ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT

INVITATION TO BID NO. 21-DPR-ITB-673

ADDENDUM NO. 2

Arlington County Invitation to Bid No. 21-DPR-ITB-673 for Construction of Thomas Jefferson Upper Field Turf Conversion is amended as follows:

1. **Deduct Items** is **deleted** from the Table of Contents section VII. Attachments and Forms.

2. The telephone number and web address for MTS Recreations in Section 133419 'Pre-Engineered Structures' PART 2 – PRODUCTS 2.01 SHELTER MODEL A. is hereby **deleted** and **replaced** with 804-337-3963 or 804-441-0520 and www.mtsrecreations.com.

The following are answers to the questions received in response to Arlington County's Request for Proposals No. 21-DPR-ITB-673:

1. **Question: Please approve RCP Shelters as an approved equal for 11'-6" x 32' Steel Single Slope Cantilever Shelter?**

   Answer: RCP Shelter is approved per attached shop drawing and specifications (Attachment A - TS-SS1232-3P-02-CL-Z-Model.pdf and Attachment B - RCP Shelters 3-Part Spec - AS # 35164.pdf). General contractor shall obtain the building permit as stipulated in 133419 1.06B.

2. **Question: Is there a geotechnical report for this project?**

   Answer: Yes, see attached (Attachment C - JD195328 - Thomas Jefferson Park – GeoReport.pdf)

3. **Question: Please advise if we can use an equivalent structure shelter, Marana Style Shelter by Classic Recreation Systems, Inc.**

   Answer: No. Vendor did not supply shop drawings.

4. **Question: Specification section 329100 states to use the existing soil as recommended in soil test results to achieve a viable planting soil for lawns and/or planting beds, otherwise refer to the drawing for supplement with the imported topsoil when quantities of approved, existing topsoil are insufficient for lawns and planting beds. The drawing doesn't stated whether or not the existing topsoil can be used. Please advise if we can use the existing topsoil or import topsoil for the lawns and/or planting beds.**

   Answer: Per 329100 2.03 B, Existing "suitable" topsoil is to be reused to the extent possible for the proposed sodded lawn areas. 1.03.B.1 ii indicates that suitability is confirmed by soil tests for presence of harmful materials or levels of salinity that will not support plant growth. If additional topsoil is needed, imported topsoil may be used, subject to soil testing and DPR/AMT's review and approval of imported soil submittal. Refer to C-01, C-04 (Δ1) and C-07 for additional stripping and stockpiling requirements.

5. **Question: Drawing C04 states to remove the existing irrigation lines. Please provide the drawing to show the existing irrigation systems.**

Answer: Record drawings for the irrigation design are not available. The irrigation mainline is believed to enter the upper field from the east side.

6. **Question: Drawing C15 to C15B have "???" symbols on the storm structure profile and do not identify the storm structure's locations. Please provide drawing for the storm structure profiles and locations.**

   Answer: Sheets C-01, C-04, C-11, C-15, C-15A and C-15B have been revised. See attached (Attachment D - Addendum 2 Plans.pdf)

The balance of the solicitation remains unchanged.

Arlington County, Virginia

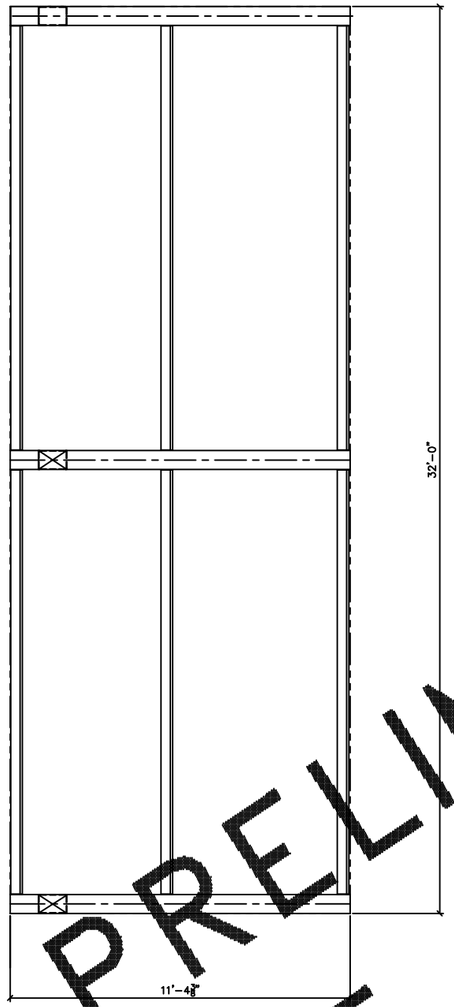
Cynthia Davis, CPPB, VCO
Assistant Purchasing Agent

RETURN THIS PAGE, FULLY COMPLETED AND SIGNED, WITH YOUR BID:

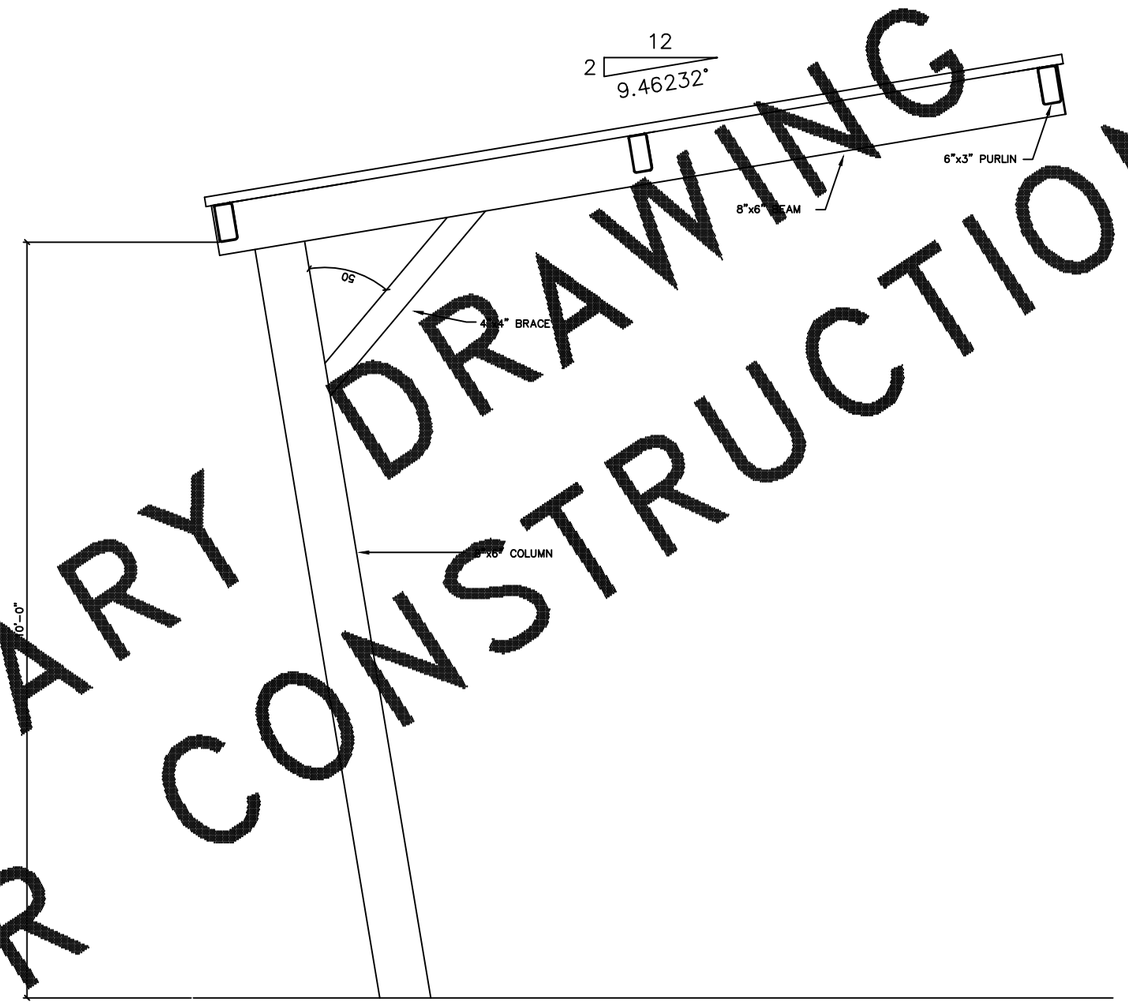
BIDDER ACKNOWLEDGES RECEIPT OF ADDENDUM NUMBER 1.

FIRM NAME: _____

AUTHORIZED SIGNATURE: _____ **DATE:** _____



FRAMING PLAN
SCALE: 3/8" = 1'-0"



END ELEVATION

ALL DETAILS ARE FOR ILLUSTRATION ONLY, FINAL DESIGN TO BE DETERMINED BY ENGINEER AT THE TIME OF THE ORDER.

TS-SS1232-3P-02-CL

NUMBER OF PURLINS MAY VARY DEPENDING UPON DESIGN LOADS. SIZES AND SPACING OF PURLINS TO BE DETERMINED DURING FINAL DESIGN.

RCP SHELTERS, INC.
2100 SE RAYS WAY STUART, FL 34994 PO BOX 25 STUART, FL 34995-0025
■SHELTERS ■PAVILIONS ■CONCESSIONS ■KIOSKS ■FABRIC SHADE
■RESTROOMS ■BANDSHELLS ■MINI-SHELTERS ■DUGOUTS ■FABRIC SAIL
Phone 800-525-0207 Fax 772-288-0207
www.rcpshelters.com Email info@rcpshelters.com

PROJ. NO.:	
DRAWN:	RAR 5-11-20
CHK'D:	
REV 1:	
REV 2:	
REV 3:	
REV 4:	
REV 5:	
CAD NO.:	
EEC JOB NO.:	
SHEET NO.:	1 OF 1

SECTION 10 73 46
PRE-FABRICATED SITE SHELTERS

PART 1 GENERAL

1.1 SUMMARY

A. Design, fabrication, finishing, and delivery of pre-engineered, factory-fabricated site shelters.

B. Site work related to installation, by Contractor or Owner, including:
1. Unloading and temporary storage, if any.
2. Soil testing, if necessary.
3. Site preparation.
4. Column foundations, rebar, anchor bolts, and anchor embedment.
5. Concrete slab and embedment.
6. Erection.
7. Field touch up painting of factory finishes, if necessary.

C. Site access for delivery vehicles to be provided by Owner.

D. Related Sections: Section 033000 - Cast-In-Place Concrete: Concrete footings and slabs.

1.2 SYSTEM DESCRIPTION

A. Design shall meet or exceed applicable building code.

B. Pre-fabricated package shall include structural steel framing members, pre-cut roof panels, trim, and fasteners.

C. All bolts shall be hidden, concealed inside the steel tubes.

D. Field labor required to install the pre-fabricated parts. Onsite welding shall not be required or permitted.

1.3 REFERENCES

A. American Society of Testing Material (ASTM)
1. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated
2. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
3. ASTM A563 - Standard Specification for Carbons and Alloy Steel Nuts
4. ASTM A572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
5. ASTM F1554 – Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength

B. American Institute of Steel Construction (AISC)

C. American Welding Society (AWS)

D. Steel Structures Painting Council (SSPC); SSPC-SP10 - Near-White Blast Cleaning

E. Leadership in Energy and Environmental Design (LEED)

F. OSHA Standards 29 CFR, Part 1926, Subpart R (Steel Erection), Standard Number 1926.755: Compliance requires a minimum of four anchor bolts per column.

1.4 QUALITY ASSURANCE

A. Designer Qualifications: Design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State where the Project is located.

B. Manufacturer Qualifications: Company experienced in design and manufacture of shelters of the type specified, and having the following:
   1. Minimum five years of experience in design and fabrication of pre-fabricated steel shelters.
   2. Three references of similar shelters completed within the past year.
   3. Fabricator membership in American Institute of Steel Construction (AISC), requiring quality control documentation and procedures. Provide current AISC shop certification upon request.
   4. All welding to be performed to AWS standards by AWS certified welders. Provide welding certification upon request.

C. Perform the work in accordance with applicable federal, State, and local building and safety codes and regulations.

1.5 SUBMITTALS

A. Minimum 5 sets of shop drawings, showing all details of construction, including foundation sizes, reinforcement, and locations.
   1. Provide the licensed professional engineer’s VA state stamp or seal on the shop drawings.
   2. Provide the licensed professional engineer’s VA state stamp or seal on the structural calculations.

B. Selection Samples: For each finish product specified, color charts representing manufacturer's full range of available colors.

C. Warranty
   1. Provide minimum ten year frame warranty against manufacturer defects.
   2. Provide roofing manufacturer’s limited warranty.

1.6 DELIVERY, STORAGE, AND PROTECTION

A. Package factory-finished steel components in foam, cardboard, and stretch wrap to protect the finish during transit.

B. Shipped knocked down for minimal shipping charges.

C. Deliver products to project site in manufacturer's protective packaging.

D. Follow shelter manufacturer's recommendations and instructions, including those printed on the shop drawings. To minimize damage during unloading, use only padded forks or non-marring slings.

E. Store products in manufacturer's unopened packaging well off the ground and covered out of weather until ready for installation.

PART 2 PRODUCTS

2.1 GENERAL

A. Model: TS-SS1232-3P-02 as manufactured by RCP Shelters, Inc.

B. Size and dimensions
1. Shape: Rectangular
2. Dimensions: 11’-6” x 32’-0”
3. Roof Style: Single Slope
4. Roof Pitch: 2:12
5. Eave Height: minimum 10’-0”
6. Quantity: 1

C. Approved Manufacturer: RCP Shelters, Inc.
1. 2100 SE Rays Way, Stuart, FL 34994.
2. Toll Free: 800-525-0207
3. Fax: 772-288-0207
4. Website: www.rcpshelters.com
5. Email: info@rcpshelters.com

D. Substitutions: Products other than specified must request and receive approval in writing by addendum at least ten (10) days prior to the bid date. See Instructions to Bidders for further instructions.

2.2 STEEL STRUCTURAL COMPONENTS

A. Structural Framing: fabricated for field assembly using bolted connections with no welding required or permitted; cold-formed shapes prohibited.
1. Columns & Beams: ASTM A500 Grade C structural steel tube. The following shapes are prohibited: I-beams, wide-flange beams, C-channels, Z-shapes.
2. Plates: ASTM A572 Grade 50.
3. Compression Ring: steel plate, ASTM A572 Grade 50.
4. Fasteners
   a. Bolts: ASTM A325 high strength bolts.
   b. Nuts: ASTM A563 high strength nuts.
5. Column Anchors: ASTM F1554 Grade 36, provided by Contractor or Owner, attached to top of foundation, recessed below slab on grade.

6. Cap plates: factory bent and field installed with hidden fasteners on hip and ridge beams not normal to roof so that metal roof deck does not bear structurally on beam corner only
7. Finish: Powder Coat
    a. Pre-blast inspection to catch and remove oil, grease, and other coatings impeding contaminants
    b. Steel grit blasted to near white condition in accordance with SSPC-SP10, removing all oil residue, mil scale, weld spatter, and slag
    c. Five stage phosphate wash (includes detergent, phosphate, rust protectant sealant)
    d. Epoxy powder coat primer
    e. Double topcoat TGIC polyester powder coat; color to be selected from manufacturer's standard color chart by Owner.
    f. Primer plus finish coats shall be 7-12 mils thick
    g. All materials inspected to meet 100% coating, proper cure, film thickness, and impact resistance
    h. Wet-coat alternatives shall not be acceptable.

B. Roof System: Galvalume® structural metal roof panels with exposed fasteners.
1. Acceptable Panel Profiles:
    a. Galvalume® panels with 1-3/16" high ribs, 12" on center.
    b. Galvalume® panels with 1-1/2" high ribs, 7.2" on center.
2. Panel Gauge: minimum 24-gauge.
3. Panel Width: 3'-0".
4. Panel Length: Precut to the length from the eave to the ridge; angles factory precut.
5. Panel Orientation: Ribs shall run with the pitch of the roof for proper drainage.
6. Trim: Provide matching roof trim and fasteners.
7. Finish: Factory pre-finished with Kynar 500® paint system; color to be selected by Owner from standard color chart.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that site earthwork has been performed as required for satisfactory installation.

3.2 PREPARATION

A. Install footings and column anchors of size, design, and location as specified by shelter manufacturer on approved shop drawings.

3.3 INSTALLATION

A. Perform installation in accordance with applicable federal, State, and local building and safety codes.

B. Structural special inspections, if required, are to be arranged and paid for by the Contractor or Owner.

C. Install shelter in accordance with manufacturer's approved shop drawing and good construction practices.

D. Install slab in accordance with shelter manufacturer's shop drawings. Slab perimeter dimensions determined by Owner.

3.4 CLEANING AND PROTECTION

A. Clean installed work to like-new condition.

B. Protect installed products until completion of project.

C. Touch-up, repair, or replace damaged finishes before Substantial Completion. Touch up paint provided by manufacturer.

END OF SECTION

Geotechnical Engineering Report

Thomas Jefferson Park
Arlington, Virginia
January 22, 2020
Terracon Project No. JD195328

Prepared for:
A. Morton Thomas & Associates, Inc
Chantilly, Virginia

Prepared by:
Terracon Consultants, Inc.
Ashburn, Virginia

January 22, 2020

A. Morton Thomas & Associates, Inc
14555 Avion Parkway Suite 150
Chantilly, Virginia 20151

Attn: Mr. Steven Torgerson
P: (301) 881-2545
E: storgerson@amtengineering.com

Re: Geotechnical Engineering Report
Thomas Jefferson Park
3501 2nd Street
Arlington, Virginia
Terracon Project No. JD195328

Dear Mr. Torgerson:

We have completed the Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PJD195328 dated December 6, 2019. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations and floor slabs for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

Daniel Anthony, EIT
Senior Staff Engineer

Paul Burkart, PE
Senior Principal

REPORT TOPICS

ATTACHMENTS

Geotechnical Engineering Report

Thomas Jefferson Park
3501 2nd Street
Arlington, Virginia
Terracon Project No. JD195328
January 22, 2020

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed synthetic turf field to be located at 3501 2nd Street in Arlington, Virginia. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Subgrade preparation/earthwork recommendations
- Foundation recommendations for proposed site retaining walls and shade structure, and floor slabs on grade.
- Recommendations regarding the feasibility of using stormwater management by infiltration, including estimated infiltration rates based on field tests and published correlations with soil classifications
- Lateral Earth Pressures

The geotechnical engineering Scope of Services for this project included the advancement of six test borings to depths ranging from approximately 10 to 20 feet below existing site grades.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs and as separate graphs in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at 3501 2nd Street in Arlington, Virginia. Latitude/Longitude: 38.870657, -77.094978 See **Site Location**

Item	Description
Existing Improvements	Existing athletic field
Existing Topography	The elevation (EL) at the site ranges from approximately EL 206 to EL 216.
Geology	The site is located within the Coastal Plain Physiographic Province of Virginia. The Coastal Plain consists of a seaward thickening wedge of unconsolidated to semi-consolidated sedimentary deposits from the Cretaceous Geologic Period to the Holocene Geologic Epoch. These deposits represent marginal marine to marine sediments consisting of interbedded sands and clays. The Coastal Plain is bordered to the east by the Atlantic Ocean and to the west by the Piedmont Physiographic Province. The dividing line between the Coastal Plain the Piedmont is locally referred to as the "Fall Line". This name comes from the waterfalls that form as a result of the differential erosion that occurs as streams cross the Piedmont/Coastal Plain contact. Specifically, according to local geologic maps, the site is mapped in the Potomac Formation of the Cretaceous geologic period and the Pliocene Sand and Gravel of the Tertiary geologic period. This geology corresponds favorably to our subsurface exploration. Additionally, existing fill associated with previous site development was encountered.

