC)	END POINT (PT)
C21	8.16	5.00	N35° 30' 40"E	7.29	N: 232423.53 E: 1015682.94	N: 232429.47 E: 1015682.94
C22	98.03	65.04	S54° 31' 44"E	89.01	N: 232475.18 E: 1015678.71	N: 232423.53 E: 1015678.71
C23	62.86	40.00	N56° 18' 47"W	56.59	N: 232163.04 E: 1015961.82	N: 232194.42 E: 1015961.82
C24	3.14	2.00	N56° 20' 10"W	2.83	N: 232433.55 E: 1015826.63	N: 232455.12 E: 1015826.63
C25	44.63	30.28	S36° 13' 04"W	40.70	N: 232213.05 E: 1016094.59	N: 232180.21 E: 1016094.59
C28	15.31	50.00	S53° 38' 29"W	15.25	N: 232195.11 E: 1016167.36	N: 232186.07 E: 1016167.36
C32	7.61	5.00	N35° 12' 19"E	6.89	N: 232321.59 E: 1015641.07	N: 232327.23 E: 1015641.07
C33	10.00	5.00	S43° 55' 01"E	8.41	N: 232346.10 E: 1015944.01	N: 232340.04 E: 1015944.01
C39	81.49	45.00	N65° 42' 31"W	70.80	N: 232165.99 E: 1016179.65	N: 232195.11 E: 1016179.65

RYAWA AVE. BASELINE								
NUMBER	LENGTH (FT.)	RADIUS (FT.)	LINE/CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT	END POINT	START STATION	END STATION
L6	257.98		N78° 43' 50"E	257.98	N: 232394.45 E: 1015610.17	N: 232444.87 E: 1015863.17	10+00.00	12+57.98
RYAWA AVE. EXTENSION BASELINE								
NUMBER	LENGTH (FT.)	RADIUS (FT.)	LINE/CHORD DIRECTION	CHORD LENGTH (FT.)	START POINT	END POINT	START STATION	END STATION
L7	767.02		N78° 40' 45"E	767.02	N: 232458.80 E: 1015860.18	N: 233610.37 E: 1018612.27	12+57.98	20+25.00



KEY PLAN
N.T.S.



NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

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K. YEOBAH-AQUAH
CHECKED BY:
J. MILLER
DESIGN LEAD:
J. JARAMILLO
SECTION MANAGER:
G. NEWMAN

DRAWN BY:
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DOB SUBMISSION
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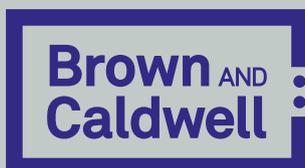
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NEW ANAEROBIC
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CIVIL
CIVIL PLAN - 4

DATE: 08/28/2020
SCALE: AS INDICATED
SHEET NO.:
29 OF 596
DRAWING NO.:
C-015



Prepared by



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New York City, NY 10018
Tel: 646.367.0631