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	"Field Visit Work Sheet" dated November 20, 2019 provided by AMT Engineering. "Concept Grading Plan" dated December 10, 2019 provided by AMT.
Project Description	The project includes replacing the current athletic field with a synthetic turf field. A retaining wall is proposed along the southern and western perimeters of the field. Also, a shade structure is proposed at the southern edge of the field.
Free-Standing Retaining Walls	CMU block retaining walls are expected to be constructed as part of site development to achieve final grades. Proposed wall heights are up to 7-ft.

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of

the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	**Fill**	Loose, fine to coarse grained, SANDY SILTY CLAY (CL-ML), SILTY SAND WITH GRAVEL (SM), brown, moist
2	**Potomac Formation - Fine Grained**	Medium stiff to stiff, fine grained, SANDY SILT (ML), SANDY LEAN CLAY (CL), gray, orange, brown, moist
3	**Potomac Formation - Coarse Grained**	Loose to dense, fine to medium grained, CLAYEY SAND (SC), SILTY SAND (SM), POORLY GRADED SAND (SP), gray, orange, brown, moist

EARTHWORK

Earthwork is anticipated to include clearing and grubbing, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Site Preparation

Prior to placing fill, existing vegetation and root mat should be removed. Complete stripping of the topsoil should be performed in the proposed turf field, retaining wall, and shade structure.

The subgrade should be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the direction of the Geotechnical Engineer. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Such areas should either be removed or modified. Excessively wet or dry material should either be removed or moisture conditioned and recompacted.

Existing Fill

As noted in **Geotechnical Characterization**, borings encountered existing fill to depths ranging from about 2 to 6 feet. The fill appears to have been placed in a controlled manner, but we have no records to indicate the degree of control. Support of footings, on or above existing fill soils, is

discussed in this report. However, even with the recommended construction procedures, there is inherent risk for the owner that compressible fill or unsuitable material, within or buried by the fill will, not be discovered. This risk of unforeseen conditions cannot be eliminated without completely removing the existing fill, but can be reduced by following the recommendations contained in this report.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill and general fill. Structural fill is material used below, or within 10 feet of structures or constructed slopes. General fill is material used to achieve grade outside of these areas. Earthen materials used for structural and general fill should meet the following material property requirements:

Soil Type [1]	USCS Classification	Acceptable Parameters (for Structural Fill)
Low Plasticity Cohesive	CL, CL-ML ML, SM, SC	Liquid Limit less than 40 Plasticity index less than 15 Less than 25% retained on No. 200 sieve
Granular	GW, GP, GM, GC, SW, SP, SM, SC	Less than 10% Passing No. 200 sieve

1. Structural and general fill should consist of approved materials free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. CH or MH soils should not be used.

Fill Compaction Requirements

Structural and general fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used	Same as Structural fill
Minimum Compaction Requirements [1, 2, 3]	95% of max. above foundations, below floor slabs, and more than 1 foot below turf subgrade	92% of max.
Water Content Range [1]	Low plasticity cohesive: -2% to +3% of optimum High plasticity cohesive: 0 to +4% of optimum Granular: -3% to +3% of optimum	As required to achieve min. compaction requirements

Item	Structural Fill	General Fill

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D 698).
2. High plasticity cohesive fill should not be compacted to more than 100% of standard Proctor maximum dry density.
3. If the granular material is a coarse sand or gravel, or of a uniform size, or has a low fines content, compaction comparison to relative density may be more appropriate. In this case, granular materials should be compacted to at least 70% relative density (ASTM D 4253 and D 4254).

Earthwork Construction Considerations

Shallow excavations for the proposed retaining walls and shade structure are anticipated to be accomplished with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of floor slabs. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to construction.

The groundwater table could affect overexcavation efforts, especially for over-excavation and replacement of lower strength soils. A temporary dewatering system consisting of sumps with pumps could be necessary to achieve the recommended depth of over-excavation.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, “Excavations” and its appendices, and in accordance with any applicable local, and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of vegetation and topsoil, proofrolling, and mitigation of areas delineated by the proofroll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. One density and water content test should be performed for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

SHALLOW FOUNDATIONS

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations for the proposed retaining walls and shade structure.

Design Parameters – Compressive Loads

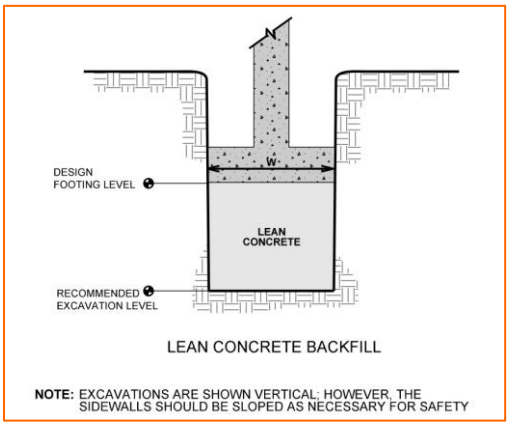
Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	2,000 psf
Required Bearing Stratum [3]	Compacted structural fill, Stratum 2 or 3
Minimum Foundation Dimensions	Continuous Footings: 18 inches
Minimum Embedment below Finished Grade [4]	30 inches

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in **Project Description**.
3. Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in the **Earthwork**.
4. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.

Foundation Construction Considerations

As noted in **Earthwork**, the footing excavations should be evaluated under the direction of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

If unsuitable bearing soils are encountered at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. This is illustrated on the sketch below.



FLOOR SLABS

Depending upon the finished floor elevations, unsuitable soils may be encountered at the floor slab subgrade levels. If encountered, these soils should be undercut and replaced with at least 2 feet of compacted structural fill.

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Floor Slab Design Parameters

Item	Description
Floor Slab Support [1]	Minimum 6 inches of free-draining (less than 5% passing the U.S. No. 200 sieve) crushed aggregate compacted to at least 95% of ASTM D 698 [2, 3] At least 18 inches of low plasticity cohesive or granular soils with at least 18% passing the U.S. No. 200 sieve material should be present below floor slabs where lean to fat clay or fat clay soils are present
Estimated Modulus of Subgrade Reaction [2]	100 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.

Item	Description
2.	Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.
3.	Free-draining granular material should have less than 5% fines (material passing the No. 200 sieve). Other design considerations such as cold temperatures and condensation development could warrant more extensive design provisions.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Settlement of floor slabs supported on existing fill materials cannot be accurately predicted, but could be larger than normal and result in some cracking. Mitigation measures, as noted in **Existing Fill** within **Earthwork**, are critical to the performance of floor slabs. In addition to the mitigation measures, the floor slab can be stiffened by adding steel reinforcement.

Floor Slab Construction Considerations

Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

INFILTRATION ANALYSIS

Two methods were used to estimate infiltration capabilities on the subject site: in-situ infiltration testing and published correlations with soil classifications. Details regarding the in-situ infiltration

and classification test techniques, the estimated infiltration rates from the individual methods, and the recommended design infiltration rate for the site soils are presented herein.

Field Infiltration Test Results

In-situ infiltration tests are performed in the field to observe the rate at which water will permeate the soil under saturated conditions. Six test borings were drilled in the area of planned infiltration. Test borings were initially drilled to depths of at least 4 feet below the planned infiltration invert elevations and allowed to remain open for a period of approximately 24 hours to allow any groundwater levels within the boreholes to stabilize. After 24 hours, offset infiltration test holes were drilled at the boring locations to planned infiltration invert elevations. Boreholes were filled with water to saturate the bottom subsoils. The following day, the test hole was refilled with water and the water level in each test hole was recorded every hour for a 4-hour period. Using this procedure, the average change in the water level over the 4-hour period is considered the infiltration rate. Based on the results of the in-situ infiltration tests, the infiltration rates that have been calculated and are presented below:

Test Boring No.	Approximate Test Depth (ft)	Approximate Test Elevation	Field Infiltration Rate (inches/hour)
B-1A	2	212	1.25
B-2A	2	214	1.63
B-3A	2	216	1.88
B-4A	2	212	1.88
B-5A	2	214	2.00
B-6A	2	216	1.63

Classification Test Results

The classification test method is performed with grain-size sieve analyses including hydrometer testing on samples obtained from corresponding proposed infiltration depths, to determine the USDA soil texture classifications. Published correlations between USDA classifications and infiltration rates were used to provide estimated hydraulic conductivity values. Since hydraulic conductivity and infiltration values are essentially equal at no head conditions, using the hydraulic conductivity values to estimate the infiltration rates provides a conservative estimate of infiltration for use in design. Estimated infiltration rates using the USDA soil texture classifications are presented below.

Test Boring No.	Approximate Test Depth (ft)	USDA Soil Texture Classification	Estimated Infiltration Rate (inches/hr)
B-1	2	Clay Loam	0.09
B-2	2	Clay	0.02
B-3	2	Clay Loam	0.09
B-4	2	Sandy Clay Loam	0.17
B-5	2	Clay Loam	0.09
B-6	2	Loam	0.52

Recommended Design Infiltration Rate

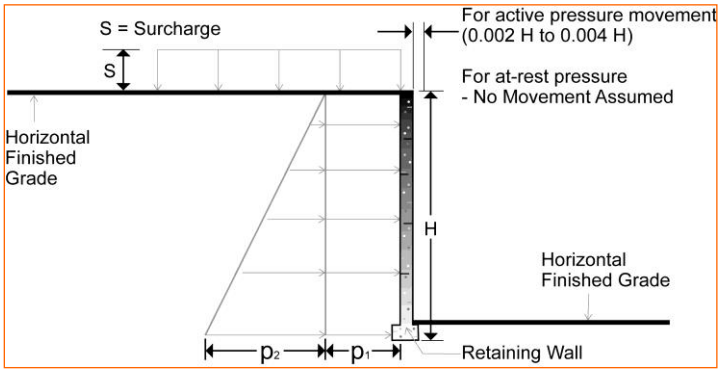
As can be seen from the data, there is noticeable variability in the range of field infiltration test results and estimated infiltration rates from lab testing. Based on observations made in the field and the USDA soil texture classifications, it is our opinion that a design infiltration rate of 0.25 inch/hr can be used at the proposed stormwater facility location.

It should be noted that the recommended design infiltration rate presented herein is intended for use in design. However, during construction, observations of the subgrade conditions should be made to confirm that the subgrade soils are consistent with the soils analyzed in this report.

LATERAL EARTH PRESSURES

Design Parameters

Structures with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to values indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown in the diagram below. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The “at-rest” condition assumes no wall movement and is commonly used for basement walls, loading dock walls, or other walls restrained at the top. The recommended design lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls (unless stated).

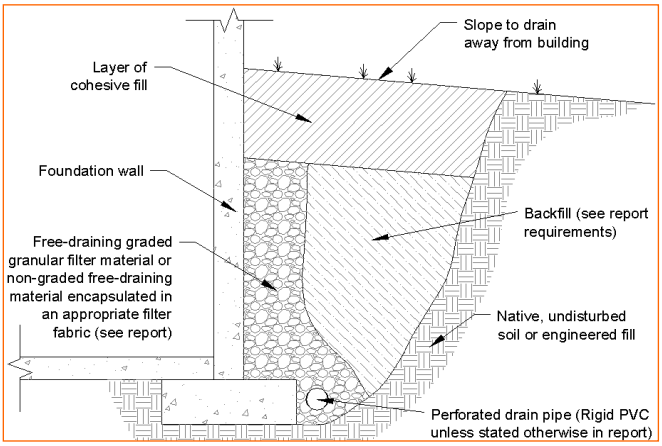


Lateral Earth Pressure Design Parameters		
Earth Pressure Condition	**Coefficient for Backfill Type**	**Effective Fluid Pressures (psf)**
Active (Ka)	0.33	40
At-Rest (Ko)	0.50	60
Passive (Kp)	3.00	360

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out and up from the base of the wall at an angle of at least 45 and 60 degrees from vertical for the active and passive cases, respectively.

Subsurface Drainage for Below-Grade Walls

A perforated rigid plastic drain line installed behind the base of walls and extends below adjacent grade is recommended to prevent hydrostatic loading on the walls. The invert of a drain line around a below-grade building area or exterior retaining wall should be placed near foundation bearing level. The drain line should be sloped to provide positive gravity drainage to daylight or to a sump pit and pump. The drain line should be surrounded by clean, free-draining granular material having less than 5% passing the No. 200 sieve, such as No. 57 aggregate. The free-draining aggregate should be encapsulated in a filter fabric. The granular fill should extend to within 2 feet of final grade, where it should be capped with compacted cohesive fill to reduce infiltration of surface water into the drain system.



As an alternative to free-draining granular fill, a pre-fabricated drainage structure may be used. A pre-fabricated drainage structure is a plastic drainage core or mesh which is covered with filter fabric to prevent soil intrusion, and is fastened to the wall prior to placing backfill.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

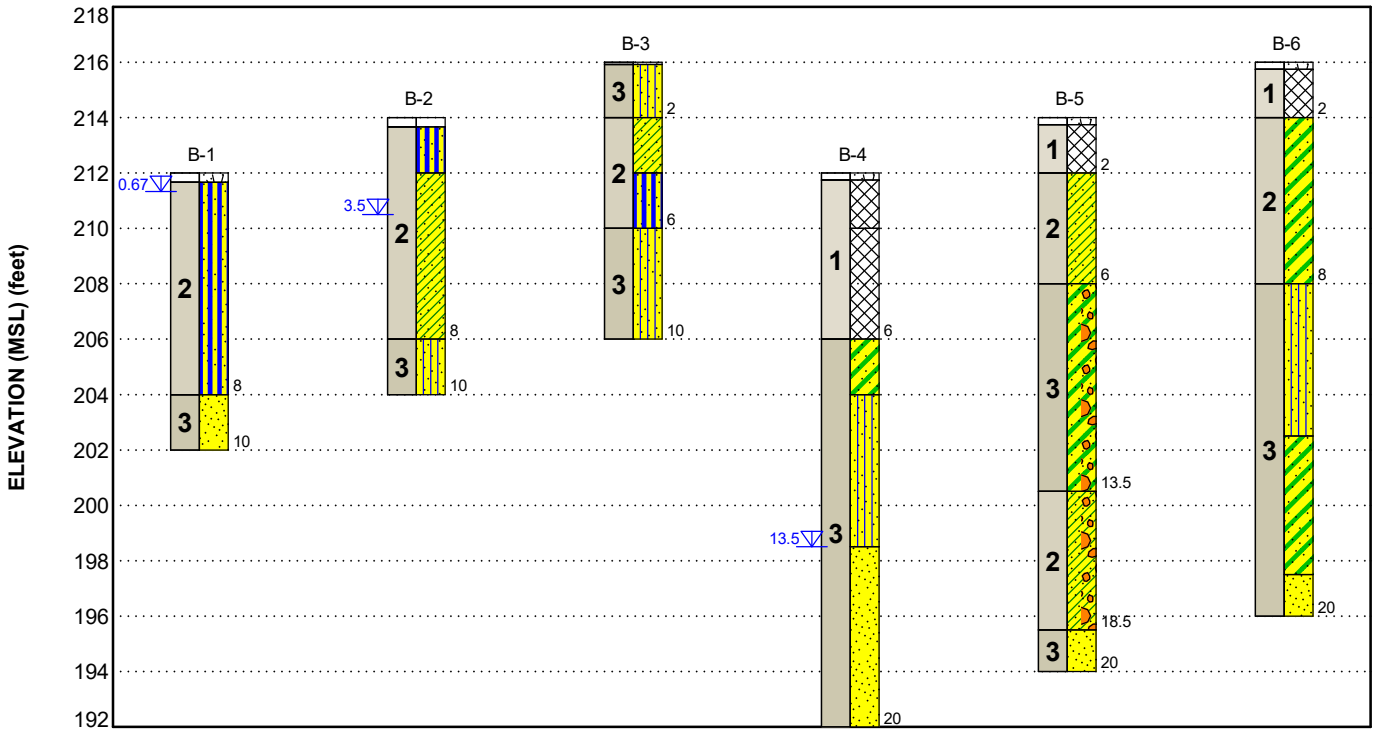
Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

FIGURES

Contents:

GEOMODEL

Thomas Jefferson Park ■ Arlington, VA
Terracon Project No. JD195328



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**Fill**	Loose, fine to coarse grained, SANDY SILTY CLAY (CL-ML), SILTY SAND WITH GRAVEL (SM), brown, moist
2	**Potomac Formation - Fine Grained**	Medium stiff to stiff, fine grained, SANDY SILT (ML), SANDY LEAN CLAY (CL), gray, orange, brown, moist
3	**Potomac Formation - Coarse Grained**	Loose to dense, fine to medium grained, CLAYEY SAND (SC), SILTY SAND (SM), POORLY GRADED SAND (SP), gray, orange, brown, moist

LEGEND

- Topsoil
- Sandy Silt
- Poorly-graded Sand
- Sandy Lean Clay
- Silty Sand
- Fill
- Clayey Sand
- Clayey Sand with Gravel
- Sandy Lean Clay with Gravel

Second Water Observation

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Borings	Boring Depth (feet)	Planned Location
6	10 to 20 or auger refusal	Synthetic field/retaining wall/shade structure areas

Boring Layout and Elevations: Unless otherwise noted, Terracon personnel provided the boring layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ±10 feet) and approximate elevations were obtained by interpolation from the publicly available topographic maps. If elevations and a more precise boring layout are desired, we recommend borings be surveyed following completion of fieldwork.

Subsurface Exploration Procedures: We advanced the borings with a track-mounted, drill rig using continuous flight augers. Five samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Infiltration Procedures: An offset boring was performed in the area of the proposed SWM facility. Test borings were advanced to 2-feet below the surface to perform a falling head infiltration test to determine the feasibility of stormwater management through infiltration.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil strata, as necessary, for this project. Procedural

standards noted below are for reference to methodology in general. In some cases, variations to methods were applied because of local practice or professional judgment. Standards noted below include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture)
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
- Textural Analysis

The laboratory testing program often included examination of soil samples by an engineer. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

SITE LOCATION AND EXPLORATION PLANS

Contents:

SITE LOCATION

Thomas Jefferson Park ■ Arlington, Virginia
January 22, 2020 ■ Terracon Project No. JD195328

Terracon GeoReport

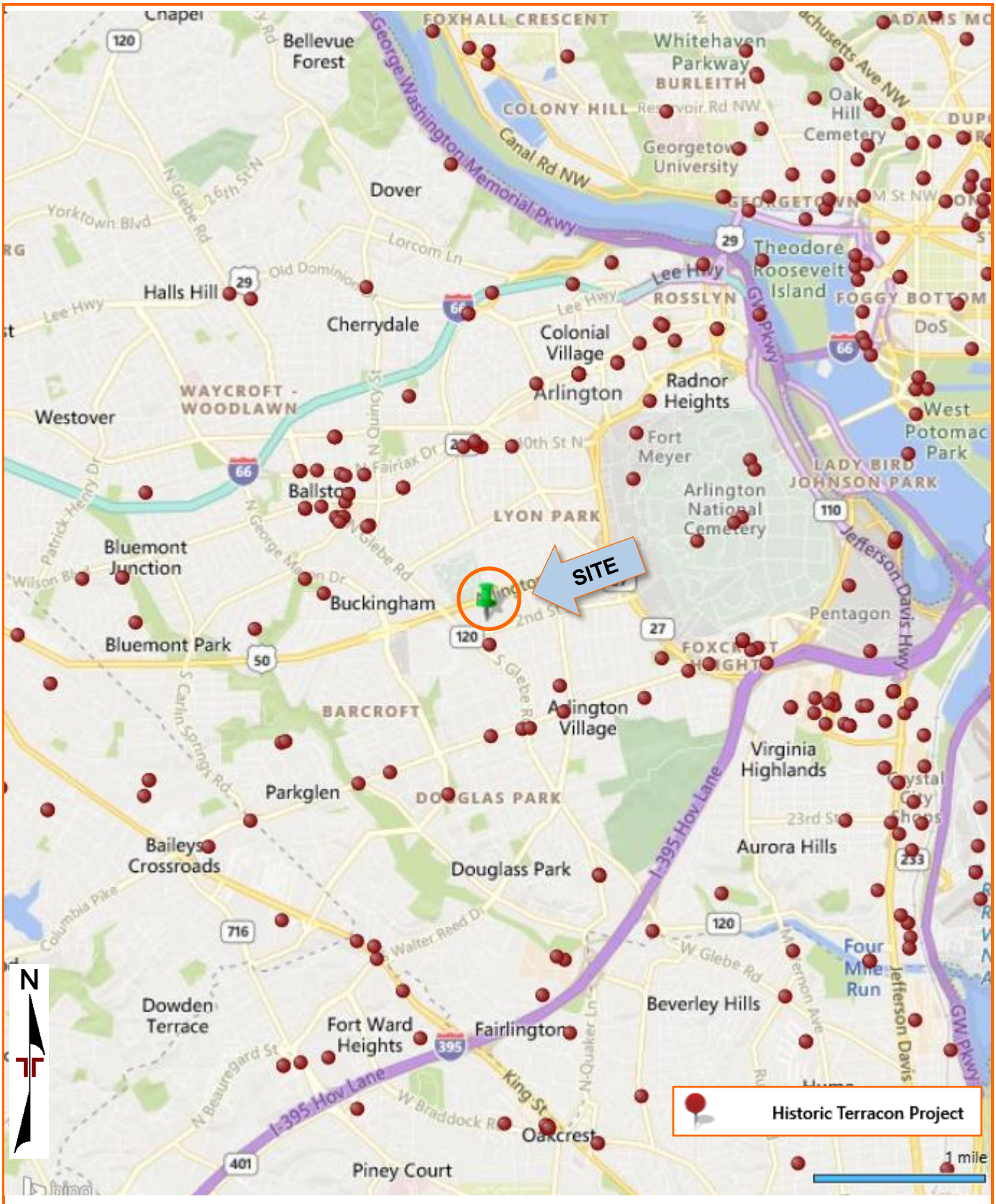


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

Thomas Jefferson Park ■ Arlington, Virginia

January 22, 2020 ■ Terracon Project No. JD195328

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

BORING LOG NO. B-1

PROJECT: Thomas Jefferson Park

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

SITE: 3501 2nd St
Arlington, VA

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Approximate Surface Elev.: 212 (Ft.) +/- DEPTH / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (")	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
		0.3 4-inches TOPSOIL 211.5+/-							
2		**POTOMAC FORMATION - SANDY SILT (ML)**, fine, light gray, moist, stiff				16	3-4-5-5 N=9		
		light gray and orange				24	5-6-7-6 N=13		
			5			24	4-5-6-8 N=11		
		orange, very stiff				18	7-9-10-12 N=19		
		8.0 204+/-							
3		**POTOMAC FORMATION - POORLY GRADED SAND (SP)**, fine to medium grained, orange, loose				24	7-5-5-7 N=10		
		10.0 202+/-	10						
		Boring Terminated at 10 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2-1/4-in. H.S.A.

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered at time of drilling

After 24 hours: 0.67-ft

Cave-in depth: 8.5-ft

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

Boring Started: 01-03-2019 | Boring Completed: 01-03-2019

Drill Rig: D-50 track | Driller: Terracon

Project No.: JD195328

BORING LOG NO. B-2

PROJECT: Thomas Jefferson Park

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

SITE: 3501 2nd St
Arlington, VA

LOCATION See Exploration Plan

Approximate Surface Elev.: 214 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (%)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
		0.3	213.5+/-							
			4-inches TOPSOIL							
2			**POTOMAC FORMATION - SANDY SILT (ML)**, fine grained, light gray, moist, medium stiff				20	2-3-3-4 N=6		
		2.0	212+/-							
			POTOMAC FORMATION - SANDY LEAN CLAY (CL), fine grained, light gray, moist, stiff		▽		24	7-5-6-8 N=11		
				5			24	5-5-6-5 N=11		
							20	4-5-7-8 N=12		
		8.0	206+/-							
3			**POTOMAC FORMATION - SILTY SAND (SM)**, fine to medium grained, orange and light gray, moist, medium dense		▨		24	7-8-9-12 N=17		
		10.0	204+/-	10						
			Boring Terminated at 10 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2-1/4-in. H.S.A.

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered at time of drilling

▽ *After 24 hours: 3.5-ft*

▨ *Cave-in depth: 9.5-ft*

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

Boring Started: 01-03-2019 | Boring Completed: 01-03-2019

Drill Rig: D-50 track | Driller: Terracon

Project No.: JD195328

BORING LOG NO. B-3

PROJECT: Thomas Jefferson Park

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

SITE: 3501 2nd St
Arlington, VA

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Approximate Surface Elev.: 216 (Ft.) +/- DEPTH / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
3		0.1 1-inch TOPSOIL 216+/- **POTOMAC FORMATION - SILTY SAND (SM)**, fine grained, brown, moist, medium dense 2.0 214+/-				18	4-5-6-8 N=11		
2		**POTOMAC FORMATION - SANDY LEAN CLAY (CL)**, fine grained, orange, moist, stiff 4.0 212+/-				24	5-5-8-9 N=13		
2		**POTOMAC FORMATION - SANDY SILT (ML)**, fine grained, orange, moist, stiff 6.0 210+/-	5			16	4-5-6-6 N=11		
3		**POTOMAC FORMATION - SILTY SAND (SM)**, fine to medium grained, orange, moist, medium dense				20	7-7-8-9 N=15		
		10.0 206+/-				24	8-7-7-9 N=14		
		Boring Terminated at 10 Feet	10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2-1/4-in. H.S.A.

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered at time of drilling
Groundwater not encountered after 24 hours

Cave-in depth: 9-ft

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

Boring Started: 01-03-2019 | Boring Completed: 01-03-2019
Drill Rig: D-50 track | Driller: Terracon
Project No.: JD195328

BORING LOG NO. B-4

PROJECT: Thomas Jefferson Park

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

SITE: 3501 2nd St
Arlington, VA

LOCATION See Exploration Plan

Approximate Surface Elev.: 212 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (%)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
		0.3	212+/-							
			3-inches TOPSOIL							
			FILL - SANDY SILTY CLAY (CL-ML), fine to medium grained, brown, moist, loose				22	3-3-4-5 N=7	15	22-15-7
		2.0	210+/-							
1			**FILL - SILTY SAND WITH GRAVEL (SM)**, fine to coarse grained, brown, moist, loose				24	4-5-5-5 N=10		
			medium dense	5			23	4-5-7-7 N=12		
		6.0	206+/-							
			POTOMAC FORMATION - CLAYEY SAND (SC), fine to medium grained, gray, moist, medium dense				24	5-7-7-7 N=14		
		8.0	204+/-							
3			**POTOMAC FORMATION - SILTY SAND (SM)**, fine grained, brown, moist, loose	10			24	3-3-4-6 N=7	15	17-15-2
		13.5	198.5+/-							
			POTOMAC FORMATION - POORLY GRADED SAND (SP), fine grained, orange, moist, loose	15			12	4-3-3 N=6		
		20.0	192+/-				10	4-4-3 N=7		
			Boring Terminated at 20 Feet	20						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2-1/4-in. H.S.A.

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered at time of drilling

After 24 hours: 13.5-ft

Cave-in depth: 18-ft

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

Boring Started: 01-03-2019 | Boring Completed: 01-03-2019

Drill Rig: D-50 track | Driller: Terracon

Project No.: JD195328

BORING LOG NO. B-5

PROJECT: Thomas Jefferson Park

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

SITE: 3501 2nd St
Arlington, VA

LOCATION See Exploration Plan

Approximate Surface Elev.: 214 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
		0.3	214+/-							
1			3-inches TOPSOIL **FILL - SILTY SAND (SM)**, micaceous, fine grained, brown, moist, medium dense				20	3-5-7-7 N=12		
		2.0	212+/-							
2			**POTOMAC FORMATION - SANDY LEAN CLAY (CL)**, fine grained, light brown, moist, stiff				24	4-4-5-7 N=9		
			gray, medium stiff	5			18	3-4-4-3 N=8		
		6.0	208+/-							
3			**POTOMAC FORMATION - CLAYEY SAND WITH GRAVEL (SC)**, medium to coarse grained, orange, moist, loose				22	3-4-5-7 N=9		
			medium dense				12	6-5-7-6 N=12		
				10						
		13.5	200.5+/-							
2			**POTOMAC FORMATION - SANDY LEAN CLAY WITH GRAVEL (CL)**, fine to medium grained, brown, moist, medium stiff				6	5-4-4 N=8		
				15						
		18.5	195.5+/-							
3			**POTOMAC FORMATION - POORLY GRADED SAND (SP)**, medium grained, orange, moist, stiff, contains quartz fragments				16	7-5-5 N=10		
		20.0	194+/-	20						
			Boring Terminated at 20 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2-1/4-in. H.S.A.

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered at time of drilling
Groundwater not encountered after 24 hours

Cave-in depth: 18-ft

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

Boring Started: 01-03-2019 | Boring Completed: 01-03-2019

Drill Rig: D-50 track | Driller: Terracon

Project No.: JD195328

BORING LOG NO. B-6

PROJECT: Thomas Jefferson Park

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

SITE: 3501 2nd St
Arlington, VA

LOCATION See Exploration Plan

Approximate Surface Elev.: 216 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY ()	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
1		0.3	216+/-							
			3-inches TOPSOIL							
			FILL - SILTY SAND (SM), fine grained, brown, moist, loose				20	2-3-3-4 N=6		
		2.0	214+/-							
2			**POTOMAC FORMATION - SANDY LEAN CLAY (CL)**, fine grained, gray, moist, very stiff				24	6-7-15-6 N=22		
			medium stiff	5			24	4-4-4-4 N=8		
			fine to medium grained, brown				15	3-3-4-13 N=7		
		8.0	208+/-							
3			**POTOMAC FORMATION - SILTY SAND (SM)**, fine grained, brown, moist, medium dense	10			8	2-3-8-9 N=11		
		13.5	202.5+/-							
			POTOMAC FORMATION - CLAYEY SAND (SC), medium to coarse grained, orange, moist, medium dense	15			18	5-6-6 N=12		
		18.5	197.5+/-							
			POTOMAC FORMATION - POORLY GRADED SAND (SP), medium grained, orange, moist, medium dense				18	6-7-4 N=11		
		20.0	196+/-	20						
			Boring Terminated at 20 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2-1/4-in. H.S.A.

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered at time of drilling
Groundwater not encountered after 24 hours

Cave-in depth: 18-ft

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

Boring Started: 01-03-2019 | Boring Completed: 01-03-2019

Drill Rig: D-50 track | Driller: Terracon

Project No.: JD195328

SUMMARY OF LABORATORY RESULTS

BORING ID	Depth (Ft.)	Soil Classification USCS	Water Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Gravel	% Sand	% Fines
B-4	0 - 2	SANDY SILTY CLAY(CL-ML)	15	22	15	7	1.4	41.5	57.1
B-4	8 - 10	SILTY SAND(SM)	15	17	15	2	0.0	56.1	43.9

PROJECT: Thomas Jefferson Park

SITE: 3501 2nd St
Arlington, VA

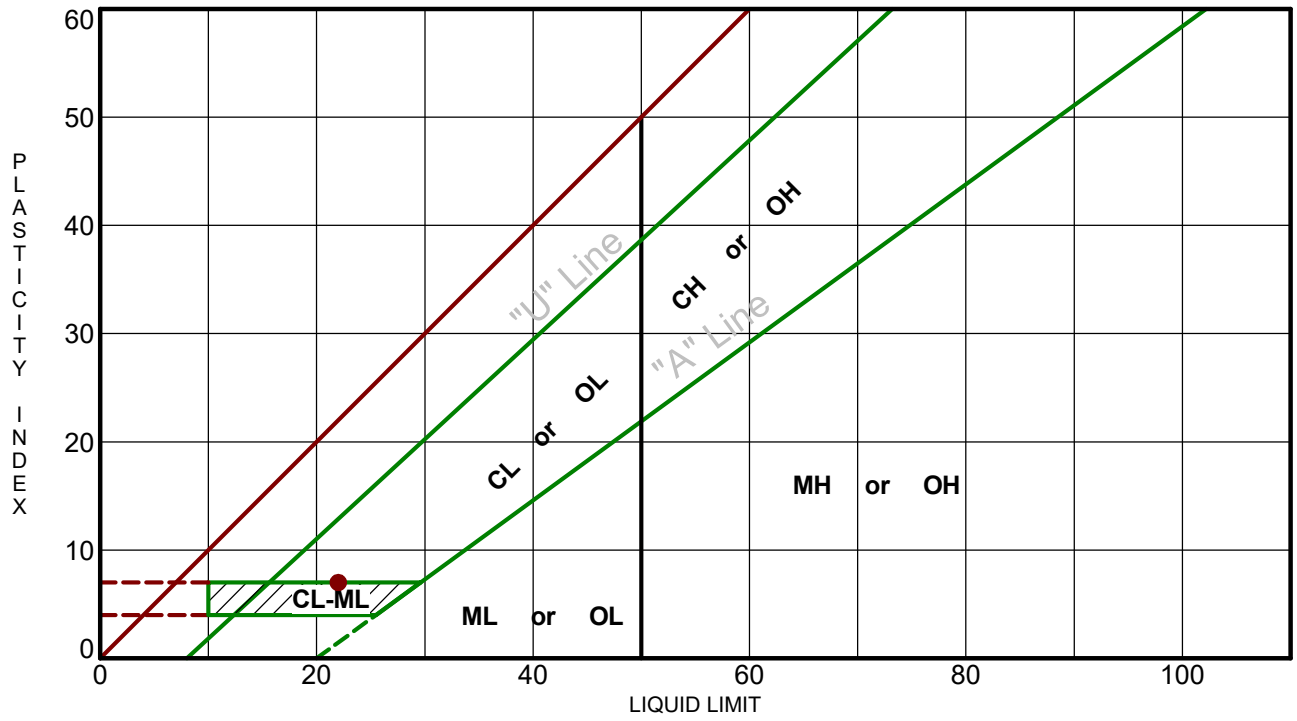
Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA
PH. 703-726-8030 FAX.

PROJECT NUMBER: JD195328

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

ATTERBERG LIMITS RESULTS

ASTM D4318



Boring ID	Depth	LL	PL	PI	Fines	USCS	Description
● B-4	0 - 2	22	15	7	57.1	CL-ML	SANDY SILTY CLAY

PROJECT: Thomas Jefferson Park

SITE: 3501 2nd St
Arlington, VA

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

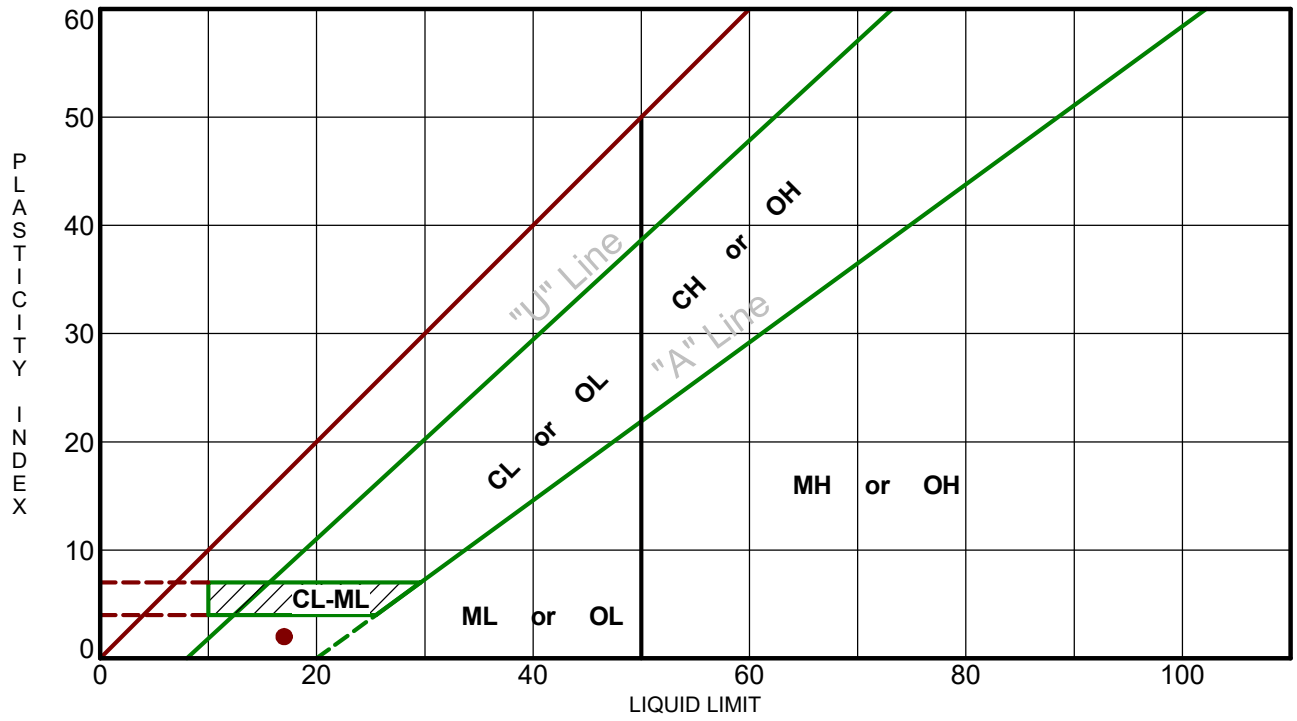
PROJECT NUMBER: JD195328

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ATTERBERG LIMITS JD195328 THOMAS JEFFERSON .GPJ TERRACON_DATATEMPLATE.GDT 1/13/20

ATTERBERG LIMITS RESULTS

ASTM D4318



Boring ID	Depth	LL	PL	PI	Fines	USCS	Description
● B-4	8 - 10	17	15	2	43.9	SM	SILTY SAND

PROJECT: Thomas Jefferson Park

SITE: 3501 2nd St
Arlington, VA

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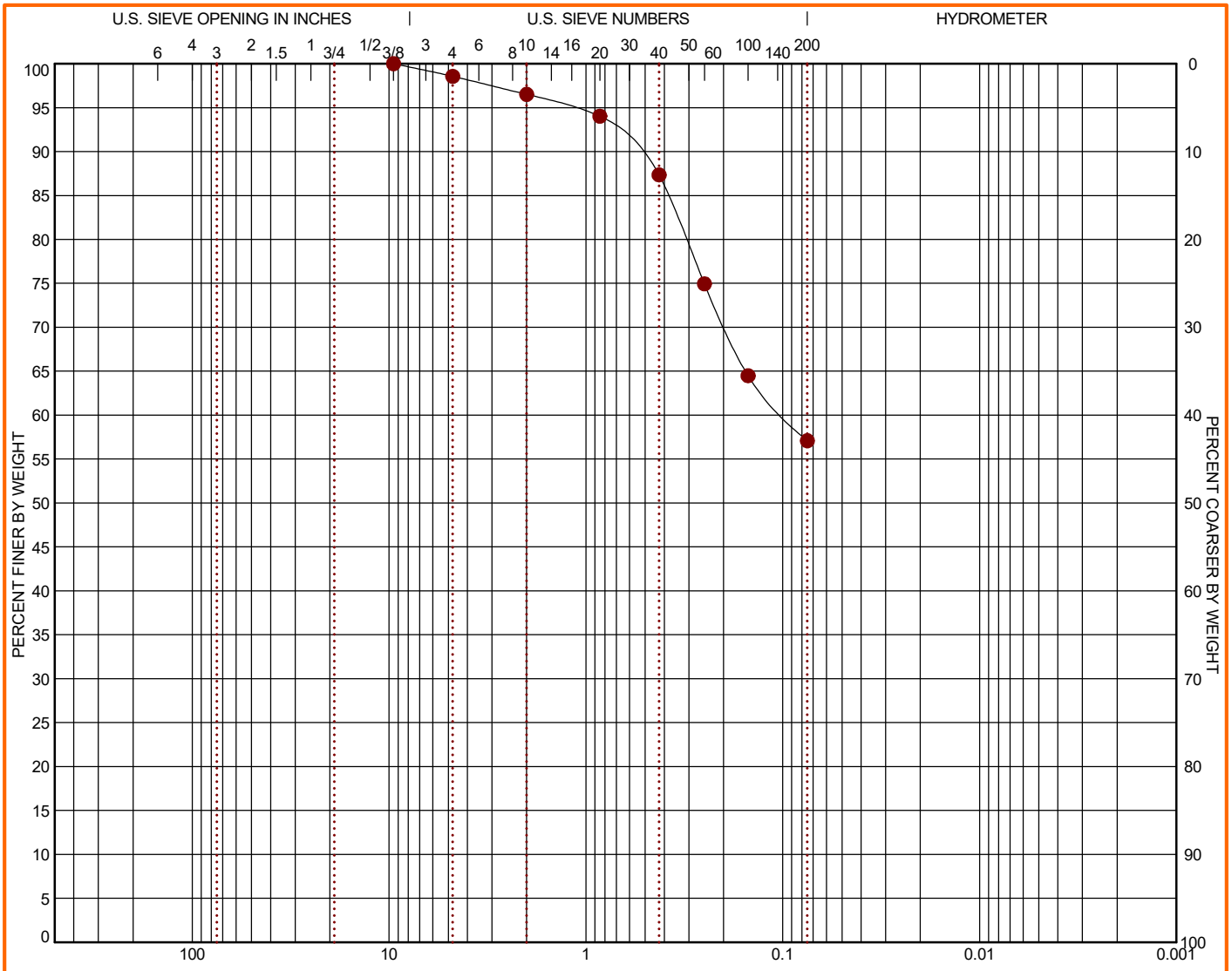
19955 Highland Vista Dr Ste 170
Ashburn, VA

PROJECT NUMBER: JD195328

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	B-4	0 - 2	0.0	1.4	41.5		57.1		CL-ML

GRAIN SIZE			
	●		
D_{60}	0.099		
D_{30}			
D_{10}			

COEFFICIENTS			
	●		
C_C			
C_U			

● Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
3/8"	100.0				
#4	98.56				
#10	96.51				
#20	94.02				
#40	87.34				
#60	74.95				
#100	64.48				
#200	57.08				

SOIL DESCRIPTION
● SANDY SILTY CLAY (CL-ML)

REMARKS
●

PROJECT: Thomas Jefferson Park

SITE: 3501 2nd St
Arlington, VA

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

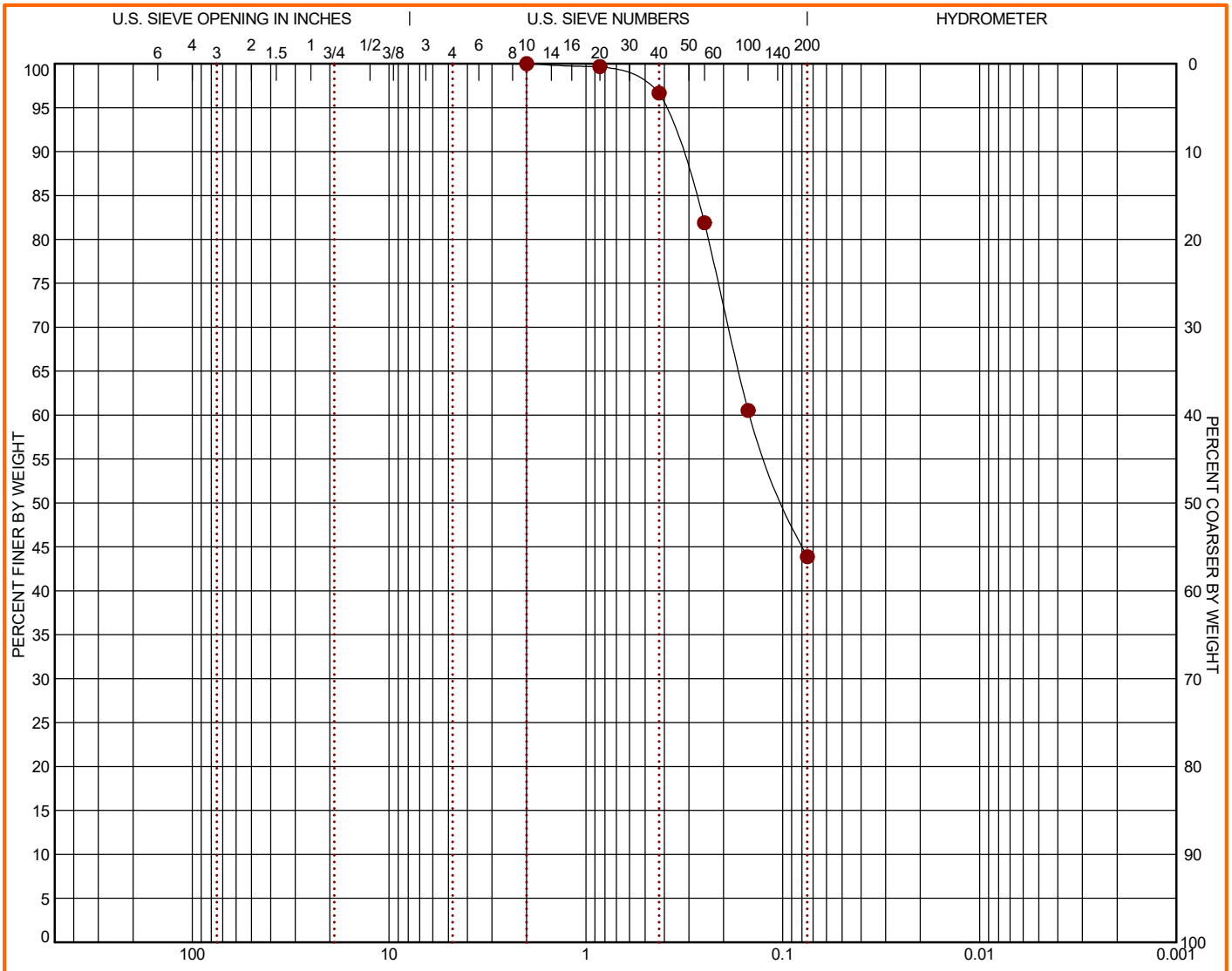
PROJECT NUMBER: JD195328

CLIENT: A Morton Thomas & Assoc Inc
Chantilly, VA

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS 1 JD195328 THOMAS JEFFERSON .GPJ TERRACON_DATATEMPLATE.GDT 1/13/20

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BORING ID	DEPTH	% COBBLES	% GRAVEL	% SAND	% SILT	% FINES	% CLAY	USCS
●	B-4	8 - 10	0.0	0.0	56.1		43.9		SM

GRAIN SIZE			
	●		
D_{60}	0.147		
D_{30}			
D_{10}			

COEFFICIENTS			
	●		
C_C			
C_U			

● Sieve	% Finer	Sieve	% Finer	Sieve	% Finer
#10	100.0				
#20	99.67				
#40	96.66				
#60	81.89				
#100	60.53				
#200	43.89				

SOIL DESCRIPTION
● SILTY SAND (SM)

REMARKS
●

PROJECT: Thomas Jefferson Park

SITE: 3501 2nd St
Arlington, VA

Terracon
19955 Highland Vista Dr Ste 170
Ashburn, VA

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LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS 1 JD195328 THOMAS JEFFERSON .GPJ TERRACON_DATATEMPLATE.GDT 1/13/20

Waypoint ANALYTICAL
7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 º Fax 804-271-6446
www.waypointanalytical.com

TEXTURE ANALYSIS

Client :
Geoconcepts Engineering
Suite 170
19955 Highland Vista Drive
Ashburn , VA 20147

Grower :
Thomas Jefferson Park
JD195328

Farm :

Report No : 20-009-0595
Cust No : 74328
Date Printed : 01/10/2020
Page : 1 of 1

Date Received : 01/09/2020

Lab No	Field ID	Sample Identification	Percent Sand	Percent Silt	Percent Clay	Textural Classification
15921		B-1 2-4	31.8	39.5	28.6	Clay Loam
15922		B-2 2-4	21.8	37.5	40.6	Clay
15923		B-3 2-4	29.8	37.5	32.6	Clay Loam
15924		B-4 2-4	51.8	25.5	22.6	Sandy Clay Loam
15925		B-5 2-4	43.8	27.5	28.6	Clay Loam
15927		B-6 2-4	39.8	33.5	26.6	Loam

Analysis prepared by: Waypoint Analytical Virginia, Inc.

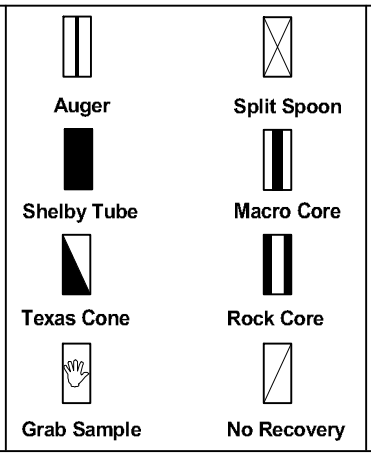
SUPPORTING INFORMATION

Contents:

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING



WATER LEVEL

Water Initially Encountered

Water Level After a Specified Period of Time

Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer
(TCP)	Texas Cone Penetrometer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, tsf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	0.50 to 1.00	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42
			Hard	> 4.00	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

Terracon

UNIFIED SOIL CLASSIFICATION SYSTEM

Terracon GeoReport

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu ≥ 4 and 1 ≤ Cc ≤ 3 [E]		GW	Well-graded gravel [F]
			Cu < 4 and/or [Cc<1 or Cc>3.0] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu ≥ 6 and 1 ≤ Cc ≤ 3 [E]		SW	Well-graded sand [I]
			Cu < 6 and/or [Cc<1 or Cc>3.0] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A"		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

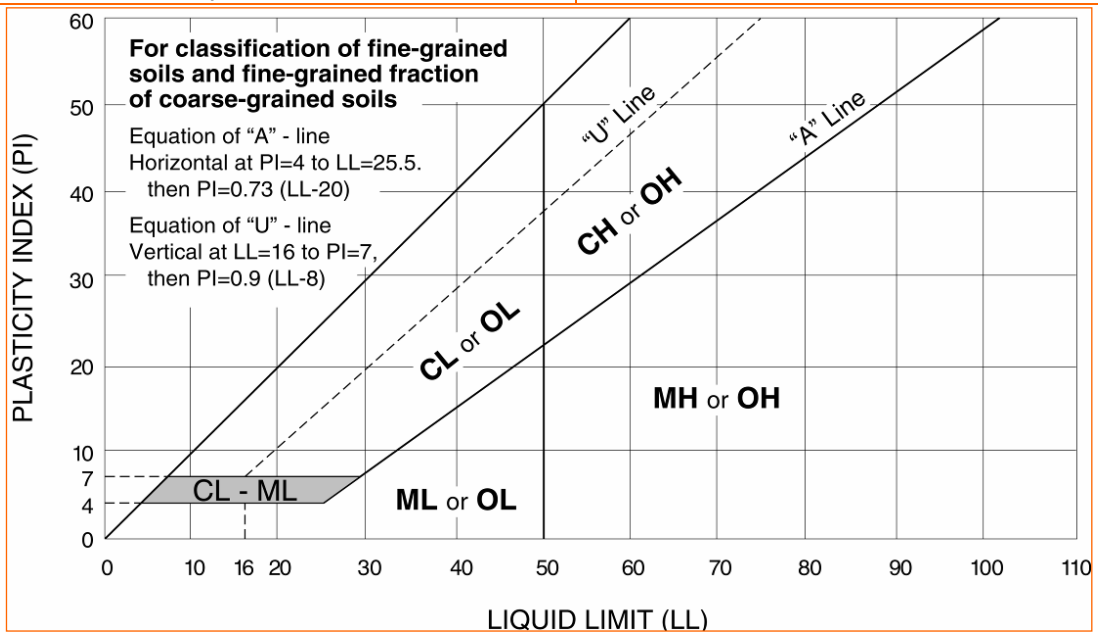
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



ARLINGTON
VIRGINIA

DEPARTMENT OF PARKS AND RECREATION

PARK DEVELOPMENT DIVISION

2100 CLARENDON BOULEVARD, SUITE 414,
ARLINGTON, VA 22201
PHONE: 703.228.3332
FAX: 703.228.3328
WWW.ARLINGTONVA.US

Construction Drawings For:

Thomas Jefferson Park Upper Field Conversion

(By Right)

3501 2nd Street South,
Arlington, VA 22204

Sheet List Table

Sheet Number	Sheet Title	Sheet Number
01	C-01	COVER SHEET
02	C-02	SIGNED TOPOGRAPHIC SURVEY
03	C-03	EXISTING CONDITIONS PLAN
04	C-04	DEMOLITION PLAN
04B	C-04B	CONSTRUCTION ACCESS & HAUL ROUTE PLAN
05	LF-01	TREE PRESERVATION DETAILS
06	C-05	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
07	C-06	EROSION AND SEDIMENT CONTROL PLAN - PHASE II
08	C-07	EROSION AND SEDIMENT CONTROL NOTES
09	C-08	EROSION AND SEDIMENT CONTROL DETAILS
10	C-09	SITE & MATERIALS PLAN
11A	C-10	GRADING PLAN
11B	C-10B	SUBGRADE GRADING PLAN
12	C-11	UTILITY PLAN
13	C-12	ADA ACCESS PLAN
14	C-13A	LAYOUT PLAN
15	C-13B	FIELD STRIPING LAYOUT PLAN
16	C-14	UTILITY DETAILS
17	C-15	STORM PROFILES AND COMPUTATIONS
18	C-15A	STORM PROFILES AND COMPUTATIONS
19	C-15B	STORM PROFILES AND COMPUTATIONS
20	C-16	PRE- DEVELOPMENT WATER QUALITY MAP
21	C-17	POST- DEVELOPMENT WATER QUALITY MAP
22	C-18	STORMWATER MANAGEMENT PLAN
23	C-19	STORMWATER MANAGEMENT NARRATIVE & CALCULATIONS
24	C-20	STORMWATER MANAGEMENT DETAILS
25	C-21	STORMWATER MANAGEMENT DETAILS
26	C-22	SOIL BORING LOGS
27	C-23	SOIL BORING LOGS
28	C-24	SOIL BORING LOGS
29	C-25	POLLUTION PREVENTION PLAN
30	L-01	SITE DETAILS - FLATWORK
31	L-02	SITE DETAILS - FLATWORK
32	L-03	SITE DETAILS - WALLS
33	L-03B	SITE DETAILS - WALLS
34	L-04	SITE DETAILS - WALLS
35	L-05	SITE DETAILS - FURNSHINGS
36	L-06	SITE DETAILS - ATHLETICS
37	L-07	SITE DETAILS - ATHLETICS
38	A-01	SHADE STRUCTURE DETAILS
39	A-02	SHADE STRUCTURE DETAILS
40	A-03	SHADE STRUCTURE DETAILS
41	LP-01	LANDSCAPE PLAN
42	LP-02	LANDSCAPE DETAILS AND NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF WITH THE CONDITIONS OF THE SITE. THE CONTRACTOR SHALL THOROUGHLY EXAMINE AND BE FAMILIAR WITH THE DRAWINGS AND SPECIFICATIONS. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES, OR CONFLICTS IN OR AMONG THE CONTRACT DOCUMENTS OR BE IN DOUBT AS TO THEIR MEANING, HE SHALL BRING THESE ITEMS TO THE ATTENTION OF THE PROJECT OFFICER FOR DIRECTION BEFORE PROCEEDING WITH WORK.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND BE RESPONSIBLE FOR ADHERENCE TO ALL ORDINANCES, REGULATIONS, LAWS AND CODES HAVING JURISDICTION OVER THE PROPERTY.
3. THE CONTRACTOR SHALL SUBMIT A REQUIRED "RESPONSIBLE LAND DISTURBER" CERTIFICATION LETTER AS PART OF OBTAINING A BUILDING (OR DISTURBANCE) PERMIT.
4. THE CONTRACTOR IS RESPONSIBLE FOR LICENSING AS REQUIRED BY APPLICABLE REGULATORY AGENCIES.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL SALES, USE AND CAPITAL GAINS TAXES.
6. UTILITY LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE LOCATIONS DETERMINED FROM VISIBLE EVIDENCE AND AVAILABLE RECORDS. ADDITIONAL UNDERGROUND UTILITY LINES MAY BE PRESENT THAT ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PRESERVE EXISTING UTILITIES.
7. CONTRACTOR SHALL NOT SUBSTITUTE PRODUCTS OR MATERIALS WITHOUT PRIOR APPROVAL BY THE PROJECT OFFICER.
8. THE CONTRACTOR SHALL IDENTIFY ALL STAGING AREAS AND LIMITS OF WORK FOR APPROVAL BY THE PROJECT OFFICER PRIOR TO THE START OF WORK. AREAS OUTSIDE LIMITS OF WORK SHALL NOT BE USED FOR STORAGE OR MOVEMENT OF MATERIALS, MACHINERY OR DEBRIS.
9. THE CONTRACTOR SHALL OBTAIN THE PROJECT OFFICER'S APPROVAL FOR TIMES OF DAY DURING WHICH CONSTRUCTION OPERATIONS MAY OCCUR. ALL CONSTRUCTION OPERATIONS SHALL OCCUR WITHIN TIMES SPECIFIED BY LOCAL ORDINANCES.
10. CONSTRUCTION ACTIVITIES FOR THIS PROJECT OCCUR ENTIRELY ON PARK PROPERTY, THEREFORE, A MAINTENANCE OF TRAFFIC (MOT) PLAN IS NOT EXPECTED TO BE REQUIRED. HOWEVER, IF THE ARLINGTON DEPARTMENT OF ENVIRONMENTAL SERVICES (DES) DETERMINES THAT AN MOT PLAN IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE PLAN TO DES FOR THEIR REVIEW AND APPROVAL.
11. THE CONTRACTOR SHALL BE ON SITE AT TIME OF ALL MATERIALS DELIVERIES.
12. THE CONTRACTOR SHALL KEEP THE SITE CLEAN AND FREE OF TRASH AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A TRASH RECEPTACLE TO BE USED ON SITE DURING CONSTRUCTION AND SHALL REMOVE TRASH FROM THE SITE ON A DAILY BASIS.
13. THE CONTRACTOR SHALL KEEP VEHICULAR ACCESS AREAS CLEAN DURING CONSTRUCTION. VEHICULAR AND OTHER PAVED AREAS SHALL BE WASHED FREE OF MUD ON A WEEKLY BASIS DURING CONSTRUCTION.
14. THE CONTRACTOR SHALL SECURE THE CONSTRUCTION AREA WITH FENCING AT END OF WORKDAY AND WHEN CONTRACTOR IS NOT ON SITE.
15. THE CONTRACTOR SHALL DISTRIBUTE ALL PROJECT MATERIALS AND EQUIPMENT AND DISTRIBUTE ANY STOCKPILES IN SUCH A MANNER AS TO PROTECT EXISTING CONDITIONS, SUCH AS UTILITIES, PAVING, VEGETATION, ETC. THE CONTRACTOR SHALL NOT STOCKPILE SOIL OR CONSTRUCTION MATERIALS, OR DRIVE VEHICLES WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES TO REMAIN. THE CONTRACTOR SHALL OBTAIN THE PROJECT OFFICER'S APPROVAL FOR ALL CONSTRUCTION ACCESS AREAS, STAGING AND STOCKPILE AREAS PRIOR TO CONSTRUCTION.
16. THE CONTRACTOR SHALL NOT BLOCK STREETS, PARKING AREAS, HOUSE OR DRIVEWAY ENTRANCES DURING CONSTRUCTION WITHOUT THE PROJECT OFFICER'S PERMISSION AND APPROVAL OF ANY RIGHT-OF-WAY PERMITS IF REQUIRED.
17. THE CONTRACTOR SHALL STAKE THE ALIGNMENT OF ALL PAVEMENT, WALLS, CURBING, SAFETY SURFACING AND SITE FEATURES IN THE FIELD FOR APPROVAL BY THE PROJECT OFFICER PRIOR TO CONSTRUCTION.
18. THE CONTRACTOR SHALL PROMPTLY REPAIR ALL DAMAGE TO EXISTING PAVEMENT, DRIVEWAYS, AND ADJACENT FACILITIES CAUSED BY CONSTRUCTION OPERATIONS. COST OF REPAIRS SHALL BE AT CONTRACTOR'S EXPENSE.
19. CONTRACTOR SHALL REMOVE ALL EXCESS SOIL, TEMPORARY FENCING, EROSION CONTROL MEASURES, STABILIZATION MATERIALS, AND OTHER DEBRIS AND SHALL DISPOSE OF LEGALLY UPON COMPLETION OF THE PROJECT. CONTRACTOR SHALL THOROUGHLY WASH AND CLEAN ALL PAVED AREAS, WALLS, SITE FURNISHINGS AND FEATURES, ETC. UPON COMPLETION OF THE PROJECT.
20. REFER TO INDIVIDUAL DRAWINGS FOR ADDITIONAL NOTES.

ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WATER-SEWER CONSTRUCTION REQUIREMENTS (REVISED MARCH 2005)

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES CONSTRUCTION STANDARDS & SPECIFICATIONS (LATEST EDITION) AND SHALL BE APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES. UPON PHYSICAL INSPECTION, THE COUNTY RESERVES THE RIGHT TO REJECT THE USE OF ANY MATERIAL FOUND TO BE DEFECTIVE OR NOT CONFORMING TO THE STANDARDS AND SPECIFICATIONS.
2. BEFORE START OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH THE FOLLOWING INFORMATION AND/OR EVIDENCE OF COMPLIANCE WITH ALL APPLICABLE REGULATIONS AND LAWS, TO THE ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES:

A. THE NAME AND ADDRESS OF THE CONTRACTOR HIRED TO WORK ON THE PROJECT. THE CONTRACTOR SHALL BE REGISTERED IN THE COMMONWEALTH OF VIRGINIA. SATISFACTORY EVIDENCE SHALL BE FURNISHED OF THE CONTRACTOR'S PRIOR EXPERIENCE AS PRIME CONTRACTOR IN THE CONSTRUCTION OF WATER MAINS AND/OR SANITARY SEWER INSTALLATIONS. FURTHER, THE CONTRACTOR SHALL FURNISH A LETTER WITH A LIST OF MATERIALS AND SUPPLIERS FOR PROPOSED PROJECT.

B. A RIGHT OF WAY PERMIT IS REQUIRED TO WORK IN ARLINGTON COUNTY STREETS. IN INSTANCES OF EXCAVATIONS IN STATE RIGHT OF WAY, THE DATE AND NUMBER OF ALL PERMITS REQUIRED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) SHALL BE FURNISHED.

C. IF ANY OTHER EASEMENT IS NEEDED, TWO (2) COPIES OF THE DESCRIPTION OF SUCH EASEMENT, AS ACTUALLY RECORDED, SHALL BE FURNISHED, INCLUDING THE PLACE, DATE AND REFERENCE OF SUCH RECORDATION.

D. WRITTEN NOTICE OF TENTATIVE STARTING DATE OF CONSTRUCTION, WHICH SHALL BE A MINIMUM OF ONE (1) WEEK FOLLOWING THE DATE OF NOTICE. IN ADDITION, THE CONTRACTOR SHALL FURNISH THE NAMES AND TELEPHONE NUMBERS OF TWO (2) RESPONSIBLE PERSONS WHO CAN BE CONTACTED IN CASE OF EMERGENCY.

ACTUAL CONSTRUCTION SHALL NOT BEGIN UNTIL THE ABOVE ITEMS HAVE BEEN COMPLETED AND THE ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES APPROVED THE STARTING DATE AND ARRANGEMENTS HAVE BEEN MADE FOR THE REQUIRED INSPECTION SERVICE.

3. ALL CONSTRUCTION SHALL BE ACCOMPLISHED FROM APPROVED PLANS, SPECIFICATIONS AND CUT SHEETS SUBMITTED BY A REGISTERED ENGINEER AND APPROVED BY THE COUNTY. TO AVOID CONSTRUCTION DELAYS ALL NECESSARY TEST HOLE INFORMATION SHALL BE OBTAINED PRIOR TO MOBILIZATION AND CONSTRUCTION PLANS SHALL BE REVISED ACCORDINGLY.
4. NO EXISTING WATER MAINS, FIRE HYDRANTS, OR SANITARY SEWERS MAY BE TAKEN OUT OF SERVICE OR MADE INACCESSIBLE BY THE CONTRACTOR WITHOUT THE PRIOR APPROVAL FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES.
5. UPON COMPLETION OF CONSTRUCTION, ALL FINAL TESTS, AS REQUIRED, SHALL BE PERFORMED IN THE PRESENCE OF THE COUNTY'S REPRESENTATIVE. WATER AND SEWER SERVICE CONNECTIONS SHALL NOT BE MADE UNTIL THE WATER AND/OR SEWER MAINS AND APPURTENANCES HAVE BEEN APPROVED AND ACCEPTED BY ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES.
6. EXISTING WATER SERVICES MAY BE ALLOWED FOR CONSTRUCTION PURPOSES ONLY FOR WHICH CONTRACTOR SHALL REQUEST TO THE ARLINGTON COUNTY'S UTILITY SERVICES BY CALLING 703-228-3636. PRIOR TO THE FINAL ACCEPTANCE OF THE PROJECT, THE DEVELOPER SHALL REQUEST TO THE UTILITY SERVICES IN WRITING FOR THE DISCONTINUATION OF ALL EXISTING WATER SERVICES. ALSO, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING METER BOXES RELATED TO THE SERVICES BEING DISCONTINUED.
7. THE CONTRACTOR SHALL MAINTAIN BACKFILL FOR UTILITY EXCAVATIONS UNTIL ARLINGTON COUNTY HAS FINALLY ACCEPTED THE PROPOSED WATER AND/OR SEWER MAIN. ALSO, ALL SURFACES OVER THE UTILITY EXCAVATIONS SHALL EITHER BE RESTORED TO THE ORIGINAL CONDITION OR FINISHED AS PER THE PROPOSED DESIGN BEFORE THE ACCEPTANCE OF THE PROJECT. PAVEMENT PATCHING FOR UTILITY CUTS IN THE PUBLIC STREETS SHALL BE PERFORMED IN ACCORDANCE WITH ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES CONSTRUCTION STANDARDS AND SPECIFICATIONS OR AS PER VDOT ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS DEPENDING UPON THE STREET JURISDICTION. PRIOR TO FINAL PAVING, THE CONTRACTOR SHALL ADJUST ALL EXISTING VALVE BOXES AND SANITARY SEWER MANHOLE FRAME AND COVERS AS PER COUNTY STANDARDS, REMOVE ALL ABANDONED SANITARY MANHOLES AND VALVE BOXES OVER THE ABANDONED WATER MAINS, AND COMPLETE ALL NECESSARY WATER MAIN "CUT AND CAPS".
8. UPON COMPLETION, APPROVAL, AND ACCEPTANCE OF WATER AND/OR SEWER MAINS AND APPURTENANCES, THE DEVELOPER'S REGISTERED ENGINEER SHALL SUBMIT TO ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES, A SET OF MYLAR TRACINGS INDICATING THE AS-BUILT CONDITIONS AND A SIGNED STATEMENT CONFIRMING THAT THE WORK, AS INDICATED, IS ACCEPTABLE TO THE ENGINEER. SUCH SUBMITTALS SHALL BE MADE BEFORE REQUESTING REDUCTION AND/OR RELEASE OF THE SURETY BOND.

CONTRACTOR:

TO BE DETERMINED

LANDSCAPE ARCHITECT/ENGINEER:

A. MORTON THOMAS
& ASSOCIATES, INC.
14555 AVION PARKWAY, SUITE 150
CHANTILLY, VA 20151
PHONE: 703.817.1373
WWW.AMTENGINEERING.COM

COMMONWEALTH OF VIRGINIA
MATTHEW M. WEIR
Cert. No. 0406001961
LANDSCAPE ARCHITECT

COMMONWEALTH OF VIRGINIA
CHELSEA M. BISHOP
Lic. No. 50030
PROFESSIONAL ENGINEER

TRAFFIC CONTROL

1. CONTRACTOR SHALL NOTIFY THE PROJECT OFFICER AT LEAST 3 WORKING DAYS PRIOR TO DISTURBING ANY EXISTING, OR INSTALLING ANY NEW, TRAFFIC SIGNS, SIGNALS, OR OTHER TRAFFIC CONTROL DEVICES.
2. THE CONTRACTOR SHALL PREMARK THE LAYOUT OF ANY PERMANENT TRAFFIC CONTROL STRIPING, INDICATING THE PROPOSED LOCATION AND TYPE OF MARKING TO BE INSTALLED.THE PREMARKING MAY CONSIST OF TYPE D TAPE, CHALK, OR LUMBER CRAYONS. THE CONTRACTOR SHALL ALLOW 3 WORKING DAYS FOR THE INSPECTION AND APPROVAL OF THE PREMARKINGS PRIOR TO PLACING THE PERMANENT MARKINGS.
3. THE CONTRACTOR SHALL SUBMIT ANY REQUESTS FOR TEMPORARY " NO PARKING" RESTRICTIONS TO THE PROJECT OFFICER AT LEAST 3 WORKING DAYS PRIOR TO THE DESIRED ONSET OF RESTRICTIONS.
4. THE CONTRACTOR SHALL PRESERVE ALL BUS STOPS, INCLUDING MAINTAINING ADEQUATE ACCESSIBILITY THROUGH AND ADJACENT TO THE CONSTRUCTION FOR BUSES AND THEIR PASSENGERS. THE CONTRACTOR SHALL NOT CLOSE, RELOCATE, OR OTHERWISE MODIFY A BUS STOP WITHOUT PRIOR REQUEST OF THE PROJECT OFFICER. TYPICALLY ANY RELOCATION OR CLOSURE OF A BUS STOP WILL REQUIRE AT LEAST TWO WEEKS ADVANCE NOTICE FOR COORDINATION WITH THE COUNTY'S BUS STOP COORDINATOR AT 703-228-3049. ALL TEMPORARY AND FINAL BUS TRAVEL LANES MUST BE AT MINIMUM 11' WIDE.
5. WHEN CONDITIONS WARRANT DUE TO TRAFFIC VOLUMES, PATTERNS, OR SPECIAL EVENTS, THE COUNTY MAY SUSPEND OR OTHERWISE DIRECT THE CONTRACTOR'S ACTIVITIES TO PROTECT THE PUBLIC AND OR THE COUNTY'S TRANSPORTATION NETWORK.

ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT ARLINGTON COUNTY DES STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL REMOVE AND REPLACE, TO THE CURRENT ARLINGTON COUNTY DES STANDARDS AND SPECIFICATIONS, ANY EXISTING ENTRANCES, CURB AND GUTTER OR SIDEWALK ALONG THE FRONTAGE OF THIS SITE IN POOR CONDITION, OR DAMAGED DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND CLOSING, TO ARLINGTON COUNTY STANDARDS, ANY EXISTING ENTRANCES NOT BEING USED IN CONJUNCTION WITH THIS DEVELOPMENT.
4. THE CONTRACTOR SHALL OBTAIN ARLINGTON COUNTY PERMITS FOR EACH SITE.
5. THERE MAY BE UNDERGROUND CONDUIT, CABLES AND TRAFFIC DETECTION DEVICES IN THIS AREA, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY TRAFFIC CONTROLS THAT ARE DISTURBED DURING CONSTRUCTION. NOTIFY THE TRANSPORTATION ENGINEERING & OPERATIONS BUREAU AT (703) 228-3575, 24 HOURS PRIOR TO STARTING WORK.
6. THE CONTRACTOR SHALL NOT DISTURB OR REMOVE ANY TRAFFIC CONTROL SIGNS, PARKING METERS OR ANY OTHER TRAFFIC CONTROL DEVICE WITHOUT PRIOR PERMISSION FROM THE TRANSPORTATION ENGINEERING & OPERATIONS BUREAU. CONTACT TRANSPORTATION ENGINEERING AT (703) 228-3575.
7. THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE TRANSPORTATION ENGINEERING & OPERATIONS BUREAU PRIOR TO PLACING ANY OBSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY, OR ON SIDEWALKS ALONG THE FRONTAGE OF THIS DEVELOPMENT.
8. THE CONTRACTOR SHALL OBTAIN PERMITS FROM THE INSPECTION SERVICES DIVISION PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION OF ON-SITE FACILITIES. FOR INFORMATION AND PERMIT REQUIREMENTS TELEPHONE (703) 228-3800.

UTILITY MARKING REQUIREMENTS:

9. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 811, 72 HOURS PRIOR TO THE START OF ANY EXCAVATION OR CONSTRUCTION, FOR THE MARKING OF UNDERGROUND UTILITIES IN THE RIGHT-OF-WAY.
10. UTILITY LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE LOCATIONS DETERMINED FROM A TOPOGRAPHIC SURVEY AND AVAILABLE RECORDS. ADDITIONAL UNDERGROUND UTILITY LINES MAY BE PRESENT THAT ARE NOT SHOWN. THE CONTRACTOR SHALL LOCATE AND PRESERVE ALL EXISTING UTILITIES.

HORIZONTAL DATUM:

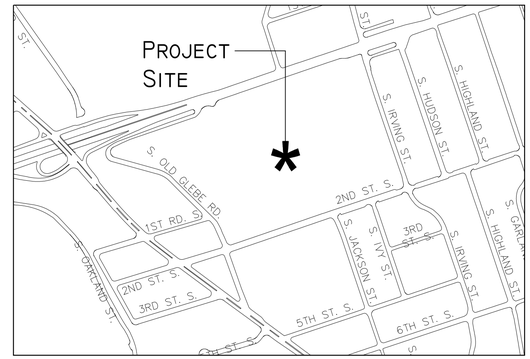
THE SITE SHOWN HEREON IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF: VIRGINIA STATE GRID NORTH NAD 83 AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY.

VERTICAL DATUM:

THE SITE SHOWN HEREON IS REFERENCED TO VERTICAL DATUM OF: NAVD 88 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY.

QUANTITIES NOTE:

ANY QUANTITIES SPECIFIED ON THE CONSTRUCTION DOCUMENTS ARE ESTIMATES ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES PER DRAWINGS AND SPECIFICATIONS. ANY QUANTITIES SHOWN ON THE DRAWINGS AND SPECIFICATIONS DO NOT GUARANTEE A SPECIFIC QUANTITY OR DOLLAR AMOUNT. ADDITIONALLY, EVERY ITEM REQUIRED TO BUILD THE PROJECT MAY NOT BE LISTED ON THE BID SHEET.



VICINITY MAP - 1" = 500'

GLOSSARY OF ABBREVIATIONS

ABBREVIATION:	REFERENCE:
AC (A.C.)	ARLINGTON COUNTY
AC (AC.)	ACRES
ADA (A.D.A.)	AMERICANS WITH DISABILITIES ACT
AL	ALLOWANCE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX.	APPROXIMATE, APPROXIMATELY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
B&B	BALL & BURLAP
B/T	BETWEEN
BL	BASELINE
BMP	BEST MANAGEMENT PRACTICES
BP (B.P.)	POINT OF BEGINNING
BS	BOTTOM STEP
BW	BOTTOM WALL
C#	CURVE NUMBER (LAYOUT)
C&G	CURB AND GUTTER
CE	CONSTRUCTION ENTRANCE
CAL (CAL.)	CALIPER
CF (C.F.)	CUBIC FEET
CFR	CODE OF FEDERAL REGULATIONS
CFS	CUBIC FEET PER SECOND
CIP (C.I.P.)	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLA (C.L.A.)	CERTIFIED LANDSCAPE ARCHITECT
CM (CM.)	CENTIMETER
CN	CURVE NUMBER
CO	CLEANOUT
CONC (CONC.)	CONCRETE
CONT (CONT.)	CONTAINER (PLANTING), OR CONTINUOUS
CRZ	CRITICAL ROOT ZONE
CY	CUBIC YARD
DA	DRAINAGE AREA
DBH	DIAMETER AT BREAST HEIGHT
DC (D.C.)	DISTRICT OF COLUMBIA
DCR	DEPT. OF CONSERVATION AND RECREATION
DEMO	DEMOLITION
DEQ	DEPT. OF ENVIRONMENTAL QUALITY
DES	DEPT. OF ENVIRONMENTAL SERVICES
DIA (DIA.)	DIAMETER
DOJ	DEPARTMENT OF JUSTICE
DPR	DEPARTMENT OF PARKS & RECREATION
DS	DEWATERING STRUCTURE
DSWC	DIVISION OF SOIL AND WATER CONSERVATION
E&S	EROSION AND SEDIMENT CONTROL
E.G.	*EXEMPLI GRATIA* (FOR EXAMPLE)
EA	EACH
EC (E.C.)	EPOXY COATED
EJ	EXPANSION JOINT
EJID	EXPANSION JOINT WITH DOWEL
ELEC (ELEC.)	ELECTRIC
ELEV (ELEV.)	ELEVATION
EP (E.P.)	END POINT
EQ (EQ.)	EQUAL
ESC	EROSION AND SEDIMENT CONTROL
ESD	ENVIRONMENTAL SITE DESIGN
ETC.	*ET CETERA*
EW (E.W.)	EACH WAY
EX.	EXISTING
EX. JOINT	EXPANSION JOINT
FG	FINISH GRADE
FP	FLOODPLAIN
FT (FT.)	FEET
FT/S	FEET PER SECOND
GAL (GAL.)	GALLONS
GALV (GALV.)	GALVANIZED
GPM	GALLONS PER MINUTE
HORIZ (HORIZ.)	HORIZONTAL
HP	HIGH POINT
HSS	HOLLOW STRUCTURAL STEEL
I.E.	*ID EST* (IN OTHER WORDS)
I.P.F.	IRON PIPE FOUND
I.P.S.	IRON PIN SET
ID (I.D.)	IDENTIFICATION
INFO	INFORMATION
INV (INV.)	INVERT
IP	INLET PROTECTION
ITB	INVITATION TO BID
KSI	KILOPOUND PER SQUARE INCH
L#	LINE NUMBER (LAYOUT)
LA	LANDSCAPE ARCHITECT
LB (LB.)	POUNDS
LDA	LAND DISTURBING ACTIVITY
LF	LINEAR FEET (FOOT)
LOD	LIMITS OF DISTURBANCE
LP	LOW POINT
LS (L.S.)	PROFESSIONAL LAND SURVEYOR, OR LUMP SUM
MANUF.	MANUFACTURER
MAX (MAX.)	MAXIMUM
MD	MARYLAND
MECH.	MECHANICAL
MH	MANHOLE
MIN (MIN.)	MINIMUM
MM (MM.)	MILLIMETER
MON (MON.)	MONUMENT
MOT (M.O.T.)	MAINTENANCE OF TRAFFIC
MS4	MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT PROGRAM
NA (N/A)	NOT APPLICABLE
NAD 83	NORTH AMERICAN HORIZONTAL DATUM83
NAVD 88	NORTH AMERICAN VERTICAL DATUM88
NIC (N.I.C.)	NOT IN CONTRACT
NTO	NEW TO OLD (JOINT)
NTS (N.T.S.)	NOT TO SCALE
OC (O.C.)	ON CENTER
OFF (OFF.)	OFFSET
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PDD	PARK DEVELOPMENT DIVISION
PE (P.E.)	PROFESSIONAL ENGINEER
PERF (PERF.)	PERFORATED
PL	PLATE
PO	PROJECT OFFICER
POC (P.O.C.)	POINT OF CONNECTION (IRRIGATION), POINT OF CURVATURE (LAYOUT)
PRC	POINT OF REVERSE CURVATURE
PSI (P.S.I.)	POUNDS PER SQUARE INCH
PT (P.T.)	PRESSURE TREATED (LUMBER), OR POINT OF TANGENCY (LAYOUT)
PVC (P.V.C.)	POLYVINYL CHLORIDE
Q	CAPACITY
QTY (QTY.)	QUANTITY
RAD.	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ.	REQUIRED
RET.	RETAINING
RLA (R.L.A.)	REGISTERED LANDSCAPE ARCHITECT
ROW (R.O.W.)	RIGHT-OF-WAY
RPA	RESOURCE PROTECTION AREA
Rv	VOLUMETRIC RUNOFF COEFFICIENT
SCH (SCH.)	SCHEDULE
SCHD	SCHEDULE
SF (S.F., SQ. FT.)	SQUARE FOOT (FEET)
SFF	SUPER SILT FENCE
SPEC.	SPECIFICATION, OR SPECIFIED
SS	STAINLESS STEEL
STA (STA.)	STATION
STD (STD.)	STANDARD
SWM	STORMWATER MANAGEMENT
T&B	TOP AND BOTTOM
TAN (TAN.)	TANGENT
TEMP.	TEMPORARY
TP	TREE PROTECTION
TS	TOP STEP
TW	TOP WALL
TYP (TYP.)	TYPICAL
UGE	UNDERGROUND ELECTRIC LINE
UON (U.O.N.)	UNLESS OTHERWISE NOTED
VA	VIRGINIA
VERT.	VERTICAL
VPDES	VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
W/	WITH
WSE	WATER SURFACE ELEVATION
WWF	WELDED WIRE FABRIC
YR	YEAR
XING	CROSSING

Revisions	Date
ADDENDUM 2	7/19/2021

ARLINGTON
VIRGINIA

DEPARTMENT OF PARKS AND RECREATION

Parks Development Division
2100 Clarendon Boulevard, Suite 414
Arlington, VA 22201
Phone: 703.228.3332
Fax: 703.228.3328

22-DPR-ITB-24
20-0077-SWM

THOMAS JEFFERSON PARK
UPPER FIELD CONVERSION
By-Right (County Project)
5/25/2021
3501 2nd Street South, Arlington, VA 22204

LDA-13023
SWM# 20-0077

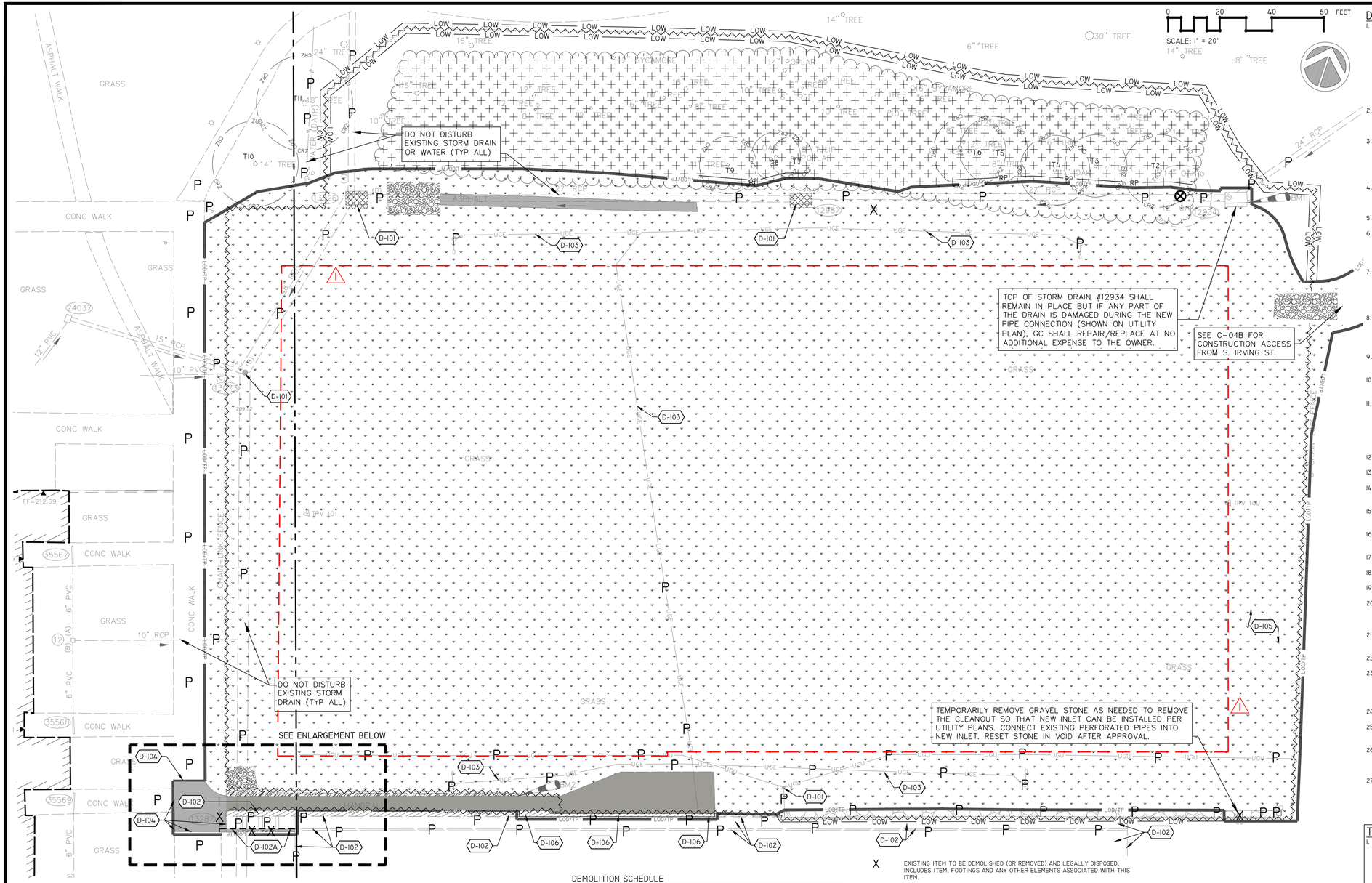
Approvals Date

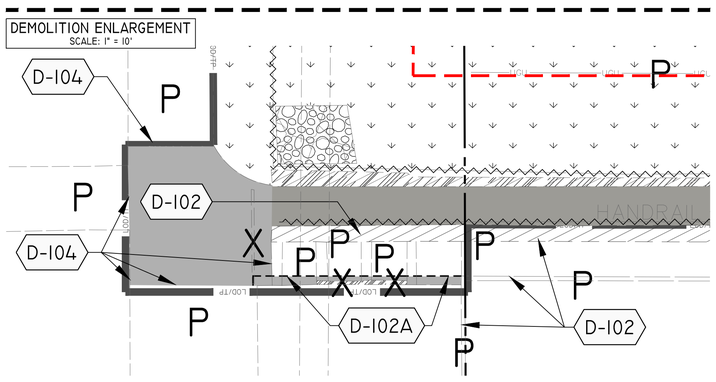
Park Development Division Chief

Design Manager

COVER SHEET

Sheet
C-01
SHEET 01 OF 42





DEMOLITION NOTES:

1. LOCATION OF ALL UTILITIES SHOWN ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY AND DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE LIMIT OF DISTURBANCE PRIOR TO COMMENCING WORK. REPORT ANY DISCREPANCY TO THE PROJECT OFFICER. THE CONTRACTOR SHALL CONTACT MISS UTILITY AT 811 A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.
2. THE DEMOLITION PLAN IS A GENERAL GUIDE OF WHAT ITEMS NEED TO DEMOLISHED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL ITEMS THAT REQUIRED DEMOLITION TO COMPLETE THE PROPOSED CONSTRUCTION.
3. CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING SITE STRUCTURES AND FEATURES NOT SCHEDULED FOR DEMOLITION AND/ OR CONSTRUCTION FROM DAMAGE DUE TO DEMOLITION PROCEDURES. ANY RESULTING DAMAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE PROJECT OFFICER.
4. TEMPORARY CONSTRUCTION FENCING SHALL BE ERECTED AS SHOWN ON THE PLANS PRIOR TO BEGINNING CONSTRUCTION OPERATIONS AND MAINTAINED UNTIL COMPLETION OF PROJECT. TREE PROTECTION AND CONSTRUCTION FENCE SHALL BE THE SAME WHEREVER THEY OVERLAP.
5. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SAFETY AND SECURITY AT THE PROJECT SITE FOR THE DURATION OF THE CONTRACT.
6. CONTRACTOR SHALL COORDINATE WITH THE PROJECT OFFICER TO IDENTIFY ANY NECESSARY STAGING/STORAGE AREAS. PROPOSED STAGING AND STORAGE AREAS SHALL BE REVIEWED AND APPROVED BY THE PROJECT OFFICER, AND THE LIMITS OF WORK WILL BE ADJUSTED ACCORDINGLY.
7. ANY STOCKPILING, REGARDLESS OF LOCATION ON SITE, SHALL BE STABILIZED IMMEDIATELY AFTER ITS ESTABLISHMENT AND FOR THE DURATION OF THE PROJECT. STOCKPILES SHALL BE CONTAINED BY STRAW BALES OR EROSION CONTROL FENCING AND COVERED WITH PLASTIC OR CANVAS AT THE END OF EACH WORK DAY FOR THE DURATION OF THE PROJECT.
8. WHERE ITEMS TO BE REMOVED OCCUR WITHIN TREE PROTECTION ZONES, THE CONTRACTOR SHALL REMOVE THE ITEMS WORKING WITH A COUNTY ARBORIST (PROVIDED BY COUNTY) ON-SITE TO OBSERVE AND MINIMIZE TREE DAMAGE. CONTRACTOR SHALL NOTIFY THE PROJECT OFFICER AND LANDSCAPE ARCHITECT 72 HOURS PRIOR TO THESE REMOVALS.
9. CARE SHALL BE TAKEN TO PRESERVE EXISTING TREES AND THEIR ROOT SYSTEMS. TREES INCURRING ROOT DAMAGE DUE TO CONSTRUCTION SHALL BE PRUNED AND FERTILIZED PER THE SPECIFICATIONS.
10. NO MATERIALS OR EQUIPMENT SHALL BE PERMITTED WITHIN THE TREE PROTECTION AREA. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN A FINE OF $500 PER DAY OF VIOLATION.
11. UNAUTHORIZED TREE REMOVALS, TREE DEATH OR SEVERE DAMAGE DUE TO THE CONTRACTOR'S FAILURE TO EXERCISE PROPER CARE WHEN WORKING NEAR TREES, SHALL RESULT IN A FINE EQUAL TO THE LANDSCAPE VALUE OF THE TREE AS PUBLISHED IN THE LATEST EDITION OF THE COUNCIL OF TREE AND LANDSCAPE APPRAISERS GUIDE FOR PLANT APPRAISALS PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE.
12. COUNTY ARBORIST INSPECTION IS REQUIRED PRIOR TO ANY SITE LAND DISTURBANCE ACTIVITY.
13. DEMOLITION STAGE EROSION AND SEDIMENT CONTROLS AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO DEMOLITION.
14. ALL MATERIAL FROM DEMOLITION NOT IDENTIFIED FOR REUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPROPRIATE REGULATIONS.
15. ALL PAVEMENT REMOVED SHALL BE DONE SUCH THAT REMAINING PAVEMENT IS LEFT WITH CLEAN STRAIGHT EDGE. CONCRETE PAVEMENT/ CURBING SHALL BE REMOVED TO THE NEAREST JOINT.
16. EXISTING PAVEMENT SHALL BE SAW CUT WHEN NEXT TO REMAINING PAVEMENT BEFORE REMOVAL. ALL SAW CUTS SHALL BE STRAIGHT, EVEN CUTS; JAGGED CUTS WILL NOT BE PERMITTED.
17. CHAIN LINK FENCE REMOVED: INCLUDES ALL FENCE POSTS AND CONCRETE FOOTINGS.
18. CONCRETE REMOVAL: SHALL INCLUDE CONCRETE, STEEL REINFORCEMENT, AND GRAVEL BASE WHERE NO PROPOSED CONCRETE WILL BE INSTALLED.
19. ASPHALT REMOVAL: SHALL INCLUDE SURFACE, BASE AND SUBBASE MATERIALS.
20. CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY SITE FURNISHINGS WITHIN THE LIMITS OF DISTURBANCE NOT REMOVED FROM SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION (IE SIGNAGE, BENCHES, TRASH RECEPTACLES, ETC).
21. CONTRACTOR SHALL PROVIDE EXISTING DAMAGE PHOTOS PRIOR TO MOBILIZING OR PERFORMING ANY WORK. LOCATIONS OF PICTURES TO BE RECORDED ON THIS SHEET.
22. TO PREVENT DAMAGES OUTSIDE THE LIMITS OF DISTURBANCE, NO PARK AREAS OUTSIDE THE LOD SHALL BE USED FOR STAGING OR STORAGE.
23. UPON COMPLETION OF THE PROJECT, ALL EXCESS SOIL, SAND, MULCH, TEMPORARY FENCING, EROSION CONTROL MEASURES, STABILIZATION MATERIALS, AND OTHER DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY. ALL PAVED AREAS, WALLS, ETC. SHALL BE THOROUGHLY WASHED AND CLEANED UPON COMPLETION OF THE PROJECT.
24. REFER TO SITE CLEARING, DEMOLITION, & REMOVALS SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
25. CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES FOR SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES AS REQUIRED.
26. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE THAT OCCURS TO ANY EXISTING SITE ELEMENT THAT IS NOT MARKED FOR DEMOLITION DURING CONSTRUCTION AND MUST REPLACE AT NO COST TO ARLINGTON COUNTY IF DAMAGED.
27. CONTRACTOR SHALL INFORM LANDSCAPE ARCHITECT AND PROJECT OFFICER IF ANY ITEMS/INFORMATION IS NOT LISTED OR CALLED OUT, SO AN APPROPRIATE SOLUTION CAN BE DISCUSSED. CONTRACTOR SHALL HAVE WRITTEN APPROVAL FROM LANDSCAPE ARCHITECT AND PROJECT OFFICER PRIOR TO ANY FURTHER SITE WORK.

DEMOLITION SCHEDULE

SYMBOL	DEMOLITION DESCRIPTION
D-101	ADJUST EXISTING UTILITY TO PROPOSED ELEVATION OR FINISH GRADE. VERIFY WITH GRADING AND UTILITY PLANS. CONTRACTOR SHALL VERIFY THAT THE EXISTING STRUCTURE SUPPORT THE NEW OR ADJUSTED TOP AS CALLED FOR IN THESE DRAWINGS, INCLUDING THE MODIFICATIONS NECESSARY. IF THE CONDITION OF THE EXISTING STRUCTURE IS SUCH THAT IT WILL NOT SUPPORT A NEW OR ADJUSTED TOP, THE STRUCTURE IS TO BE REPLACED WITH A NEW STRUCTURE. COST FOR THESE MODIFICATIONS AND/OR REPLACEMENTS ARE TO BE INCLUDED IN THE OVERALL PROJECT WITHOUT ADDITIONAL COMPENSATION.
D-102	PROTECT EXISTING LOWER FIELD SURFACE, CURBING, WALL AND STAIRS DURING CONSTRUCTION. ANY DAMAGE SHALL BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE ARLINGTON COUNTY.
D-102A	BEFORE CUTTING, G.C. SHALL LAY-OUT AND MARK (FOR APPROVAL BY ARLINGTON COUNTY LANDSCAPE ARCHTECT) THE SAW CUT LOCATION. SAW CUT THE EXISTING STAIRS (CONCRETE AND GRANITE) TO PROVIDE A CONSISTENT STAIR WIDTH. REMOVE CHEEK WALL. SEE DEMO & LAYOUT PLANS AND 2/L-05B.
D-103	EXISTING UNDERGROUND ELECTRICAL LINE FOR EXISTING FIELD LIGHTS. (EXISTING FIELD LIGHTS SHALL REMAIN). COORDINATE SHUT-OFF WITH THOMAS JEFFERSON COMMUNITY CENTER. IN AREAS OF PROPOSED CUT (SEE GRADING PLAN), ADJUST EXISTING UGE LINE(S) TO 12" - 24" BELOW THE PROPOSED FINISH GRADES (18" @ POLE BASES). UGE MUST BE DEEPENED TO SUFFICIENT DEPTH AS REQUIRED BY LOCAL CODES).
D-104	SAW CUT EXISTING PAVEMENT AT LOCATION SHOWN ON SITE PLAN AND LAYOUT PLAN
D-105	VERIFY LOCATION & CAP EXISTING IRRIGATION MAINLINE AT LIMIT OF DISTURBANCE.
D-106	ADD ADDITIONAL SEGMENTAL BLOCKS AND CAPS FROM DEMOLISHED WALL ATOP EXISTING WALL. SEE GRADING PLAN. COORDINATE WITH WALL MANUFACTURER. CLEAN EXISTING BLOCKS (I.E., CAULKING/GLUE) BEFORE REINSTALLING. INSTALL GEOGRID/ TIEBACKS PER MANUFACTURER'S RECOMMENDATONS.

- X — EXISTING ITEM TO BE DEMOLISHED (OR REMOVED) AND LEGALLY DISPOSED. INCLUDES ITEM, FOOTINGS AND ANY OTHER ELEMENTS ASSOCIATED WITH THIS ITEM.
- P — EXISTING ITEM TO BE PROTECTED AND PRESERVED (DO NOT DISTURB OR ALTER). ALL ITEMS SHALL BE PRESERVED AND PROTECTED UNLESS OTHERWISE NOTED ON THE PLANS OR OTHERWISE INSTRUCTED BY THE PROJECT OFFICER.
- ⊗ — REMOVE TREE & GRIND STUMP
- ⚠ REMOVE AND DISPOSE EXISTING TURF GRASS. STRIP TOPSOIL THAT EXISTS WITHIN THE LIMITS OF FUTURE SYNTHETIC TURF FIELD (SEE RED OUTLINE, THIS SHEET). DO NOT STRIP TOPSOIL FROM AREAS TO BE SODDED OR LANDSCAPED UNLESS TOPSOIL WILL BE DISTURBED DURING CONSTRUCTION PROCESS. STOCKPILE STRIPPED TOPSOIL PER REQUIREMENTS OF C-01, C-07, SPECIFICATIONS AND PROJECT OFFICER. REUSED TOPSOIL SHALL MEET SUITABILITY REQUIREMENTS DEFINED IN PROJECT SPECIFICATIONS. REMOVE AND DISPOSE EXISTING IRRIGATION LINES BELOW FIELD AFTER CAPPING EXISTING IRRIGATION MAINLINE.
- ADJUST AND REPLACE EXISTING STORM DRAIN INLET. SEE SITE PLAN, GRADING PLAN, UTILITY PLAN AND UTILITY DETAILS.
- INVASIVE/NON-NATIVE REMOVAL ZONE BY THIRD PARTY. THIS WORK IS NOT IN CONTRACT FOR GENERAL CONTRACTOR.
- EXISTING WALL TO BE DEMOLISHED AND REMOVED TO FULL DEPTH, INCLUDING FOOTERS AND SUB-BASE.
- EXISTING PAVED AREA (I.E., CONCRETE OR ASPHALT) TO BE DEMOLISHED AND REMOVED. DEMOLISH FULL DEPTH, INCLUDING GRAVEL BASE.
- EXISTING GRAVEL/STONE/SAND BED (INCLUDING LONG JUMP LANDING AREA) TO BE DEMOLISHED AND REMOVED. DEMOLISH FULL DEPTH, INCLUDING BASE.
- EXISTING CHAIN LINK FENCE AND GATES TO BE DEMOLISHED AND REMOVED, INCLUDING FOOTERS.
- SAW CUT EXISTING STAIRS & CHEEK WALL

TREE PROTECTION LEGEND

- RP — ROOT PRUNING — 2 / LF-01
- LOD/TP — LIMITS OF DISTURBANCE/ 6' CHAIN LINK TREE PROTECTION & CONSTRUCTION FENCE — 1 / LF-01
- LOW — LIMITS OF WORK (NO GROUND DISTURBANCE)

TREE PRESERVATION NOTES:

1. BEFORE ANY GRADING, DEMOLITION, SITE IMPROVEMENTS, OR OTHER DISTURBANCE (ASIDE FROM THE INSTALLATION OF TREE PROTECTION AND EROSION/SEDIMENT CONTROL DEVICES) IS PERFORMED, TREE PROTECTION MEASURES SHALL BE INSTALLED PER THE PLAN BY THE CONTRACTOR AND INSPECTED/APPROVED BY AN ARLINGTON COUNTY ARBORIST.
2. IF THE TREE PRESERVATION MEASURES PROVIDED ON THE PLANS AND SPECIFICATIONS ARE NOT FOLLOWED DURING ANY PART OF THE CONSTRUCTION PROCESS, THE URBAN FORESTER MAY ASK FOR THE REMOVAL AND REPLACEMENT OF ANY DAMAGED TREES AT THE CONTRACTOR'S EXPENSE. THIS WILL BE COORDINATED WITH THE PROJECT OFFICER AND LANDSCAPE ARCHITECT.
3. GENERALLY, ROOT PRUNING AND TREE PROTECTION FENCE ARE LOCATED AT THE LIMIT OF DISTURBANCE. THEREFORE, THE LAYOUT OF LINES DEPICTING ROOT PRUNING AND TREE PROTECTION FENCE ARE DIAGRAMMATIC, AND FOR REFERENCE ONLY. PLEASE REFER TO THE TREE PRESERVATION DETAILS FOR MORE INFORMATION.
4. CONTRACTOR SHALL COORDINATE TREATMENT (I.E., RADIAL TRENCHING, SUPERSONIC AIR TOOL DECOMPACTION, SOIL COMPOST AMENDMENT, ROOT PRUNING) OF EXISTING TREES WITH COUNTY AS DEEMED NECESSARY.
5. SEE TREE PROTECTION DETAILS ON LF-01.
6. ARLINGTON COUNTY URBAN FORESTER RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO TREE PROTECTION MEASURES BASED ON CONDITIONS ENCOUNTERED IN THE FIELD.
7. ALL ADJUSTMENTS TO THIS PLAN SHALL BE APPROVED BY URBAN FORESTER PRIOR TO SITE WORK.
8. CONTRACTOR TO NOTIFY ARLINGTON COUNTY URBAN FORESTER 72 HOURS PRIOR TO INSTALLATION OF ANY TREE PRESERVATION MEASURES SHOWN ON PLANS AND ARLINGTON COUNTY URBAN FORESTER SHALL APPROVE THE LAYOUT OF TREE PRESERVATION MEASURES.

EXISTING IRRIGATION DEMOLITION NOTE:

CONTRACTOR SHALL REMOVE ANY EXISTING IRRIGATION HEADS, VALVES, BOXES, WATER LINES AND ALL OTHER APPURTANCES WITHIN THE LIMITS OF DISTURBANCE. COORDINATE THE CAPPING OF THE IRRIGATION LINE TO REMAIN WITH ARLINGTON COUNTY PROJECT OFFICER.

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22-DPR-ITB-24

Project Name and Location

Thomas Jefferson Park Upper Field Conversion

(By Right)

3501 2nd Street South
Arlington, VA 22204

Sheet Title

DEMOLITION PLAN

100% Construction Drawings (for Bid)

Approval	Date
Design Manager	

Revisions	Date
⚠ ADDENDUM 2	7/19/2021

Designed: AMT
Drawn: AMT
Checked: SDT, JKS, MMW, CMB

Filename: C-04-150396028 Demolition.dwg
Plotted: Jul. 17, 21

Scale: 1"=20'
Date: Jul. 17, 21

Seal

COMMONWEALTH OF VIRGINIA
MATTHEW M. WEIR
Cert. No. 0406001861
LANDSCAPE ARCHITECT

Sheet

C-04

SHEET 04 OF 42

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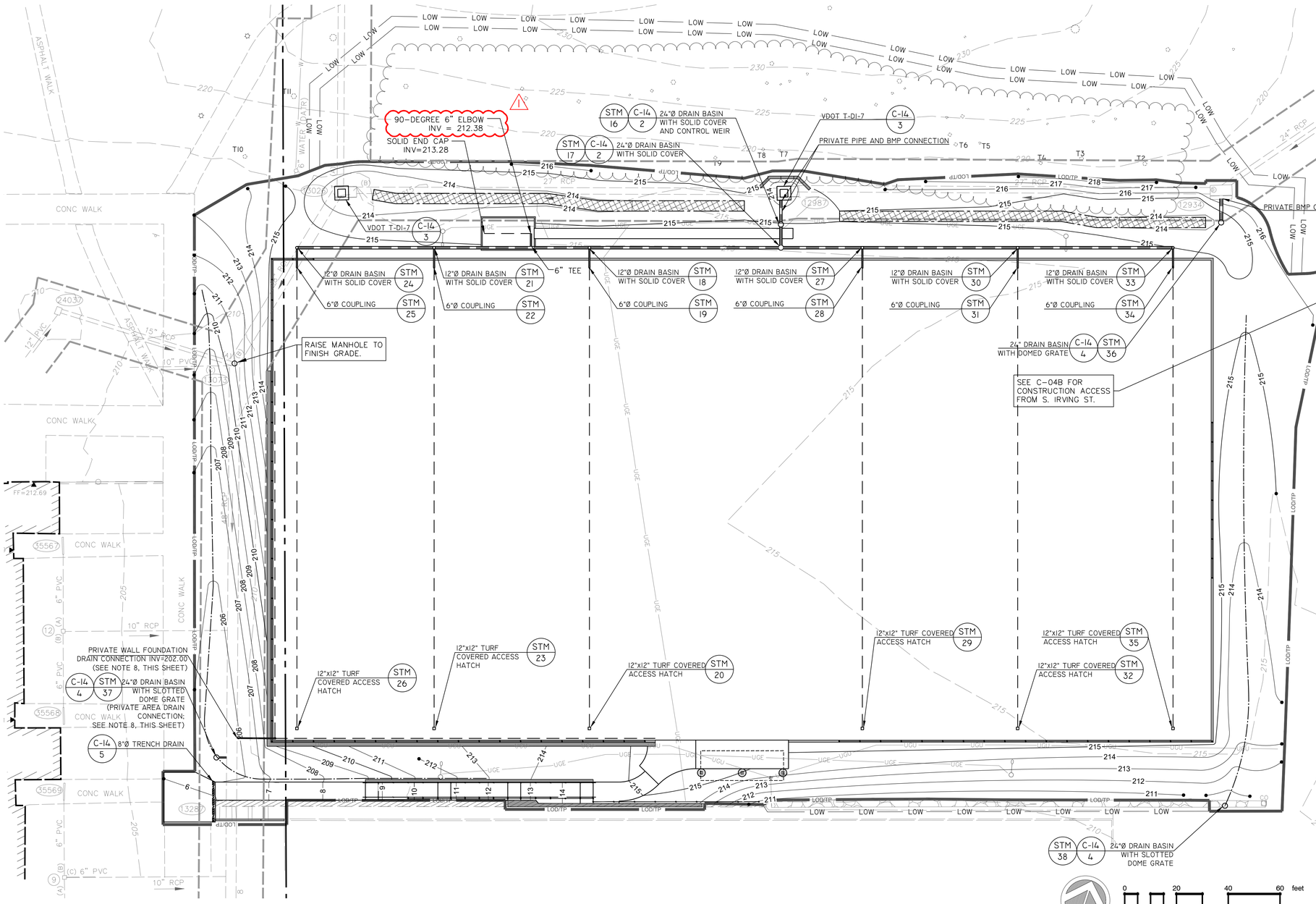
Filename: C-04-150396028 Demolition.dwg

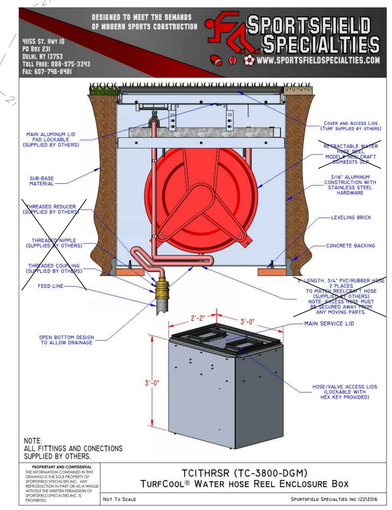


UTILITY NOTES:

1. LOCATION OF ALL UTILITIES SHOWN ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY AND DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE LIMIT OF WORK PRIOR TO COMMENCING WORK. REPORT ANY DISCREPANCY TO THE PROJECT OFFICER. THE CONTRACTOR SHALL CONTACT MISS UTILITY AT 811 A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.
2. ALL NEW SITE DRAINAGE SYSTEMS SHALL BE TESTED IN THE PRESENCE OF THE PROJECT OFFICER PRIOR TO THE INSTALLATION OF BACKFILL MATERIAL.
3. FIELD VERIFY AND COORDINATE ALL PROPOSED LOCATIONS FOR EQUIPMENT, PIPE RUNS, AND SLOPES WITH EXISTING CONDITIONS PIOR TO BEGINNING NEW WORK AS SHOWN. CONTRACTOR TO SLOPE PIPES APPROPRIATELY TO ENSURE POSITIVE DRAINAGE.
4. IN AREAS OF CUT, DEEPEN EXISTING UNDERGROUND ELECTRIC CONDUIT I2-24" BELOW FINISH GRADE. SEE DEMOLITION PLAN FOR ADDITIONAL INFORMATION.
5. CONTRACTOR SHALL COORDINATE LOCATIONS OF STAND ALONE SOCCER GOAL SAFETY SYSTEM LOCKDOWN (4/L-06) WITH PERMEABLE PAVEMENT UNDERDRAIN PIPES. SHOULD A CONFLICT ARISE THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT OFFICER, IN WRITING, PRIOR TO INSTALLATION.
6. ALL CONNECTIONS (INCLUDING THE PIPE) MADE TO THE COUNTY'S STORM SEWER SYSTEM ARE CONSIDERED PRIVATE AND ANY REQUIRED REPAIR OR MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CURRENT AND FUTURE PROPERTY OWNER.
7. ALL PROPOSED STORM DRAIN PIPES SHALL BE PRIVATELY MAINTAINED.
8. CONNECTION SHALL BE CORE DRILLED IN THE PRESENCE OF THE ASSIGNED DES INFRASTRUCTURE INSPECTOR.
9. REFER TO SHEETS C-15, C-15A AND C-15B FOR STORM SEWER PROFILES.

UTILITY LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
LOD/TP	LIMITS OF DISTURBANCE/ 6' CHAIN LINK TREE PROTECTION & CONSTRUCTION FENCE
	SOLID PVC PIPE
	PERFORATED PVC PIPE
	12" NYLOPLAST DRAIN BASIN (DETAIL 1/C-14)
	24" NYLOPLAST DRAIN BASIN (DETAIL 2/C-14)
	VDOT T-DI-7 (DETAIL 3/C-14)
	ACCESS HATCH
	LIMITS OF BUILDING RESTRICTION FOR PUBLIC UTILITIES



12"x12" TURF COVERED ACCESS HATCH

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22-DPR-ITB-24

Project Name and Location

Thomas Jefferson Park Upper Field Conversion

(By Right)

3501 2nd Street South
Arlington, VA 22204

Sheet Title

UTILITY PLAN

100% Construction Drawings (for Bid)

Approval	Date
Design Manager	

Revisions	Date
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Date: Jul. 16, 21

Seal

COMMONWEALTH OF VIRGINIA
CHELSEA M. BISHOP
Lic. No. 50030
PROFESSIONAL ENGINEER

Sheet

C-11

SHEET 12 OF 42

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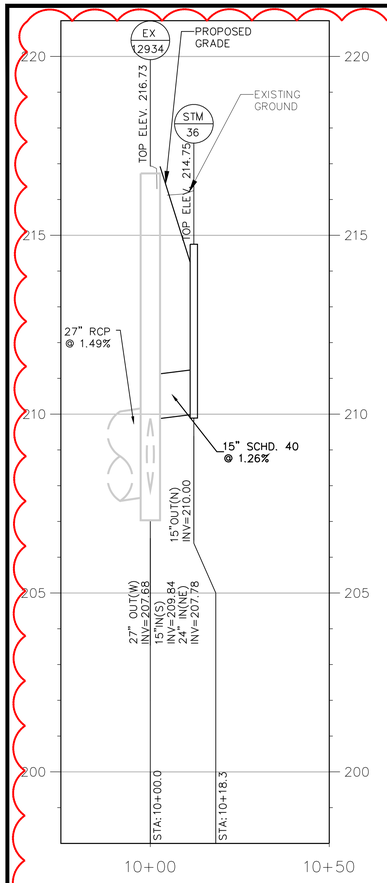
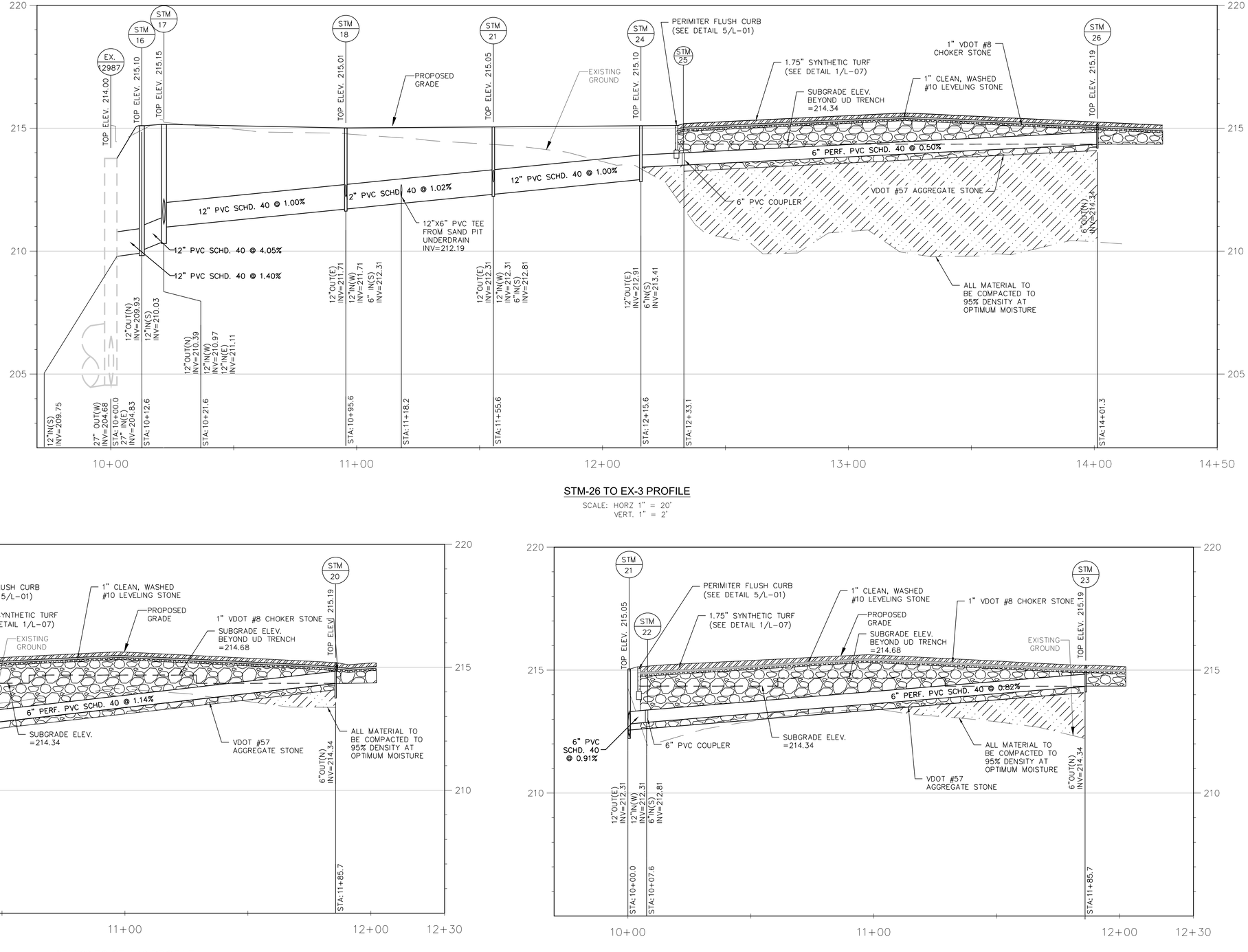
Filename: C-11-150396028 Utility.dwg



EX. 2 TO STM-36 PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'



STM-26 TO EX-3 PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'

STM-20 TO STM-18 PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'

STM-23 TO STM-21 PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'

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STORM PROFILES AND COMPUTATIONS

100% Construction Drawings (for Bid)

Approval Date

Design Manager

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COMMONWEALTH OF VIRGINIA
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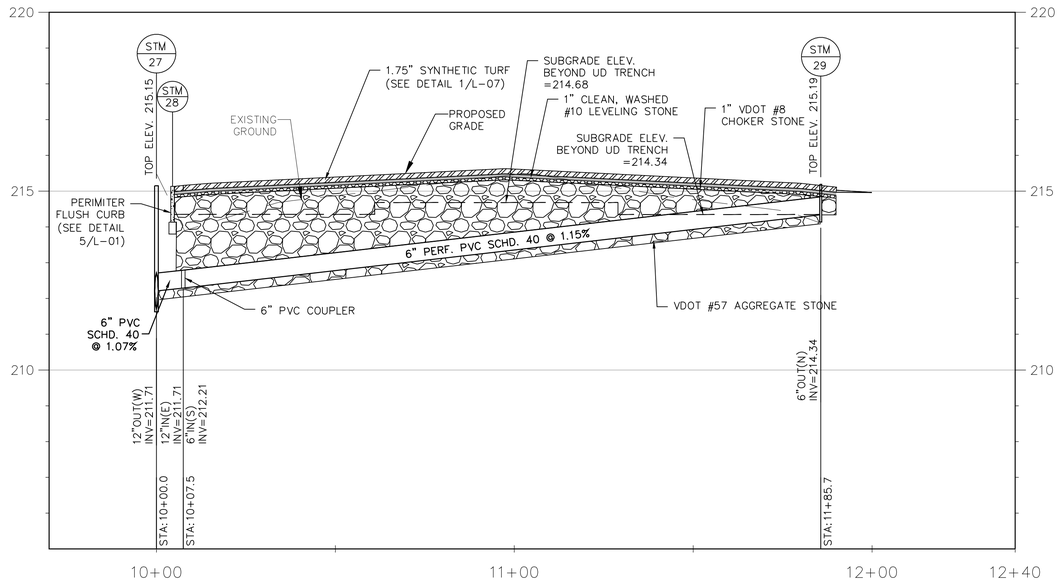
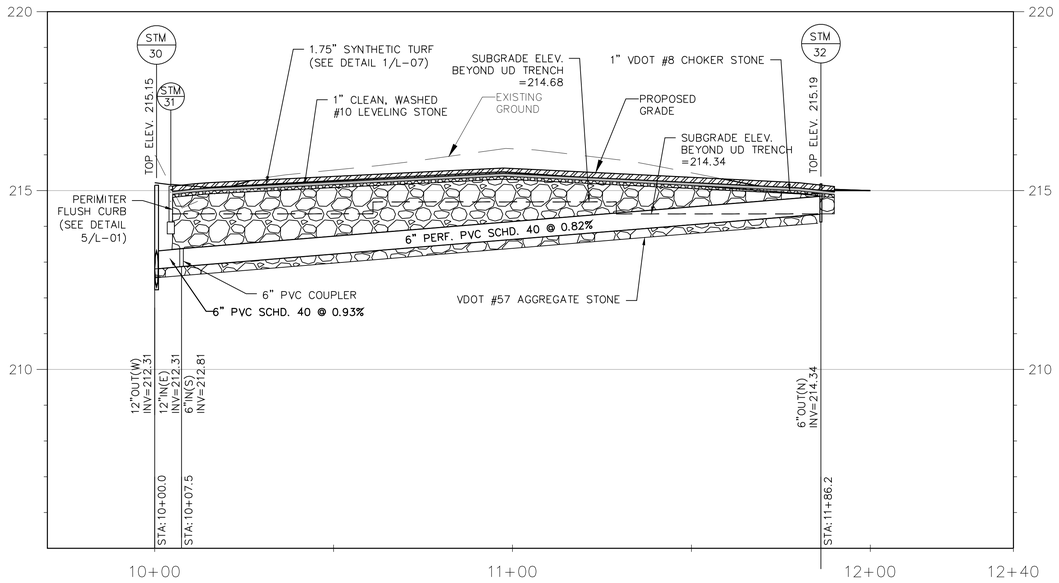
C-15

SHEET 17 OF 42



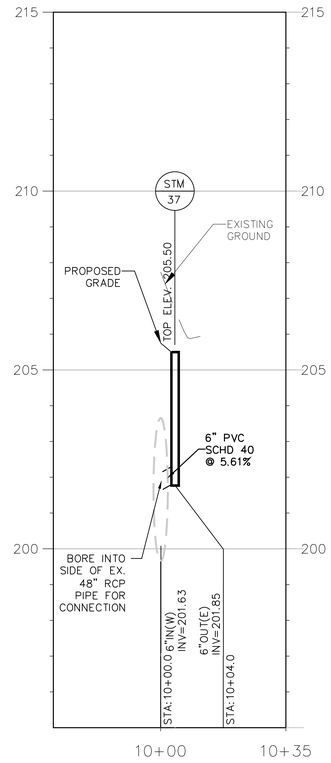
STM-29 TO STM-27 PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'



STM-32 TO STM-30 PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'



STM-37 TO EX. PIPE PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'

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C-15A

SHEET 18 OF 42

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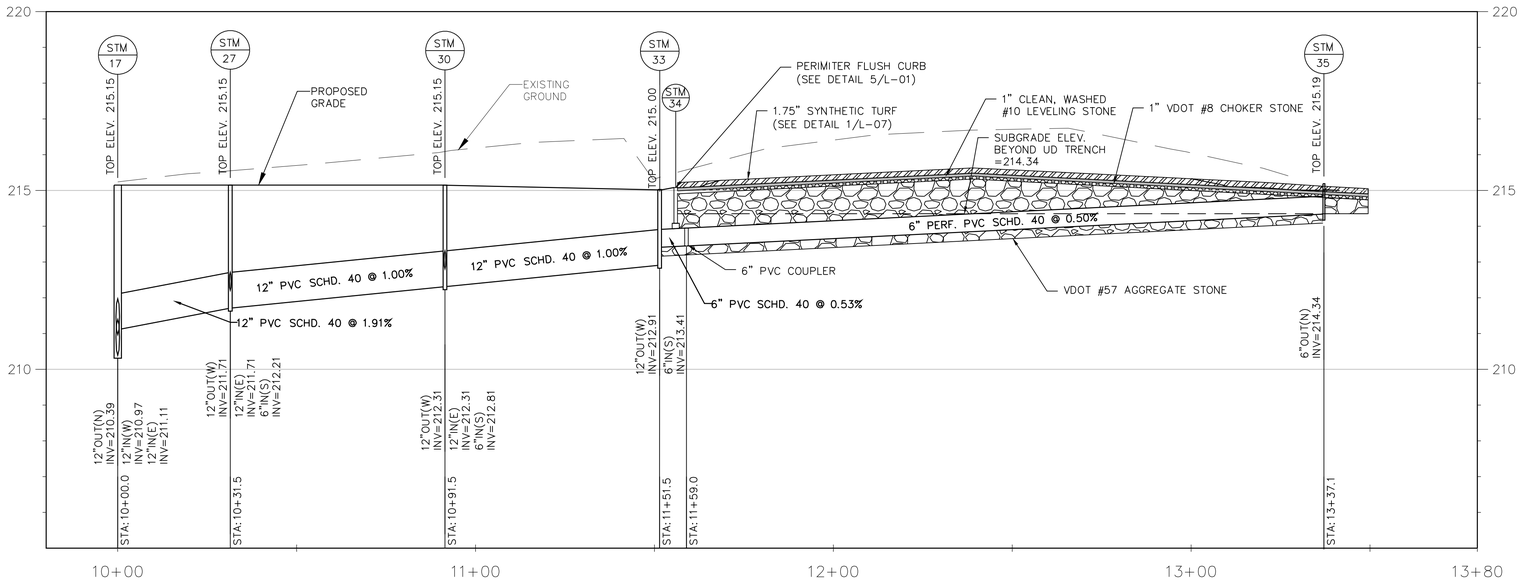

STM-35 TO STM-17 PROFILE

SCALE: HORZ 1" = 20'
VERT. 1" = 2'

STM-36, 37 AND 38 NYLOPLAST Ø24" DRAIN BASIN SIZING:

WEIR: Q = 3.3xP(H)^(3/2)
P = 6.74'
H = 0.25'
Q = 3.3x6.74'x(0.25')^(3/2)
Q = 2.78 CFS

ORIFICE: Q = 0.6xAx(2xGxH)^(1/2)
A = 1.88 FT^2
H = 0.25'
Q = 0.6x1.88x[2x(32.2FT/S^2)x0.25]^(1/2)
Q = 4.53 CFS

2.78 CF IS THE CONTROLLING FLOW RATE FOR EACH STM.

QI0 STM 36 = 1.73 CFS
QI0 STM 37 = 2.04 CFS
QI0 STM 38 = 0.50 CFS

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C-15B

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